Guidelines for Preschool and Kindergarten Learning Experiences

Guidelines for Preschool and Kindergarten Learning Experiences

MASSACHUSETTS DEPARTMENT OF
ELEMENTARY AND SECONDARY
EDUCATION

Revised September 2019

Dedication

The Guidelines for Preschool and Kindergarten Learning Experiences is dedicated in memory of

Min-hua Chen

Min-hua worked for the Department of Elementary and Secondary Education (the Department) for nearly 18 years as an early childhood education specialist whose work focused on curriculum instruction and assessment. Prior to coming to the Department, she worked at Boston Chinatown Neighborhood Center (BCNC) where she developed a dual language methodology and trained teachers in its use; she also developed tools to assess children's language at home and helped to develop a parent education program on the importance of language development. Min-hua dedicated her life's work to supporting programs to provide high quality early learning opportunities for all children, especially for children whose first language was not English. Her passion and commitment to improving the lives of young children could be so clearly seen in her work and most especially when she was able to visit with families, children and educators. She helped to author the original *Guidelines for Preschool Learning Experiences (2003)* and *Kindergarten Learning Experiences (2008)* and played a significant role in leading the revisions that ultimately resulted in this document so it is fitting to remember Min-hua and her contributions to the work by dedicating this document to her memory.

Acknowledgements

We would like to acknowledge all of the many professionals who contributed to the creation of this document. The members came from varied roles, including but not limited to educators, principals, administrators, faculty, early childhood specialists, and from varied backgrounds, such as Head Start, early education and care programs, public schools, higher education, community-based organizations and state agencies. These volunteer members, in many cases, were full-time employees who volunteered their time over the course of several years because of their dedication and commitment to the field of early childhood. From those who participated in the workgroups and created the drafts to the writers to those who edited the many versions of this document, thank you for your time, commitment and dedication to this multi-year revision process.

Ravitha Amarasingham
Jennifer Amaya-Thompson
Katherine Barao
Christina Baldassari
Judy Battista
Barbara Black
Joni Block
Marianne Bouthilette
Holly Butler
Dorothy Caron
Darlene Cianci
Mary Jane Crotty
Mary Curro
Kim Davenport
Bonnie Dalimonte
Sue Doucette
Marie Enochty
Christina Espinola
Tara Fitzgibbons
Holly Flanagan
Paula Foley
Pamela Fuhrman
Chris Girardi
Winnie Hagan
Jane Haltiwanger
Jana Harrison
Kimberly Haskins
Donna Jasak
Terry LaBonte
Jackie Land
Susan Lewis
Kay Lisseck
Virgina Lundstedt
Stephanie Lyda
Charlene Mara
Sachian Mahon
Mary Malone
Tracey Martineau
Lauren McBride
Judith McGrath
Anita Moeller
Greg Nelson
Carol Nolan
Terry O'Neill
Chris Pond
Sandra Putnam-Franklin
Michele Regan-Ladd
Grace Richardson
James Robertson
Vula Roumis
Sandra Putnam-Franklin
Nicole Scola
Carla Seymour
Emily Taylor
Carin Tessier
Amanda Thayer
Donna Traynham
Susan Vinovrski

Contents

Introduction

This document, the Guidelines for Preschool and Kindergarten Learning Experiences, (GPKLE), provides guidance for planning, aligning and implementing curriculum that addresses the Pre-K and Kindergarten learning standards outlined in the Curriculum Frameworks of the Massachusetts Department of Elementary and Secondary Education (DESE). It has been developed to include and expand on previous publications including the *Guidelines for Preschool Learning Experiences* (2003) and the *Kindergarten Learning Experiences* (2008). It is intended to guide educators as they plan and provide diverse learning opportunities that help children develop a solid foundation for more advanced learning and for life.

Who is encouraged to use the GPKLE Document?

All educators, administrators, specialists, and paraprofessionals in preschool and kindergarten settings are encouraged to use this document to help in selecting, planning, implementing, and adapting a developmentally appropriate, standards-based curriculum for all children in preschool and kindergarten, and to guide professional development and other activities that improve program quality and address the learning needs of all children. The information provided in this document can be used by a variety of program and district settings including those that use prescribed curriculum, create their own, or use a combination of commercially available and homegrown curriculum. Although designed for professionals, some of the information may be helpful for parents who are concerned about what their children are expected to learn. Faculty of institutions of higher education may also find the information useful for inclusion in their early childhood educator preparation programs.

Alignment with the Massachusetts Curriculum Frameworks

Learning activities in each section align with the learning standards of the relevant *Massachusetts Curriculum Frameworks.* Learning standards outline expectations for what children should know and be able to do at various grade levels. They provide guidance for the "what" and "when" of children's skills and knowledge. Each content-specific section of this document provides information that helps interpret what these learning standards might look like in terms of activities and practices that lead children to achieve the selected standards. Many sources contributed to development of the GPKLE: research and practices from multiple sources, input from early childhood practitioners in Massachusetts preschool and kindergarten programs, as well as input from educational experts informed creation of this resource.

MASSACHUSETTS LEARNING STANDARDS

The Massachusetts Curriculum Frameworks provide teachers, students and families with clear and shared expectations for what all students should know and be able to do at the end of each year. They represent a promise of equitable education for all students. They formalize the expectation that all students in the Commonwealth have access to the same academic content, regardless of their zip code, background, or abilities.

Examples of possible learning experiences are offered as ideas for ways adults could support content area competencies. Content and practice standards describe in abstract terms the progressions of understanding and skills making up complex areas of competency in broad content clusters or domains. Clusters or domains vary by content area: for example, number sense or mathematical reasoning are mathematical domains with many related skills and standards; likewise, self-awareness is a social emotional learning (SEL) competency area with many skills related to each of the three SEL self-awareness standards; activities listed in the GPKLE may support one or more related skills or competency areas in other content areas.

The age-appropriate activities suggested can help educators offer diverse experiences across subject areas. Many examples of activities are appropriate for other standards in addition to the standards by which they are listed, and they can and should be connected to ongoing curriculum, classroom themes, or topics of focus/study. Activities presented here range in their levels of difficulty from things almost all children will be able to do

more complex activities that may be less accessible for some children, at any given point in time. Educators are encouraged to adapt activities as appropriate, and to be creative in guiding children's learning toward meeting the learning standards. All activities and guidelines are suggestions; the authors assume that programs, districts or individual schools have the right of final decisions about curriculum (including which materials are used, approaches to curriculum, etc.). All suggested activities are intended to be accessible for use in a variety of settings and do not require program, teachers, or schools to purchase specific materials.

Format of This Document

The seven sections following this introduction are organized into the following content areas, or strands:

- Social Emotional Learning and Approaches to Play and Learning (Self Awareness, Social Awareness, Relationship Skills, Responsible Decision Making, and Approaches to Play and Learning)
- English Language Arts and Literacy (Reading, Writing, Speaking and Listening, and Language)
- Mathematics (Counting and Cardinality, Operations and Algebraic Thinking, Measurement and Data, and Geometry)
- Science and Technology/Engineering (Earth and Space Sciences, Life Science, and Physical Sciences) History and Social Science (Civics, Geography, History and Economics)
- Appendix A:
- Appendix B:
- Appendix C:

Each content area section is organized into two main sub-sections for its content area:

1. an introduction that offers content-specific guidelines for preschool and kindergarten-level implementation of the subject material; and
2. a chart illustrating four topics within each content area:
    - *learning standards* from the relevant revised *Massachusetts Curriculum Framework*;
    - *possible activities* for implementing the standards at the preschool and kindergarten levels;
    - examples of ways that children might demonstrate *evidence of progress* or achievement; and
    - suggestions for *supportive strategies* that could be used by educators to facilitate learning.

Together, these elements constitute "guidelines for preschool and kindergarten learning experiences" that will enhance the quality of programs for all young children in Massachusetts.

Some of the Massachusetts Frameworks have not yet been revised or are in the process of being revised (i.e. Comprehensive Health and the Arts) and so do not address specific expected outcomes or standards for Pre-K and K. In these content areas, the introduction provides an overview of the standards; following this, the chart provides Activities, Evidence of Progress and Supportive Strategies.

Statement about Relations with Previous Documents
This document merges and further refines the previous two sets of guidelines for preschool and for kindergarten. It is more content-specific than previous versions of either the *Guidelines for Preschool Learning Experiences* (2003 "green book") or the *Kindergarten Learning Experiences* (2008 "pink book"), because the GPKLE aligns with standards in the revised *Massachusetts Curriculum Frameworks*. The preschool "green book" may still be a useful document for structuring curriculum for young children, particularly for children closer to age three.

The GPKLE is intended to encourage continuity of curriculum content and instructional practices from preschool through kindergarten. Because children develop at different rates across domains, come from different backgrounds, and bring a range of skills, educators may find that activities listed at the Pre-K level may be appropriate for some kindergarten children. Likewise, some Pre-K children may be ready for experiences listed at the K level.

Additional Resources and Guidance
Please visit the Early Learning website (coming soon) to find additional future resources and guidance on how to apply the guidelines in the context of:

- Special Populations, including children with disabilities and English language learners
- Family Engagement
- Assessment Practices
- Universal Design for Learning
- Supportive Learning Environments

Guiding Principles
This document was developed based on the following guiding principles, which education professionals are encouraged to adopt as they develop their curriculum.

1. **All young children are capable of learning.** All children are capable of achieving positive developmental outcomes, and educators should hold high expectations for all young children.
2. **Knowledge of child growth and development is essential.** Children come to us with a wide range of backgrounds and experiences. Knowledge of child growth and development is essential for making decisions about appropriate curriculum content for groups and individual children; decisions should be based on knowledge of child development and on careful observation of children in many play and learning experiences.
3. **Children develop and learn within the context of their family and culture**. Each child's family and culture lays the foundation of who they are and how they learn and grow.
4. **Children show individual differences.** Children need many opportunities for work and play that cultivate their individual styles, recognize their cultures, and accommodate their individual needs. Children benefit from rich, multi-sensory learning environments that support different interests, learning styles and kinds of intelligence.
5. **Children learn by exploring and engaging with others.** Optimal learning requires a physically and emotionally safe, healthy, and stimulating classroom environment. Children gain understanding of the world and society by exploring materials, engaging in physical activities, developing relationships and interacting with peers and with adults.
6. **Curriculum is strongest when focused on the whole child***.* Children learn to take risks and solve problems, explore new concepts, acquire some academic skills and knowledge, and enhance their physical, social, and emotional competencies in preschool and kindergarten. They need sufficient time to become involved in projects and investigations to satisfy their own interests. Integrating child-initiated and adult-directed activities with guided play and learning experiences is developmentally appropriate and builds engagement, learning habits, and relevance.

7. **Young children learn by doing.** Children acquire symbolic thought and rich vocabularies as they represent their ideas and knowledge through drawing, painting, block constructions, dramatic play, speaking, and they need opportunities to explore materials, engage in physical activities, and interact with peers and adults. A balance of child-initiated and educator-selected activities will maximize children's learning.
8. **Children's learning requires active doing to support construction of meaning.** Children are better able to generalize concepts and knowledge when activities connect to meaningful, real-life experiences. Developmental domains and curriculum areas are interrelated: for example, children's mathematical learning may occur on the playground, in dramatic play, and while using sensory materials. Connections across developmental domains also help children synthesize, reorganize, and transform knowledge, and develop creative and independent thinking. Interdisciplinary thematic units and the project approach promote connections across the curriculum and over time.
9. **Early language and literacy set the stage for later learning.** Children's language skills are strong predictors of academic success. Early childhood is an important time in the development of vocabulary and other language skills. These skills provide the foundation for learning to read and write and for later academic achievement.
10. **Relationships are key.** Young children construct values and knowledge through relationships and interactions with dependable adults in their lives. Educator-child interactions are central in early learning. Families are the primary caregivers and educators of their children. Continuity between home and school maximizes learning. When teachers work with families as partners, children's development and progress is maximized. Opportunities to build relationships with the larger community can also benefit children's academic and personal growth.
11. **Individual needs are the guiding force.** In all content areas, instructional methods, approaches and sequencing of tasks for any activity should be freely modified whenever necessary to best promote an individual child's progress.

Educator Reflection: Questions for Educators to Ask Themselves

One method of personal and group professional development is for educators to reflect on their own practices, and engage each other in discussion and observation. The following questions are presented as starting points for reflection or group discussion.

- How can I think more systematically and reflectively about my teaching practices and learn from my own and others' experiences?
- To what extent do I learn about and understand children's families, cultures, and communities, and use that understanding to connect instruction with children's experiences?
    - How and when do I talk interactively with children and ask for and listen to their ideas and feelings?
    - Do I schedule or allow time for children to think, discuss, and reflect on ideas, experiences, and feelings?
    - Am I observant and able to recognize "teachable moments" to extend children's reasoning?
    - How do I build on children's innate curiosity and their individual and group interests?
    - Is my classroom a vibrant environment that includes displays of art, number sequences, books, and representations children make of their ideas?
    - To what extent do ideas and skills integrate across the curriculum, integrate into ongoing projects, and include multi-sensory and kinesthetic approaches to learning?
    - How do my classroom environment and curriculum invite inquiry and exploration?
    - Do I encourage children to gather evidence to support their ideas and provide answers to their own questions?
    - To what extent is my classroom a learning community where individuals are respected and respectful?
    - How have I adapted the environment and modified my curriculum to meet children's individual needs?
    - What useful information on individual children do I collect through assessments, and do I use this information to improve and modify my classroom program?
    - Am I willing to say, "I don't know - how do you think we could find out?"

Conclusion

Supporting high quality education in Massachusetts throughout the early childhood years (Pre-K to grade 3, and across the broader birth-age 8 context) is an investment in the future. To provide the quality of education that children need to succeed requires well-designed curriculum, instruction and assessment systems, effective professional development programs, and knowledgeable technical assistance.

The information provided in the GPKLE focuses on developing high-quality curricula and environments in preschool and kindergarten; however, the commitment to actualizing the benefits of quality must be continued through elementary school. The chance to align first, second, and third-grade curriculum based on the state's preschool and kindergarten curriculum guidelines is an important opportunity to develop more consistent educational experiences and outcomes for children that will improve their lives.

Social and Emotional Development and Approaches to Play and Learning

The preponderance of outcomes from both research and evidence-based practice clearly indicate the positive connection between social and emotional learning, academic learning, and success in life. Young children's evolving social-emotional development must be a key consideration in developing curriculum, as well as guiding children's social interactions and behaviors. As children enter group settings, they engage in a growing circle of deepening relationships with adults and peers outside of the family, and move from self-focused activity to participation in groups. They develop a growing set of skills with guidance and meaningful feedback from caring adults, including skills in developing friendships, following rules and routines, playing in a group, resolving conflicts, sharing, and taking turns, along with essential dispositions for learning. At the kindergarten level, children extend these skills through practice, expanding relationships with others, and through diverse experiences designed by caring adults. These skills support children's participation in learning activities by opening the doors to listening, collaboration, and cooperating with others; in the process, they learn to seek and use resources outside themselves.

Children in preschool and kindergarten depend on the significant adults in their lives to provide experiences that support both social and emotional learning (SEL) and approaches to play and learning (APL). Those adults may include educators, caregivers, school/program staff as well as family members. Children's relationships with significant adults help to build trust, and the feedback children get from trusted adults impacts their learning and behavior. Adults can help children to build relationships with other children, and in turn children support one another in learning as well as play.

SEL and APL skills need to be seen as a core part of the educational mission. These skills are needed throughout the daily life of the entire school/program (e.g., on playgrounds, in lunchrooms, in hallways and bathrooms, on buses), so it is important that everyone who interacts with children (e.g., administrators, nurses, school psychologists, librarians, specialists in art and physical education, coaches, cafeteria monitors, bus drivers, support staff, etc.) be informed about and included in training and professional development and ongoing support.

The term "social-emotional literacy" relates to the understanding of and ability to manage feelings and emotions, and to manage oneself with others. Educators can promote children's understanding and skills in many ways outlined in this document. Use of high-quality children's literature can provide children with vocabulary for labeling and expressing their feelings and ideas. Carefully selected books can provide a framework for building empathy, tolerance, and friendships, and also reinforce social-emotional problem-solving and conflict resolution skills. "High quality children's literature that contain authentic characters, realistic problems, and possible resolutions validates children's emotions while offering models for managing strong emotions." (Harper, 2016, p.81)

SEL and APL should not be viewed as "stand alone" areas of curriculum, but rather embedded across all developmental domains and all curriculum areas throughout the day. SEL and APL skills are easily and logically integrated with academic learning. Educators can build activities from children's interests or units of study that address objectives from multiple standards and curriculum areas.

*Note: For the purposes of these guidelines and to maintain consistency among all curriculum areas, the "evidence" items for PreK and K have been adapted from the original document and combined rather than being presented separately. In this format, they are intended to reflect increasing understanding and skill development, according to the individual child's experiences and needs, and decreasing reliance on adult support.

SELF-AWARENESS

Understanding and Expression of Emotions

Self-awareness and the ability to understand and label emotions are forerunners of, and foundational to, interactions and relationships with others, and therefore critical to school success and to a satisfying and successful life. In order to support children's healthy identification and expression of emotions, educators need to be aware of their own personal attitudes and beliefs about the expression of emotions, as well as differences in expression of feelings based on culture, gender, and individuals.

"By the end of the preschool years, children who have acquired a strong emotional foundation have the capacity to anticipate, talk about, and use their awareness of their own and others' feelings to better manage everyday social interactions." (National Scientific Council on the Developing Child, 2004)

MA Standard	**Possible learning activities: Children could…**	**Possible evidence: Children may…**	**Supportive practices: Educators could…**
SEL1: The child will be able to recognize, identify, and express his/her emotions.	• use a variety of art forms (e.g., movement, drama, puppetry, making masks, visual arts, writing) to express/represent emotions. • create individual or class books about emotions, such as photographs of themselves demonstrating emotions. • sing songs that illustrate emotions (e.g., "If you're happy and you know it," including "angry, scared, sad"). • identify emotions of characters in stories and compare/contrast them with their own feelings in similar situations. • play "invisible feelings" (guess the emotion expressed by a child using only facial expressions, or close eyes while a child uses only voice to express an emotion). • play "feelings detective" - select pictures of people and events from magazines and newspapers and answer: How do you think the person is feeling? What clues tell you that? Why do you think he/she feels that way? What do you think happened? What do you think will happen next? Is there another word for that feeling? • discuss physical sensations connected with emotions (e.g., butterflies, knot in stomach, etc.) as well as facial expressions	**At the preschool level, children begin to demonstrate skills and behaviors with support. By the end of kindergarten, children manage these skills independently.* • recognize and label basic emotions and associate them with words, facial expressions, body language, and behaviors. • express a range of emotions appropriately through gestures, actions, drawing, or language, with decreasing modeling and support. • demonstrate understanding of connection between feelings and behaviors (e.g., "If..., then..."). • use increasingly rich vocabulary related to the nuances of emotions (e.g., happy=ecstatic, glad, joyful, elated, delighted, pleased, etc.). • with support, describe reasons for own feelings and situations that cause them (stimuli/provocations). • gradually recognize complex emotions (e.g., pride, embarrassment, frustration, nervousness, loneliness) and associate them with ways of expressing them.	• read books on feelings that reflect the language and culture of the children (e.g., Feelings to Share from A to Z by Todd & Snow; The Way I Feel by Cain; When Sophie Gets Angry-Really Angry by Bang; What Scares Me, What I Do About It by Kunkel). • engage in two-way communication with families to understand family and cultural mores around expressing emotions. • display visuals that portray a variety of emotions (photographs, pictures, posters) and assist children in referring to them to identify emotions ("Can you find the picture that shows how you are feeling?). • embed learning/conversations about emotions into routines, as issues arise (e.g., when facing new or challenging experiences). • recognize and reinforce children's efforts to manage strong feelings and their appropriate expression of emotions. • provide vocabulary words for complex feelings (e.g., frustrated, anxious, excited, embarrassed, proud, satisfied, confused, etc.).

MA Standard	Possible learning activities: Children could…	Possible evidence: Children may…	Supportive practices: Educators could…
	and body language associated with various emotions. • play "Name That Emotion" using feelings cards, picking a card to act out/mimic, and describe a time when they felt that way. • use Venn diagrams to compare and contrast emotions of characters in stories.		• use self-talk to label personal feelings and model appropriate expression of emotions. • model action statements for dealing with feelings (e.g., "I'm worried and I need to take a deep breath;" "I'm frustrated because… maybe someone can help me."). • engage children in reflecting on emotional experiences that occurred during the day or in their personal lives (e.g., "How did you feel when…? What did you do when you felt that way?").

Self-Perception/Self-Concept

Self-perception/self-concept can be defined as recognition of the attributes, abilities, attitudes, and values that children believe about themselves. Children's self-concept, whether positive or negative, can greatly impact their motivation to learn, as well as their engagement in social interactions, satisfaction with efforts, willingness to take on challenges, etc. Culture, environment, and experience influence self-perception.

Children's beliefs about themselves are largely self-constructed. It's important for children to be fundamentally satisfied with the person they are, but also to have an increasingly accurate appraisal of their strengths and capabilities as well as their weaknesses/vulnerabilities. Children's self-perception develops over time, based on what children believe and what others tell them, as well as their observations of the accomplishments of others. Self-perception is dynamic, changing as children engage in new experiences, learn things about themselves, and begin to compare themselves to others. They are especially influenced by the feedback they get from important people in their lives.

MA Standard	Possible learning activities: Children could…	Possible evidence: Children may...	Supportive practices: Educators could…
SEL2: The child will demonstrate accurate self-perception.	• create individual "I Am, I Can" books, including sections about their likes and dislikes, skills and abilities. Dictate or write stories about their preferences and accomplishments. • observe themselves in mirrors; keep records of physical growth. • read You and Me by Manna, 2000, and create representations of some	**At the preschool level, children begin to demonstrate skills and behaviors with support. By the end of kindergarten, children manage these skills independently.* • identify personal characteristics such as physical features, abilities, preferences, interests. • know and share important personal	• encourage children to do as much as they are able and urge them to attempt challenges by reminding them of previous successes. • encourage children to identify personal interests/preferences and provide opportunities for them to choose to work/play with peers with similar interests.

MA Standard	Possible learning activities: Children could…	Possible evidence: Children may...	Supportive practices: Educators could…
	characteristics that are the same or different between themselves and someone else. • describe cultural or family celebrations and traditions; show or talk about objects from family or culture. • create a "Me flag" – cut out pictures of their favorite things and glue them on a banner to be displayed. • play "I'm thinking of someone…" using descriptors for one another. • graph various attributes, preferences or choices; link with mathematical thinking by estimating/predicting the number or prevalence of certain characteristics (connect to Math/Data Collection PK and K.MD.3) • after reading David's Drawings (Falwell, 2001), create a collaborative art project and explain each child's unique contribution (connect to collaborative play and learning APL 5).	information (e.g., name, parents'/guardians' names, address), and recognize when sharing is not appropriate (e.g., family or cultural norms about sharing information). • recognize self as unique from others. • identify personal and family structures. • demonstrate or express personal preferences and reasons for choices. • demonstrate awareness and appreciation of self as part of a family, culture/ethnicity, language, community, or group. • compare/differentiate personal characteristics, preferences, thoughts, and feelings from those of others (e.g., "I have brown eyes; she has blue eyes;" "I like X; he likes Y"). • explain the rationale for one preference/choice over another.	• acknowledge and celebrate children's physical growth, social skills, and accomplishments. • read books/stories that reflect children's cultures and differing abilities (e.g., Whoever You Are by Mem Fox). • display culturally relevant materials that allow children to "see themselves" in books, dolls, photographs, posters, and dramatic play materials. • ensure that the environment is safe from bias (cultural or other forms) and point out negative stereotypes or bias in books and media. • foster children's respect for other children's skills, accomplishments and efforts. • accept and acknowledge varying viewpoints and interpretations to demonstrate that all perspectives are valuable. • ensure that children have equal opportunities to take part in all activities and use all materials regardless of gender, language or differing abilities.

Self-Efficacy (Confidence/Competence)
Self-efficacy is the belief that you can accomplish a task by using your own capabilities. Confident children feel positive about their ability to do things or to adapt to changing situations. They are willing to take reasonable risks, express or defend their ideas, try new experiences. Self-efficacy is built with experience as children face and engage in new challenges. While it is normal to want to protect children from experiencing failure or disappointment, a child who never learns to face failures or disappointments does not learn how to rely on internal strategies to cope with them. Children learn persistence when they continue to try again after experiencing a setback. Tasks need to be challenging enough to keep children's interest, but not so difficult that they become frustrating. Experiencing a level of difficulty can motivate

children to try newer, more challenging tasks. Overcoming challenges also builds children's resilience when encountering challenging tasks - instead of feeling anxious, they are more likely to persist. (NASP, 2010)

MA Standard	Possible learning activities: Children could…	Possible evidence: Children may…	Supportive practices: Educators could…
SEL3: The child will demonstrate self-efficacy (confidence/competence).	• create individual portfolios or "success journals" with photographs or work samples; revisit periodically to reinforce progress. • discuss or share experiences that either fostered or frustrated their sense of accomplishment. • create a "success tree" bulletin board where children acknowledge each other's successes and accomplishments and write (or dictate) them on a leaf to be posted on the tree. • trace the outline of the child's body, then have adults or other children describe the child's positive characteristics or abilities and write the words on the tracing. • take turns as a leader, selecting an action they would like the rest of the class to do (e.g., act like a butterfly, hop on one foot, etc.) • test their physical limits through access to physical activities, equipment and challenges (e.g., climbing structures, balance beams, seesaws, obstacle courses, etc.)	**At the preschool level, children begin to demonstrate skills and behaviors with support. By the end of kindergarten, children manage these skills independently.* • show confidence in own ability to accomplish tasks. • show pleasure in mastery of skills or completion of tasks. • demonstrate willingness to take some risks (e.g., try a new activity; use unfamiliar materials or equipment). • show confidence in personal competencies, and satisfaction with results of own work. • appropriately share mastery of skills or tasks with others. • independently use skills for daily living with confidence and competence. • express independent thoughts, defend ideas, and take appropriate action to meet own needs/rights or to defend self. • demonstrate realistic perception of limitations or challenges (e.g., areas in which he/she might need assistance). • demonstrate willingness to take reasonable risks (e.g., participate in an unfamiliar activity, try a new skill, attempt a challenging experience again).	• offer opportunities for children to choose from a range of activities and materials, to allow challenge as well as ensure success at varying levels. • allow sufficient time for children to play, explore, experiment, and accomplish tasks until they are personally satisfied. • help children to set realistic and achievable goals one step at a time and provide encouragement for each increment achieved. • scaffold developing skills (help children complete challenging tasks, then gradually step back to let them manage independently). • give specific feedback that focuses on what has been accomplished or achieved. • make adaptations to ensure that all children can be involved in an activity in a meaningful way. • suggest ways for children to rectify mistakes (e.g., start over, erase, modify, double check, keep practicing); • model self-talk when faced with challenges (e.g., "That didn't work out the way I hoped. I'll try again," or "I can fix that, first I will…"). • share children's individual successes with their families.

Self-Management			
Impulse control and stress management refer to the ability to master thoughts and impulses, resist temptations, distractions, and habits, and to think before acting. The ability to control/manage one's impulses and behaviors impacts relationships as well as attentiveness and academic performance. In order to function successfully in school and in life, children need to develop the ability to think before they speak and act and stop themselves from acting impulsively. As children tackle and master new experiences, the anxiety surrounding the experience decreases, and they become capable of tolerating increasing levels of stress and anxiety and learn to manage intense or difficult feelings.			
MA Standard	**Possible learning activities: Children could…**	**Possible evidence: Children may…**	**Supportive practices: Educators could…**
SEL4: The child will demonstrate impulse control and stress management.	• illustrate coping strategies such as "What do I do with the mad that I feel?" • use music to promote/enhance inhibitory control (e.g., moving to contrasting tempos of music). Freeze dance can be made more difficult by asking children to freeze in particular positions using visual cues. • identify and describe physical sensations of stress by naming or pointing to the part of the body where they feel stress; describe how they respond to those sensations and what they might do to improve or decrease them (to feel calm/relaxed). • play games that require attention and quick responses to practice attention and inhibition (e.g., *Red Light, Green Light; Red Rover*); games that require the person who is "It" to mentally track others' movements (e.g., *Mother May I?).* The *Magic Word* game tests inhibition by requiring children to wait for a "magic word" to perform an action. • describe or demonstrate when and how they need to modulate their behavior in various circumstances	**At the preschool level, children begin to demonstrate skills and behaviors with support. By the end of kindergarten, children manage these skills independently.* • use coping strategies to manage intense or difficult feelings (e.g., pounding clay, taking a deep breath, drawing a picture). • demonstrate increasing ability to communicate wants/needs, regulate impulses, and delay gratification (e.g., choosing an alternative). • identify challenging situations and healthy ways to address them (e.g., strategies for handling mistakes). • adjust/modulate behaviors appropriate to various settings with decreasing support (e.g., indoor/outdoor, school activities such as hallways, bus, cafeteria, etc.). • adapt to transitions in environments or activities with decreasing support (e.g., home to school; re-entering program after out-of-class activities, etc.). • demonstrate increasing flexibility in thinking or actions (e.g., ask for suggestions; think of alternatives).	• engage in two-way communication with families to understand family and cultural mores around self-regulation. • demonstrate specific techniques to help children calm down, cope with anger, fear, and excitement (e.g., separate from situation; take three deep breaths, count to ten, stretch muscles, work with clay, etc.). • create and teach the use of "tool kits" to help children to recognize when they are upset and need to use the tools (e.g., choice cards that say "wait; choose something else; set a timer to wait a turn; share"). • offer visual and concrete reminders (e.g., stop sign, hand/body signals to stop and listen, Board Maker cues for children who use assistive technology). • teach self-control strategies (e.g., yoga, creative visualization, "brain gym," movement, relaxation techniques). • prepare children for transitions; explain what will be new and different in an unfamiliar settings and appropriate behavior. • read books about life transitions, and discuss feelings (e.g., a new sibling, death of a pet, etc.).

MA Standard	Possible learning activities: Children could…	Possible evidence: Children may…	Supportive practices: Educators could…
	(e.g., playground, fire drill, library, cafeteria).		

SOCIAL AWARENESS

Social awareness is the ability to take the perspective of and empathize with others from diverse backgrounds and cultures, to understand social and ethical norms for behavior, and to recognize family, school, and community resources and supports (CASEL, 2013). In this competency cluster, children develop the ability to take information and understanding that they are gaining about themselves and turn it outward and apply it to others as they observe behavior, attitudes, the display of emotions, and engagement in relationships and activities. Cultural, familial, and experiential information influence this area of development. Social awareness includes the ability to understand social cues such as body language and tone of voice, and the ability to correctly interpret the meaning of others' behaviors (e.g., that an outburst may not be intended personally), as well as knowing how to respond appropriately. Social awareness is essential to social competence, the development of a sense of fairness, and is a foundation for conflict resolution.

Empathy

Empathy is the experience of understanding another person's emotions or situations from their perspective; the ability to put oneself in another's shoes, to try to see the world through another's eyes. It involves taking the time to listen and understand what the other person is feeling, thinking, and intending. It requires application of self-awareness to the understanding of others. Feeling understood is one of the most fundamental psychological needs. Empathy includes concern for others, learning to take others' needs and perspectives into account, and proactively working to create considerate and caring relationships and communities.

MA Standard	Possible learning activities: Children could…	Possible evidence: Children may…	Supportive practices: Educators could…
SEL5: The child will display empathetic characteristics.	• create social stories describing how someone might feel when… (e.g., exclusion, hitting, etc.). • discuss actions or behaviors that make them feel comforted (e.g., "It makes me feel better when…"). • develop, illustrate, and display a list of kind, considerate, and empathetic actions/behaviors and acknowledge when they observe a peer demonstrating the behavior. • act out various emotions, take photographs, then use the photos to identify the feelings depicted. • create a poster, drawing, or card for a sick educator or classmate or to celebrate a friend's accomplishment.	**Preschool children demonstrate beginning empathetic awareness and skills; kindergarten children demonstrate increasing independence.* • demonstrate awareness of others' expressions of feelings (both verbal and non-verbal). • recognize that people may have varying emotional reactions and begin to speculate on why they might be different from his or her own. • respond to another's emotions and needs (e.g., share a similar personal experience; advocate for someone; relinquish an object or turn for another). • predict others' feelings, responses,	• use self-talk to model empathy (e.g. "I see that ___ is feeling sad, I will go talk with him." "I'm proud of ___ I'm going to give her a high five!"). • respond empathetically to children's feelings and thinking (e.g., "I understand why you would feel that way"), to help children feel heard, respected, and validated. • help children focus on another person's feelings by pointing out facial expressions, voice tone, body language, etc. • foster children's expressions of caring and gratitude toward others (e.g., gratitude journals, posters, bulletin boards, personal notes). • call attention to children's feelings

MA Standard	Possible learning activities: Children could…	Possible evidence: Children may…	Supportive practices: Educators could…
	• in pairs, mirror the facial expressions or gestures of a partner, then interpret what the expressions/gestures mean.	and behavior (e.g., what will happen if…?), and make decisions accordingly.	often (e.g., "How do you think he/she feels about ____?" "How do you know?").

Recognition of Diversity and Demonstration of Respect for Others
Respect means seeing and honoring the value in others. It is important to help children to understand, accept, and include all peers as partners in play and learning, particularly those who may have different developmental or learning needs. Embracing differences and recognizing commonalities contribute to empathy, reduce bias, and reduce the likelihood of bullying behaviors. Young children are usually curious about (and sometimes fearful of) children who are different from themselves, so acknowledging and responding to their curiosity as simply and factually as possible can promote acceptance.

MA Standard	Possible learning activities: Children could…	Possible evidence: Children may…	Supportive practices: Educators could…
SEL6: The child will recognize diversity and demonstrate respect for others.	• explore similarities and differences about families by sharing photographs or drawings (e.g., how many children have siblings, grandparents, pets, etc.). • create a definition of the word "respect" by identifying how children feel when they are being respected, and what it means to be respectful; create representations about the meaning of being respectful. • explore books and photographs illustrating a variety of lifestyles (e.g., homes, foods, jobs, etc.).	**Preschool children demonstrate beginning awareness and skills; kindergarten children demonstrate increasing independence.* • identify commonalities and differences (e.g., gender, race, ability/disability, language, family structure, etc.). • identify and appreciate others' abilities, skills, and qualities. • use respectful social conventions (e.g., saying please/thank you; taking turns, respecting authority). • accept the validity of others' perspectives, ideas, and motivations (i.e., they are not "wrong," just different). • acknowledge the needs of others (e.g., sharing, dividing materials, giving up an object, moving to make space for another). • begin to recognize unfair or biased behavior.	• model respectful behavior with all children and adults. (e.g., listening attentively; speaking kindly, etc.) • focus on commonalities and each child's uniqueness. • respond to children's observations of differences with information. • avoid perception of activities as gender-specific. • acknowledge differing or conflicting ideas, beliefs, and behaviors, scaffolding as necessary to counteract misinformation. • use resources that relate to the cultural, linguistic or developmental backgrounds of children in the group (e.g., *Mama Goose: A Latino Nursery Treasury* by Ada & Campoy; *Black is Brown is Tan* by Adoff; *Just Like You* by Albee).

RELATIONSHIP SKILLS

Relationship skills are defined as the ability to establish and maintain healthy and rewarding relationships with diverse individuals and groups. This includes communicating clearly, listening actively, cooperating, resisting inappropriate social pressure, negotiating conflict constructively, and seeking and offering help when needed (CASEL, 2013).

Interpersonal Communication

Interpersonal communication is essential to developing and maintaining relationships. Communication enables children to share commonalities and connect with others in a meaningful way. In this context, communication goes beyond speech and oral language, and extends to the recognition, sharing, and understanding of thoughts, ideas, and feelings. Children may communicate/share their personal thoughts, feelings, and needs with other children or adults verbally, or in a variety of non-verbal ways (e.g., facial expression, body language, communication boards, drawings, movement, etc.). This is especially true for children with disabilities and/or those who are dual language learners (WIDA, 2007). Communication is greatly influenced by cultural experiences (e.g., who speaks to whom and about what topics).

MA Standard	**Possible learning activities: Children could…**	**Possible evidence: Children may…**	**Supportive practices: Educators could…**
SEL7: The child will demonstrate the ability to communicate with others in a variety of ways.	• use a variety of modalities to share ideas; poems, songs, drawings, etc. that represent their life and experiences. • select a picture of an object or action and act out what is pictured (e.g., elephant; climbing a ladder, playing baseball, etc.). • practice listening attentively in partners (e.g., for one minute, each child describes his/her perspective on a topic while the other listens, then each child summarizes the partner's statements. • choose their projects that they would like to have displayed and interpret or describe them to others. • pass unfamiliar objects around the group and describe and discuss what they know/think about the object (e.g., what it is used for, etc.). • use a variety of media (crayons, paint, writing, photos, videos, etc.) to create greeting cards, notes, invitations, etc.	**Preschool children demonstrate skills with support; kindergarten children demonstrate increasing independence.* • engage in meaningful and reciprocal interactions with other children throughout the day (including home language or alternative communication systems as needed). • engage in meaningful communication or conversations with program staff (including home language or alternative communication systems as needed). • listen or demonstrate attention and respond when peers or adults talk (or communicate in non-verbal ways such as sign language, gestures, body language).	• encourage children to share ideas, feelings, experiences, and perspectives in whatever communication mode they can. • employ a variety of expressive communication modes (e.g., speaking, writing, signing, music, drawings, movement, communication boards, etc.). • model behaviors associated with respectful listening and strategies for turn taking (e.g., tapping a shoulder to request a turn or gain attention). • promote multiple back and forth exchanges and turn-taking ("strive for 5") with questions or comments that stimulate follow-up and extend the conversation with details). • provide opportunities for regular conversations in small groups (e.g., meal times; outdoors, etc.). • respect children who choose not to speak in large groups, asking "Would you like me to come back later?" "Would you like to whisper to me or a friend?"

MA Standard	Possible learning activities: Children could…	Possible evidence: Children may…	Supportive practices: Educators could…
	• use books to understand differing communication styles (e.g., *Hello! Good-bye!* by Aliki).		• support children learning English in a variety of ways (e.g., books in home languages; teach key words/phrases; label materials in home languages.

Social Relationships

Children's relationships with adults who are important in their lives as well as with other children impact learning as well as social adjustment. Research has shown that children are likely to be more engaged in learning when they share learning experiences with their peers, and that positive relationships with their educators was predictive of higher levels of academic achievement.

When children feel secure in their relationships and in the support they receive from educators and peers, they are better able to explore new experiences and ideas. Research shows that relationships and interactions with parents, caregivers, and other adults important in a child's life actually shape brain circuits and lay the foundation for later developmental outcomes, from academic performance to mental health and interpersonal skills. (National Scientific Council on the Developing Child, 2004)

MA Standard	Possible learning activities: Children could…	Possible evidence: Children may…	Supportive practices: Educators could…
SEL8: The child will engage socially, and build relationships with other children and with adults.	• individually, or as a group, identify characteristics of people they like to be with (e.g., fun, happy, cooperative, etc.); record and examine data using graphic organizers, charts, etc. • identify examples of their friendships and take pictures to create a "class friends" display. • make lists of things they like to play or do with friends. • participate in paired or group projects such as murals, constructions, bookmaking, experiments. • after a paired activity, tell their partners what they liked about working/playing together. • engage in "friendship dancing" with a partner. When the music stops, children switch partners.	**Preschool children demonstrate skills with support; kindergarten children demonstrate increasing independence.* • initiate, expand, and maintain interactions with other children regularly (e.g., invent/set up activities). • form and maintain increasingly close and nurturing friendships (e.g., show loyalty, demonstrate concern for needs/wants of particular children). • demonstrate trusting, caring relationships with adults in the program and school community. • use play to practice and extend understanding of social roles and relationships (e.g., act out increasingly complex dramatizations).	• build relationships with each child (e.g., greeting each child; using children's names). • engage in two-way communication with families to understand family and cultural mores around adult-child relationships. • model positive relationships with adults and with children. • support social opportunities for all children, especially those who have difficulty understanding social/emotional communication (e.g., provide peer support, reference a social story, etc.). • model and teach appropriate behavior for different situations (e.g., table manners, greeting people, introductions, bus etiquette, etc.). • provide opportunities for children to choose partners throughout the day for

MA Standard	Possible learning activities: Children could…	Possible evidence: Children may…	Supportive practices: Educators could…
			work and play.

Conflict Management
Conflict is a natural part of life, and learning to cope with conflict is one of the maturational tasks of childhood. Conflict management requires the ability to analyze social situations, identify problems, set prosocial goals, and determine effective ways to solve differences. Conflict management abilities begin with the acquisition of basic self and social skills, especially listening and perspective-taking. They expand with support and multiple and varied opportunities to identify and resolve simple social problems using reasoning, judgment, critical thinking and language. Negotiation is one-way children learn to manage conflict and is evident when young children begin to use language to meet their needs or resolve conflicts. Development of this skill requires the development of self-awareness, perspective-taking, empathy, and respect (e.g., "What do I need/want? What does the other person need/want? How can both our needs be met?"). Positive negotiation processes include shared interest in the issue and working towards a "win-win" outcome.

MA Standard	Possible learning activities: Children could…	Possible evidence: Children may……	Supportive practices: Educators could…
SEL9: The child will demonstrate the ability to manage conflict.	• discuss and act out social stories, switching roles to see alternative perspectives. • hypothesize about positive and negative consequences of choices or decisions using if/then statements. • represent solutions to social problems with drawings or words and build a collection of problem-solving skills that can be used in the future. • use props (e.g., red, yellow, green signs) during a story to indicate potential conflict, when to stop; slow down and think; or go ahead with a solution. • use graphic organizers (e.g., lists, Venn Diagrams, etc.) to categorize, sort or compare solutions. • sing "If You're Happy and You Know It" substituting positive responses (e.g., if you're angry and you know it, walk away; count to ten; talk it out). • reflect on a social problem and conflict resolution; assess the efficacy of their solutions; plan alternative solutions if the problem should arise again.	**Preschool children demonstrate skills with support; kindergarten children demonstrate increasing independence.* • recognize and act on social conflicts in a positive manner (e.g., explain a situation with objectivity; listen to others' perspectives or solutions). • seek advice or assistance from peers and/or adults to resolve conflict when appropriate (e.g., listen to guidance; talk through conflict; develop solutions). • be able to initiate and engage in compromise, negotiation, or strategies to seek a mutually satisfactory outcome (e.g., use if/then statements, concessions, etc.). • identify some strategies for preventing interpersonal conflicts. • refer other children to classroom rules.	• listen, restate, and summarize what children say; describe the scenario from the adult's perspective of what was seen/heard. • help children to identify the problem, brainstorm solutions, and agree on one solution. • encourage children to identify their goals in a conflict, repeat for clarification, and asking them to reach a solution (e.g., "You both want to use ___. How can you make sure you both get turns?"). • explore ways to reconcile or make amends after conflict (e.g., "If you want to stay friends, what might make her feel better?"). • acknowledge children's successful conflict resolution strategies (e.g., "I see you decided to combine materials to help each other."). • refer back to examples of children's positive resolutions of conflict. • designate a neutral spot or "peace talk area" for children to use when they

MA Standard	Possible learning activities: Children could…	Possible evidence: Children may……	Supportive practices: Educators could…
			need to talk or think through a situation.

Seeking and Offering Help			
Seeking help is the ability to get one's needs met, requiring self-awareness and reaching out for support. Seeking help from peers has many educational benefits. During help-seeking behavior, children need to think about the difficulty of the task as well as their own level of competence. Asking for help promotes independence, and offering help requires sensitivity to others' needs and contributes to self-efficacy. Helping other children can make learning more enjoyable while also offering new information.			
MA Standard	**Possible learning activities: Children could…**	**Possible evidence: Children may…**	**Supportive practices: Educators could…**
SEL10: The child will demonstrate the ability to seek help and offer help.	• share stories about incidents when others have helped them. • create a "helping hands" book about ways to give help to others. • use a procedure for seeking help: first try it yourself; then ask a friend; then ask an adult. • use a volunteer chart to sign up to help others with particular tasks (e.g., support a new child to learn classroom routines; aid a child learning English; help with zipping, shoe tying, etc.).	**Preschool children demonstrate skills with support; kindergarten children demonstrate increasing independence.* • recognize when they need assistance (e.g., when a frustration level is reached). • identify external supports (e.g., a trusted adult; or a peer). • identify support needed and ask for assistance in socially acceptable ways. • recognize when another child needs help and offer assistance. • attempt reasonably challenging tasks independently before requesting assistance.	• model asking for assistance (e.g., "I am having difficulty building this, I saw you do it earlier, will you please help me figure it out?"). • help children communicate requests in appropriate ways (e.g., visual cues, please/thank you cards, I need help cards/signs, etc.). • acknowledge use of appropriate help-seeking strategies, and children helping others. • offer strategies that can be applied later (e.g., a child says he can't do a puzzle; the adult responds: "When I do a puzzle, I do the edges first, then I match the colors, then I check the shape of the piece."). • refer children to one another for ideas and assistance. • use rich vocabulary about desired behaviors related to giving and valuing help (e.g., assistance, aid, support, appreciate, gratitude, etc.).

RESPONSIBLE DECISION MAKING

Responsible decision making is defined as the ability to make constructive and respectful choices about personal behavior and social interactions. It includes problem identification and situation analysis, problem solving, evaluation and reflection. These represent long-term life goals that are gradually developed with education and support.

Personal, Social, and Ethical Responsibility

There are multiple components of personal, social, and ethical responsibility. These include awareness and a sense of personal responsibility toward fairness, kindness, right/wrong, moral character, and altruism. These components influence the way children (and ultimately adults) communicate and interact, work together, share, and protect one another. For young children, ethics may be defined as the capacity to anticipate outcomes and consider the welfare of others (e.g., doing one's fair share; working together for a common goal). Their decisions mostly relate to following program rules, resisting peer pressure, and controlling aggressive or disruptive behavior. While children need to develop life skills and attitudes that support their ability to look after and protect themselves, they also need to be able to recognize and safeguard each other's needs and rights if they are to function effectively and happily in society. They need to be given opportunities to see the impact of individual decisions on the well-being of the group.

MA Standard	Possible learning activities: Children could…	Possible evidence: Children may…	Supportive practices: Educators could…
SEL11: The child will demonstrate beginning personal, social, and ethical responsibility	• create a Venn diagram comparing and contrasting rules in various settings (e.g., classroom, library, bus, cafeteria, playground). • identify and discuss disrespectful, unkind, or unsafe behavior; when/how to intervene (e.g., remind others of rules; support a child who is being targeted, etc.). • dramatize, write, describe, or create representations of positive/negative social behaviors (how they like or dislike to be treated). • create visual representations of possible outcomes if certain rules or limits did not exist. • use stories to discuss rules, analyze reasons for rules, and identify ways that rules keep us safe. Outline actions that were not safe and why. • evaluate and discuss social/ethical problems and consequences and ways to prevent or respond. • practice taking others' roles or perspective through dramatization or	**Preschool children demonstrate skills with support; kindergarten children demonstrate increasing independence.* • demonstrate increasing understanding of reasons for rules (benefits to self and others). • follow rules, limits, and expectations with decreasing prompting/assistance. • show willingness to take on responsibilities and increasing ability to follow through on them. • recognize situations that are safe versus dangerous. • communicate/report a social/ethical problem. • recognize and resist negative peer pressure (e.g., refuse to participate). • take steps to stop teasing/bullying and/or deal with it effectively (e.g., speaking up; seeking support from an adult).	• provide strong moral/ethical role models (e.g., acknowledge mistakes; explain decisions of doing the right thing). • engage children in creating rules and discuss reasons for them. • discuss hazards and preventive measures (e.g., seat belts or helmets; internet and phone safety; stranger danger, appropriate vs. inappropriate touch). • help children to think about situations/decision from two perspectives - first "zoom in," on the personal impact, then "zoom out," considering impact on others. • include games in the curriculum, particularly those in which children set, negotiate, and follow the rules. • discuss "peer pressure" or following when others might lead them to inappropriate behaviors. • engage children in projects that go beyond themselves (e.g., classroom, school, team, neighborhood, etc.).

MA Standard	Possible learning activities: Children could…	Possible evidence: Children may…	Supportive practices: Educators could…
	puppets.		

Reflection and Evaluation
Reflection is more than memory or a rote recitation of completed activities. Reflection requires *remembering with analysis.* When we engage children in reflection, we encourage them to go beyond merely reporting what they've done. We also help them become aware of what they learned in the process, and how they feel about it. They begin to examine what has worked and what has not, and to think about the reasons. Reflection consolidates knowledge so it can be generalized to other situations, thereby leading to further prediction and evaluation. Both making predictions (planning) and assessing outcomes (reflection) lie at the heart of mathematical and scientific thinking. Children need practice in the process of reflecting on their experiences, which can be done after, or during activities (e.g., talking about what they are doing and why, considering possible next steps, and evaluating the effectiveness of their decisions/choices). Adults can support and facilitate reflection by "scaffolding" development of skills, first by helping children complete challenging tasks, and then by gradually stepping back to let children manage the process independently and learn from their mistakes, as they are ready and able to do so. Self-reflection and evaluation contribute to self-awareness and understanding the consequences of behaviors. Reflection does not come easily or naturally, and young children need help with understanding the rationale for, and the process of, reflecting on actions, behaviors, and outcomes.

MA Standard	Possible learning activities: Children could…	Possible evidence: Children may…	Supportive practices: Educators could…
SEL12: The child will demonstrate the ability to reflect on and evaluate the results of his/her actions and decisions.	• create a class problem solving book illustrating their solutions to problems and use it for reflection. The pages can be laminated so children can take it home and share it with families. • review options for solving a problem, discuss the advantages and disadvantages of each, and decide on the best solution. • create posters illustrating "good choices/bad choices" reflecting on the impact of their decisions on others, and how others might have felt. • use and reflect on a 4-step problem-solving process (1. identify the problem; 2. suggest some solutions; 3. try a solution; 4. determine if the solution worked); if it didn't, discuss why not, and go back to step 3.	**Preschool children demonstrate skills with support; kindergarten children demonstrate increasing independence.* • take some responsibility toward the well-being/comfort of others. • make connections between actions and consequences (i.e., describe how their actions or behaviors affected others). • reflect on how he/she/they handled a situation and identify behavior choices as appropriate or inappropriate (wise vs. unwise, safe/unsafe). • generate possible options (what else might have worked?). • evaluate the effectiveness of solutions (e.g., if/how the solution resolved the problem from more than	• create a time for daily reflection. • ask reflective questions as children are engaged in activities, such as "What happened when ___? What did you think would happen?" • help children connect their plans with implementation (e.g., "You planned to ___, how did it work out?"). • encourage children to recall challenges, attempts at solutions, and to generate new ideas. • introduce voting as a group decision-making strategy. • promote discussion of potential outcomes or consequences (e.g., "What might happen if ...?" "What would you do if ...?" or "How would you feel if …"). • allow children to discover consequence

MA Standard	Possible learning activities: Children could…	Possible evidence: Children may…	Supportive practices: Educators could…
		one perspective).	of their choices, when safe. Help them understand that what they do and say affects others.

APPROACHES TO PLAY AND LEARNING

"Focused on the how rather than the what of learning, approaches to learning involve both children's feelings about learning (including their interest, pleasure, and motivation to learn) and children's behavior when learning (including attention, persistence, flexibility, and self-regulation)" (National Association for the Education of Young Children, 2009).

Massachusetts' vision for Approaches to Play and Learning is that "All children from birth through grade 3 will develop curiosity about the world around them and excitement about exploration and learning; increase confidence about their ability to gain knowledge and skills; and build the ability to be proactive, independent, and collaborative learners. Essential experiences provide opportunities for discovery, problem solving, and the acquisition of knowledge through interesting and interactive activities; promote creativity, cooperativeness, and persistence; and support individualized growth, learning, and multiple pathways to success." (Massachusetts Executive Office of Education, Building the Foundations for College and Career Success from Birth through Grade 3, September 2014).

Educators and parents can support children's attitudes, dispositions, and approaches to play and learning across all developmental domains and embed them in all curriculum areas.

Initiative, self-direction, and independence

"Preschoolers need to learn how to make choices for themselves and how to feel good about the choices they make. It is their job to "learn to take initiative in socially acceptable ways." (Erikson, 1963).

Initiative is defined as children's ability to take action, make independent choices and decisions, and become engaged in play or learning opportunities on their own. Initiative helps children to pursue purposeful activities, set challenging goals, and overcome obstacles. Initiative is characterized by intrinsic motivation – children's action is voluntary. It involves both an internal motivation and external action.

Initiative is shown as children pursue challenging goals and take advantage of opportunities made available to them without direction from adults. Young children begin to exercise initiative as they plan their own activities, make up games, join or invite other children to participate, and show interest in being "in charge" of themselves or others. Initiative requires a sense of self-efficacy, which is built as children master challenges and develop belief in themselves and fostered by supportive relationships.

"Initiative is developed through internal rewards, like creativity, dignity, autonomy, making a difference for others… It is not developed through external rewards like grades, winning, awards, and money." (Price-Mitchell, M., n.d.)

MA Standard	Possible learning activities: Children could…	Possible evidence: Children may…	Supportive practices: Educators could…
APL 1: The child will demonstrate initiative, self-direction, and independence.	• choose materials or projects that are of personal interest from a selection. • take on meaningful responsibilities (e.g., setting the table, organizing materials). • apply personal knowledge in a variety of activities (e.g., write a grocery list, ask how to write/spell words, count pennies in a piggy bank, ask to write a letter to sick child). • experiment with new knowledge in a variety of situations (e.g., paint with a new medium or tool; compare their block structures with photographs of buildings, bridges). • choose an element of personal interest to investigate in depth during a topic of study (e.g., choose which species of bird they want to study and how they will represent what they learn).	**Preschool children demonstrate skills with support; kindergarten children demonstrate increasing independence.* • pursue personal interests in play and learning. • demonstrate increasing willingness to try new or challenging physical, cognitive, or social experiences. • engage in planning, goal-setting, and decisions with some assistance (e.g., decide with whom to work and play, and under what circumstances; describe steps to reaching goals, and processes/materials to be used). • use a variety of resources to find answers to questions, solve problems.	• engage in two-way communication with families to understand family and cultural mores regarding independence, self-direction. • provide a supportive climate that encourages children to observe, ask questions, and investigate. • create opportunities for choice (e.g., provide time, space, and a variety of materials and activities that are familiar and challenging). • encourage children to lead or demonstrate activities. • encourage children to exercise their capabilities and do things for/by themselves. • encourage and acknowledge children as they identify challenges, take action, and reflect on their choices and decisions, adjust strategies, and plan next steps. • acknowledge children's independence or leadership. • allow children to work at their own pace; acknowledge increments of accomplishment.

Eagerness and Curiosity as a Learner
Young children's lives are filled with wonder and sharing in their excitement as they explore the world and how things work can be a joyful experience for adults as well. Adults can make each day a **"wonder-full"** day by guiding children in investigating, exploring, and examining objects, concepts, and children's ideas. While we often think of curiosity and inquiry as specifically related to learning in science and technology/engineering, they cross all areas of the curriculum and all developmental domains. A major language development skill for young children is learning how to formulate questions. Adults can help children structure questions to ask: "I wonder how; why; when; where; who; if; what would happen if," etc. Questions can be used as part of a K-W-L process at the introduction of a unit theme or topic, enabling children to personally connect/engage with topics: **K**=what they already ***know*** (or think they know), **W**=what they ***want*** to know (or are curious about), and **L**=what they have ***learned*** following or during their study. Also consider adding **H=*how*** could they find out? **P=*predict*** what they will

find out; and **N**=what are the ***next*** steps now that they have learned the information on this topic? Facilitating children's learning means supporting and guiding them in answering their questions through hands-on exploration, observation, or research.

MA Standard	**Possible learning activities: Children could…**	**Possible evidence: Children may…**	**Supportive practices: Educators could…**
APL 2: The child will demonstrate eagerness and curiosity as a learner.	• use a K-W-L strategy to personally connect/engage with topics: K - what they already know (or think they know), W – what they want to know (or are curious about), and L – what they learned during or following their study. • use their senses to explore their environment (e.g. textures; sounds; tastes; mixing materials; cooking, etc.). • document their observations (e.g., journals, drawings, photographs) and share ideas in small and large groups. • develop hypotheses about the causes of observed phenomena; compare their ideas, then research the phenomena using books or the internet (e.g., Why is mold growing in our seedling garden?) • extend a topic of study with ongoing documentation (e.g., after a study of birds, children document/track various species using log books, charts, or posters illustrated with photographs or children's drawings).	**Preschool children demonstrate skills with support; kindergarten children demonstrate increasing independence.* • ask "what" and "how" and "why" questions to gain information about familiar and unfamiliar events and phenomena. • try a wide range of new experiences (e.g., materials, tasks, academic or physical skills), both independently and with peers or adults. • with support, seek information from a variety of sources, such as books, experts, observations, and the internet. • describe or demonstrate how he/she likes to learn best (e.g., observing, imitating, asking questions, hands-on investigation).	• model a sense of wonder about the world (e.g., "I wonder...?" "How could that work?" "What do you think about...?"). • help children to formulate questions and plan in-depth investigations on topics of their own interest. • engage children in figuring out where to go for answers to their questions. • provide hands-on experiences that motivate children to apply skills and prior knowledge. • provide opportunities for children to explain their thinking and receive feedback about how they reached a decision or created an object or project. • combine/connect content areas such as science, math, and writing (e.g. while investigating a sunflower, study the shapes/sizes of seeds; count the number of seeds; compare the number of seeds in several flowers).

Focus and Persistence
Children demonstrate that they are developing engagement and persistence in a growing capacity to maintain concentration over time on a task (or question, interaction, set of directions, etc.) despite distractions and interruptions. Children learn persistence when they continue to try again after experiencing a setback. Experiencing a level of difficulty can motivate children to try newer, more challenging tasks. Overcoming challenges also builds children's resilience when encountering challenging tasks - instead of feeling anxious, they are more likely to persist. By coping with frustration and learning to stay on track, children can overcome obstacles and develop skills for success.

In the classroom, focus and persistence can be fostered by allowing sustained periods of time for children to engage in activities and explorations, and by making activities available a second and third time. Rather than being "bored by" repeating/revisiting experiences, children bring new learning to an activity each time they approach it. Adults can enrich these opportunities by "spiraling up," and making thinking and/or operations more complex each time. Facilitation in the form of "narrating" what children are doing in an interesting way can increase motivation and prolong focus.

MA Standard	Possible learning activities: Children could…	Possible evidence: Children may…	Supportive practices: Educators could…
APL3: The child will be able to maintain focus and attention, and persist in efforts to complete a task.	• return to a project at a later time (e.g., place "save" or "under construction" signs on projects; use low shelves with designated spaces for storage of projects in process). • assume responsibilities that last more than one day (e.g., feeding the gerbil for a week). • repeat favorite activities and take them a step further or try them in a new way. • play games that require attention and quick responses such as freeze dance; red light, green light, Simon says, etc. • reduce stimulation and focus attention through quieter activities (e.g., assuming yoga poses that include slow breathing; going to a quiet place to "regroup"). • respond to open-ended problem-solving challenges.	**Preschool children demonstrate skills with support; kindergarten children demonstrate increasing independence.* • maintain focus/concentration on a task, activity, or project for a sustained period of time, until completed. • with decreasing support, resist distraction and maintain attention to a task or activity (e.g., educator instruction, multiple activities occurring simultaneously). • with decreasing support, continue with or return to activities after distractions or interruptions. • contribute to discussions, holding in mind both the topic of discussion and the contributions of others. • work to complete projects to own satisfaction based on personal standards of quality.	• make sure tasks are developmentally appropriate and "challenging but achievable." • provide options for children to complete work to their satisfaction (e.g., take a picture of a project in process; provide a space to save work to complete over time). • break tasks into manageable pieces, give visual and spoken cues, and help children return to a task after distractions. • gradually lengthen the time children are expected to remain engaged and guide them toward deeper levels of engagement. • provide physical, verbal, or emotional support to children who are unfocused or discouraged. • prevent interruptions in the learning environment (e.g., placement of centers in terms of light, sounds).

Creativity

"Creativity focuses on the process of forming original ideas through exploration and discovery. In children, creativity develops from their experiences with the process, rather than concern for the finished product. Creativity is not to be confused with talent, skill, or intelligence. Creativity is not about doing something better than others; it is about thinking, exploring, discovering, and imagining. Creative thought is found in all aspects of a growing child's life. Children who feel free to make mistakes and to explore and experiment will also feel free to invent, create, and find new ways to do things." (Kohl, 2008).

MA Standard	Possible learning activities: Children could…	Possible evidence: Children may…	Supportive practices: Educators could…
APL4: The child will demonstrate creativity in thinking and use of materials.	• engage in imaginative play and storytelling in which children change or make up their own endings. • creatively express themselves through the visual arts (e.g., drawing, collage, painting, sculpture); performing arts (e.g., puppets, music, dramatic play, creative movement); writing (e.g., illustrating books using various media). • use open-ended materials (e.g., use "non-art" materials such as cotton balls, sponges or pine cones to paint; use found materials such as plastic bottles, sand, pebbles, sticks, to create an instrument). • connect books read aloud or original stories to creative projects (e.g., after reading *The Gingerbread Man*, design their own characters out of real gingerbread dough or play dough, and act out the story). • use many different kinds of musical instruments and respond to many genres of music.	**Preschool children demonstrate skills with support; kindergarten children demonstrate increasing independence.* • use materials, tools, information, and experiences to express ideas or convey meaning in new and different ways. • use imagination to express an idea or concept. • express ideas through various creative arts (visual arts, music, movement, drama). • recognize, describe, or represent the difference between fantasy and reality with adult support (e.g., what could/could not happen in real life?). • use humor to play with concepts/language or to engage or entertain others as culturally appropriate (e.g., jokes, riddles, songs, rhymes).	• emphasize the creative process over replication of an adult-made product - show children how to use materials rather than what to make with them. • display children's artwork at their eye level and encourage them to revisit their own and other children's creations. • ask open-ended questions that create dialogue (e.g. "What do you think about…?" "Tell me more about it." "How do you know that?"). • model flexibility by demonstrating that with new information, you can change your mind or adjust your plans and that there may be more than one way to do things. • create multi-disciplinary projects or studies where children ask questions, brainstorm, plan, investigate a topic, and produce documentation. • provide opportunities for children to try different strategies (e.g., constructing a marble run in various ways to explore which works better).

Cooperative Play and Learning
"Children construct their understandings about the world around them through interactions with other members of the community (both adults and peers). Opportunities to play together, collaborate on investigations and projects, and talk with peers and adults enhance children's development and learning. Interacting in small groups provides a context for children to extend their thinking, build on one another's ideas, and cooperate to solve problems" (National Association for the Education of Young Children, 2009). Project work (extended study of a topic) can contribute to building a sense of community as children engage in collaborative investigations and contribute to project outcomes. As they work together, children recognize and acknowledge their own part as well as the part of others in the process (Hyson, 2008).

MA Standard	Possible learning activities: Children could…	Possible evidence: Children may…	Supportive practices: Educators could…
APL5: The child will cooperate with others in play and learning.	• work with another child or children toward a common goal that requires sharing materials and ideas (e.g., a block construction, group mural; dramatic play). • write/tell an original story with help of an adult, then guide peers in acting it out. • reflect on and describe characteristics that contribute to effective cooperative play or work (e.g., shared interests, listening to each other, taking advantage of personal strengths, sharing, taking turns, etc.). • work on STEAM challenges – first work alone, then in pairs to solve design challenges together.	**Preschool children demonstrate skills with support; kindergarten children demonstrate increasing independence.* • collaborate and negotiate play with two or more children (e.g., who will go first, roles each child will play, responsibilities). • use cooperative strategies in work with others (e.g., sharing materials, taking turns, listening to the needs of others, helping or advising one another). • use cooperative strategies to accomplish a task or solve a problem (e.g., brainstorming ideas or steps, identifying resources, designating responsibilities or processes to be used, sharing knowledge or discoveries). • recognize and respect shared leadership (e.g., be a leader and respect others as leaders).	• create an environment that promotes interactions and allows children to work in different group configurations. • arrange tables and activities to maximize opportunities for children to be face-to-face. • join in children's activities to model collaboration, letting the children lead the activity as much as possible. • encourage group projects that require co-construction of ideas, roles and processes (e.g., who will do what, when, and how). • observe, photograph, and record children's cooperative work/play, and share information with families about the importance of collaborative engagement.

Problem Solving

How children think about and respond to difficult situations contributes to their self-perception and self-efficacy and creates a framework or mindset for their problem solving. Adults can help children to view problems and challenges as chances to "grow their brains," which helps people to feel strong, happy, and excited to learn new things. Children should see mistakes as part of life, not something that derails them. Embracing/normalizing mistakes helps children stay calm and address the issue. When children have episodes of successful learning and overcoming challenges, they gather evidence that they have the power to influence the outcome of a situation" (Pawlina and Stanford, 2011).

MA Standard	Possible learning activities: Children could…	Possible evidence: Children may…	Supportive practices: Educators could…
APL6: The child will seek multiple solutions to a question, task, or problem.	• play games that involve strategy in response to opponents' moves (e.g., *Sorry, Battleship, Parcheesi*, checkers, etc.). • use puzzles and brain teasers such as mazes, word finds, matching games	**Preschool children demonstrate skills with support; kindergarten children demonstrate increasing independence.* • try to solve problems using a variety of methods (e.g., trial and error, discussion with others, research).	• allow children sufficient "wait-time" to think about the problem and possible solutions before responding. • help children to see themselves as thinkers and problem solvers; offer specific feedback on children's ideas.

MA Standard	Possible learning activities: Children could…	Possible evidence: Children may…	Supportive practices: Educators could…
	that exercise working memory and cognitive flexibility. • use visual cues for steps for problem solving (e.g., try it yourself; ask a friend for help; ask an educator/adult). • solve meaningful problems (e.g., while studying buildings, use photos of neighborhood buildings to discuss characteristics, decide which materials would work best, and construct a building using the photos as a reference). • ponder solutions or strategies for real-life problems, (e.g., the goldfish died because it was overfed; children suggest using a schedule for feeding and a tool for measuring the food). • analyze problems and solutions in stories and generate possible alternative actions that could produce different outcomes.	• think of possible solutions and identify one to put into action. • recognize cause and effect relationships (e.g., predict possible results and try out one or more solutions). • verify predictions and speculate about how or why the outcome might have been different. • formulate and test hypotheses and draw connections to previous experiences and information. • try different solutions when the first attempt does not work.	• help children to break down a problem into manageable pieces. • demonstrate learning from mistakes (e.g., what have you tried that worked or that didn't work?). • model thought processes in problem solving (e.g., "I know this puzzle piece goes on the end because it has a flat side. I am going to turn it so the pictures match."). • ask questions to guide children's thought process and offer alternative solutions (e.g., "How could you ___? What if you ___? What else might you use?").

Organizational Skills

A key element in organizational skills is planning. Planning is *choice with intention.* Engaging children in planning encourages them to identify their goals and consider the options for achieving them. For example, children might consider what they will do, where they will do it, what materials they will use, who they will do it with, how long it will take, and whether they will need help. Planning thus involves deciding on actions and predicting interactions, recognizing problems and proposing solutions, and anticipating consequences and reactions.

Incorporating an organizational structure into the regular daily routine can instill an "organizational mindset" that contributes to a lifelong way of operating. An approach like the "plan-do-review" process gets children accustomed to thinking ahead and intentionally planning, setting goals for themselves in play and work, making sure they carry out their plans (implementation), and later reflecting on what they did and how they did it (as well as how it worked, and whether their goals were accomplished).

Documenting/representing their plans (e.g., writing, drawing) and referring to them as they proceed helps children become conscious of the process and value of planning. Afterward, children can review their documented plans as they reflect on their experiences and compare their intentions with the actual outcomes. These habits of mind, learned early and instilled regularly, become natural ways of operating throughout life.

MA Standard	Possible learning activities: Children could…	Possible evidence: Children may…	Supportive practices: Educators could…
APL7: The child will demonstrate organizational skills.	• articulate/communicate specific plans for what they plan to do or how they want to use materials in a learning center. • create posters or charts outlining the expectations of the daily schedule and describe the steps in detail. • use maps, timers, checklists, timelines, name charts, a sign-up list, and other organizing tools in dramatic play, science areas, etc. • explain/demonstrate organizational strategies by instructing adults how to do things. • take on an "organizer" role (e.g., the "marker captain" makes sure that all the caps are securely fastened on markers).	**Preschool children demonstrate skills with support; kindergarten children demonstrate increasing independence.* • with decreasing support, organize materials appropriately (e.g., put things away when finished; organize materials into categories). • recognize the daily schedule, follow program routines, and identify what comes next. • carry out organizational routines with reminders (e.g., check cubby or personal space for take-home materials and projects to share with families). • describe/use processes for organizing tasks (e.g., steps in a process, activity, or project). • manage time required for tasks or activities with decreasing support.	• make planning a regular part of children's learning activities (e.g., What will you do? How will you do it? What materials will you use? What do you think might happen?). • encourage regular routines of reflecting on activities throughout the day or at the end of the day). • use visual charts to encourage following directions and steps to complete tasks (e.g., cooking recipes, a rebus to follow a sequence). • model step-by-step thinking, planning, and organization using self-talk. • help children connect their plans with implementation (e.g., you planned to make a castle in the block area. How did your plan work out?).

Retain and Recall Information

There are many types of memory (e.g., motor memory; rhythmic and musical memory; episodic memory, etc.). Long-term memory refers to all the information and learned skills that are held in storage; short-term memory holds a limited amount of information temporarily. Working memory refers to the ability to hold information in mind, retrieve it, and manipulate it over short periods of time, or while engaging in other cognitive activities (Stipek & Valentino, n.d.). This is a critical component of problem-solving activities, carrying out multistep instructions, and basic mental manipulations. Children with limited working memory abilities may have difficulty remembering things even for a few seconds, struggle to keep track of what they are doing, or forget a simple task that was already learned. Visual supports in the form of pictures, symbols, and cues can remind children of daily routines and expectations. (Blasco, Saxton & Gerrie, 2014).

Both short-term and working memory are important to learning. Short term memory increases with age, so it is important that children practice short-term memory skills through games and activities that require quick recall of information. But even more importantly, children need to be able to manage what they recall. They need to be able to manipulate those bits of information and retrieve them at the opportune time. Retrieval of relevant information from long-term memory into working memory is facilitated by working within meaningful contexts, and recreating and revisiting prior experiences. Children are more likely to be able to retrieve and apply information when it is well integrated into their personal "conceptual networks" rather than learned in isolation. They make connections among concepts and curriculum areas that are important to them, and when adults help them to connect prior experiences and learning with the new information.

MA Standard	Possible learning activities: Children could…	Possible evidence: Children may…	Supportive practices: Educators could…
APL8: The child will be able to retain and recall information.	• tell stories that are transcribed and read back by an adult. • play games that require players to remember the location of particular items (e.g., *Concentration).* • participate in songs/games that repeat and add on to earlier sections (e.g., *Packing a Suitcase for Grandma's; Going on a Bear Hunt*). • create a book that saves photos of major class events over the course of a year. Children can periodically look through the book and remember events). • create individual portfolios of their best work and new skills and dictate why they wanted to include those selections. Share with families. • create a "Class Book of Discoveries" - when children feel they have discovered something important, they add a page. They can revisit it, or classmates can try to recreate the discovery.	**Preschool children demonstrate skills with support; kindergarten children demonstrate increasing independence.* • relate past experiences with some details. • use strategies to support visual memory (e.g., focusing on specific details, spatial placement). • recall and relate auditory information. • apply prior knowledge to new situations, relationships, and problem solving.	• use concrete documentation (e.g., work samples, photographs, transcriptions of children's words) to encourage children to reflect on materials used and what they enjoyed. • support children in adding details to stories. • use K-W-L charts in a cyclical rather than a linear fashion; periodically review what was learned at the last session, then in a new color, add what has since been learned. • take photos of objects, places, topics of study, and have children tell what the photo is about. Show photos on subsequent days so children continue to recall and make meaning of what they experienced. • help children to make connections among concepts (e.g., after seeing a spider web outside, remind children of a story about spiders, then read about, draw, and write stories about them). • revisit experiences (e.g., after reading a story about a pizza shop, make a list of ingredients, and using elements recalled from the story and personal lives, create a pizza shop in dramatic play, or make real pizza for lunch).

English Language Arts

The development of language and literacy skills is critical to children's development and success. The foundations for learning in the English Language Arts are essential to all other curriculum areas as well as to the child's social and emotional development. Children develop the basis for verbal communication in early childhood, beginning with nonverbal social exchanges. They begin to appreciate literature and the joy of reading by being read to in family and early care and education settings. A solid foundation in language development in the years before a child enters school promotes success in reading and writing. Research shows that one of the strongest predictors of how a child will perform in school and contribute later to society is progress in learning to read and write. A well-planned English Language Arts curriculum will encourage children to read and communicate what they learn about the world around them. Young children are more likely to want to read, learn, and write when their imaginations have been regularly stimulated by being read to.

The *Massachusetts Curriculum Frameworks for English Language Arts and Literacy* (2017) outline standards with specific and increasingly complex competencies at the preschool and kindergarten levels. These *Guidelines* expand on the child learning outcomes, and provide guidance for educators in supporting children's learning, including descriptions of how children might demonstrate evidence of learning, suggestions for possible learning experiences, and teaching strategies. The *Guidelines* are intended to be interpreted and applied from a developmental and experiential perspective, recognizing children's varied life and school experiences. The activities, evidence, and supportive practices should be applied judiciously, according to the individual circumstances of each child and classroom. For example, while the outcome of "printing upper- and lower-case letters" is not expected until kindergarten, there may be preschoolers who are able to demonstrate that competency. Likewise, children who enter kindergarten with little or no experiences, or who have developmental or language needs, may need additional experiences or support to make progress toward meeting the outcome.

Aspects of Reading and Writing

Language and literacy are complex learning processes. Educators need a comprehensive understanding of child development in several key areas in order to determine children's individual need and design experiences that build needed skills related to the English Language Arts. These areas of development include:

- listening and speaking vocabulary;
- articulation skills;
- listening/attending skills;
- phonological/phonemic awareness;
- social-emotional and executive function skills;
- physical skills that develop the child's sense of spatial awareness; large muscle development, and fine motor development; and
- visual/perception and visual/motor skills that relate to the ability to see how letters are formed, and reproduce them (e.g., the subtle difference between a lower-case b and d). For children with visual impairment, tactile skills are also needed to tactually discriminate among Braille symbols.

Classroom Practices and Strategies

Successful literacy development in preschool and kindergarten includes the following classroom and curriculum practices and attitudes:

- high expectations for success in reading and writing;
- immersion in language and a print-rich environment;
- demonstrations by educators and peers of meaningful and functional speech, listening, and emergent writing and reading;
- systematic instruction of explicit literacy skills in the context of stories, themes, and children's interests;
- individual engagement in personally meaningful speaking, listening, writing, and reading experiences in a low-risk, non-judgmental environment where students are comfortable expressing their ideas;
- responses of peers and feedback from adults that encourage children to be comfortable expressing what they know and have learned; and
- availability of diverse and plentiful books and literacy activity choices that foster children's individual strengths and address their individual needs.

Questions for Educators to Ask Themselves

- Do I encourage children to talk and write about personal experiences and ideas?
- Do I have books and images that reflect diverse cultures, families and communities?
- Is my curriculum and classroom environment rich in print, literature, and language?
- Do I provide time for children to look, listen, and talk about books?
- Do I integrate writing, speaking, listening, and reading into all content areas?
- Am I familiar with the components of literacy and various strategies of literacy instruction, and do I know how to choose the appropriate strategy to help individual children learn effectively?
- Do I use instructional strategies that integrate ELA and social emotional and approaches to play and learning competencies?

READING: LITERATURE (RL)

Pleasurable experiences with books are essential for children to become readers for life. They begin to appreciate literature and the joy of reading by being read to at home and other settings. Reading aloud from different types and levels of literature; giving children opportunities to select, read, and talk about books of their choice; and making new books and materials related to ongoing themes or projects available to students are all ways to instill a love of books in children and to generate discussion. Children need opportunities to select books independently in a relaxed setting such as a comfortable library area with "soft" elements (e.g. cushions, padded chairs), and time to freely select and explore books, as well as time to read and research with a particular purpose or question provided. The presence of a range of media throughout the classroom (e.g., labels, books, maps, newspapers, photographs, tapes, paintings) will fuel children's interest in reading, as will the use of media such as film, music, and computer software. Children should also learn how to use school and community reading resources such as libraries and librarians.

Educators should model some systematic and explicit reading strategies, including asking and answering questions, identifying main ideas, sequencing events, and relating children's known experiences and knowledge to story events.

Note: **Children are not expected to accomplish these standards entirely independently. They may require some scaffolding, prompting or support in order to demonstrate their knowledge.**

Key Ideas and Details

MA Standard	**Possible learning activities: Children could…**	**Possible evidence of learning: Children may…**	**Supportive practices: Educators could…**
RL.PK.1 (MA). With prompting and support, ask and answer questions about a story or poems read aloud.	• brainstorm questions about a favorite story to make a question game cube. • play question game with an educator, answering questions that come up on the cube when rolled.	• Respond in one or more ways to questions about books, stories and poems read aloud (e.g., verbal, gestures, dramatization).	• model asking and answering questions using a variety of storybooks, poems, folktales, and realistic fiction. • select books and poems that relate to children's meaningful experiences. • use multiple readings of the same book to progressively guide, deepen, and extend understanding through asking and answering questions.
RL.K.1. With prompting and support, ask and answer questions about key details in a text.	• ask and answer questions with a peer during turn-and-talk. • play a story board game, answering questions about the key details illustrated on the board.	• show increasing understanding in subsequent readings of the same book through asking and answering questions about key details in the text. • use illustrations to ask and answer questions about key details in the story.	• pose questions about key details before, during, and after reading a book. • offer pre-reading of a story to clarify vocabulary and answer questions.

MA Standard	Possible learning activities: Children could…	Possible evidence of learning: Children may…	Supportive practices: Educators could…
RL.PK.2. With prompting and support, retell a sequence of events from a story read aloud.	• arrange illustrations of key incidents from the story in order of what happened first, next. • act out a story or a sequence in a story with a flannel board, puppets, or dramatic play with props.	• retell a sequence of key events elements from a familiar book from memory or based on the illustrations.	• use story cubes with pictures from the book to prompt oral retelling. • model retelling a sequence of events with flannel board, puppets or props.
RL.K.2. With prompting and support, retell familiar stories, including key details.	• arrange illustrations of key details from a story in order of what happened first, next, last. • after listening to a story without illustrations read aloud, collaborate with partners or in small groups, to retell the story using key details. • retell a story using a flannel board to arrange illustrations from a story in sequence.	• retell the key details in correct sequence first while using a book as a visual guide, then without looking at the book. • act out a story or a sequence in a story with a flannel board, puppets, or dramatic play with props.	• provide opportunities for children to retell stories. • Provide opportunities for children to act out stories in dramatic play. • model retelling familiar stories using key details. • ask probing questions.
RL.PK.3 With prompting and support, act out characters and events from a story or poem read aloud.	• individually or in small groups, act out characters and events in dramatic play. • act out a story using puppets.	• use dialogue from familiar stories in dramatizations (e.g., "Who's been sleeping in my bed?"). • Use predictable terms such as "Once upon a time…" or "They lived happily ever after" in dramatizing traditional literature.	• ask questions during and after reading that focus on character, setting, and events. • connect to Arts framework in Theater Arts. • model acting out characters and events from a story or poem.
RL.K.3. With prompting and support, identify characters, settings, and major events in a story.	• work together to create "story maps" or fill in graphic organizers illustrating characters, settings, and major events in stories. • describe or represent the major event of a story (e.g., orally or through drawings). • act out a story using props to show characters, setting and major events.	• identify characters, settings and major events in a story verbally or by using tools such as key illustrations.	• facilitate children's work on a story map by asking questions focusing on character, setting and major events. • model identifying characters, settings and major events in a story.

Craft and Structure			
MA Standard	**Possible Learning activities: Children could…**	**Possible evidence of learning: Children may…**	**Supportive practices: Educators could…**
RL.PK.4. With prompting and support, ask and answer questions about unfamiliar words in a story or poem read aloud. (See Language standards 4–6 on applying knowledge of vocabulary to reading.)	• ask and answer questions about words in stories, fairy tales, *Mother Goose* rhymes, poetry, and myths. • make word cards of new words after listening to a book or story read aloud and post the cards to use in different areas ("porridge in dramatic play, "bowl" in snack area, etc.) • generate synonyms for new vocabulary introduced in a story.	• use new vocabulary in play or conversations. • create an original story or illustration using a list of vocabulary words (e.g., illustrate the word "enormous").	• preview stories and identify potentially unfamiliar words that may need to be defined during story reading. • find sources to illustrate vocabulary (e.g., for a story about a fictional spider, read a non-fiction book about spiders and/or find pictures on the Internet; investigate a real spider web). • introduce vocabulary in the context of topics in books, finger-plays or songs, poems. • model the use of new vocabulary words when discussing pictures or real objects. • support and acknowledge children's use of new words.
RL.K.4. Ask and answer questions about unknown words in a text. (See kindergarten Language standards 4–6 on applying knowledge of vocabulary to reading.)	• ask or answer questions about new words during or after hearing a story (e.g., after listening to *Mouse Mess*, by Linnea Riley, share ideas about what a feast is). • offer their own ideas about the definitions of new vocabulary based on illustrations or context.	• use newly acquired vocabulary in a variety of cross-curricular contexts (conversations, during small group, etc.). • use new vocabulary appropriately to ask and answer questions. • request further information about a concept by using the correct name, label or vocabulary word.	• model how to use cues from oral language, story structure, and repetitive patterns to predict and identify unfamiliar words. • provide explicit instruction of key vocabulary words in context. • reinforce new vocabulary in context of children's personal experiences. • encourage and support children as they expand their use of language during peer interactions and conversations.
RL.PK.5. Show awareness of the rhythmic structure of a poem or song by clapping or movement.	• clap, stomp, use instruments, or make up movements to fit the rhythm and/or rhymes in poems, songs, nursery rhymes.	• imitate a demonstrated rhythm or movement in a poem or song.	• model clapping and movement to demonstrate awareness of rhythmic structure or a poem or song.

MA Standard	Possible Learning activities: Children could…	Possible evidence of learning: Children may…	Supportive practices: Educators could…
			• provide opportunities for children to listen to repetitive or rhythmic patterns in poems, stories, and chants, and to share favorite nursery rhymes or poems with each other.
RL.K.5. Recognize common types of texts and characteristics of their structure (e.g., story elements in storybooks; rhyme, rhythm, and repetition in poems).	• read with their teacher two texts about foods, one a story and one a poem (e.g. Tomie DePaolas's *Pancakes for Breakfast* and Christina Rossetti's "*Mix a Pancake"*) then explain how they knew from the structure of each work that the first text was a story and the second a poem. *(2017 English Language Arts and Literacy Framework)* • sort books (with support) into genres in the class library. • compare and contrast the structures of a fictional book with an informational text (e.g., compare the wolf in *Little Red Riding Hood* with a book about real wolves).	• name their favorite storybooks. • name their favorite poem.	• provide and describe a wide range of genres of literature, both read aloud and for independent exploration. • provide purposeful and playful exposure to various forms of literature (e.g., nursery rhymes, fairy tales, lullabies, fables).
RL.PK.6. With prompting and support, "read" the illustrations in a picture book by describing a character or place depicted or by telling how a sequence of events unfolds.	• retell a story by arranging the illustrations in sequential order. • using the illustrations, act out a story, including character, setting and action. • look at only the illustrations of a story, then dictate or write a story that goes with the illustrations.	• dictate/retell what they see in illustrations in a text paying attention to the order of events. • describe a character from a story by reading the illustrations. • use the illustrations to tell how a story unfolds.	• provide opportunities for children to listen to a variety of genres and types of books read-aloud. • explore books by various authors and illustrators that retell a story (e.g., variations of a fairy tale or folk tale, such as *Goldilocks and the Three Bears*).
RL.K.6. With prompting and support, explain that reading the cover or title page is how to find out who created a book; name the author	• take on the roles of author and illustrator, by creating stories across content and within centers-based activities (dramatic play, art center, etc.) in art and writing.	• define the role of author and illustrator. • uses the title page to find information about who created a book.	• model for children and provide opportunities to explore the covers and title pages of a wide variety of books.

MA Standard	Possible Learning activities: Children could…	Possible evidence of learning: Children may…	Supportive practices: Educators could…
and illustrator of a book and define the role of each in telling the story.	• pair up to write and illustrate a story, each taking a role.	• dramatize read aloud, pointing out who the author/illustrator is to peers.	• identify the author and illustrator in books read aloud and explain their roles.

Integration of Knowledge and Ideas			
MA Standard	**Possible learning activities: Children could…**	**Possible evidence of learning: Children may…**	**Supportive practices: Educators could…**
RL.PK.7. With prompting and support, make predictions about what happens next in a picture book after examining and discussing the illustrations.	• listen as their teacher reads Jump, Frog, Jump by Robert Kalan, use the pictures and their prior knowledge to make a prediction about what will happen next. *(2017 English Language Arts and Literacy Framework)* • make predictions and inferences about characters, settings, or events in stories based on illustrations and check their predictions as they read.	• respond to "what do you think will happen?" questions with their own ideas. • predict what a story is about from key features such as key words or illustrations. • "read"/retell the sequence of events in a familiar story or from memory.	• expressively read and re-read, tell and re-tell stories aloud so children become familiar with the structure of a story. • encourage children to make and check predictions about a story before, during and after reading. reading. • expose children to a variety of modes of reading/telling stories, such as flannel boards, puppetry, dramatic play, etc.
RL.K.7. Describe the relationship between illustrations and the story in which they appear (e.g., what moment in a story an illustration depicts).	• use the illustrations from a book read several times to explain which point in the story that it portrays. • roll a story cube that has illustrations of a familiar story, tell what part of the story the illustration they roll depicts.	• use illustrations from the book to locate the section where a specific event occurred. • using the illustrations, describe WHAT happened in a story; WHO was in the story, and WHERE it happened. • identify images in a story. • describe what part of a story an image depicts.	• model using illustrations for predicting and relating personal experiences. • ask open-ended questions about illustration to encourage inference and prediction.
RL.PK.8. (Not applicable.)			
R.L.K.8. (Not applicable.)			
RL.PK.9. With prompting and support, make connections between a story or poem and one's own experiences.	• after listening to a story, create a personal story or illustration of their own similar experience (e.g., listen to Ezra Jack Keats' *A Snowy Day,* then draw pictures and dictate answers to "What	• relate characters, plot or setting to their own experiences, in response to different stories or poems.	• discuss how a story makes the listener feel. • provide a variety of books that represent a variety of experiences that students can relate and connect with.

MA Standard	Possible learning activities: Children could…	Possible evidence of learning: Children may…	Supportive practices: Educators could…
	do you like to do on a snowy day?").		• model how readers can make connections between story events and their own experience to build schema.
RL.K.9. With prompting and support, compare and contrast the adventures and experiences of characters in familiar stories.	• talk about similarities and differences in characters, motives, actions and feelings among two or more stories by the same author or in the same genre. • use a graphic organizer to compare characters within the same story or across stories.	• identify one or more similarities between characters or events in stories. • identify stories that are familiar. • recognize characters in familiar stories. • recognize adventures and experiences in familiar stories.	• provide opportunities for children to listen to stories on a similar topic, then model comparing the similarities and differences in the experiences of a character portrayed in each.

Range of Reading and Level of Text Complexity			
MA Standard	**Possible learning activities: Children could…**	**Possible evidence of learning: Children may…**	**Supportive practices: Educators could…**
RL.PK.10. Listen actively as an individual and as a member of a group to a variety of age-appropriate literature read aloud.	• retell and dramatize traditional literature, taking on different parts or characters in the story.	• attend to a story read aloud and respond to questions and prompts.	• provide opportunities for children to listen to and explore a variety of stories and poems (including stories from the cultures of children in the class), with texts of varying levels of difficulty.
RL.K.10. Actively engage in group reading activities with purpose and understanding.	• retell or act out traditional literature through narrative, art, puppetry, or drama to demonstrate purpose and understanding. • respond to the educator's questions, turn and talk to a partner, make predictions, etc.	• attend to read-alouds and follow up with demonstration of understanding such as dramatization, art, etc.	• create small groups to listen to a read aloud, then illustrate, dramatize and/or retell the story. (If small groups listen to different stories, the groups can perform their story for another group. • model behaviors in group reading activities.

READING: INFORMATIONAL TEXT (RI)

Preschool and kindergarten children gain a great deal from exposure to a wide variety of books. Integrating informational text can provide unique benefits to children's language, literacy, content knowledge, and interest in reading. Informational text may be an excellent means for educators to expose children to history, civics, social sciences, science, engineering and math through authentic experiences that respond to children's curiosity and interest in the world around them. Educators can share accurate information while exposing children to rich vocabulary which builds literacy. Using dialogic reading strategies

with informational text, educators can identify key vocabulary prior to a read-aloud as well as abstract concepts that may need to be clarified, and intentionally and strategically plan important places to stop and discuss in order to deepen understanding.

Informational texts (including written works, films, speech, photographs, or drawings) contain varied and technical vocabulary that can engage children and prompt challenging discussions. Informational text can support content learning and address learning standards particularly in science and math, but also in history, civics and social sciences. Educators can guide children in comparing narrative text in fictional stories to informational text (e.g., how does Eric Carle's *The Very Hungry Caterpillar* compare with a scientifically accurate book about what caterpillars eat?) and develop units of study or extension activities based on what children want to know about a topic. It is important that read-alouds are followed by conversations and discussions to extend and make connections between key concepts in science, social studies, math, music, art, and social and emotional development.

Key Ideas and Details			
MA Standard	**Possible learning activities: Children could…**	**Possible evidence of learning: Children may…**	**Supportive practices: Educators could…**
RL.PK.1. With prompting and support, ask and answer questions about an informational text read aloud.	• contribute to an anchor chart or graphic organizer by sharing their knowledge/ideas about a topic, their questions and record what they learn as they read. • discuss a factual book with a fictional story on the same topic (e.g., a scientific book about metamorphosis and Eric Carle's *The Very Hungry Caterpillar*) to deepen students background knowledge and comprehension.	• express curiosity and wonder and share their interest in topics by reading/listening to additional informational texts. • ask questions about an informational text. • Answer questions about informational text. • Identify facts and key details in an informational text.	• read aloud informational books that connect to students' interests. • model how to ask and answer questions about an informational text read aloud. • use graphic organizers (K-W-L charts, Webs, Venn Diagrams, etc.,) to explore what children already **k**now about a topic, **w**hat they want to know, and synthesize what they **l**earned.
RI.K.1. With prompting and support, ask and answer questions about key details in a text.	• create drawings, dictations, collages, etc., in response to questions about an informational text. • contribute to a group discussion or conversation by asking and responding to relevant questions about an informational book text read aloud.	• ask questions about an informational text. • answer questions a peer asks about informational text while working on a project. • identify facts and key details in an informational text.	• provide opportunities for children to explore age-appropriate informational texts independently. • model and practice how to use open-ended questions about a topic (i.e., who, what, where, when, why, and how) to extract information from a text.
RI.PK.2. With prompting and support, recall important facts from an informational text after hearing it read aloud.	• participate in discussions about the senses of sight, hearing, taste, touch, and smell, after read-alouds of a number of books on the topic, such as Aliki's My Five Senses, learn new vocabulary, and draw	• use play or dramatization to demonstrate interest and comprehension of an informational text (e.g., play conductor after reading a text about trains). • talk about facts from a science	• support children's personal interests in selecting informational books and topics of study (e.g., science; books about families and cultures). • model determining the difference between facts

MA Standard	Possible learning activities: Children could…	Possible evidence of learning: Children may…	Supportive practices: Educators could…
	pictures and dictate words to show the importance of one of the senses. *(2017 English Language Arts and Literacy Framework)* • retell information from a class-made book based on an informational topic (e.g., a walking trip, photographs of children engaged in a project, etc.). • create their own informational text from their lists of accumulated facts (e.g., make a "big book" about a topic).	text while observing the concept in the classroom (e.g. after reading an informational text about frogs, discuss stages of the life cycle while observing tadpoles in the class aquarium).	and make-believe characteristics (e.g., do rabbits wear clothing?). • support children in making a list (orally or using drawings, photos, images) of facts they recall after listening to an informational text.
RI.K.2. With prompting and support, identify the main topic and retell key details of a text.	• use data from an anchor chart or graphic organizer (K-W-L charts, Webs, Venn Diagrams, etc.,) to identify the main idea of a text or to retell key details from that text.	• identify the main topic of an informational text while working with a peer on a related project (e.g. building a ramp after reading a book on ramps). • identify key details in the text. • retell with key details.	• make a list of the facts children recall after listening to an informational text read aloud. • model how to extract information from text features (pictures, graphs, headings, etc.) to retell key details from the text. • model using an anchor chart or graphic organizer to identify the main topic of a text or texts.
RI.PK.3. With prompting and support, represent or act out concepts learned from hearing an informational text read aloud (e.g., make a skyscraper out of blocks after listening to a book about cities or, following a read-aloud on animals, show how an elephant's gait differs from a bunny's hop).	• use play or creative art experiences such as puppet shows, constructions, block play, or paintings to express understanding or curiosity about a topic.	• use concepts or vocabulary from readings in play, conversation, or dramatization.	• provide playful exposure to a variety of informational texts. • encourage children by providing materials for them to represent the concepts learned from the texts read to them in a variety of ways.
• **RI.K.3.** With prompting and support, describe the connection between two individuals, events,	• describe and represent relationships between individuals, events or ideas from an informational text through a	• identify key details about individual, event or idea in an informational text.	• model for children how to contribute to a chart describing and illustrating the connections between characters, events and

MA Standard	Possible learning activities: Children could…	Possible evidence of learning: Children may…	Supportive practices: Educators could…
ideas, or pieces of information in a text.	variety of modes (e.g., drama, drawings, collage, constructions, etc.).		ideas from the texts.

Craft and Structure			
MA Standard	**Possible learning activities: Children could…**	**Possible evidence of learning: Children may…**	**Supportive practices: Educators could…**
RI.PK.4. With prompting and support, ask and answer questions about unfamiliar words in an informational text read aloud.	• contribute to a word wall that includes the vocabulary word and illustration from an informational text. • use illustrations to create definitions (e.g., after reading Tana Hoban's *"Cubes, Cones, Cylinders, & Spheres"* use the illustrations to define words in the title).	• recall, reuse, or identify a picture of new vocabulary from an informational text. • use words and phrases acquired through being read to and responding to texts.	• support children to use vocabulary words from a text. • model how to use clues, such as images, to connect to words in order to support application of the learned word.
RI.K.4. With prompting and support, ask and answer questions about unknown words in a text.	• contribute to a list of unknown words from an informational text to add to a word wall. • ask and answer questions about the meaning of unknown words encountered in informational texts. • use new vocabulary in discussions and play.	• ask questions about new vocabulary for further information about a concept. • talk about the meanings of new words encountered in informational texts and use them appropriately. • use learned vocabulary appropriately in conversations or when answering questions about text.	• provide direct instruction of key vocabulary words in context. • provide opportunities for children to explore and apply new words during shared reading, small group instruction, independent reading and centers. • provide exposure to new vocabulary in various contexts such as read-alouds, class discussions, listening activities, and computers. • acknowledge when students use newly acquired vocabulary appropriately in conversations.
RI.PK.5. Standard begins in Kindergarten or when the individual child is ready.			

MA Standard	Possible learning activities: Children could…	Possible evidence of learning: Children may…	Supportive practices: Educators could…
RI.K.5. Identify the front cover, back cover, and title page of a book.	• create covers, titles, and title pages for personal or class-made books.	• point out the front cover, back cover and title page of various books.	• explain the purpose of the front cover, back cover and title page when presenting a new book. • consistently show the front and back covers and title page of books read aloud.
RI.PK.6. With prompting and support "read" illustrations in an informational picture book by describing facts learned from the pictures (e.g., how a seed grows into a plant).	• view a photograph or illustration in an informational book and provide facts learned from the illustration. • make a memory game from illustrations, tell the fact that accompanies the illustration while playing the game.	• contribute facts learned to a discussion about an illustration in an informational text.	• read aloud informational texts with photos or illustrations about subjects that are meaningful to children (e.g., science, books about families and cultures). • model for children how to describe facts/details from an illustration. • provide opportunities for children to interact with informational texts in all parts of the classroom (blocks, dramatic play, writing, listening, sensory areas).
RI.K.6. Name the author and illustrator of a text and define the role of each in presenting the ideas or information in a text.	• with a peer choose the role of author or illustrator, then create an original informational book on topics that interest them or about an event, person or idea (e.g., field trip, stories of the class pet, a class performance, etc.).	• name the author of an informational text. • name the illustrator of an informational text. • define the roles of the author and illustrator in presenting information.	• consistently point out the names of the author and illustrator of informational texts read aloud and discuss their roles in presenting information. • provide support for children in creating their own books with text or illustrations, making sure that their stories include a cover with their name on it as the author or illustrator.

Integration of Knowledge and Ideas			
MA Standard	**Possible learning activities: Children could…**	**Possible evidence of learning: Children may…**	**Supportive practices: Educators could…**
RI.PK. 7. With prompting and support, describe important details from an illustration or photograph.	• contribute to a list of important details in an illustration or photograph.	• with prompting and support (if needed) identify several key	• model how to identify basic facts from looking at the illustrations.

MA Standard	Possible learning activities: Children could…	Possible evidence of learning: Children may…	Supportive practices: Educators could…
	• create new or additional caption for illustrations in informational texts.	details in an illustration or photograph.	
RI.K.7. With prompting and support, describe the relationship between illustrations and the text in which they appear (e.g., what person, place, thing, or idea in the text an illustration depicts).	• study the life cycle of plants and animals, after listening to books such as *One Bean* by Anne Rockwell, *From Seed to Plant* by Gail Gibbons, and *A Tree is a Plant* by Clyde Robert Bulla, draw, dictate, and write observations in their science journal. *(2017 English Language Arts and Literacy Framework)*	• identify images in a text • identify what person, place, thing, or idea in a text an image depicts • make one or more connections between text and illustration.	• help children to explore various informational texts (e.g., on animals, people, natural science, or travel), and say what they know about the text from the illustrations (both before and after the text has been read aloud). • model how to identify details of information through illustrations.
RI.PK. 8: (Begins in kindergarten or when the individual child is ready.)			
RI.K.8. With prompting and support, identify the reasons an author gives to support points in a text.	• create fact strips with the author's points, then make a list of the supporting reasons; later match each "point" with its supporting reasons.	• answer questions like: What does the author think? Why does he/she think that way? and How do facts in the text support the author's thinking? • identify the author's reasons in a text with a peer or in a small group.	• model identifying facts in informational text, and then discuss how the author provides reasons to support the facts. • create a visual map (e.g., "story trains") of an author's points and reasons to support it (in a "story train" the engine is the author's point, and each attached car is a reason).
RI.PK.9. With prompting and support, identify several books on a favorite topic or several books by a favorite author or illustrator.	• sort and organize the classroom library by author or topic. • engage in a topic study where the class identifies and collects favorite books about a topic or by the same author.	• recognize the name or work of a particular author or illustrator.	• introduce and read aloud several books by the same author or illustrated by the same artist. • display books by the same author or on the same topics in the classroom library.
RI.K.9. With prompting and support, identify basic similarities in and differences between two texts on the same topic (e.g., in illustrations, descriptions, or procedures).	• use a Venn diagram to compare and contrast several books on the same topic by different authors and/or illustrators. • review a collection of texts (e.g., counting or alphabet books), then	• identify how two texts on the same topic are similar (e.g., illustrations, descriptions, procedures). • identify how two texts on the same topic differ (e.g.,	• provide opportunities for children to engage with several texts about the same topic (e.g., animal or insect), compare and contrast the various ways information is presented.

MA Standard	Possible learning activities: Children could…	Possible evidence of learning: Children may…	Supportive practices: Educators could…
	discuss and with prompting and support (if needed) make a list of the similarities and differences among the books.	illustrations, descriptions, procedures).	• demonstrate how to use graphs and charts to identify similarities and differences in several texts on the same topic.

Range of Reading and Level of Text Complexity			
MA Standard	**Possible learning activities: Children could…**	**Possible evidence of learning: Children may…**	**Supportive practices: Educators could…**
RI.PK.10. Listen actively as an individual and as a member of a group to a variety of age-appropriate informational texts read aloud.	• engage in reciprocal conversations and discussions with peers and adults, one-on-one, or in small groups about books read aloud. • create and re-read class-made books based on informational books read aloud.	• attend and respond to group discussions of informational books. • in a group setting, identify the purpose of an informational text read aloud.	• help children listen to and look at a wide variety of printed materials about subjects that interest them (e.g., books about science, families, cultures, etc.) with texts of varying levels of difficulty. • provide a listening center with audio books and matching print books.
RI.K.10. Actively engage in group reading activities with purpose and understanding.	• look at a wide range of informational texts and predict what they might learn about a topic as a whole class or in a small group. • create a class book about a topic using facts and information from texts read aloud.	• in a group setting, identify the purpose of an informational text read aloud. • attend and respond to group discussions of informational texts.	• arrange group reading materials and opportunities. • model thinking aloud what a reader may learn or why it is important to read informational texts.

READING: FOUNDATIONAL SKILLS (RF)

These standards are directed toward fostering children's understanding and working knowledge of concepts of print, the alphabetic principle, and other basic conventions of the English writing system. A research and evidence-based scope and sequence for phonological and phonics development and the complete range of foundational skills are not an end in and of themselves. They are necessary and important components of an effective, comprehensive reading curriculum designed to develop proficient readers with the capacity to comprehend texts across a range of types and disciplines. Instruction should be differentiated: as children become skilled readers, they will need much less practice with these concepts. Struggling readers may need more or different kinds of practice. The point is to teach children what they need to learn and not what they already know—to discern when particular children or activities warrant more or less attention.

The foundational skills are focused on developing students' understanding and working knowledge of print concepts, phonological awareness, phonics and

word recognition, and fluency (NGA and CCSSO, 2010). These skills are taught in a developmental sequence to support reading development. The researchers have all documented that learning the alphabetic principle is essential to learning to read, and phonics is best taught when it is systematic and explicit. Systematic means that this instruction builds from easy to more complex skills with built—in review and repetition to ensure mastery, and explicit means that sound-spelling correspondences are initially taught directly to students rather than using a discovery, or implicit, method." (Adams, 1990)

Systematic and explicit instruction should include: teacher modeling, practice, and application to authentic reading and writing experiences. Techniques to teach sound-spelling correspondence for decoding unfamiliar words and recognizing some words by sight might include:

- identifying individual letters and matching them with corresponding sounds;
- pronouncing sounds commonly associated with corresponding letters:
- blending onset-rimes to read one-syllable words (e.g., /c-at/, /b-at/, h-at/); and
- blending letter sounds to decode and read one-syllable words.

In pre-kindergarten and kindergarten, children are expected to demonstrate, with guidance and support, increasing awareness and competence in the areas that follow.

Print Concepts

MA Standard	**Possible learning activities: Children could…**	**Possible Evidence of Learning: Children may...**	**Supportive practices: Educators could…**
F.PK.1: With guidance and support, demonstrate understanding of the organization and basic features of printed and written text: books, words, letters, and the alphabet. **a.** Handle books respectfully and appropriately, holding them right-side-up and turning pages one at a time from front to back. **b.** (Begins in kindergarten or when the individual child is ready.) **c.** (Begins in kindergarten or when the individual child is ready.) **d.** Recognize and name some uppercase letters of the alphabet and the lowercase letters in one's own name.	• participate in activities that build left-to-right and top-to-bottom visual progression (e.g., marble roll; visual tracking games such as mazes, lacing cards). • explore letters through the senses – visual, tactile, and auditory (e.g., trace letters made of sandpaper; form letters in sand or rice trays or finger paint; form letters out of yarn, play dough, pipe cleaners; use alphabet cookie cutters or pasta alphabets). • examine and compare upper- and lower-case letters by their spatial features (e.g., become aware that a lower case "a" may appear differently) using laminated alphabet letters printed in various fonts; alphabet sorting boxes; alphabet books. • use plastic letters or letter cards to create their own names,	• identify (e.g., point to or name) various features of books and printed text. • demonstrate appropriate book handling skills spontaneously (i.e., use care when handling books, holding a book right side up, turning pages one at a time). • recognize and/or name some uppercase and lowercase letters (especially in their own names). • begin to notice some letter-sound connections.	• provide a print-rich environment in which objects and materials are labeled, and names, words and letters are displayed at children's eye level. • provide a variety of manipulatives such as letter blocks, letter cookie cutters, stamps, etc. for children to play with. • include opportunities for writing as an integral part of daily activities (e.g., signs, name cards, grocery lists, menus, greeting cards, messages, recipes).

MA Standard	Possible learning activities: Children could…	Possible Evidence of Learning: Children may...	Supportive practices: Educators could…
	classmates' names, and labels for objects.		
F.K. 1. Demonstrate understanding of the organization and basic features of print. **a.** Follow words from left to right, top to bottom, and page by page. **b.** Recognize that spoken words are represented in written language by specific sequences of letters. **c.** Understand that words are separated by spaces in print. **d.** Recognize and name all upper- and lowercase letters of the alphabet.	• take turns leading the reading of a familiar big book, poem or anchor chart by pointing to the text from left to right and top to bottom as the class follows. • recognize, sort, match, and name samples of uppercase and lowercase letters in many different fonts. • use sensory materials to recognize and name upper- and lower-case letters (e.g., letters cut out of sandpaper, textured paper or wood; magnetic or plastic letters) in play.	• use finger to track individual words on a page from left to right. • identify written words based on spoken cues (e.g., educator says "cat" and child points to the word cat from a collection of written words.) • write words (or representations of words) with spaces between them. • name all upper- and lowercase letters individually from an assortment.	• demonstrate/model the process of following words from left to right, top to bottom using large visual displays of poems and songs, such as flip charts and big books. • articulate the sounds represented by specific sequences of letters. • model reading individual words aloud and spacing between words when demonstrating the writing process. • provide samples of uppercase and lowercase letters in many different font styles.

Phonological Awareness			
MA Standard	**Possible learning activities: Children could…**	**Possible Evidence of Learning: Children may…**	**Supportive practices: Educators could…**
F.PK.2. With guidance and support, demonstrate understanding of spoken words, syllables, and sounds (phonemes). **a.** With guidance and support, recognize and produce rhyming words (e.g., identify words that rhyme with /cat/ such as /bat/ and /sat/). **b.** With guidance and support, segment words in a simple sentence by clapping and naming the number of words in the sentence. **c.** Identify the initial sound of a	• with guidance and support, if necessary, provide words that have the same initial sound (e.g., wind, water, walk, wings). • use clapping or musical instruments to segment words in a simple sentence. • play rhyming games. • fill in rhyming words in stories, poems and songs (e.g., make up new words to the song "Down By the Bay" … did you ever see a moose kissing a goose).	• with guidance and support, if necessary, produce rhyming words. • identify initial sounds of a spoken word or picture. • clap for each word heard when a sentence from a text is read aloud.	• use transitions as learning opportunities by having children generate rhyming words or words that begin with the same phoneme as they line up or as they wait for a turn. • play phonological games that involve phonological cues (e.g., if your name begins with "b-b-b-b-b" stand up). • provide frequent opportunities to listen to, learn and recite songs, nursery rhymes, poems and fingerplays.

MA Standard	Possible learning activities: Children could…	Possible Evidence of Learning: Children may…	Supportive practices: Educators could…
spoken word and, with guidance and support, generate several other words that have the same initial sound. **d.** (Begins in kindergarten or when the individual child is ready.) **e.** (Begins in kindergarten or when the individual child is ready.)			
F.K.2. Demonstrate understanding of spoken words, syllables, and sounds (phonemes). **a.** Recognize and produce rhyming words. **b.** Count, pronounce, blend, and segment syllables in spoken words. **c.** Blend and segment onsets and rimes of single-syllable spoken words. **d.** Isolate and pronounce the initial, medial vowel, and final sounds (phonemes) in three-phoneme (consonant-vowel-consonant, or CVC) words. * (This does not include CVCs ending with /l/, /r/, or /x/.) **e.** Add or substitute individual sounds (phonemes) in simple, one-syllable words to make new words.	• play phonological games (e.g., "I spy something that begins with 'shhhh'"). • respond to songs, poems, and nursery rhymes by supplying the rhyming words (e.g., Jack and Jill went up the ___). • play games that require thinking of rhyming words (e.g., car, bar, shar, flar, etc.). • physically segment and count out the syllables in spoken words by clapping or beating a drum (e.g., ty-ran-o-saur-us). • identify initial, medial and final sounds in a CVC word. • read books and create word family charts.	• identify and provide rhyming words (e.g., words that rhyme with */cat/* such as */bat/* and */sat/).* • produce words that rhyme with a given word. • produce a segmented series of sounds to represent syllables in a word (e.g., claps three times to represent the word cock-a-too). • sound out three-phoneme words (e.g., /cat/ = /c/-/a/-/t/). • substitute alternative phonemes in one-syllable words to make new words (e.g. cat becomes sat, bat, mat, etc.).	• read aloud rhymes or poems (e.g., Mother Goose, poetry by Edward Lear or Dr. Seuss), and have children identify and recite rhyming words. • provide prompts for children to play with making new words by substituting phonemes. • ask children to listen to a word, say the word, segment the word sound by sound, identifying how many sounds they hear (e.g., sat = /s/ /a/ /t/). • use word play to encourage children to practice blending and segmenting onsets and rimes of single syllable words (e.g., b-at, l-ook, names of children in class, etc.). • use transitions (e.g., waiting in line; preparing for departures) as opportunities to informally "play with" rhyming words.

Phonics and Word Recognition			
MA Standard	**Possible learning activities: Children could…**	**Possible Evidence of Learning: Children may…**	**Supportive practices: Educators could…**
F.PK.3. Demonstrate beginning understanding of phonics and word	• with guidance and support, if necessary, play games that	• select their own name from a selection of cards.	• provide opportunities that involve linking an initial sound with an

MA Standard	Possible learning activities: Children could…	Possible Evidence of Learning: Children may…	Supportive practices: Educators could…
analysis skills. **a.** Link an initial sound to a picture of an object that begins with that sound and, with guidance and support, to the corresponding printed letter (e.g., link the initial sound /b/ to a picture of a ball and, with support, to a printed or written "B"). **b.** (Begins in kindergarten or when the individual child is ready.) **c.** Recognize their own name and familiar common signs and labels (e.g., STOP). **d.** (Begins in kindergarten or when the individual child is ready.)	involve linking objects or pictures of objects with the corresponding initial sound (e.g., card games, picture dominoes, etc.). ● locate an object or picture of an object that begins with a specific phoneme. ● go on an environmental print scavenger hunt.	● point out familiar common words in books and visual displays. ● offer the sound of an initial phoneme when shown an illustration (e.g., says "mmmm" when shown a picture of a moose). ● with guidance and support, if necessary, select alphabet letters that match a specific sound (e.g. "Find the letter that says "mmmmm").	object or a printed letter or word in the room (e.g., "I spy something that begins with mmmmm"). ● use cards with children's printed names to prompt children for transitions (e.g., "Whose name is this? If this is your name you can get your coat.").
F.K.3 Know and apply grade-level phonics and word analysis skills in decoding words. **a.** Demonstrate basic knowledge of one-to-one letter-sound correspondences by producing the primary sound or many of the most frequent sounds for each consonant. **b**. Associate the long and short sounds with common spellings (graphemes) for the five major vowels. **c**. Read common high-frequency words by sight (e.g., *the*, *of*, *to*, *you*, *she*, *my*, *is*, *are*, *do*, *does*). **d.** Distinguish between similarly spelled words by identifying the	● in partners or small groups, prompt or challenge each other on phoneme sounds for consonants and long and short vowels (e.g., one child says /rrrr/ and the other responds "R"). ● play letter manipulation games that involve substituting one letter in initial, medial and/or final positions (e.g., dog/fog; cat/cot; bag/bad). ● read word cards with high frequency words. ● sort word/picture cards that have common spellings for the five major vowels.	● make the sound of specific letters when prompted, for consonants and long and short vowels. ● identify common sight words in printed text (e.g., the, to, you, she, my, etc.).	● provide games such as letter-word cards, letter-picture dominoes, etc. for children to apply decoding skills. ● use transitions (e.g., waiting in line; preparing for departures) as opportunities to practice decoding (e.g. "I will say a word and you give me a word that ends with a different letter – bag/bat"). ● provide opportunities for students to develop their own high-frequency word lists. ● write phonograms on cards (e.g., /and; /at; /ate; /ack; /one, etc.) and have children substitute various initial consonants to create new words.

MA Standard	Possible learning activities: Children could…	Possible Evidence of Learning: Children may…	Supportive practices: Educators could…
sounds of the letters that differ.			

Fluency			
MA Standard	**Possible learning activities: Children could…**	**Possible Evidence of Learning: Children may…**	**Supportive practices: Educators could…**
F.PK.4. See K standard (Begins in kindergarten or when the individual child is ready.) Activities included here are meant to build a foundation for the K standard.	● retell familiar stories. ● listen to fluent reading by the teacher or a book on tape.	● over time, recognize an increasing number of words in familiar books.	● provide a wide selection of books and board books with illustrations and simple accompanying words for children to explore. ● listen to stories without illustrations (e.g., short chapter books read aloud during rest time).
F.K.4. Read early-emergent-reader texts with purpose and understanding.	● explore and share a wide range of early-emergent reader books in a variety of ways (e.g., independently, with a partner, with an educator).	● identify words and provide some context for understanding the relationship between the words and the illustrations (e.g., re: the story that was read).	● provide a wide variety of early emergent reader texts. ● model reading with purpose and for understanding.

WRITING (W)

Writing involves a complex set of skills and competencies. Children need to grasp the concept that symbols have meaning, and alphabetic principle (letters represent sounds). They need to be able to remember both the shape and sound of letters and be able to discriminate among them. They need fine motor skills to either be able to control writing tools or to use a keyboard. They need an understanding of directionality and position in space (up, down, right, left, above, below). They need guidance in the process of forming letters on paper (where to start and which direction to guide the pencil). They need a broad and rich store of words in their vocabularies**.**

As skills and demands increase, children need:

- to be able to understand and recall grammar, syntax, and semantics;

- to recognize and understand the use of punctuation and capitalization; and
- to be able to plan and organize writing to meet goals.

Young children need opportunities to engage in many activities that promote the acquisition of emergent writing skills, access to writing materials (e.g., fat pencils, markers, chalk, crayons, blank books, paper) and various forms of writing (e.g., shared writing*,journals, sign-in sheets, name cards, grocery lists) as an integral part of daily activities so they can explore and experiment with the process of writing in many activity areas. Writing should be incorporated across the curriculum, along with feedback and short periods of instruction. In addition, they should be provided with multiple and varied experiences that will encourage the development of fine motor skills.

Writing is a form of expressive language. Before children write stories, they need to engage in telling stories. As they dictate their words, and watch adults transcribe them and read them back, they learn that their ideas and their words are important and valued, and they learn that their written words are permanent and can then be shared with their families or friends. When they get excited about sharing their experiences and ideas, they will be motivated to tell oral stories and to write.

Early writing by young children is likely to combine drawing, invented spelling, copying, and repetition of familiar patterns. Letter-like approximations gradually evolve, and children may put letters together in random order, often using letters in their names. Invented spelling occurs when children use their own spelling for words. A single letter or beginning and ending letters may be used to stand for a whole word (e.g., "d" for dog, or "hs" for house). Educators help to support developing skills by exposing children to standard spellings found in books and print in the classroom and community, and by assisting them with spelling when they request help. Explaining why one letter is used rather than another is also helpful.

*In shared writing, the teacher and students compose text together, with both contributing their thoughts and ideas to the process, while the teacher acts as scribe, writing the text as it is composed. Shared writing can cover a wide variety of forms, purposes, and genres.

Text Types and Purposes

MA Standard	**Possible learning activities: Children could…**	**Possible evidence of learning: Children may…**	**Supportive practices: Educators may…**
W.PK.1. Dictate words to express a preference or opinion about a topic (e.g., "I would like to go to the fire station to see the truck and meet the firemen").	• express a preference or opinion about a topic and have their words transcribed and read back. • dictate words to complete a sentence starter conveying a preference or opinion (e.g., a favorite food).	• request to have their own words to express a preference or opinion about a topic be written by an adult. • use writing tools to make alphabetical representations on a writing surface to express thoughts or preferences.	• provide materials (e.g., portable chalkboards, easels, dry-erase boards, magnetic boards, alphabet blocks, letter tiles, alphabet pocket chart, blank books, stamps, envelopes, menus, etc.) in centers and daily activities. • model using purposeful writing (e.g., write a newsletter to parents, make lists, write messages). • model the use of graphic organizers (K-W-L charts, Webs, Venn Diagrams, etc.,) to

MA Standard	Possible learning activities: Children could…	Possible evidence of learning: Children may…	Supportive practices: Educators may…
			transcribe children's words about what they know, want to know, or have learned about a topic. ● model group and shared writing activities.
W.K.1. Use a combination of drawing, dictating, and writing to compose opinion pieces that tell a reader the topic or the name of the book they are writing about and state an opinion or preference about the topic or book (e.g., *My favorite book is . . .*).	● after hearing/reading a book, express their opinions or preferences (e.g., after reading books on animals, discuss and illustrate animals they have encountered as pets or in the wild; after hearing/reading a book about the seasons or after a season-related field trip, make books to tell what they like best about the season). ● express and develop ideas with a partner or in a small group about a topic or a book.	● use drawing, dictating, and/or writing to express a preference or opinion about a topic or book they have read or heard.	● provide time and materials for writing throughout daily routines. (*see W.PK1*) ● provide opportunities for children to converse in small groups or pairs about a topic or book before writing. ● provide opportunities for children to use letters and words or dictation of words as needed. ● model group and shared writing activities.
W.PK.2. Use a combination of dictating and drawing to supply information about a topic.	● draw pictures to show how they planted tulip bulbs in the school garden in the fall, dictate words and sentences about the soil in the garden, the tools they used, and what the bulbs will become in the spring. *(2017 English Language Arts and Literacy Framework)* ● dictate and use representational drawings and words to relate information about a topic that is personally important (e.g., first name, mom, dad, love, dog, cat, environmental print). ● dictate and draw to create a class book about a common experience or book (e.g., field trip, nature walk, etc.).	● use writing materials to express their thoughts, ideas, and/or provide information about a topic. ● create signs or labels for the classroom including descriptions of their creations.	● provide multiple opportunities and materials for children to strengthen fine motor skills. ● provide time and materials for writing throughout daily routines. (see W.PK.1) ● support children to expand ideas and model adding details about a chosen topic to writing and/or drawing. ● model group and shared writing activities. (read aloud mentor text, such as *Seasons of Arnold's Apple Tree* by Gail Gibbons and develop a class book modeled after the story.)

MA Standard	Possible learning activities: Children could…	Possible evidence of learning: Children may…	Supportive practices: Educators may…
	• use photographs or drawings to create a class schedule or organize captioned illustrations to describe classroom activities.		
W.K.2. Use a combination of drawing, dictating, and writing to compose informative/explanatory texts that name and supply some information about the topic.	• create an illustrated how-to book on their favorite sport or activity. *(See, How to Play Football,* Massachusetts Writing Standards in Action, 2017 English Language Arts and Literacy Framework) • after reading informational books, watching videos and/or looking at photos, draw and label pictures about what they know or think about a topic (e.g., the solar system, ocean creatures). • work together to create a class newsletter by writing/dictating short articles about class events or about news in their families. • use photographs or drawings to create a class schedule. • use writing during centers for a variety of purposes (e.g., lists, cards, letters).	• use drawing, dictating and/or writing to compose words, sentences or stories and illustrations about an informational topic.	• provide books, posters, photos and videos about various topics for children to explore. • model writing about a topic of interest. • create charts of children's ideas about topics and display the chart in the classroom. • display informational texts. • model group and shared writing activities.
W.PK.3. Use a combination of dictating and drawing to tell a story.	• participate in creating a class book about a common experience by dictating and drawing. • in small groups dramatize a scenario (e.g. living in the Ice Age); then write or dictate a sentence or two about that scenario. • listen to a story or storyteller, then dictate and draw to retell the story.	• draw pictures and dictate words to describe personal experiences or tell stories. • use "inventive writing" in the form of shapes and letter-like symbols to convey ideas.	• provide opportunities for children to relate and illustrate personal experiences or make up original stories. • provide journal pages for children to write. • model, prompt, facilitate children to add details to make a group story more complex. • provide models for children when writing.

MA Standard	Possible learning activities: Children could…	Possible evidence of learning: Children may…	Supportive practices: Educators may…
	• contribute to or create stories from a starter such as "Once upon a time, there was a….". • create a new version of a familiar text (e.g., creating their own version of "Brown Bear, Brown Bear, What Do You See?").		• model group and shared writing activities.
W.K.3. Use a combination of drawing, dictating, and writing to narrate a single event or experience, or several loosely linked events or experiences; sequence the narrative appropriately and provide a reaction to what it describes.	• tell the story, in pictures and words, of everything that happened on a night at an aunt's house. (See *"Auntie and Me,"* a kindergarten personal narrative writing sample, Massachusetts Writing Standards in Action. 2017 English Language Arts and Literacy Frameworks) • write ideas or sentences about a specific topic that include people, objects, experiences or events. • individually contribute a page in a class story. • react to shared/group writing. • collaboratively create a class newsletter by writing/dictating short articles about school events or news in their families. • participate in shared reading experiences and develop a class book modeled after a book or poem read aloud (e.g., *Brown Bear, Brown Bear* by Eric Carle) to reflect understanding of repetition.	• describe personal experiences in a way that creates a coherent narrative or story, through dictation /writing, and illustration. • write or illustrate events in sequential order. • link events into a sequential narrative.	• provide and model use of story starters. • ask questions to encourage the use of detail in writing. • model group and shared writing activities.

Production and Distribution of Writing			
MA Standard	**Possible learning activities: Children could…**	**Possible evidence of learning: Children may…**	**Supportive practices: Educators could…**
W.PK.4. (Begins in grade 1.)			

MA Standard	Possible learning activities: Children could…	Possible evidence of learning: Children may…	Supportive practices: Educators could…
W.K.4. (Begins in grade 1.)			
W.PK.5. (Begins in kindergarten or when the individual child is ready.)			
W.K.5. With guidance and support from adults, respond to questions and suggestions from peers and add details to strengthen writing as needed**.** **a.** (Begins in Grade 3). **b**. Demonstrate the ability to use vocabulary appropriate for kindergarten (as described in kindergarten Language standards 4-6).	● in pairs or small groups, discuss ways to change or improve various projects (e.g., block constructions, drawings, storytelling) to begin to understand that changes can improve projects/products. ● draft a shared story and discuss adding details to the story (e.g., what more do you want to know?) or ask questions. ● during shared/group writing collaboratively edit and revise a class-created story by crossing out words and substituting others, or by adding or changing illustrations.	● ask and answer questions with peers about their writing. ● use feedback from peers to make changes in their own writing. ● use appropriate kindergarten vocabulary in their writing.	● model how to ask questions about writing and how to provide feedback to peers. ● model using resources (word wall, word journal, anchor charts, etc.) to add appropriate kindergarten vocabulary to their writing.
W.PK.6. Recognize that digital tools (e.g., computers, mobile phones, cameras) are used for communication and, with guidance and support, use them to convey messages in pictures and/or words.	● use technology with age-appropriate software for communicating an opinion about a story that has been read aloud. ● use digital tools, such as a camera, to work in small groups to illustrate an idea (e.g., playground rules for new students.)	● with guidance and support from an adult, use a computer or other technology to communicate through pictures and/or words.	● Model how digital tools can help us to communicate and/or convey messages through pictures and/or words. ● model and support learners to use a computer.
W.K.6. With guidance and support from adults, explore a variety of digital tools to produce and publish writing, including in collaboration with peers.	● use interactive story-based software. ● use a computer to create a simple story. ● search for illustrations or photos to illustrate their writing about a topic (e.g., saving the rainforest). ● use a computer to work with a peer or small group to produce	● with guidance and support from adults when necessary, use digital tools to produce writing. ● collaborate with their peers during the writing and/or publishing process. ● collaborate with peers using digital tools.	● continue to introduce new technology during group time and embed technology into centers. ● purposefully select software and websites appropriate to children's levels of learning. ● model the appropriate use and care of technological devices.

MA Standard	Possible learning activities: Children could…	Possible evidence of learning: Children may…	Supportive practices: Educators could…
	and publish a class newsletter to share with families.		● provide opportunities and support for children as they use new computer programs.

Research to Build and Present Knowledge			
MA Standard	**Possible Learning activities: Children could…**	**Possible Evidence of Learning: Children may…**	**Supportive Practices: Educators could…**
W.PK.7. (Begins in kindergarten or when the individual child is ready.)			
W.K.7. Participate in shared research and writing projects (e.g., explore a number of books by a favorite author and express opinions about them).	● work in groups to decide on a topic and ways to gather information (e.g., asking family members or peers; completing a survey; reviewing books to learn about the topic). ● select a topic for investigation, create a graphic organizer (K-W-L chart, Web, Venn Diagram, etc.) and discuss what they already know, what they want to learn, and where they might find more information to answer their questions. ● work with a group or a peer to research an author or poet in various ways and express their opinion about their favorite piece by that author. ● collaboratively create a simple product, based on research findings.	● collaboratively locate information on a specific topic. ● collaboratively create a research project.	● provide background knowledge about a specific topic. ● provide opportunities to seek information from research sources with assistance from adult if necessary. ● provide access to books and materials for use in research.
W.PK.8. (Begins in kindergarten or when the individual child is ready.)			
W.K.8. With guidance and support from adults, recall information from experiences or gather information from provided sources to answer a question**.**	● identify relevant pictures, charts, grade-appropriate texts or individuals as sources of information to answer a question. ● recall past experiences.	● with guidance and support, search for information to answer a question on a topic using research materials.	● provide opportunities for children to seek information from sources, with guidance and support from adult if necessary.

MA Standard	Possible Learning activities: Children could…	Possible Evidence of Learning: Children may…	Supportive Practices: Educators could…
		• locate information on identified topics. • use provided materials such as photographs taken on a field trip to recall experiences and answer a question (e.g., what was your favorite animal at the farm?).	• provide access to books and materials for use in research. • help children recall experiences and expand that information using open- ended questions.
W.PK.9. (Begins in grade 4.)			
W.K.9. (Begins in grade 4.)			
W.PK.10. (Begins in kindergarten or when the individual child is ready.)			
W.K.10. Write or dictate writing routinely for a range of tasks, purposes, and audiences.	• make grocery lists in dramatic play area. • write cards to friends who are sick or out of school. • dictate stories.	• write signs to label buildings in the block center. • write name to sign up for a center.	• provide multiple opportunities for children to strengthen fine motor skills. • provide writing implements in all areas of the classroom. • provide interesting pictures (from magazines, etc.) to serve as story prompts for dictation. • provide a variety of text sets to promote writing.

SPEAKING & LISTENING (SL)

The overall goal of the College, Career and Civic Ready Speaking and Listening standards is to have children grow into articulate and confident adults who are at ease engaging with one another, collaborating, stating and defending ideas, and contributing to a democratic society. The skills of speaking and listening – the predominant ways in which we absorb and exchange knowledge – begin in preschool and kindergarten and are threaded throughout daily activities.

In this document, "speaking and listening" includes multiple means of representation, expression, and engagement. The educator designs lessons and the classroom environment to include alternatives to spoken language and auditory clues, written language and visual communication (e.g., print, signing, movement, gestures, facial expression or pictures), and makes use of technologies and devices to support or augment communication. (See www.cast.org for more on Universal Design for Learning)

Educators (and other significant adults in children's lives) play an important role in modeling, attending, and responding to what others say. Individual conversations between adults and children help children to believe that their thoughts and ideas are valuable and appreciated. Educators support many important skills as they engage in conversations with children and create opportunities for peer interactions. They can…

- structure classroom time and space to promote interactions among children (e.g., smaller, cozier areas for learning centers provide opportunities for

intimate conversations);
- foster social and emotional development; when adults talk with children about emotions, it helps children understand their own and others' emotions and fosters empathy;
- use open-ended questions (who, what, where, when, why, how?) and comments to extend or scaffold children's thinking and engagement;
- give sufficient wait time for children to think and respond to questions or prompts;
- support concept development by using strategies that encourage children to problem-solve, integrate information, and utilize higher order thinking skills;
- provide feedback that maintains the child's engagement and focus on expanding learning and understanding;
- model language and stimulate and scaffold opportunities for language growth;
- include decontextualized language – words that go beyond the here and now to express past and future events, ideas, images, and explanations (e.g., describing activities, planning for an event, fantasy and pretend play, talking about books or topics of interest); and
- take advantage of opportunities to expose children to new or "rare" words so that children can begin to understand the meaning of vocabulary in an appropriate context.

Recognize and respect differences in communication. For example, in some cultures, children are not expected to participate in conversations with adults, but rather are engaged as listeners and observers; in others it may be considered disrespectful for children to make eye contact when conversing with an adult, while in others the opposite is true.

Some strategies and activities have been drawn from the *Early English Language Development Standards*" (EELD) from World-class Instructional Design and Assessment (WIDA), while also recognizing that strategies that are effective for children who are diverse/dual language learners (DLLs) are also effective for supporting all young children who are learning the structure of language and communication skills.

Comprehension and Collaboration

MA Standard	**Possible Learning activities: Children could…**	**Possible Evidence of Learning: Children may…**	**Supportive Practices: Educators could…**
SL.PK.1. Participate in collaborative conversations with diverse partners during daily routines and play. **a.** Observe and use appropriate ways of interacting **in a group** (e.g., taking turns in talking, listening to peers, waiting to speak until another person is finished talking, asking questions and waiting for an answer, gaining the floor in appropriate ways). **b.** Continue a **conversation** through multiple exchanges.	• practice holding conversations with one another when they are playing being shopkeepers and customers in a store, when they are getting ready for snack time, when they are counting blocks, or when they are in a circle discussing which books they liked the best that day at school. *(2017 English Language Arts and Literacy Framework)* • collaboratively develop rules/norms for classroom interactions (individual, small group, whole group).	• attend to an interaction, conversation, group activity or discussion. • continue and maintain a conversation through two to three meaningful exchanges. • listen to others; wait until a friend is finished talking. • contribute their own information or ideas to discussions.	• collaboratively develop classroom norms and expectations for collaborative conversations and small group learning. • model and provide opportunities for children to engage in group discussions that include taking turns, listening, asking questions. • arrange the daily routine to ensure opportunities for educators and children to become deeply involved in conversations about learning. • model how to recognize and respond to social cues signaled by eye contact, tone, pitch, volume of

MA Standard	Possible Learning activities: Children could…	Possible Evidence of Learning: Children may…	Supportive Practices: Educators could…
	• build and use social/emotional vocabulary for talking about respecting others, talking out disagreements, being kind, thinking about other people's feelings. • interact with one another and with adults in small groups through informal activities and everyday routines, such as participating in activities that naturally generate collaborative responses (e.g., finger plays, songs, action games, or puppetry).		voice, facial expression, gestures body language, and responding appropriately. • model continuing a conversation with multiple exchanges.
SL.K.1: Participate in collaborative conversations with diverse partners about *kindergarten topics and texts* with peers and adults in small and larger groups. **a.** Follow agreed-upon rules for **discussions** (e.g., listening to others and taking turns speaking about the topics and texts under discussion). **b**. Continue a **conversation** through multiple exchanges.	• take turns being the speaker in a group discussion by passing an object (e.g., a "talking stick") to the next designated speaker. • draw pictures or select photographs that illustrate agreed upon rules for discussions, which may be added to or modified as the year progresses. • practice conversation skills (questioning, listening and responding, shifting a conversation to a new related topic), making multiple exchanges in one-on-one interactions.	• demonstrate and practice agreed-upon rules for discussion. • participate respectfully in collaborative conversations. • respond to and use the vocabulary associated with discussion (e.g., listen, discuss, converse, describe, give details, work together, collaborate).	• facilitate the understanding that people communicate their ideas in various ways; spoken, signed languages, different forms of cultural expression, and assistive technologies to help people communicate. • include children in developing norms for discussion (speaking one at a time, waiting one's turn). • model for children that there are times for listening and times for speaking. • support discussions with prompts for staying on topic, asking questions, and adding connected ideas. • model and facilitate continuing a conversation with multiple exchanges.
SL.PK.2. Recall information for short periods of time and retell, act out, or represent information from a	• Create representations (e.g., drawings, paintings,	• recall and describe recent experience with text to adults or other children in informal	• provide books and other materials to aid children in the recall of important information.

MA Standard	Possible Learning activities: Children could…	Possible Evidence of Learning: Children may…	Supportive Practices: Educators could…
text read aloud, a recording, or a video (e.g. watch a video about birds and their habitats and make drawings or constructions of birds and their nests).	constructions) about information from text and/or media. • work in pairs or small groups to retell a story using illustrations from the story.	conversations. • after hearing a book read aloud, identify the topic and key details in illustrations. • express connections between two or more characters, events, illustrations or pieces of information in a text.	• give children opportunities to talk about information they recall from a book read or videos watched. • model, support and facilitate children's efforts to recall information.
SL.K.2. Confirm understanding of a text read aloud or information presented orally or through other media by asking and answering questions about key details and requesting clarification if something is not understood.	• Retell or re-enact events after listening to a story read aloud.	• respond to a text read aloud by asking and answering questions about parts that were not clear, or about unfamiliar words in a text. • use details when sharing information.	• model and facilitate careful listening and looking for details (in a story or text read aloud, or signed; in a recording, in instructions, or in a live performance). • model and engage children in asking questions to learn more about a text or text topic. • provide follow-up activities that require children to use facts from an informational text they have read or heard.
SL.PK.3. Ask and answer questions in order to seek help, get information, or clarify something that is not understood.	• participate in developing a graphic organizer (i.e. K-W-L chart, Web, Venn diagram, etc.) by offering questions about information they want to learn about a topic. • practice asking questions on a regular basis when classmates share information (e.g., asking who, what, where, when, why and how questions when a child describes an experience).	• ask questions and listen to others to seek help, acquire knowledge, or further understanding (e.g., "Where did the snow go when it melted?"). • respond to a question. • prompt language stem or language frame (e.g., "What did you see?"/ "I saw…;" "What are you wondering about?"/ "I'm wondering if…;" "What did you wish? "/ "I wished that…).	• Facilitate understanding that asking questions deepens understanding. • model and facilitate the asking of questions (e.g., "What do you wonder about?" "What do you want to know?"). • model questions with self-talk (e.g. "I wonder what's for lunch today?"). • provide opportunities to ask questions for clarification or inquiry.
SL.K.3. Ask and answer questions in order to seek help, get information, or clarify something that is not understood.	• interact with classroom visitors, listen to them describe their work, and ask relevant questions (e.g.,	• ask and answer questions during or after reading/hearing a story (e.g., after listening to *Mouse*	• model asking open-ended questions to elicit more information in group and

MA Standard	Possible Learning activities: Children could…	Possible Evidence of Learning: Children may…	Supportive Practices: Educators could…
	"How did you learn to be a firefighter/police officer?"). • ask questions to further their learning about a topic (e.g., "I want to know how the spider gets food").	*Mess*, children share their ideas about a "feast"). • respond to educators' conversation-starters such as "I'm trying to make a snake out of play dough"; "I decided to use this brush for painting because…".	individual settings (e.g., who, what, when, why, how?). • provide children multiple opportunities to speak throughout the day. • model how and when to ask questions to gather information or clarify something that is not understood.

Presentation of Knowledge and Ideas			
MA Standard	**Possible Learning activities: Children could…**	**Possible Evidence of Learning: Children may…**	**Supportive Practices: Educators could…**
SL.PK.4. Describe personal experiences; tell stories.	• with support, add rich details to describe their experiences. • dramatize a story or experience (e.g., taking an order at a restaurant, fighting a fire). • use a combination of dictation and drawing to give an opinion, explain information, or tell a real or imagined story.	• describe their own experiences to adults or other children in informal conversations. • use various strategies to provide information about personal experiences or to retell stories (e.g., verbal along withdrawing, movement, etc.).	• model rich spoken language throughout the day. • encourage children to talk about personal experiences through informal, in-depth interactions about their preferences and topics of interest. • give a prompt or language stem to help children tell about an event (e.g.," I went to grandma's house and …." "The last time I went to the beach, I….").
SL.K.4. Describe familiar people, places, things, and events and, with prompting and support, provide additional detail.	• tell stories, recite poems, act in informal plays, create puppet plays based on family activities or books, or relate personal experiences in a classroom sharing. • with prompting and support, if needed, add details to a description of a familiar experience, place, etc.	• describe sequential steps in a procedure (e.g., how to get dressed, brush your teeth, or wash your hands) or explain how they solved a problem. • provide additional details to stories.	• model, prompt and support children to relate personal or familiar experiences, preferences and topics of interests with details. • model and engage children in conversations throughout the day.
SL.PK.5. Create representations of experiences or stories (e.g., drawings, constructions with blocks	• create drawings, paintings, constructions to illustrate topics	• tell a story through representations such as paintings, drawings, blocks,	• provide rich materials for children to create visual displays

MA Standard	Possible Learning activities: Children could…	Possible Evidence of Learning: Children may…	Supportive Practices: Educators could…
or other materials, clay models) and explain them to others.	and ideas, and explain them to others. • Choose/create costumes, props or settings to represent a story or topic.	clay, etc. • explain the meaning of their representations to others.	to encourage oral language when presenting information. • model explaining a representation to others.
SL.K.5. Add drawings or other visual displays to descriptions as desired to provide additional detail.	• use a computer-based program for illustrating a story or creating an animation or take photos with a camera, iPad, or mobile phone to provide additional details.	• enhance a personal, oral or written story with additional detail through drawings or use of visual supports.	• provide rich materials for children to create visual displays to encourage oral language when presenting information. • exhibit children's art work that adds details to their experiences or ideas. • model providing additional detail to a description by adding drawings or other visual displays.
SL.PK.6. Speak audibly and express thoughts, feelings, and ideas.	• practice using language to initiate or enter play situations, express feelings or needs. • socialize with peers and express their thinking in a variety of situations (centers, whole group, pairs, etc.). • verbally share their play plan with a peer. • share ideas for what props to add to dramatic play.	• speak audibly. • provide examples of appropriate speaking levels. • appropriately express their thoughts, feelings and ideas with classmates.	• provide children with age and content appropriate vocabulary to express their thoughts, feelings, and ideas. • model problem solving and encourage students to clearly articulate their ideas. • model how to speak in different situations through role play (e.g., language used in different jobs or sports; different tones an adult might use to speak to a large crowd compared to speaking in a family situation, or how a child might speak to a baby or a pet).
SL.K.6. Speak audibly and express thoughts, feelings, and ideas clearly.	• in pairs make audio recordings of poems in which each child speaks alternate lines or verses, listen to the recordings and decide whether both voices are clear, sufficiently loud, and easy to understand. *(2017 English Language Arts and Literacy Framework)*	• speak audibly when expressing their thoughts, feelings, and ideas. • talk about personal and common experiences, feelings, and ideas in their own words to peers, adults, and in small groups.	• model speaking audibly. • provide support and encouragement as children make efforts to improve their communication skills.

MA Standard	Possible Learning activities: Children could…	Possible Evidence of Learning: Children may…	Supportive Practices: Educators could…
	• practice using language to initiate or enter play situations, express feelings or needs or socialize with peers.		

LANGUAGE (L)

Children begin to grasp language at birth by listening, talking, and interacting. Language skills, narrative abilities, and use of symbols underlying complex thought and expression develop through reading books, singing songs, acting out stories, and talking together. Learning one or more new languages during early childhood is a natural process because young children are still acquiring language. Young children typically learn much conversational English through play with peers. A solid foundation in language development in the years before a child enters school promotes success in reading and writing in the future.

A well-planned curriculum will encourage children to learn about the world around them. The classroom space should include space intentionally designed to be comfortable and inviting, where children can relax, read, and talk. Reading books aloud and discussing them helps build their vocabularies and develop concepts of sequence, narrative, and basic knowledge of books and help children focus and seek deeper understanding by providing models of questions to ask, and then guiding them toward information that will answer their questions.

Vocabulary and knowledge are built and reinforced when children hear stories (or music) with strong imagery or sensory impressions, then describe and represent those images through art; or when children touch various textures and substances and learn new words to describe the sensory features (e.g., salty, light or dark color, loud of soft, sticky, slippery, slick, scratchy). For children learning English there should be exposure to rich stories, music and experiences in their native language as well.

Educators should assess language development through the year using a variety of activities and conversations that naturally integrate new vocabulary. By the end of the year, children should have acquired a larger vocabulary for communication with peers and adults, as well as some academic language needed for school. Educators should provide systematic and explicit vocabulary instruction through modeling. Emphasis should be placed on building both "Tier 1" words and concepts (e.g., everyday speech that communicates ideas and emotions) and "Tier 2" words and concepts that are commonly encountered in books.

Children who are just starting to learn the English language, or children with limited vocabularies, need many opportunities to use language in conversation, look at illustrations and written language in books, and listen to others speak and read aloud. Listening to books with pictures and print read aloud on CDs or tapes may enhance children's understanding and learning, particularly if discussion with peers or an adult is included. The speaking and listening abilities of these children in particular should be closely observed and assessed on an ongoing basis during classroom activities.

Conventions of Standard English

MA Standard	Possible learning activities: Children could…	Possible evidence of learning: Children may…	Supportive practices: Educators could…
L.PK.1. Demonstrate command of the conventions of standard English	• use full sentences to tell the class about a new puppy, including how she played with the puppy, where	• use complete sentences when playing restaurant in dramatic play asking questions such as	• model the use of conversation-starters such as "I wonder…; I

MA Standard	Possible learning activities: Children could…	Possible evidence of learning: Children may…	Supportive practices: Educators could…
grammar and usage when writing or speaking. **a.** Demonstrate the ability to speak in complete sentences and to form questions using frequently occurring nouns, verbs, question words, and prepositions; name and use in context numbers 0-10 (see pre-kindergarten mathematics standards for Counting and Cardinality).	he likes to sleep, and what he eats. (SL.PK.4, L.PK.1) *(2017 English Language Arts and Literacy Framework)* • sing songs/rhymes/ finger plays that incorporate prepositions (Open Shut Them, Jack and Jill, Hokey Pokey, etc.). • take turns placing a stuffed animal in various places in the classroom and choose a classmate to describe the location (e.g., under the chair, next to the easel, in the box, etc.).	"Where would you like to sit?", etc. • name and use the numbers 0-10 in the context of text. • with support, generate questions using frequently occurring nouns, verbs, question words and prepositions.	wish…"), provide opportunities for students to practice. • model informal conversation (e.g., "I'm trying to make a snake out of playdough;" "You picked up a blue truck."). • model correct language (appropriate sentence structure, grammar, and syntax). • integrate use of prepositions into transitions, an obstacle course or scavenger hunts to practice and demonstrate.
L.K.1. Demonstrate command of the conventions of Standard English grammar and usage when writing or speaking; retain and further develop language skills learned previously. *Sentence Structure and Meaning* a. Demonstrate the ability to produce and expand complete sentences using frequently occurring nouns, pronouns, adjectives, verbs, question words, and prepositions; name and use in context number 0-100 (see kindergarten mathematics standards for Counting and Cardinality). **b.** Form questions that seek additional information, rather than a simple yes/no answer. *Word Usage* **c.** Form regular plural nouns orally by adding /s/ or /es/.	• dictate a story using complete sentences and frequently occurring vocabulary. • recreate a number book such as Ten Apples up on Top, Anno's Counting Book, or Ten Black Dots. • ask a partner/group a question to seek additional information on a topic. • play plural "Go Fish" game to match the plural. • make an illustrated list of plural nouns that end just in "s"—cats, boats, car—and those that need "es"—classes, bushes, boxes. (W.K.10, L.K.1) *(2017 English Language Arts and Literacy Framework)*	• use a complete sentence to respond to a specific question, dictate stories, etc. • appropriately use question words during group discussions or individual conversations to seek additional information. • respond appropriately to prepositional terms through movement, drawing, writing, etc. (e.g., put the stick over the circle; draw a circle in the triangle, etc.). • name and use the numbers 0-10 in the context of text.	• model and provide opportunities for children to express thoughts, ideas, and feelings orally and/or in writing using the conventions of Standard English grammar and frequently occurring kindergarten appropriate vocabulary. • use a "Question of the Day" at Circle/Meeting Time to model question words, such as "*What* did you do this weekend." "*Where* is your coat?" or "*How* did you get to school today?" • model and scaffold correct plural forms (e.g., repeat back to children their original statements with correct plural forms, for example if a child says, "He wish on a star," the educator says, "Yes, he wishes on a star"). • Provide a wide variety of text for students to hear/see appropriate kindergarten vocabulary and grammar.

MA Standard	Possible learning activities: Children could…	Possible evidence of learning: Children may…	Supportive practices: Educators could…
L.PK.2. (Begins in kindergarten.)			
L.K.2. Demonstrate command of the conventions of standard English capitalization, punctuation, and spelling when writing. **a.** Print upper- and lowercase letters. **b.** Capitalize the first word in a sentence and the pronoun I. **c.** Recognize and name end punctuation. **d.** Write a letter or letters for most consonant and short-vowel sounds (phonemes). **e.** Spell simple words phonetically, drawing on knowledge of sound-letter relationships. **f.** Write numbers 0-20 (see kindergarten mathematics standards for Counting and Cardinality).	• build awareness of upper and lowercase letters by examining different fonts used in environmental print – such as signs, advertisements, magazines, informational texts, newspapers, etc. • recognize the many different font types and sizes in a variety of alphabet books. • experiment with forming letters, numbers and simple words using various media such as: paint, chalk, shaving cream, letter stamps. • play I Spy type games to find upper case letters in print such as advertisements, newspapers, and books. • collaboratively or individually create original alphabet or number books. • draw pictures and write sentences/words to describe the illustrations.	• write their name and some words using upper- and lowercase letters. • use a capital "I" when writing sentences about themselves. • differentiate capital letters from lower case letters. • identify various end punctuations (period, question mark, exclamation). • make the connection between the sounds and the letters and vowels that represent them. • use temporary/invented spelling (as developmentally appropriate) to convey meaning. • write numbers 0-20 in the context of text.	• model capitalization, spelling, and punctuation using mentor text and shared writing. • encourage, support, and facilitate children's efforts to write or copy letters and words. • include writing materials in many areas of the classroom (e.g., mini chalk/white boards, books, clip boards, paper, writing tools, etc.). • create opportunities for children to explore environmental print. • bring attention to capital letters proper nouns, punctuations during shared reading activities (morning messages, shared reading books, and read alouds). • display alphabet lists in various fonts. • model phonetic spelling/invented spelling during shared writing activities. • encourage children to write captions for their pictures and/or creations.

Vocabulary Acquisition and Use			
MA Standard	**Learning activities: Children could…**	**Possible evidence of learning: Children may...**	**Supportive practices: Educators could…**
L.PK.3. (Begins in grade 2.)			
L.K.3. (Begins in grade 2.)			
L.PK.4. Ask and answer questions about the meanings of new words and phrases introduced through books, activities, and play.	• use dramatization to act out the definitions of words with similar meanings (e.g., happy face/glad face). • recall words they know with	• ask the meaning of unfamiliar words. • use new vocabulary introduced through read aloud/shared reading in play or spontaneous speech.	• read books aloud that provide rich and complex language. • model the use of complex vocabulary in describing experiences or concepts.

MA Standard	Learning activities: Children could…	Possible evidence of learning: Children may...	Supportive practices: Educators could…
a. With guidance and support, generate words that are similar in meaning (e.g., *happy/glad, angry/mad*).	similar meanings to new words (e.g., after listening to a story involving emotions, list synonyms for various emotions (e.g., Today I Feel Silly; Where the Wild Things Are). • generate a list of words they would like to know the meaning of while listening to a story.	• look at illustrations to gain clues to the meaning of new or confusing words. • express interest and curiosity about unfamiliar vocabulary. • use different words for specific items in a general category (e.g., sneaker, boots, sandals for footwear). • begin to recognize and generate words with similar meanings (e.g., yell, scream) with guidance and support from an adult.	• act out with props to help students understand meaning of new and/or similar words (e.g., in the story *Giraffes Can't Dance*, by Giles Andreae and guy Parker-Rees, "Gerald was a **tall** giraffe, whose neck was **long** and **slim**. But his knees were awfully crooked, and his legs were rather **thin**." • model generating words with similar meanings.; post word lists.
L.K.4. Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on *kindergarten reading and content.* **a**. Identify new meanings for familiar words and apply them accurately (e.g., knowing *duck* is a bird and learning the verb *to duck*).	• provide possible definitions for unfamiliar words based on context clues such as illustrations, story line, etc. • create class "flip books" illustrating multiple meanings, with an object on one side and a verb on the other (e.g., a picture of a fish and "I fish"). • create books or posters illustrating words that can be the name of an object as well as an action (e.g. walk, sail, dream, nap). • use role-play to demonstrate actions that reflect multiple meanings (e.g., act like a duck v. the action of ducking).	• look at illustrations to gain clues to the meaning of new or confusing words. • identify examples of a word used as a noun (object) or verb (action) in text.	• model the use of context clues to learn the meaning of new words. • read books with words that have multiple meanings. • explain that words can have different meanings, such as knowing *duck* is a bird and learning the verb *to duck*.
L.PK.5. With guidance and support from adults, explore word relationships and nuances in word meanings. **a.** Demonstrate understanding of concepts by sorting common objects	• play guessing games that involve using descriptors (e.g., "I'm thinking of something round."). • develop concept/word webs that expand, break down, and link familiar concepts (e.g., words/concepts related to a specific topic such as dogs).	• explain reasons for sorting materials into categories. • use words learned in classroom activities.	• point out word relationships in books and stories, and words that illustrate nuances of words. • use words that build on children's interests (e.g., when watching the guinea pig chew, say: "The guinea

MA Standard	Learning activities: Children could…	Possible evidence of learning: Children may...	Supportive practices: Educators could…
into categories (e.g., sort objects by color, shape, or texture). **b**. (Begins in kindergarten.) **c.** Apply words learned in classroom activities to real-life examples (e.g., name places in school that are *fun*, *quiet*, or *noisy*).	• engage in experiences that involve naming and sorting words into various classifications using general and specific language (e.g. a store in dramatic play, boxes for sorting attributes in block area). • use a feely box or texture board to name, sort, and categorize various objects.		pig is gnawing on the wood to wear down his teeth. Otherwise they would grow too big for his mouth."). • provide pictures or materials of various colors, shapes, sizes, and textures for children to sort. • model sorting objects into categories and provide rationale. • generate a collection of words that can be used to describe categories of words (e.g., color, shape or texture).
L.K.5. With guidance and support from adults, explore word relationships and nuances in word meanings. **a.** Sort common objects into categories (e.g., shapes, foods) to gain a sense of the concepts the categories represent. **b.** Demonstrate understanding of frequently occurring verbs and adjectives by relating them to their opposites (antonyms). **c.** Identify real-life connections between words and their use (e.g., note places at school that are *colorful*).	• explore and sort objects and talk about their attributes (e.g., color, shape). • brainstorm words related to a category (e.g., fruits=apples, peaches, pears, lemons). • play word games to generate words with the opposite meaning. • create and illustrate a class flip book with a word on one side, and the antonym on the opposite side. • apply learning about new words to real life experiences (e.g., create a classroom restaurant in dramatic play). • dramatize, discuss, list the shades of meaning of action words (e.g., walk, march, strut, prance).	• sort common objects into categories and provide a rationale. • relate frequently occurring verbs to their opposites. • identify connections between words learned in the classroom and their use in real world situations. • plan a simple play acting out similar verbs.	• organize a texture or shape hunt and have children describe the characteristics (texture, shape) of the object to the class or in small groups. • provide examples of words with opposite meaning, e.g. fast/slow, light/ dark, etc. • read books including frequently occurring verbs and adjectives by relating them to their antonyms, such as very hot and very cold; too fast and too slow, etc. • use a "word of the day/week" and align it with multiple classroom activities.

MA Standard	Learning activities: Children could…	Possible evidence of learning: Children may...	Supportive practices: Educators could…
d. Distinguish shades of meaning among verbs describing the same general action (e.g., *walk, march, strut, prance*) by acting out the meanings.			• encourage children's enjoyment of language through word play in groups and spontaneous conversations.
L.PK.6. Use words and phrases acquired through conversations, listening to books read aloud, activities, and play.	• listen to stories that include dialogue, then act out the stories. • dictate a story using new vocabulary.	• repeat predictable phrases from text. • use new vocabulary introduced through book reading in play (e.g., after reading *The Three Little Pigs*, children construct houses in the block area).	• read aloud a wide variety of texts. • read stories and poems that use formal (academic) and informal (conversational) language. • engage children in meaningful conversation and discussion with peers and adults in multiple situations. • provide opportunities for children to use language in a variety of situations, such as retelling a story read aloud, drawing a picture to respond to a book read aloud, and dictating for an adult to write the description.
L.K.6. Use words and phrases acquired through conversations, activities in the kindergarten curriculum, reading and being read to, and responding to texts.	• use targeted academic vocabulary for mathematics – count, add, more, counting on, number, put together, number sentence, equal to, equal sign – to ask or answer questions about addition. *(2017 English Language Arts ad Literacy Framework)* • use a new vocabulary word to create an original sentence or story. • act out a story using the vocabulary and phrases from the text.	• talk about the meaning of new words encountered in daily life or in stories. • use new words appropriately in conversations or writing. • use new vocabulary words in dramatic play, blocks etc.	• support vocabulary development through class-generated anchor charts (list of words or phrases) or word walls. • use activities that involve a "word of the day" that align with classroom activities. • read aloud a wide variety of texts.

Mathematics

The *Massachusetts Curriculum Framework for Mathematics* was adopted by the Board of Elementary and Secondary Education in March 2017. The Framework includes Guiding Principles for Mathematics Programs in Massachusetts, Standards for Mathematical Practice and Standards for Mathematical Content. The pre-kindergarten and kindergarten standards presented by Massachusetts are meant to be guideposts to facilitate young children's underlying mathematical understanding.

The pre-k and k standards can be promoted through play and exploration activities and embedded in almost all daily activities. They should not be limited to "math time." In this age group, foundations of mathematical understanding are formed out of children's experiences with real objects and materials. Mathematical thinking can be incorporated into block play, dramatic play, sand and water, and outdoor play. There are also connections between mathematics and musical experiences, and between mathematics and art that are discovered as children work with symmetry and design.

It is important to allow young children to maneuver through problem solving processes. Because they do not necessarily think the same way as adults, the challenge for educators is to observe and listen to get at the child's thinking process. If a child is "stalled" in solving a problem, facilitation may advance the child's thinking, but it's important to recognize when to allow the child to progress at his or her own rate. If intervention is required, strategies such as questions, prompts, or hints that align with the child's thinking and interest can move thinking forward. Encouraging children to represent their thinking in some way, such as drawings or manipulation of concrete objects, can help to solidify their thinking.

The Massachusetts pre-k standards apply to children who are at the end of the preschool age group, meaning older four- and younger five-year olds. In preschool or pre-kindergarten, activity time should focus on two critical areas:
(1) developing an understanding of whole numbers to 10, including concepts of one-to-one correspondence, counting, cardinality (the number of items in a set), and comparison; and
(2) recognizing two-dimensional shapes, describing spatial relationships, and sorting and classifying objects by one or more attributes. Relatively more learning time should be devoted to developing children's sense of number as quantity than to other mathematics topics.

In kindergarten, instructional time should focus on two critical areas:
(1) representing, relating, and operating on whole numbers, initially with sets of objects; and
(2) describing shapes and space.

More learning time in kindergarten should be devoted to numbers than to other mathematical topics.

COUNTING AND COORDINALITY (CC)			
Know number names and the count sequence			
Standards	**Possible learning activities:** **Children could….**	**Possible evidence of learning:** **Children may…**	**Supportive practices:** **Educators could…**
PK.CC.1. Listen to and say the names of numbers in meaningful contexts.	• play games and listen to stories and poems that contain numbers and counting sequences. • participate in finger plays and action rhymes that associate number concepts with concrete actions (e.g., *Five Little Monkeys Jumping on the Bed*).	• recite or sing/chant songs, rhymes or fingerplays that include numbers or counting sequences. • use concrete actions to demonstrate awareness of quantities and numbers (e.g., hold up four fingers to indicate age). • fill in the next number when the educator says "4, 5, 6….".	• provide many opportunities for children to see/hear the names of numerals in meaningful contexts. • read books about numbers and counting. • introduce math vocabulary and use them in counting. • teach children counting songs, rhymes and chants. • provide manipulatives, such as counting bears, magnetic numbers, lacing numbers for children to play with. • provide daily opportunities for children to count and recount objects.
K.CC.1. Count to 100 by ones and by tens Recognize the "one more" and "ten more" pattern of counting.	• practice group and individual rote counting such as counting objects, the number of days until a special event, etc. • use counting in daily activities (e.g., counting items in a shopping list in dramatic play; counting the number of blocks used in structures, or beads on a necklace) up to 100. • practice one-to-one correspondence with concrete objects (e.g., say the name of objects while placing an object in each space in an egg carton; distributing a musical instrument to each child in a group; putting pegs in each hole of a pegboard).	• count concrete objects in meaningful contexts (e.g., the number of beads on a string, the number of holes they were able to punch in a paper, etc.). • match quantities of objects up to at least 10 with numerals and spoken words.	• provide many opportunities for children to use one-to-one correspondence in daily routines (e.g., counting napkins at snack time, objects in the sand table, the number of children who order lunch, etc.). • reinforce counting through activities and games that include counting to a target numbers (e.g., counting a beat with rhythm instruments; counting while jumping rope). The concept of counting by tens can be introduced in time. • post number cards or a number line from 1 to 100, for children to

	• use concrete materials such as popsicle sticks to practice counting daily. Band the sticks in groups of ten.		use for counting (e.g., the number of school days from the first to the 100th day; then celebrating the first 100 days of school). Color code 10s on the chart.
PK.CC.2. Recognize and name written numerals 0–10.	• play games and listen to stories and poems that contain numbers and counting sequences. (*5 Little Pumpkins, 10 Apples Up on Top*) • in partners, explore books that include numerals (e.g., *I Spy Numbers* by Marzollo), discuss and share their observations.	• name or identify (point to) numerals spontaneously or when prompted. • follow visual or rebus recipes (e.g., for making play dough or cookies). • discriminate letters from numerals during activities and learning centers.	• model the use of number words and numerals including zero, in everyday situations. • read books, poems, and chants with numerals and number concepts. • display and point out numerals in the environment (e.g., group size limits, labels on materials, projects, or activity areas, children's bus numbers). • demonstrate the process of how to write numerals 0-9.
K.CC.2. Count forward, beginning from a given number within the known sequence (instead of having to begin at 1).	• practice "counting on" orally (continuing a counting sequence) or counting forward from a specified number, in a variety of activities. • form work groups by "counting off" (e.g., count by four, then all the 1's work together, etc.).	• provide the next number(s) when given a beginning number in a sequence (e.g., educator says "6" and child is able to say 7,8,9 etc.).	• engage children in activities related to the order of numbers (before/after) during small and individual group activities. As the year progresses, or based on individual readiness, children can start from numbers other than "one." • provide practice in ordering numbers in learning center activities. • organize paired or small group activities for children to interact and to learn from each other. • tape a number line to the floor and line up children in sequence. Add children to represent counting forward from numbers other than one.

Count to tell the number of objects			
Standards	**Possible learning activities:** **Children could….**	**Possible evidence of learning:** **Children may…**	**Supportive practices:** **Educators could…**
PK.CC.3. Understand the relationships between numerals and quantities up to ten.	• arrange and count a wide variety of objects to explore the consistency of quantities to build understanding of the stability of quantity (e.g., what the quantity of "3" looks like, whether you are counting blocks, beads or pinecones). • use number cards to match numerals with representations of quantities of objects up to ten (e.g., the numeral ten with a picture of ten stars).	• participate in finger plays and action rhymes that associate number concepts with concrete actions (e.g., *Five Little Monkeys Jumping on the Bed*). • count concrete objects for a meaningful purpose (e.g., three crackers for snack; two eyes to glue on the bunny; three steps down to the playground).	• facilitate children's use of concrete objects, actions, or drawings to represent quantities up to ten (e.g., jump two times; string three beads, hold up two fingers, get three blocks on request). • label learning centers with numerals showing the maximum number of students that may participate at each center.
K.CC.3. Write numbers from 0 to 20. Represent a number of objects with a written numeral 0–20 (with 0 representing a count of no objects).	• use sand or shaving cream to practice writing numbers. • use chalk or paint brushes with water to write numbers on sidewalk or markers on white boards, • create number rubbings over a variety of materials such as sand paper. • label block constructions with cards indicating the number of blocks used.	• recognize and practice writing of numerals from 0 to 20. • recognize 0 as representing a count of no objects. • match quantities up to at least 20 objects with numerals and spoken words (e.g., count 12 objects and match them with the numeral "12")	• Facilitate children to sing and elaborate on counting in rhymes and songs (e.g., "Six Little Ducks," "One Potato, Two Potato," "This Old Man") to various numbers up to 20. • Laminate numbers and provide opportunities for children to trace using washable markers. • Label the room with numbers, such as 20 books on a shelf, or group students according to table number). • Model and support children to use "0" to represent no objects.
PK.CC.4 Count many kinds of concrete objects and actions up to ten, recognizing the "one more", "one less" patterns, using one-to-one correspondence, and accurately count as many as seven things in	• use concrete objects to practice one-to-one correspondence in meaningful contexts by saying the number for each object (e.g., placing an object in each space in an egg carton; putting pegs in each hole on a pegboard; distributing a musical instrument to each child in a group; three steps down to the playground).	• point to each object counted, assigning the appropriate number to it. • count as they distribute objects (e.g., one cup or napkin to each child at the snack table). • use concrete objects, actions, or drawings to represent quantities (e.g., jump two times; stack four unit blocks; string three beads,	• model counting objects one at time and saying the number. • provide many kinds of concrete objects for children to explore. • incorporate counting into many daily activities. • embed counting in children's meaningful experiences (e.g., the number of strokes as they brush teeth or wash hands; the buttons on a coat while dressing for outdoor play).

a scattered configuration.	• use representations of numbers from zero to ten (dice, animal stickers on a card) to create original games that associate quantities with numerals. For example, a child selects a number card or throws dice, counts out that number of objects, and identifies the total number of objects). • follow visual cues such as a visual recipe for play dough or cookies; rebus illustrating words to a song or fingerplay).	hold up two fingers, get three blocks (on request).	• provide games, stories and rhymes that contain numbers and counting sequences (e.g., Five Little Monkeys Jumping on the Bed). • connect actions and objects to number to build understanding of the consistency of quantities (e.g., what "three" looks like, whether you are counting blocks, beads, or pinecones).
K.CC.4. Understand the relationship between numbers and quantities; connect counting to cardinality. **a.** When counting objects, say the number names in the standard order, pairing each object with one and only one number name and each number name with one and only one object. **b.** Understand that the last number name said tells the number of objects counted. The number of objects is the same regardless of their arrangement or the order in which they were counted. **c.** Understand that each successive number	• play games such as rolling dice and moving a corresponding number of spaces on a game board, or identifying a picture representing the quantity (e.g., roll a 6 and identify a picture with 6 bears). • sequence visual representations of quantities in numerical order (e.g., an illustration of five objects comes before six objects). • use gross motor activity – play a game with hoops by rolling dice and having the corresponding number of children enter hoops, or have students place objects in the hoops. • explore and rearrange sets of objects in different configurations to count and re-count, to confirm that the total number of objects is the same regardless of their arrangements, or the order in which they were counted. • create games based on representations of numbers from zero to ten or more (e.g., dice, animal stickers on a card, 3-dimensional objects) to associate successive quantities with numerals and	• match quantities of objects up to at least 10 with numerals and say the names of the numbers. • demonstrate using one-to-one correspondence in meaningful contexts (e.g., taking attendance, counting items in the sand table, putting pegs in each hole of a pegboard). • recognize the numerical order of objects (e.g., state what number comes before or after a given number). • use numbers and counting in everyday activities to assess "how many" (e.g., how many children are in a learning center). • identify the total when asked to "add one more" during everyday activities (e.g., giving one more block, bead).	• model counting using one-to-one correspondence when distributing materials. • promote children's use of one-to-one correspondence in daily routines and activities (e.g., counting the number of children who order lunch). • facilitate as children match and count objects (e.g., when distributing materials such as at snack time) by asking "How many more do you need?" • use physical experiences for children to illustrate quantities (e.g., arranging themselves in groups of three). • use number finger plays, rhymes and songs paired with visuals or objects for students to count and identify totals at different points throughout the activity. • read books about counting, (e.g. *Over on the Farm: A Counting Picture Book Rhyme* by Christopher Gunson). • explain/discuss that the number of objects counted is the number of the total objects.

name refers to a quantity that is one larger.	recognize that numerals are symbols of quantities. • use a number line to count to a specified number. Hide the remainder of the number line and ask students to identify what number would come next or would be one greater. • practice counting out objects and adding one more (e.g. at snack time, count out four napkins for each child at the table, then figure out how many napkins they would need if one more child was added to the table).		• during fingers plays, rhymes and songs, stop the activity at different times and ask students to identify what number would come next. • ask students to count out objects and add one more in meaningful contexts. • when lining up, add students one at a time and have students identify total after each student is added.
PK.CC.5 Use comparative language, such as *more/less than, equal to,* to compare and describe collections of objects.	• explore, compare, and describe sets of concrete objects (more/less; equal). • sort objects by attributes and use comparative language to identify which group has more or less, or which groups are equal.	• use the terms "more, less, equal" in informal play. • distribute objects into equal groups (e.g., "two for you and two for me"). • compare two groups of objects and identify which has more/less.	• model/demonstrate the use of comparative language using concrete objects (e.g., group counters into several sets and prompt/challenge comparison "Which set has more/less?" "Are these sets equal?"). • throughout the day use everyday activities for opportunities to use comparative language. For example, "Are there more students buying or bringing their lunch?" "Are there more children wearing shoes or sneakers?"
K.CC.5. Count to answer "how many?" questions about as many as 20 things arranged in a line, a rectangular array, or a circle, or as many as 10 things in a scattered configuration; given a number from 1-20, count out that many objects.	• use a hole-punch to count and document numbers of holes children can punch, up to 20. Note: This will also help develop fine motor skills if done frequently. • during a walk outdoors, collect a bag of leaves, rocks, sticks or objects of interest, then bring inside and count how many were collected.	• count the number of blocks used to build a tower.	• during everyday activities stop and ask, "How many?" questions (e.g., how many children are at the housekeeping center; how many children are wearing sneakers, etc.). • continue with activities from K.CC.MA.4 a-c increasing the number to 20 and increasing the challenge (e.g. "What if we had 15 children at the table, how many more napkins would we need?).

			• support children with disabilities or English language learners by using visual supports and/or adaptations (e.g., abacus, computer software, pictures).

Compare Numbers			
Standards	**Possible learning activities: Children could….**	**Possible evidence of learning: Children may…**	**Supportive practices: Educators could…**
No PK standard			
K.CC.6. Identify whether the number of objects in one group is greater than, less than, or equal to the number of objects in another group for groups with up to ten objects, e.g., by using matching and counting strategies.	• organize collections of objects (e.g., seashells) into sets or quantities by putting them in containers or string circles, comparing the quantities, and proposing how they know that one set contains more, fewer, or the same number)	• compare two sets of up to 10 objects using appropriate language (e.g., more than, fewer than, same number of, one more than).	• play a game such as tag or Red Rover that alters the number of students on each team. Stop the game at different points and ask students to count the number of members on each side and identify greater than/less than or equal to. • practice adding or subtracting one object to/from a set.
K.CC.7. Compare two numbers between 1 and 10 presented as written numerals.	• play a card game with the numbers one through ten. All cards are dealt. Students draw a card and compare their numbers. The student whose number is greater takes the pair. If the cards are equal, an additional card is drawn and the student whose number is greater takes all four cards. The student with the greatest number of cards wins the game. • play an adapted 'memory game' using number cards. Students select two cards and identify which pile they should be placed in – greater than, less than, or equal to.	• recognize that a set of objects labeled with "7" contains more than a set labeled with "5."	• provide opportunities for children to create number cards to label the number of objects in a set or group (e.g., the number of blocks in a structure).

OPERATIONS AND ALGEBRAIC THINKING (OA)			
Understand addition as putting together and adding to, and understand subtraction as taking apart and taking from.			
Standards	**Possible learning activities:** **Children could…**	**Possible evidence of learning:** **Children may…**	**Supportive practices:** **Educators could…**
PK.OA.1. Use concrete objects to model real-world addition (putting together) and subtraction (taking away) problems up through five.	• use manipulatives or varied concrete objects to create and compare sets, adding or removing a specified number of objects through five. • practice "counting on" orally (continuing a counting sequence) or counting forward and backwards from a specified number, in a variety of activities. • get ready to begin a classroom activity by "counting down" five seconds.	• identify the total after adding or removing a specified number of objects up through five. • count forward or backward from a given number through five. • demonstrate beginning understanding of simple addition and subtraction (e.g., needing one more chair so everyone can sit at the table). • show interest in solving mathematical problems (e.g., "I have four, and if I give one to you, I will have three left.")	• use self-talk to model addition and subtraction with concrete objects (e.g., "I'm adding one;" "I take two away.") • provide varied materials and amounts of materials for creating and comparing sets (e.g., shells, cereal, pebbles, buttons). • use everyday routines to discuss putting together and taking apart sets of concrete objects (e.g., how many more plates do we need for snack time? A child is given five dinosaurs and is asked if he gives two to a friend, how many does he has left?). • tape a number line to the floor, line up children in sequence. Add and subtract children to represent counting forward and backward from numbers other than one.
K.OA.1. Represent addition and subtraction with objects, fingers, mental images, drawings, sounds (e.g., claps), acting out situations, verbal explanations, expressions, or equations. [Note: Drawings need not show details, but should show the	• create dramatizations of songs and rhymes that represent subtraction (e.g., "Five Little Speckled Frogs" "Five little monkeys jumping on the bed" etc.). • draw pictures of the fruit they bought from a trip to the supermarket (e.g., 5 apples and 3 oranges, and explain how many fruit they bought altogether.)	• use representations such as drawings, constructions, or manipulation of concrete objects to demonstrate adding to or taking away. • explain their representations (e.g., "I had 3 grapes and the educator gave me 2 more, so I had 5 altogether").	• Help children describe similarities and differences in concrete objects • Ask questions to obtain children's understanding of mathematical symbols. • Model addition as putting together and adding to, and subtraction as taking apart and taking away from. • Provide each child with a given number of objects (e.g., 5) to use to demonstrate how to combine two different groupings to equal the target number (5 =3 + 2).

mathematics in the problem. (This applies wherever drawings are mentioned in the standards)			
No PK standard			
K.OA.2. Solve addition and subtraction word problems, and add and subtract within 10, e.g., by using objects or drawings to represent the problem.	• use manipulatives and/or draw pictures to recreate a story or illustrate a problem (e.g., when there are 4 apples, how many apples would we have if we receive 3 more? If we give 2 apples to a friend, how many do we have left?). • use 3-dimensional materials to represent number problems up to ten (e.g., play "snack math" using juice boxes, straws, plates to explore addition and subtraction problems, such as "How many more cups do I need for everyone in the group?").	• use various materials such as Unifix™ Cubes, Cuisenaire Rods™ to represent addition and subtraction problems up to 10	• provide stories, problems and challenges for children to solve and represent using manipulatives and concrete materials. • use meaningful situations and everyday classroom experiences as a context for children to solve number problems up to 10.
No PK standard			
K.OA.3. Decompose numbers less than or equal to 10 into pairs in more than one way, e.g., by using objects or drawings, and record each decomposition by a drawing or equation (e.g., 5 = 2 + 3 and 5 = 4 + 1).	• use cubes, rods, or other manipulatives to create various combinations that equal 10 or less.	• demonstrate at least two ways to illustrate number combinations for quantities up to 10	• Provide a given number of objects (e.g., 8) and ask what number would have to be added to make 10, then how many objects could be taken away from 10 to result in a number less than 10 (e.g., 10 – 2 = 8). • Create number problems that children can solve and demonstrate by using concrete objects (e.g., you have 9 blocks, and you need to use them to build 2 structures; show how many blocks you used for each building. Can you show another way?). Document the various number combinations.
No PK standard			

K.OA.4. For any number from 1 to 9, find the number that makes 10 when added to the given number, e.g., by using objects or drawings, and record the answer with a drawing or equation.	• use bags containing Unifix cubes in quantities from 1 to 9, children figure out how many cubes they need to put in to, so each bag has 10 cubes. • place a number (1-9) of counters or objects on tables, work on how many more they need to make a total of 10, then draw a picture of the original objects and the additional objects needed make 10 to report to peers. • use illustrations from the book Ten Black Dots by Donald Crews as templates for manipulating combinations of discs or round stickers to create a total of ten (e.g., for the number 10, the 1 section contains four dots and the zero section contains 6 dots).	• given a quantity of objects from 1 to 9, use additional objects to reach a total of ten and use some form of representation to document problem solving (e.g., slash marks, stickers, drawings, etc.).	• provide a variety of concrete materials in quantities from 1 to 10 and allow children to explore many different ways of "making ten" • support, scaffold and facilitate children's effort with prompts and questions as needed, allowing children sufficient time to explore and calculate independently before stepping in.
No PK standard			
K.OA.5. Fluently add and subtract within 5 including zero.	• play action games that require problem solving (e.g., a bowling game starting with five bottles, count how many are knocked down and how many are left). • read books and sing songs that illustrate addition and subtraction, such as "Five Little Speckled Frogs" and/or "Five in the bed;" • use dramatic play to solve household or grocery store problems (e.g., "If you have 5 apples and someone buys 3 of them, how many do you have left?").	• spontaneously recognize or report number combinations that create 5.	• provide many different kinds of materials for children to practice addition and abstraction. • provide simple challenges or questions to prompt problem solving from 1 to 5 during play experiences. • frequently practice adding and subtracting activities in daily classroom experiences (e.g., lining up or moving from one activity to another).

NUMBER AND OPPERATIONS IN BASE TEN (NBT)			
Work with numbers 11–19 to gain foundations for place value			
Standards	**Possible learning activities: Children could…**	**Possible evidence of learning: Children may…**	**Supportive practices: Educators could…**
PK.NBT.1. no standard			
K.NBT.1. Compose and decompose numbers from 11 to 19 into ten ones and some further ones, e.g., by using objects or drawings, and record each composition or decomposition by a drawing or equation (e.g., 18 = 10 + 8); understand that these numbers are composed of ten ones and one, two, three, four, five, six, seven, eight, or nine ones.	• practice using manipulatives to group items into groups of tens and ones to illustrate place value (e.g., show that a collection of 15 items can be represented by one group of 10 plus five individual items). • count the number of children in the class from a list of names one by one, then decompose the number to figure out how many are present and how many are absent. • given a collection of objects (e.g., popsicle sticks) from 11-20, make groups of 10 by counting and bundling them into groups, then explain their problem with correct mathematical language (e.g., 10 ones= 1 group of 10).	• demonstrate grouping objects into tens and ones to represent quantities from 11 to 19.	• provide many opportunities and a variety of concrete materials for children to explore and practice composing and decomposing.

MEASUREMENT AND DATA (MD)			
Describe and compare measurable attributes			
Standards	**Possible learning activities: Children could…**	**Possible evidence of learning: Children may…**	**Supportive practices: Educators could…**
PK.MD.1. Recognize the attributes of length, area, weight, and capacity of everyday objects using appropriate vocabulary (e.g., *long, short, tall, heavy, light, big, small, wide, narrow*).	• play games that include identifying (pointing to, selecting) a specified object from a group of objects based on an attribute (e.g., *long, short, tall, heavy, light, big, small, wide, narrow).* *Younger children should start by focusing on a single attribute at a time. • participate in activities to look for objects that have a single designated attribute (e.g., "I spy something	• start to use appropriate vocabulary to describe the size and weight of everyday materials (e.g., crackers, rocks, shells, unit blocks, parquetry blocks). • select an object that represents a given attribute from an assortment (e.g., from several blocks, pick the long one). • match objects of similar size to	• Provide rich and varied materials to help children to explore materials of various shape, size, and weight. • Read books that use words that describe the attributes of objects (e.g., big, small, tall, short, narrow, thick, thin, deep, shallow, round, flat, straight, crooked, heavy, light).

Standards	Possible learning activities: Children could…	Possible evidence of learning: Children may…	Supportive practices: Educators could…
	narrow."). • use a sense of touch (e.g., feely box/tactile box) to touch an object and describe the attributes of an object that they cannot see.	show beginning understanding of attributes.	• Model the use of appropriate vocabulary, to describe the measurable attributes of objects.
K.MD.1. Describe measurable attributes of objects, such as length or weight. Describe several measurable attributes of a single object. **Connections: to PKCC #3 and #5, PK G #1.**	• fill containers of different sizes with sand and weigh them to discover which container is heavier or lighter. • with a partner, explore materials in the classroom to find measurable objects and discuss how to describe them, then report to the whole group. • create mathematical activities based on stories that include measurement (e.g., *Length* by Henry Pluckrose).	• recognize and describe measurable attributes of a single object when exploring classroom material (e.g., "the pencil is thin and light, and the crayon is thin and short"). • over time, gradually develop the ability to recognize multiple attributes of a single objects.	• Read books about measurement and discuss the terms used to describe measurable attributes (e.g., *How Big is a Foot*? By Rolf Myller; *Me and the Measure of Thing*s by Joan Sweeney, *How Long* or *How Wide* by Brian Cleary). • Provide many and varied materials and activities to help children recognize measurable attributes of objects. • Pose questions to lead children to think and develop answers about the attributes of a single object.
PK.MD.2. Compare the attributes of length and weight for two objects, including longer/shorter, same length; heavier/lighter, same weight; holds more/less, holds the same amount. **Connection: PK.CC.C.5. Use comparative language, such as more/less than, equal to, to compare and describe collections of objects.**	• compare the length of two play dough snakes with a marker or crayon. • measure the length of a table and compare to another table. • in the sensory table, use a variety of containers to measure materials (e.g., sand, water) and compare capacity. • measure the circumference of two pumpkins or two watermelons using a piece of string. • use non-standard items to measure objects using a consistent unit (unit blocks, markers and crayons).	• use comparative language to describe the relationship between two objects (e.g., put two blocks side by side and tell which is longer/shorter). • recognize comparative aspects of objects (e.g., noticing that a child is taller than another or "my road is longer"). • express or demonstrate the results of experimentation (e.g. "It took three of these small cups to fill that big one" "It took six of these blocks to go across the table").	• model use of appropriate vocabulary to describe relationships of objects based on a single attribute (e.g., longer/shorter, same length; wider/narrower; lighter/heavier, holds more/less, or holds the same amount. • use questions or prompts that stimulate measurement (e.g., "How tall is someone?" "I wonder how many footsteps to the door?"). • provide objects for children to explore to determine which would make a good measuring tool (e.g., paper clips, Unifix cubes, popsicle sticks, shoes, hands).

Standards	Possible learning activities: Children could…	Possible evidence of learning: Children may…	Supportive practices: Educators could…
			• design activities for children to use standard and non-standard units to measure length, weight, and capacity.
K.MD.2. Directly compare two objects with a measurable attribute in common, to see which object has "more of"/"less of" the attribute, and describe the difference. *For example, directly compare the heights of two children and describe one child as taller/shorter.* *Connection:* K.CC.C.6. Identify whether the number of objects in one group is greater than, less than, or equal to the number of objects in another group, e.g., by using matching and counting strategies. [Note: Include groups with up to ten objects.]	• use a balance scale to compare the weight of two similar objects (e.g., apples, markers, crayons) to see which is heavier. • compare the capacity of two containers by filling each with the same type of object (teddy bear counters, cotton balls), then count how many are in each, to compare capacity. • measure two sides of the sandbox using footsteps to see which side is longer. • have a measurement hunt in the classroom to find an object that is longer, shorter, or the same as one provided. • compare the capacity of two containers to determine which holds more or less (e.g., water). • compare the length of various sizes of slippers/shoes or other common objects. Measure the number of steps it takes to walk across the room versus the number of feet using a ruler, then talk about why there are different results. • discuss how to select tools for measuring an attribute other than standard measurement tools.	• recognize/compare the size of common objects such as shoes, blocks (e.g., describe which is longer or wider). • measure the length of objects using standard and non-standard tools or units of measurement. • explain/describe information gathered using comparative language (e.g., more/less, fewer, same, equal, bigger/smaller).	• read and discuss stories that focus on the concepts of more/less/same (e.g., *Just Enough Carrots* by Stuart J. Murphy). • demonstrate how to use a balance scale to weigh objects to find which is heavier, lighter, or the same weight. • design activities for children to compare the length or weight of two objects (e.g., pumpkins, cucumbers). • elicit and/or discuss rules for reliable and accurate measuring (e.g., start at the beginning, units must touch, and units must be uniform in length), and talk about the value of standard measurement tools.

Classify objects and count the number of objects in each category			
Standards	**Possible learning activities:** **Children could…**	**Possible evidence of learning:** **Children may…**	**Supportive practices:** **Educators could…**
PK.MD.3. Sort, categorize, and classify objects by more than one attribute.	• play games that include sorting objects by a selected attribute, and then by another attribute from a group of objects (e.g., find counting bears from a basket of objects, and then separate the bears by color). • work with a group of objects and separate one object that does not share the same attribute. • sort parquetry blocks or string beads by size, shape, color, or texture one attribute at a time (e.g., circles/small circles; blue squares/blue circles; big yellow squares/small yellow squares).	• sort everyday materials by various attributes (e.g., size, shape, color, and texture, etc.) and describe their reasoning.	• provide a wide variety of materials and opportunities for children to sort, categorize, or classify everyday materials (e.g., buttons, shells, rocks, pasta, attribute blocks, parquetry blocks). • read books about sorting and discuss the use of words that describe the attributes of objects. • select a group of objects with common characteristics and ask children to determine the common attribute (e.g., what is the same about all of them?).
K.MD.3. Classify objects into given categories; count the numbers of objects in each category and sort the categories by count for category counts up to and including 10.	• compare and sort items by one attribute, then be challenged to identify another attribute. • compare, sort, classify, and count materials from nature (e.g., rocks, shells, seeds, leaves) for common and different attributes. • deconstruct a block structure and sort blocks according to size/shape, organize blocks according to the category selected, and count the number of each. • use attribute blocks or parquetry blocks to sort, classify, and count (e.g., separate green square items from red square items, all green items from red items, etc.).	• classify objects into categories, count the objects in each category and sort the categories by count.	• provide a wide variety of concrete objects for children to explore. Post questions or observations about the similarities and differences. Use children's answers to help other children better understand concepts.

Work with Money			
Standards	**Possible learning activities: Children could…**	**Possible evidence of learning: Children may…**	**Supportive practices: Educators could…**
PK. MD.4. Recognize that certain objects are coins and that dollars and coins represent money. **Connection:** History and Social Science/Economics strand.	• examine, manipulate, and identify familiar U.S. coins (penny, nickel, dime, quarter) in play activities. • understand the functions of money: Use it to buy items with play money in a dramatic play grocery store, take turns playing the role of the cashier and shopper.	• recognize that certain objects are coins • identify the coins of penny, dime, nickel, and quarter, • know the names of the coins and begin to remember the value of each. • recognize dollar bills as money.	• read books about money and identify the coins (e.g. *A Chair for My Mother* by Vera Williams). • discuss the function of money. • show coins and identify them with their names: penny, dime, nickel, and quarter. • explore visual characteristics of various coins and make a list of children's observations (e.g. color, size, people, numbers, letters). • show dollar bills, point to the number in the corner of the bill of 1, 5 and 10, to know their values. • provide play money for children to play with.
NO K.MD.4 Standard for working with money. Extend PK.MD.4 learning.	• set up a grocery store, post office, or restaurant in the dramatic play area; create menus, price lists, labels and coupons worth specified amounts.	• point to and name various coins. • recognize the value of dollar bills by the numerals in the corner of the bill. • use play coins and bills for purchases in dramatic play; some children may be able to make change (e.g., accept a dime and give back four pennies).	• support and facilitate children's exploration and play using play money (e.g., create challenges, use prompts, etc. • read books about money (e.g., Sam and the Lucky Money by Karen Chinn, Estela's Swap by Alexis O'Neill).

GEOMETRY (G)			
Identify and Describe Shapes (squares, circles, triangles, rectangles)			
Standards	**Possible learning activities: Children could…**	**Possible evidence of learning: Children may…**	**Supportive practices: Educators could…**
PK.G.1. Identify relative positions of objects in space, and use appropriate language (e.g., *beside, inside, next*	• explore and identify space, direction, movement, relative position and size using body movement and concrete objects. • respond to movement and dance	• follow directional language in daily routines and activities or in dance recordings "Put your hands up…down…over your head" "Put the circle above the square."	• use recordings of songs and movement activities that focus on position in space (e.g., Hap Palmer or Kimbo recordings, bean bag activities, body awareness, etc.).

Standards	Possible learning activities: Children could…	Possible evidence of learning: Children may…	Supportive practices: Educators could…
to, close to, above, below, apart).	recordings that utilize concepts and vocabulary related to directionality and position in space. • move their bodies in space by following verbal instructions through an obstacle course (e.g., crawl under the table, walk around the jungle gym; jump over the block). • figure out how much space is needed for a task (e.g., to build a construction using large interlocking panels, or whether two children can fit inside a cardboard box). • arrange illustrations from a story or photos/drawings of daily routines in sequential order.	• locate or move objects in response to directional words. "It's next to the ball" "It's under the basket" "Move your body away from the shelf." • respond to and begin to use positional language (e.g., up, down, high, low, over, under, behind, beside, apart, together) in play or to describe their actions or work. • assemble simple puzzles by recognizing when pieces must be turned in order to fit.	• model use of positional vocabulary (up, down, high, low, above, below, in front of, behind, beside, near, far, apart, together) (e.g., "I see you drew flowers in front of the house." "Do you want to go under or over the bar?"). • encourage and support children's use of positional language to describe their actions or products (e.g., "Can you tell me how you moved through this part of the obstacle course?). • facilitate children's efforts to complete puzzles of increasing complexity with prompts or questions (e.g., "Does that piece go next to this one, or maybe above that one?").
K.G.1. Describe objects in the environment using names of shapes, and Describe the relative positions of these objects using terms such as *above, below, beside, in front of, behind*, and *next to*.	• move their bodies in various directions and positions according to prompts (e.g., move in, out, up, down, around, under, over, beside, and between each other). • move through an obstacle course as directed. • go on a "shape hunt" in the classroom or neighborhood, with adults taking photographs of shapes observed in the environment. • take photographs (or have adults take photographs) of each other or of objects demonstrating positional words and make the photographs into a class book.	• identify shapes observed in the environment by name. • describe the positions of objects in relation to each other (e.g., above, below, beside, behind, inside, in front of, close to, apart). • place objects based on a positional command (e.g., put the pencil behind the cup; write your name beside the title of the paper).	• read and talk about books that focus on shapes (e.g., *So Many Circles, So Many Squares*; *Shapes, Shapes, Shapes; Circles, Triangles and Squares*, all by Tana Hoban, *The Shape of Things* by Janine Scott, *The Greedy Triangle* by Marilyn Burns, *The Missing Piece* by Shel Silverstein). • discuss and model the use of terms to describe the relative positions of objects in space and position and location of objects in the environment. • provide opportunities and support children in locating geometric shapes within the environment.

Standards	Possible learning activities: Children could…	Possible evidence of learning: Children may…	Supportive practices: Educators could…
PK.G.2. Identify various two-dimensional shapes using appropriate language.	• investigate materials of various two-dimensional shapes (i.e., "flat"; lying in a plane), learning the shape names: square, circle, triangle, rectangle. • find examples of basic shapes in the environment (e.g., go on a "shape walk" indoors or outdoors to find examples of circles, squares, triangles, rectangles in buildings, in the classroom, in nature, etc.). • identify basic shapes in pictures, magazines, or picture books (e.g., *I Spy* books). • feel and name parquetry blocks or pattern blocks, then try to identify them without looking – by naming or pointing to a block that matches. • play shape challenge games such as placing basic shapes on the floor and prompting children's movement (e.g., "Stand in the square").	• name or identify (point to) various shapes. • sort parquetry blocks, pattern blocks, or paper shapes according to type. • demonstrate understanding of shapes in a developmental sequence including: o recognizes and identifies shapes (pointing to a circle or square) o matches two of the same shapes o labels (names) shapes (verbally says "circle", "square," "triangle") o describes the attributes of basic shapes in terms of number of sides/corners (e.g., "a circle is round", "a triangle has three sides"). o creates/represents shapes (e.g., drawing, finger paint, yarn, play dough, their bodies).	• build understanding of basic shapes (circle, square, triangle, rectangle) through classroom materials and play experiences. • read books about shapes and introduce names of basic shapes and their distinguishing characteristics. • provide snacks cut in various shapes; have children name the shapes as they eat. • confirm or clarify children's recognition of shapes by calling attention to their attributes (e.g., "It's a triangle because it has three sides and three corners." Or "How do you know it's a rectangle?"). • expose children to the names of more complex shapes over time (e.g., parallelogram, hexagon).
K.G.2. Correctly name shapes regardless of their orientations or overall size.	• play games that include matching shapes in the same shape category but not identical – different color, different size, different orientation (e.g., shape bingo, concentration). • choose a shape, and use art materials to make small, medium and large shapes. • use play dough or pipe cleaners to create various shapes.	• name shapes correctly regardless of orientation (a triangle is still a triangle even though it's turned in different directions).	• model how a shape can be turned in different ways and remain the same shape. • provide small, medium and large shapes. Challenge thinking by asking children to place their shape on a larger paper and ask if they are still the same size; ask them to turn the shapes in all directions and ask if they are the same shape in each direction. • Read and discuss books that focus on shapes (e.g., *So Many Circles;*

Standards	Possible learning activities: Children could…	Possible evidence of learning: Children may…	Supportive practices: Educators could…
			*So Many Squares; Shapes, Shapes, Shapes: Circles, Triangles and Square*s, all by Tana Hoban; *The Shape of Things* by Janine Scott; *The Greedy Triangle* by Marilyn Burns, *The Missing Piece* by Shel Silverstein).

Analyze, Compare, Create, And Compose Shapes			
Standards	**Possible learning activities: Children could…**	**Possible evidence of learning: Children may…**	**Supportive practices: Educators could…**
PK.G.3. Create and Represent three-dimensional shapes (ball/sphere, square box/cube, tube/cylinder) using various manipulative materials (such as popsicle sticks, blocks, pipe cleaners, pattern blocks).	• create two-dimensional and/or three-dimensional shapes using popsicle sticks, pipe cleaners, unit blocks, Legos, etc. • feel parquetry blocks or pattern blocks without looking, then try to represent them using Playdoh, clay or drawings. • using a large rope loop, a small group of children could work together to stretch out and hold the rope on the floor to create particular shapes (rectangle, square, triangle). • form cookie dough, clay, or Playdoh into three-dimensional shapes. • use toothpicks/coffee stirrers and marshmallows/clay to create three-dimensional shapes. Or use MagnaTiles or other interlocking construction materials for that purpose. • (3-D) roll newspaper into tight cylinders and firmly tape them, then connect them together with tape to create large three-dimensional structures and name them.	• represent and identify three-dimensional shapes using various materials or media.	• Provide materials and support to learners in creating/constructing shapes (e.g., toothpicks, popsicles sticks, foam shapes, Playdoh, straws, Model Magic, etc.) • (3-D) Ask children and families to work together to find three-dimensional objects at home and bring the object or a photograph of the object to school to share and compare. **Note:* Although this standard doesn't refer to creating and representing two-dimensional shapes, children should be doing so, as well as making three-dimensional shapes, therefore two-dimensional examples have been included.
K.G.3. Identify shapes as two-dimensional	• find two-dimensional objects in pictures and/or around the room and identify	• separate a collection of two- and three- dimensional objects into the	• read books and introduce the concepts and vocabulary of three-

Standards	**Possible learning activities:** **Children could…**	**Possible evidence of learning:** **Children may…**	**Supportive practices:** **Educators could…**
(lying in a plane, "flat" or three-dimensional, "solid").	their shapes. If desired, then have them graph the number of squares, circles, triangles, etc. • identify basic three-dimensional shapes such as parquetry blocks in a “feely box” without looking. • choose three-dimensional blocks of different shapes and compare them with their two-dimensional shapes (a ball/sphere with a circle; a block/cube with a square). • pick an object out of a box or bag and determine whether it is “flat” or “solid”.	appropriate category.	dimensional shapes. • model use of three-dimensional language in describing environmental objects or children’s constructions. • make a point to not use two-dimensional language to label three-dimensional objects (e.g., do not call a ball a circle, rather use the appropriate three-dimensional label of sphere). • give children concrete representations of three-dimensional vs. two-dimensional objects, some that are flat and some that have depth (e.g., a sheet of paper vs. a book; a CD versus a can of soup; a cheese slice vs. a cereal box) and have them sort as two-dimensional or three-dimensional. **Note:* Other terminology for naming three-dimensional shapes may be useful, even though they are not in the standard, such as: • *Prism*: If the base and top of a shape are identical and connected by rectangular faces, then you have a prism, nameable by the shape of the base (e.g., a cereal box is a rectangular prism; a pup tent is a triangular prism). Oddly, a cylinder cannot be called a circular prism, because it has a round base. • *Pyramid*: If the shape comes to a point, then it’s a pyramid, nameable by its base (e.g., the pyramid in

Standards	Possible learning activities: Children could…	Possible evidence of learning: Children may…	Supportive practices: Educators could…
			Egypt is a square pyramid, a tripod is a triangular pyramid). Oddly, a cone cannot be called a circular pyramid either, because it has a round base. ** *Note:* Some shapes, such as pattern blocks, are literally three- dimensional and should technically be referred to as "prisms", but we are using them to refer to their top face, which is two-dimensional, therefore we call the pattern block a hexagon, not a hexagonal prism.
NO PK.G.4. standard.			
K.G.4. Analyze and Compare two- and three-dimensional shapes, in different sizes and orientations, using informal language to describe their similarities, differences, parts (e.g., number of sides and vertices/"corners") and other attributes (e.g., having sides of equal length).	• explore geometric shapes turned in different ways • sort paper shapes (triangles, rectangles, squares) into groups. • bring examples from home of 3-dimensional shapes (e.g., cylindrical salt, oatmeal, or coffee containers; conical ice cream cones; spherical balls or marbles), then sort and classify them to create a "shape museum." • while building with blocks or using other materials, compare squares and cubes; circles and spheres. • compare objects (e.g., blocks, leaves, flowers) with previously-identified 2- or 3-dimensional shapes according to attributes – flat or solid; number of sides, corners, length, shape, etc. • bring examples from home of 3-dimensional shapes (e.g., cylindrical salt, oatmeal, or cornmeal boxes; conical ice cream cones; spherical balls	• differentiate between two-dimensional and three-dimensional shapes (squares and cubes; circles and spheres), while building with blocks or using other real objects (e.g., "That's a square because it's flat and it has four sides all the same; "That's a cube because it has six square faces"). • manipulate two- and three-dimensional shapes into different orientations and use informal language to describe their parts, attributes, similarities, and differences (e.g., sides, vertices/ "corners").	• model use of appropriate language/vocabulary, the process of recognizing, describing the properties and naming geometric shapes (line segment, diagonal, angle, length, width, height) • have children duplicate a shape on a geoboard: o "a slide" (translation): duplicate in a different position on their board (i.e., identical shape on different pegs, not turned or flipped). o "a turn" (rotation): duplicate same shape but pointed in a different direction. o "a flip" (reflection): make a mirror image of the shape. • put shape outlines on the block shelf for children to sort the blocks correctly when they return them. Point out that the silhouette is two-

Standards	Possible learning activities: Children could…	Possible evidence of learning: Children may…	Supportive practices: Educators could…
	or marbles) then sort and classify them to create a "shape museum."		dimensional, and the block is three-dimensional. *_Note_: Three-dimensional shapes don't have sides, they have faces. The lines where faces meet are called edges.
NO P.K.G.5 standard			
K.G.5. Model shapes in the world by building shapes from components (e.g., sticks and clay balls) and drawing shapes.	• children can model with Playdoh or paint on the art easel, combining shapes to represent things in the environment. • create drawings of two or three different shapes, cut them out, then build a sculpture using the shapes. • they can take pattern blocks or parquetry blocks and combine them to make images of things found in their world. • use photographs of common objects in various areas (e.g., art, blocks, manipulatives) to try to represent either two-dimensionally or three-dimensionally, then explain the shapes they used in their construction.	• use classroom materials to represent shapes observed in the world by molding, constructing, drawing, etc.	• give children a specified number of two-dimensional or three-dimensional shapes and ask them to create and name as many things as they can from those shapes. *Note: Cluster1 laid the groundwork, in term of recognizing and naming shapes. Now that skill is used to create, compare, and analyze those shapes and spatial relationships.
NO PK.G.6 standard			
K.G.6. Compose simple shapes to Form larger shapes. *For example, "Can you join these two triangles with full sides touching to make a rectangle?"*	• use tangrams or pattern blocks to fill silhouettes multiple ways or ask them to show as many ways of making the hexagon pattern block using other blocks. • create various geometric shapes using several units of blocks, geoboards, or pattern blocks.	• while exploring the use of pattern or parquetry blocks, children notice, and name shapes they have creating by combining two or more shapes.	• provide children with materials they can manipulate to create various shapes (e.g., children are given tangrams and asked to create various shapes and identify them). • provide prompts and open-ended challenges for children to solve while using shapes ("What could you make with…? "How might you make a….?).

Science and Technology/Engineering

The *2016 Massachusetts Science and Technology/Engineering (STE) Curriculum Framework* articulates statewide guidelines for STE learning, teaching, and assessment. Science and engineering is a natural focus for young children who are beginning to develop their own understandings of the world and how it works. By introducing children to science and engineering at a young age, we support their curiosity, promote their understanding, and give them the tools they need to investigate, design, observe, and draw evidence-based conclusions about the world. Children who are able to think critically, solve problems, and base their ideas on evidence at an early age will have a strong foundation as they engage with a world that is increasingly rooted in science, technology, and engineering.

The STE standards emphasize the need for engagement, relevance, rigor, and coherence in curriculum and instruction. Curriculum and instruction should build upon the natural wonder young children have about the world around them through engaging and exciting learning experiences. Children should develop a passion about the natural and designed world and model the inquisitive, analytical, and skeptical nature of science. These goals can only be achieved through a rich and varied STE curriculum that includes thoughtful hands-on and minds-on activities, laboratories, investigations, and design challenges.

Emphasis in STE Standards	Implication for Curriculum and Instruction
Relevance: Organized around core explanatory ideas that explain the world around us	The goal of teaching focuses on students analyzing and explaining phenomena and experience
Rigor: Central role for science and engineering practices *with* concepts	Inquiry- and design-based learning involves regular engagement with practices to build, use, and apply knowledge
Coherence: Ideas and practices build over time and among disciplines	Teaching involves building a coherent storyline over time and among disciplines

There are eight science and engineering practices identified in the 2016 Massachusetts STE Curriculum Framework. These practices replace inquiry skills and describe the skills necessary to engage in scientific inquiry and engineering design. The science and engineering practices include the skills necessary to engage in scientific inquiry and engineering design. It is necessary to teach these so students develop an understanding and facility with the practices in appropriate contexts. The Framework for K-12 Science Education (NRC, 2012) identifies eight essential science and engineering practices:

1. Asking questions (for science) and defining problems (for engineering).
2. Developing and using models.
3. Planning and carrying out investigations.
4. Analyzing and interpreting data.
5. Using mathematics and computational thinking.
6. Constructing explanations (for science) and designing solutions (for engineering).
7. Engaging in argument from evidence.
8. Obtaining, evaluating, and communicating information.

The field of science education refers to these as “practices” rather than “science processes” or “inquiry skills”. The STE standards are structured to have these science and engineering learning practices imbedded in them. The change in active verbs used in the sample standards below illustrates how the practices are embedded.

Comparing 2001 and 2006 STE Standards	
2001 Standard: PreK-2.LS.1 **Recognize** that animals (including humans) and plants are living things that grow, reproduce, and need food, air and water.	2016 Standard: K-LS1-1. **Observe and communicate** that animals (including humans) and plants need food, water, and air to survive. Animals get food from plants or other animals. Plants make their own food and need light to live and grow.

Current pre-K standards ask children to demonstrate an ability to ask questions, set up simple investigations, analyze evidence, observations, and data for patterns, and use evidence to explain or develop ideas about how phenomena work. Kindergarten standards now call for children to show further development of investigation and communication skills, as well as application of science concepts to designing solutions to problems, and to now use information obtained from text and media sources.

Please see Appendix B: Science and Technology/Engineering: Inquiry Strategies, (page 155) for a further discussion on inquiry and strategies that support young children in learning science, technology and engineering skills.

Pre-K: The World Around Me

Pre-K children focus on experiencing and making observations of the world around them. They are beginning to learn about their own environment as they observe plants and animals, the moon and the sun, and the daily weather. They experience their world through their senses and body parts and begin to recognize that animals also use their senses and body parts to meet their basic needs. They investigate pitch and volume, shadow and light, liquids and solids, and how things move. They sort materials by simple observable properties such as texture and color. They share their understanding of these concepts through discussion as they develop their language and quantitative skills. Pre-K children build awareness of the wide variety of natural phenomena and processes in the world around them.

Kindergarten: Reasons for Change

In kindergarten, children build on early experiences observing the world around them. They continue to make observations that are more quantitative in nature and identify why some changes occur. Children begin to learn to use observations as evidence to support a claim through growing language skills. They learn that all animals and plants need food, water, and air to grow and that the basic difference between plants and animals is a plant’s ability to make its own food. Children build their quantitative knowledge of temperature in relationship to the weather and its effect on different materials. They observe that the amount of sunlight shining on a surface causes a temperature change. They design a structure to reduce the warming effects of sunlight. They investigate motions of objects by changing the strength and direction of pushes and pulls. They provide examples of plants and animals that can change their environment through their interactions with it. In kindergarten science children begin to identify reasons for changes in some common phenomena.

EARTH AND SPACE SCIENCES

ESS1 Earth's Place in the Universe

MA Standard	Possible learning activities: Children could…	Possible evidence: Children may…	Supportive practices: Educators could…
PreK-ESS1-1 (MA). Demonstrate awareness that the moon can be seen in the daytime and at night, and of the different apparent shapes of the moon over a month. Clarification Statement: The names of moon phases or sequencing moon phases is not expected.	• go outdoors to observe when the moon is visible *and* the sun is out. • represent their observations of the moon and how its shape changes (full circle, half circle, and crescent) through drawings, paintings, collage. • observe and identify the differences between night and day based on what they see in the sky.	• express or demonstrate awareness of changing shapes of the moon as it waxes and wanes each month, through language or representation.	• encourage children to retell stories about night and day and things in the sky (e.g., *Happy Birthday Moon*, *Moongame*, and *Mooncake* by Frank Asch, *Papa Please Get the Moon for Me* by Eric Carle), as well as informational books about the moon, (e.g., *I See the Moon* by Jacqueline Mitton; *One Small Square: The Night Sky* by Donald M. Silver; *What the Sun Sees/What the Moon Sees* by Nancy Tafuri, *Watching the Moon* by Edana Eckart; and *Why Does the Moon Change Shape?* by Melissa Stewart). • display pictures of space with sun, moon, and stars, and illustrations of phases of the moon. • provide information and suggestions to families about observing the moon at night.
PreK-ESS1-2 (MA). Observe and use evidence to describe that the sun is in different places in the sky during the day.	• go outdoors at different times of the day to observe the position of the sun in the sky and represent their perspectives with drawings. • observe the shadows of trees or other stationary objects in the morning and outline them with sidewalk chalk and return in the afternoon to see if the shadows have changed in any way. • trace the outline of their own shadows at different times of the day, and then discuss changes and	• express or demonstrate awareness that the sun appears in different places during the day, through language or representation.	• work with children to create a sundial, place it in the Sun, then go outside at different times and record the movement of the sundial's shadow. Encourage children to think of explanations for why the shadow is moving. • read stories and informational books, such as *The Sun is My Favorite Star* by Frank Asch, *What the Sun Sees/What the Moon Sees* by Nancy Tafuri.

MA Standard	Possible learning activities: Children could…	Possible evidence: Children may…	Supportive practices: Educators could…
	why they think the changes occurred.		• help children to observe the location of the sun related to routines in their lives (e.g., where is the sun in the sky when you get up in the morning? Where is it when you get home from school?"), including the intensity and location of sunlight entering the classroom at various times of the day.
***Note: No K-ESS1-1 or –2**			

ESS2 Earth's Systems			
MA Standard	**Possible learning activities: Children could…**	**Possible evidence: Children may…**	**Supportive practices: Educators could…**
PreK-ESS2-1 (MA). Raise questions and engage in discussions about how different types of local environments (including water) provide homes for different kinds of living things.	• visit local outdoor areas, ask questions about the environment (e.g., Why is it wet? What lives there?). • observe, explore and compare the habitats of humans, dogs, cats, squirrels, and insects. Categorize pictures or models of animals by their habitats. • build homes and other structures out of blocks and other materials (for humans, birds, animals) and provide a reason for why each is an appropriate structure for what lives in it. • provide opportunities for children to observe organisms in their natural environment over time • draw pictures of homes for humans and animals to show their understanding of how different types of local environments	• actively participate in discussions about how local environments serve as habitats for living things. • demonstrate understanding about living things that are found in the local environment through oral or written language or some form of representation.	• create a habitat enabling children to observe creatures in their natural environment (e.g., fish in an aquarium; a worm or indoor butterfly house; ant farm; terrarium for snails or hermit crab; a bird or butterfly garden outdoors). • ask questions about various habitats (e.g., why does an animal live in one environment rather than somewhere else? How can an animal survive there? What does the environment provide for the animal? What would happen to the animal if it were moved to a different environment?). • read books that describe various habitats and homes, such as nests, water, and the forest (e.g., *Who Lives Here? Forest, Rain Forest, Desert Animals* by Deborah Hodge; *Each Living Thing* by

MA Standard	Possible learning activities: Children could…	Possible evidence: Children may…	Supportive practices: Educators could…
	provide homes for different kinds of living things. • create representations of various kinds of environments and habitats in the classroom.		Joanne Ryder, *In the Small; Small Pond* by Denise Fleming*; In the Pond* and *In the Garden* both by Ermanno Cristini and Luigi Puricelli, Canizares and Betsey Chessen, and *We're Going on a Nature Hunt* by Steve Metzger).
K-ESS2-1. Use and share quantitative observations of local weather conditions to describe patterns over time. [Clarification Statements: • Examples of quantitative observations could include numbers of sunny, windy and rainy days in a month, and relative temperature. • Quantitative observations should be limited to whole numbers.]	• create a graph of different elements of the weather (precipitation, cloud cover, temperature, etc.) from September to February. Look for changes over time and/or relationships (patterns). Analyze the data collected using quantitative language (e.g., more, less, the same) and write about or represent their observations. • look at weather predictions in the newspaper, online or on television, then compare the predictions to what actually happens.	• interpret/explain data about weather illustrated on charts or graphs.	• read fiction and non-fictional books including: *What Will the Weather be like Today?* by Paul Rogers; *Storms* by Susan Canizares; *The Snowy Day* by Ezra Jack Keats; *When the Wind Blows* by Amy & Richard Hutchings; *A Cloudy Day, A Windy Day,* and *A Sunny Day* all by Melvin & Gilda Berger.
PreK-ESS2-2 (MA). Observe and classify non-living materials, natural and human made, in the local environment.	• feel, use and discuss a variety of natural (e.g., wood, cotton, fur, wool, stone, leather) and human-made materials (e.g., plastic, styrofoam, paper) to the characteristics and capabilities of each. Sort the materials into natural and human made. Discuss human-made materials that were once living (e.g., leather, cotton, flour, sugar). • have a scavenger hunt to look for natural and human-made materials. • examine and compare the characteristics of rocks.	• distinguish or categorize non-living materials from living materials.	• provide a variety of natural materials from the environment for children to examine and compare using magnifying glasses (e.g., shells, corn husks, acorns, natural sponges, coral, pine cones, etc. • read fiction and non-fiction books, including: *How is a Crayon Made?* by Oz Charles; *Charlie Needs a Cloak* by Tomie dePaola; *From Sand to Glass* by Gerry Ellis). • discuss natural resources that can be made into something else (man-made).

MA Standard	Possible learning activities: Children could…	Possible evidence: Children may…	Supportive practices: Educators could…
	• observe, touch and manipulate a variety of objects and materials and describe and compare their properties and characteristics (e.g., colors; textures) and use descriptive vocabulary such as hard, soft, smooth, rough, bumpy, sharp, etc.). For example, describe how clay feels different from play dough.		• discuss what is considered living vs. not living vs. once living.
K-ESS2-2. Construct an argument supported by evidence for how plants and animals (including humans) can change the environment. Clarification Statement: Examples of plants and animals changing their environment could include a squirrel digging holes in the ground and tree roots that break concrete.	• observe worms burrowing in the ground or insect holes in trees, plants growing in cracks in the sidewalk, insect or bird holes, etc. and talk about the effects of these changes on the environment (the soil, sidewalk, tree, etc.). • compare two different local environments (street and park; yard and street) and talk about how each has been changed and by whom. • share the results of observation from a nature walk about how plants and animals change the environment.	• describe one or more examples of how plants, animals or humans can change the environment.	• take nature walks and find examples of how plants, animals and humans have changed the environment.
PreK-ESS2-3 (MA). Explore and describe different places water is found in the local environment.	• take field trips to experience and observe different bodies of water in the local environment if applicable. • explore water in its natural state (e.g., puddles, streams, ponds, oceans).	• recognize and describe different bodies of water in the local environment. • use art work to represent different bodies of water.	• help children learn the names of them: ocean, river, stream, lake, puddle, etc. • provide pictures that show different bodies of water
***Note: No K ESS2-3**			
PreK-ESS2-4 (MA). Use simple instruments to collect and record data on elements of daily weather, including sun or clouds, wind, snow	• contribute to a class journal with descriptions and/or depictions of daily weather characteristics (e.g., temperature, precipitation, clouds).	• contribute to data collection processes related to observation of daily weather.	• introduce weather-related vocabulary. • introduce and explain the use of instruments such as weather vane,

MA Standard	Possible learning activities: Children could…	Possible evidence: Children may…	Supportive practices: Educators could…
or rain, and higher or lower temperature.	• observe and compare the appearances of different types of clouds; then record their characteristics and make representations using finger paints, easel paints, shaving foam, whipped soap flakes. • observe effects of the sunlight in various ways (e.g., melting of ice or snow, heating of playground equipment or objects in the sun, drying of water in a puddle). • walk in the rain, wind, snow, and fog, and use all the senses to describe sensations. • use tools such as an outdoor thermometer and rain gauge to observe patterns and changes in the weather.		wind sock and thermometer (and their own eyes), to observe the weather. • read books related to weather and temperature, including: *Weather Words and What They Mean* by Gail Gibbons; *White Snow Bright Snow* by Alvin Tresselt; *Watching the Weather* by Edana Eckart.
***Note: No K-ESS2-4**			
PreK-ESS2-5 (MA). Describe how local weather changes from day to day and over the seasons and recognize patterns in those changes. Clarification Statement: Descriptions of the weather can include sunny, cloudy, rainy, warm, windy, and snowy.	• record observations about weather (e.g., create charts to show the number of snowy, sunny, cloudy days; amount of snow). • compare the weather in different seasons by looking at documentation of weather during different seasons. What changes? What stays the same? • make collages/art work of different seasons. • act out the role of a meteorologist/weather forecaster from day to day.	• demonstrate recognition that there are patterns of the weather (e.g. hot in the summer and cold in the winter, etc.) through words or representation.	• find out what children know about seasons. Discuss the four seasons of the year and the seasonal changes. • use the current season as a learning topic for curriculum. • read non-fiction books and scientifically accurate fictional stories related to weather, such as *What Makes the Seasons* by Megan Montague Cash.
***Note: No K-ESS2-5**			
PreK-ESS2-6 (MA). Provide examples of the impact of weather on living things.	• observe and document seasonal changes to a tree, or in birds or animals (e.g., watch birds as they	• describe or represent how weather affects their daily lives (e.g., clothes they wear or activities	• provide opportunities to follow a consistent route for nature walks as the seasons change and collect

MA Standard	Possible learning activities: Children could…	Possible evidence: Children may…	Supportive practices: Educators could…
Clarification statement: Make connections between the weather and what they wear and can do and the weather and the needs of plants and animals for water and shelter.	come to the bird feeder in winter, or in the spring as they collect nesting materials; or watch squirrels collect nuts in autumn). • discuss and describe the impact of weather on humans (e.g., what do you or your family do in a rainstorm; a cold, icy day; a big snowstorm; a windy day?) • dress up in a variety of seasonal clothing in the dramatic play area.	they participate in; how weather affects plants and animals).	evidence or take photographs of the impact of seasonal changes or weather on leaves, flowers, grass, trees, birds, animals (e.g., snow, rain, wind, ice, sunshine) on plants and/or on the behavior of birds/animals in the local environment. • read books about weather and seasons and their effects on living things, including: *Big Tracks, Little Tracks* by Millicent E. Selsam; *In the Snow: Who's Been Here?* by Lindsay Barrett George
***Note: No KESS2-6**			

ESS3 Earth and Human Activity			
MA Standard	**Possible learning activities: Children could…**	**Possible evidence: Children may…**	**Supportive practices: Educators could…**
PreK-ESS3-1 (MA). Engage in discussion and raise questions using examples about local resources, (including soil and water) humans use to meet their needs.	• have discussions and activities related to local resources (e.g., tracing the steps of farming or gardening, from preparing the soil to gathering and eating). • discuss and share observations of local water and soil use for human needs.	• identify through words or representation some local resources that people use to meet their needs.	• guide children to formulate questions about which local resources humans use to meet their needs. • take neighborhood walks to look at local resources such as rivers, lakes and streams, etc. • organize a field trip to visit local farms to see the use of soil. • read aloud books about using/creating resources: *Flowers for my Mother* by Denise Fleming; *How a House is Built* by Gail Gibbons; *The Diggers* by Margaret Wise Brown; *Charlie Needs a Cloak* by Tomie dePaola.
***Note: K-ESS3-1 from NGSS is not included.**			

MA Standard	Possible learning activities: Children could…	Possible evidence: Children may…	Supportive practices: Educators could…
PreK-ESS3-2 (MA). Observe and discuss the impact of people's activities on the local environment.	• observe and discuss what people can do to reduce trash and to recycle. Set up a recycling center in the classroom for paper, plastic, metals, etc. Pick up trash and items to be recycled on the playground or in the neighborhood. • engage in conversation about why conserving water or energy is important. • add to a class or school compost pile, then observe what happens as time passes. • discuss the positive and negative effects of cutting down trees, recycling, etc.	• describe or illustrate one or more ways that people's actions impact the local environment.	• walk around the neighborhood and find things people have affected and the impact (e.g., trash on the ground, the architecture of a building). • discuss books related to people's impact on the environment (e.g., *If Everybody Did* by Jo Ann Stover; *What if Everybody Did That?* by Ellen Javernick; *Long Live Earth* by Meighan Morrison; *Building a Road* by JoAnn Early Macken; *The Great Trash Bash* by Loreen Leedy). • discuss how people change their environment to meet their needs and the impact (benefits and costs) on the environment of various human actions (e.g., throwing away versus re-using). Use meaningful contexts such as the role children and families can have in impacting the environment.
K-ESS3-2. Obtain and use information about weather forecasting to prepare for, and respond to, different types of local weather.	• use information about the weather from newspapers, television broadcasts, and/or internet. Discuss why people want to know the weather ahead of time and its impact on kids (e.g., snow days, planning a swimming party). • discuss storm preparation (clothing, safety/emergency preparedness, food). Make charts or drawings to share with their families about how they can prepare (e.g., family emergency kits, a supply of batteries, etc.).	• describe how weather forecasting can help people prepare for or respond to impending changes.	• discuss the importance of weather forecasting in order to prepare for and respond to different types of local weather. • use online resources about weather, such as: United Streaming website; Mooncast app, Reading Rainbow; The Man Who Planted Trees (video/animation). • help children create a weather station and practice giving weather reports.

MA Standard	Possible learning activities: Children could…	Possible evidence: Children may…	Supportive practices: Educators could…
	• predict the weather for later in the day based on observation and write or dictate a reason for the prediction. • consider clothing (e.g., a sweater, rain coat, umbrella) needed for the predicted weather; or discuss activities associated with the predicted weather (e.g., rake leaves, put the car in the garage, get the dog or cat inside).		
***Note: No PreK-ESS3-3**			
K-ESS3-3. Communicate solutions to reduce the amount of natural resources an individual uses. * Clarification Statement: Examples of solutions could include reusing paper to reduce the number of trees cut down and recycling cans and bottles to reduce the amount of plastic or metal used.	• generate ideas to conserve, recycle and reuse common resources at home or in the classroom (e.g., turn off the water faucet; turn off the lights when they are not needed; re-use paper or milk cartons for art projects; how to waste less food at home or in the cafeteria; what items in the classroom could be shared or reused.) • discuss and make lists of ways to reduce the use of natural resources in the classroom, at home and in the community.	• identify one or more ways they can conserve natural resources.	• discuss the importance of water and other natural resources to plants and animal lives. • invite guests to speak to children about local needs and ways of conserving natural resources. • read books about recycling and re-using (e.g., *The Earth Book* by Todd Parr; *Dora Celebrates Earth Day!* by Emily Sollinger; *10 Things I Can Do to Help My World* by Melanie Walsh).

LIFE SCIENCE

LS1 From Molecules to Organisms: Structures and Processes

MA Standard	Possible learning activities: Children could…	Possible evidence: Children may…	Supportive practices: Educators could…
Pre-K-LS1-1 (MA). Compare, using descriptions and drawings, the external body parts of animals (including humans) and plants and	• observe, discuss, and document (draw, tally, chart, write, cut out pictures, photograph) living creatures in their natural	• demonstrate understanding of terminology by identifying various body parts (e.g., naming or pointing to) such as legs.	• introduce and discuss names and functions of parts of plants. • use songs and movement to help children learn the names of body

MA Standard	Possible learning activities: Children could…	Possible evidence: Children may…	Supportive practices: Educators could…
explain functions of some of the observable body parts. Clarification Statement: Examples can include comparison of humans having two legs and horses four, but both use legs to move.	environment (e.g., ants, spiders, insects, worms, frogs, birds). • observe, compare, and describe or represent ways that animals, birds, and insects use various body parts to accomplish tasks and ways people would accomplish a similar task (e.g., catching, grasping or cutting food) • discuss and act out behaviors or movements of plants, humans, animals, and insects (e.g., the way birds or squirrel eats seeds; how snakes slither, rabbits hop, birds fly).	• identify (e.g., name or point to) external body parts of plants and animals that have particular functions. • offer simple explanations of how the parts of different animals/plants are similar or different. • explain or demonstrate how humans perform particular functions (e.g., grasping, eating, moving) compared to animals.	parts and functions of humans and animals. • ask questions to assess what children know about body parts, especially children from different linguistic and cultural backgrounds. Introduce the names and functions of body parts based on this assessment, to relate children's prior knowledge to the new concept. • help children to compare and contrast the functions of various body parts of humans and animals (e.g., birds use wings to move; snails use antennae to sense their environments; some birds' bills are shaped to open seeds and nuts, while a human uses a nutcracker; a tiger tears food with its teeth, while a person uses a fork and knife).
K-LS1-1. Observe and communicate that animals (including humans) and plants need food, water, and air to survive. Animals get food from plants or other animals. Plants make their own food and need light to live and grow.	• plant different seeds then create science journals with simple charts and drawings recording observations of plant growth. • experiment with disrupting the conditions for growth or survival of plants in a variety of ways (e.g., what would happen if a plant lived in a dark closet? What would happen if a plant kept getting too much water, or not enough? What would happen if we put a plant in sand rather than soil?) then record the results.	• describe or represent what plants and animals need to survive.	• research, brainstorm and compare appropriate ways to care for humans, animals and plants. • provide opportunities for children to observe, discuss and demonstrate how to care for humans, animals and plants (e.g., graph what and how much a classroom pet eats each day; in the dramatic play area set up as a doctor's/veterinarian's office, pretend to examine and diagnose the needs of stuffed animals; work in a real or pretend garden; play with soil in the sand table).

MA Standard	Possible learning activities: Children could…	Possible evidence: Children may…	Supportive practices: Educators could…
	• observe and compare the growth of plants in sunny and deeply shaded places to learn the impact of sunlight on plant life. discuss the needs that they have in common with plants and animals.		• encourage families to reinforce concepts about conditions at home that support daily human needs and growth (e.g., food and water, fresh air, etc.).
PreK-LS1-2 (MA) Explain that most animals have five senses they use to gather information about the world around them.	• observe animals at different times of day, document and discuss how they use their senses in different ways depending on the time of day (e.g., webcams, observation with binoculars). • observe class pets and/or pets at home and discuss ways that they use their senses. observe animals in their natural environments (e.g., videos, webcams), then document (graph, draw, write) and discuss behaviors that demonstrate how animals use their senses to live in their environment (e.g., "What did you see that told you the animal is using its sense of hearing?")	• name or identify the five senses of most animals and how they are used to learn about their world.	• model and reinforce vocabulary related to the names of body parts associated with the senses, and their functions. • engage children in songs and movement activities associated with the senses organize field trips to observe animals in their natural environment.
K-LS1-2 (MA) Recognize that all plants and animals grow and change over time.	• share photographs or draw pictures of when they were babies, then observe and discuss ways they have grown and changed. • observe animals (or pictures or videos of animals) and discuss ways they grow and change. • plant seeds and observe and document how they grow and change over time.	• match pictures of adult animals with their babies. • act out the life cycles of animals and plants (e.g., a seed growing into a flower; a caterpillar transforming into a butterfly).	• provide pictures of animals and plants in various life stages/ sequences and discuss and compare their growth and changes over time. • guide children to observe, describe/record seasonal changes in animals and plants (e.g., hibernation, color, behavior, feeding/food). They can then compare these with the seasonal

MA Standard	Possible learning activities: Children could…	Possible evidence: Children may…	Supportive practices: Educators could…
	• compare the growth and changes in plants, humans and other animals.		changes that people make (e.g., dress, activities). • use non-fiction books, photographs, or videos to introduce concepts related to seasonal changes in appearance or behaviors of living creatures (e.g., *Summer Coat, Winter Coat: The Story of a Snowshoe Hare* by Boyle).
PreK-LS1-3 (MA). Use their five senses in their exploration and play to gather information.	• use sense of hearing to match sounds from pairs of sealed "listening jars" filled with materials such as paper clips, rice, metal nuts, gravel, etc. • use their sense of touch to explore, describe, compare, and contrast diverse textures such as bricks, fabrics, textured papers, walls, rocks, shells, leaves, feathers, pets, furniture, toys. • graph the tastes of snacks (e.g., sweet, salty, sour, bitter) and discuss tastes and smells. • record data about the sights, sounds, textures, and smells at different times of the day or in different areas of the classroom or on a field trip, and compare data.	• use sensory vocabulary to describe and compare observations about their environment. • match body parts to specific senses. • discriminate among various objects and materials using the senses.	• introduce and discuss the meaning of vocabulary words related to the five senses they experience in everyday life. • provide a wide variety of sensory experiences for children to investigate and describe (e.g., sand, water, snow, ice, mud, "oobleck" etc.). • provide sealed "smelling jars" with holes punched in the lids, containing materials with familiar scents (e.g., orange rind, chocolate, grape juice, peppermint) for children to document and discuss. • provide materials with different textures for children to paint with (e.g., shaving cream, liquid starch, fingerpaint with sand or salt added). • organize "sensory exclusion" activities, in which children experience an environment without one of their senses (e.g., listen to animal sounds while blindfolded; watch a video without the sound; use a feely box

MA Standard	Possible learning activities: Children could…	Possible evidence: Children may…	Supportive practices: Educators could…
			to identify objects or match textures by touching without looking).

LS2 Ecosystems: Interactions, Energy, and Dynamics			
MA Standard	**Possible learning activities: Children could…**	**Possible evidence: Children may…**	**Supportive practices: Educators could…**
PK-LS2-1 (MA). Use evidence from animals and plants to define several characteristics of living things that distinguish them from non-living things.	• sort models or photographs into living and non-living things. Discuss why they put things in different categories. • make a chart listing characteristics of living and non-living things, and then create a class mural or individual artwork about living and non-living things. • go on a nature walk, collect or take photographs of living and non-living things discovered on the walk, then sort the objects or photographs into "living," "once living (dead)" and "never-living" categories or categories of natural, human-made or both.	• identify or label objects or pictures of objects as living or non-living. • describe or represent some characteristics that distinguish living from non-living things.	• discuss the differences of living things and non-living things, • pose questions to children about what evidence they know about the differences of living things and non-living things.
Note: * No K-LS2-1			
PK-LS2-2 (MA). Using evidence from the local environment to explain how familiar plants and animals meet their needs where they live. Clarification Statements: • Basic needs include water, food, air, shelter, and, for most plants, light. • Examples of evidence can include squirrels gathering nuts for the winter and plants	• match pictures of animals with pictures of their natural environments. • consider the local environment and discuss what needs of humans and other animals are met by that environment (e.g., gardens provide food, nests provide shelter, streams provide water, the sun provides light and warmth, etc.). • discuss features of the local environment that would not be	• identify or represent one or more ways that the local environment meets the needs of animals or plants.	• visit a local woodland, pond, seashore or nature museum (or watch a video or webcam.) to observe characteristics that birds and animals use to survive in their natural habitats (e.g., claws for climbing, fins or webbed feet for swimming, wings for flying, spines for protection) then describe how the observed animal (or plant) meets one of its needs in the observed environment.

MA Standard	Possible learning activities: Children could…	Possible evidence: Children may…	Supportive practices: Educators could…
growing in the presence of sun and water. • The local environment includes the area around the student's school, home, or adjacent community.	suitable for particular plants or animals.		• read books about habitats of animals and humans around the world (e.g., *Wildlife Refuge: A Classroom Adventure* by Lorraine Ward; *Animal Habitats: Discovering How Animals Live in the Wild* by Tony Hare).
Note: *No K-LS2-2			
PK-LS2-3 (MA). Give examples from the local environment of how animals and plants are dependent on one another to meet their basic needs.	• match pictures of various animals with elements that they need in their environments (e.g., a bee needs a flower; a bird needs a tree). • plant a garden and gather evidence that the fruits and vegetables are eaten by humans, insects, birds, and/or other animals. • create a composting box with worms and soil, then discuss how this is used to enrich gardens and fields to grow food.	• identify or represent one or more ways that local animals and plants meet each other's needs.	• observe (live or through video or webcam) how animals and plants interact in their environments to survive (e.g., bees pollinate flowers while they gather nectar to make honey; birds eat seeds for food and also distribute seeds that result in new plants).
Note: *No K-LS2-3			

LS3 Variation of Traits			
MA Standard	**Possible learning activities: Children could…**	**Possible evidence: Children may…**	**Supportive practices: Educators could…**
PreK-LS3-1 (MA). Use observations to explain that young plants and animals are like but not exactly like their parents. Clarification Statement: Examples of observations include puppies that look similar but not exactly the same as their parents.	• observe the offspring of various kinds of animals (first-hand if possible, or in photographs or films of real animal babies and their parents). Discuss how they are alike or different from their parents. • observe subtle variations among offspring of individuals of the same species (e.g., are the young of whales, robins, cats, tulips,	• match pictures of adult animals with their babies. • describe some ways in which animals or plants closely resemble their parents. *Note: *be sensitive to implications of human resemblance of children to parents. Children may not look like a parent, including but not limited to some children who*	• display pictures that illustrate life cycles (e.g., eggs hatching, kitten to cat, caterpillar to moth or butterfly, tadpole to frog, seed to plant). • introduce and reinforce vocabulary about stages of various life cycles. • provide resources for children to find answers. • grow familiar plants from seeds and observe similarities and

MA Standard	Possible learning activities: Children could…	Possible evidence: Children may…	Supportive practices: Educators could…
	tomatoes, exactly like their parents? How are they different?). • use Venn diagrams to compare/contrast the life cycles of two different plants or animals.	*are adopted or who are multi-racial.*	differences between seedlings and mature plants.
Note: * No K-LS3-1			
PreK-LS3-2(MA). Use observations to recognize differences and similarities among themselves and their friends.	• observe and compare themselves to a peer, and then to a small group or class for differences and similarities. • help children to make a list of similarities and differences in physical characteristics.	• describe some ways in which children are similar to or different from classmates in observed appearance.	• display pictures of children in the class and guide children in identifying physical characteristics, such as hair color, eye color, height, etc.
Note: * No K-LS3-2			

PHYSICAL SCIENCE

PS1 Matter and Its Interactions

MA Standard	Possible learning activities: Children could…	Possible evidence: Children may…	Supportive practices: Educators could…
PreK-PS1-1 (MA). Raise questions and investigate the differences between liquids and solids and develop awareness that a liquid can become a solid and vice versa.	• examine, sort, and classify common classroom materials. • categorize different substances as liquid or solid (e.g. rocks, wood, oil, water, sand, ice, snow). Manipulate and describe materials such as water, sand, clay, play dough, and categorize as liquid or solid. • with educators' facilitation, experiment with mixtures of common materials (e.g., flour, baking soda, cornstarch, water, salt, vinegar, food color), observe the results, and then describe their experiments to others.	• identify materials as liquid or solid. • use appropriate terms to describe how a liquid becomes solid and vice-versa (i.e., freeze, melt).	• introduce appropriate vocabulary. Discuss what is liquid, what is solid and their differences. • provide different materials or pictures of materials for children to observe and manipulate. • organize learning opportunities for children to explore ways materials can be changed by freezing/melting, dissolving (e.g., sugar crystals or gelatin in water), and combining materials (e.g., earth + water = mud). • repeat, reiterate, and remind children of terminology about common materials and their properties during play or learning

MA Standard	Possible learning activities: Children could…	Possible evidence: Children may…	Supportive practices: Educators could…
			experiences (e.g., cooking, sensory play).
K-PS1-1(MA). Investigate and communicate the idea that different kinds of materials can be solid or liquid depending on temperature. Clarification Statements: • Materials chosen must exhibit solid and liquid states in a reasonable temperature range for Kindergarten students (e.g., 0-80°F), such as water, crayons or glue sticks. • Only a qualitative description of temperature, such as hot, warm, and cool, is expected.	• observe and discuss the characteristics of snow and ice. • design and conduct experiments freezing and melting substances such as water and ice cubes, snow, butter, chocolate, crayons, ice cream. Record and share information through photographs, journals, drawings. • discuss the reasons about why ice, snow or butter melts.	• use appropriate vocabulary to describe how a material is transformed from a liquid to solid or solid to liquid (e.g., freeze, melt) and why (the temperature got hot/cold).	• introduce and help children to use descriptive vocabulary to describe various solids and liquids (e.g., frozen, hard, melted, hot, slippery, runny, and breakable). • help children to formulate questions that can be tested (e.g., "when/how does a particular substance change from liquid to solid or vice-versa? How could we find out?"). • offer a list of "what would happen if…?" questions (e.g., what would happen if we left a pan of water outside overnight in January? If… we left crayons outdoors in the sun in June/in January?). Follow up with experiments individually or in small groups. • read books that introduce changing states of matter such as *Sadie and the Snowman* by Allen Morgan and Brenda Clark; *The Snowy Day* by Ezra Jack Keats. Discuss how liquids change to solids and solids change to liquids.
PreK-PS1-2 (MA). Investigate natural and human-made objects to describe, compare, sort and classify objects based on observable physical characteristics, uses, and whether something is manufactured or occurs in nature.	• observe differences between various objects, natural and man-made, that are used in activities such as painting, building, and water and sand. • feel, describe and use a variety of natural (e.g., wood, cotton, fur, wool, stone, leather) and human-made materials (e.g., plastic,	• describe, sort, group, or classify objects in meaningful ways based on one or more properties (e.g., size, shape, color, weight, texture).	• provide rich materials for children to observe and manipulate, including natural and manufactured materials. • explain the definition of natural and manufactured materials and brainstorm observable items for each category. • assemble a container of objects that could be categorized in

MA Standard	Possible learning activities: Children could…	Possible evidence: Children may…	Supportive practices: Educators could…
	Styrofoam) to learn their characteristics. • express and record thoughts and ideas about why certain materials are/are not appropriate for making various objects (e.g., what is the table made of? Why is it made of wood and not Styrofoam?). • create collections of objects that share a common property (e.g., things that are soft, rough, small, heavy, etc.).		different ways and have children use hoops to create Venn diagrams to compare, sort, discuss, and label the properties of sorted items.
Note: * No K-PS1-2			
PreK-PS1-3 (MA). Differentiate between the properties of an object and those of the material of which it is made.	• build structures in the classroom and discuss similarities and differences in the building materials (e.g., Legos, plastic milk cartons, wood, etc.).	• describe the materials used to make various objects, and connect the material to its properties (e.g., wood is hard; fabric is soft).	• provide rich materials to help children explore and make connections of objects and the materials of which they are made (e.g., a table made of wood, tablecloth made of fabric) and discuss similarities and differences in their properties (e.g., hard/soft; flexible/rigid, etc.). • read *The Three Little Pigs: An Architectural Tale*, by Steven Guarnaccia (or another version) and compare the characteristics of the materials used to build each house with the characteristics of the houses.
Note: * No K-PS1-3			
PreK-PS1-4 (MA). Recognize through investigation that physical objects and materials can change under different circumstances. Clarification statement: Changes include building up or breaking	• explore ways materials can be changed by freezing, melting, dissolving (e.g., sugar crystals or gelatin in water); combining materials (e.g., earth + water = mud); and physical force (e.g., pushing, pulling, pounding,	• use appropriate terms to describe how and why materials can change (e.g., water can freeze, chocolate can melt).	• encourage children to research how objects change through investigation (e.g., a popsicle melts in room temperature, fruit can be cut up to make salad). • read aloud and discuss books related to the properties of matter such as *Change It! Solids, Liquids,*

MA Standard	Possible learning activities: Children could…	Possible evidence: Children may…	Supportive practices: Educators could…
apart, mixing, dissolving, or changing state.	stretching materials such as play dough or clay). • experiment with mixtures of common materials (e.g., flour, baking soda, cornstarch, water, salt, vinegar, food color), observe the results, then describe the experiments to others. • investigate to confirm or refute their hypotheses about "what if" questions through first-hand experimentation (e.g., "what will happen if we put more water in the playdough recipe?").		*Gases and You* by Mason, *Solids, Liquids and Gases* by Garrett, *What is the World Made Of?* by Zoehfeld. • provide apples and applesauce for snack and ask children to discuss their similarities and differences, and why; what happened to transform the apples? • use cooking experiences to observe changes in materials such as whipping cream, making butter, making jello, etc.
Note: *No K-PS1-4			

PS2 Motion and Stability: Forces and Interactions			
MA Standard	**Possible learning activities: Children could…**	**Possible evidence: Children may…**	**Supportive practices: Educators could…**
PreK-PS2-1 (MA). Using evidence, discuss ideas about what is making something move the way it does and how some movements can be controlled.	• respond to terms and phrases related to movement of objects (e.g., roll the ball, twist the lid). • with educators' facilitation, set up outdoor experiments and observations (e.g., roll objects down the slide; push or pull toys across pavement, grass, sand; or up and down a hill). • explore kites and banners and discuss what makes them move. • ride tricycles and discuss how to control the movement to make turns or avoid another rider. • use movement or dance to represent various ways that objects can be moved.	• name or identify methods of moving an object (e.g., push, pull, blow, wave, roll, twist, turn). • demonstrate how they can control some motions of objects. • act out different ways that objects/bodies can move (e.g., fast, slow, up, down, straight, zig zag, rolling, etc.)	• introduce terms and phrases related to movement of objects (e.g., roll the ball, twist the lid). • organize experiments for children to observe, compare, experiment with, predict, and describe the behavior of various objects on different surfaces or inclines (e.g., roll small cars down ramps covered with different materials or move objects such as cotton balls, corks, feathers, and scarves on slick vs. rough surfaces). • use playground equipment such as scooters to talk about ways we make things move.
K-PS2-1. Compare the effects of different strengths or different	• build, compare, and balance towers/structures using different-	• demonstrate how differences in force impact the motion of an	• facilitate brainstorming solutions to move something heavy (e.g., a

MA Standard	Possible learning activities: Children could…	Possible evidence: Children may…	Supportive practices: Educators could…
directions of pushes and pulls on the motion of an object**.** Clarification Statements: • Examples of pushes or pulls could include a string attached to an object being pulled, a person pushing an object, a person stopping a rolling ball, and two objects colliding and pushing on each other. • Comparisons should be on different relative strengths or different directions, not both at the same time. • Non-contact pushes or pulls such as those produced by magnets are not expected.]	shaped blocks (cylinders, cones, cubes, spheres, arches) or other materials. • represent ways or patterns in which objects move (e.g., through drawings, oral descriptions, dance, or dramatization). • make predictions about how some objects will move under various conditions, then record the objects' actual movements.	object (e.g., pushing a car or marble harder).	bag of sand for the sand table, a bucket of water to fill the fish tank or water table), then try out some of the ideas. • organize activities for children to observe and experiment with how various objects move (e.g., marbles, tops, swings, kites). Discuss and describe different kinds of movements (forward, backward, back-and-forth, fast, slow, straight, zigzag). • encourage children to demonstrate force on an object (e.g., blow on, push, pull, lift) and compare the effects, for example push objects through water or sand, or over a barrier and observe the effects.
PreK-PS2-2 (MA). Through experience, develop awareness of factors that influence whether things stand or fall. Clarification statement: Examples of factors in children's construction play include using a broad foundation when building, considering the strength of materials, and using balanced weight distribution in a block building.	• experiment with balancing various kinds of objects, observing how changes in position or weight impact balance. • use body movement to explore balance (e.g., using a balance beam or board), then describe the sensations. • use a variety of shapes and sizes of building blocks to explore balance, including triangles, cubes, arches, cylinders, cones. Document the results and label, discuss, and review the specific vocabulary (e.g., steady, stable, even, uneven, equal, heavy, light). • use a balance board or balance scale to manipulate objects, determine when things are	• explain or demonstrate ways objects can/cannot stand or balance.	• provide materials and opportunities for children to build constructions with various kinds of blocks or other materials (e.g., foam, cardboard, wood, hollow, waffle blocks, building panels), then consider and discuss which design and which materials were most effective in making a building tall or strong and why. • present construction challenges such as "Can you make a bridge for cars to get from here to there?" or "Who can build a tower that's taller than their body?".

MA Standard	Possible learning activities: Children could…	Possible evidence: Children may…	Supportive practices: Educators could…
	balanced, and study how weight and position affect the balance.		
***Note: K-PS2-2 from NGSS is not included.**			

PS3 Energy			
MA Standard	**Possible learning activities: Children could…**	**Possible evidence: Children may…**	**Supportive practices: Educators could…**
***Note: No PreK-PS3-1 or –2**			
K-PS3-1. Make observations to determine that sunlight warms materials on Earth's surface. Clarification Statement: Examples of materials on Earth's surface could include sand, soil, rocks, and water. Assessment Boundary: Assessment of temperature is limited to relative measures such as warmer/cooler.	• experiment with placing objects and materials in different locations to compare how warm or cool they are, for examples, deep shade, moderate shade and in the sun. • make observations about the degree of warmth or coolness of objects and materials at various times during the day when they are in the sunlight.	• demonstrate recognition that objects outdoors have been warmed by the sun.	• facilitate discussions about whether sunlight warms materials; make predictions and check the temperatures of the objects in locations under the sun and out of the sun.
K-PS3-2. Use tools and materials to design and build a prototype of a structure that will reduce the warming effect of sunlight on an area. *	• use sheets and furniture to design and build a tent near the window of the classroom to block the sunlight to keep cool. • use blocks to design and build doll house or barns to protect dolls or farm animals.	• demonstrate logical methods to reduce the warming effect of sunlight.	• facilitate brainstorming and collaborative discussions to design and build a device to protect against the warming effect of the sun (e.g., how can we prevent the slide, swings, or bench from getting hot? How can we prevent our snowman from melting?).

PS4 Waves and Their Applications in Technologies for Information Transfer			
MA Standard	**Possible learning activities: Children could…**	**Possible evidence: Children may...**	**Supportive practices: Educators could…**
Note: *No K-PS4-1			
PreK-PS4-1 (MA). Investigate sounds made by different objects and materials and discuss explanations	• Investigate sounds that can be made with their own bodies (clapping, whistling, clicking,	• create instruments from household items (combs, paper towel rolls, cans, rubber bands,	• walk and listen to sounds outdoors. Generate a list of sounds

MA Standard	Possible learning activities: Children could…	Possible evidence: Children may...	Supportive practices: Educators could…
about what is causing the sounds. Through play and investigations, identify ways to manipulate different objects and materials that make sound to change volume and pitch.	stamping, singing, speaking, etc.) and explore ways to change pitch and volume. • Investigate different musical instruments and the different sounds they make. • Create a music wall using a fence and a variety of objects in the classroom.	small containers, etc.) and explore ways to change pitch and volume.	that were heard and what caused them. • provide simple music instruments for children to play, and introduce their names, e.g. drums, shaker, tambourines, etc.
PreK-PS4-2 (MA). Connect daily experience and investigations to demonstrate the relationships between the size and shape of shadows, the objects creating the shadow, and the light source.	• trace the outlines of their own shadows and compare/contrast them. Return later and try to identify whose shadow is whose. • experiment with ways to "lose" their shadows or change the shape of their shadows. • create shadows using a light source and explore how the shadows change shape and size. Explore shadows created by shadow puppets, hands, etc.	• using body movement, demonstrate recognition of how to make their shadow bigger or smaller.	• facilitate children to explore and discuss objects that are transparent, translucent or opaque to create different kinds of shadows. • read age-appropriate, scientifically-accurate stories related to sunlight and shadows (e.g., Light, Shadows, Mirror and Rainbows by Rosinsky; Guess Whose Shadow by Swinburne; What Makes a Shadow by Bulla).
Note: *No K-PS4-1 or –2	•	•	•

This section will be updated to reflect the current History and Social Science Curriculum Framework (approved on June 26, 2018)

History and Social Science

Pre-Kindergarten and Kindergarten

Living, Learning, and Working Together

Introduction

Children start developing a sense of identity and a sense of their social and individual selves in the early childhood years. Developing social competence—the ability to engage in successful interactions with others and with family, friends, school, and community—is an integral part of children's development. Research indicates that, as early as preschool and kindergarten, the strength of a child's social competence and self-regulation are strong predictors of social and academic competence in later years.

The Massachusetts History and Social Science Curriculum Framework states that "at the preschool and kindergarten level, learning in history and social science is built on children's experiences in their families, school, community, state, and country…" A central purpose of this Framework is to prepare students to become citizens of a culturally diverse and interdependent world and to participate fully in a democratic society.

Classroom Practices and Strategies

Because many of the concepts related to history and social science are abstract, young children need to build understanding through experiences that are meaningful and connected to their personal experiences. Educators should consider introducing history and social science through integrated curriculum, across developmental domains. Effective teaching of history and social science includes many opportunities for children to touch, see, hear, discover, experience, and reflect.

Questions for Educators to Ask Themselves

- Do I help children develop a positive sense of self and relationships to their family and their community?
- Do I guide and extend children's knowledge and understanding about the community and the physical world?
- Do I help children develop respect for and consideration of others whose perspectives and experiences may be different from their own?
- Do I foster social/emotional development by helping children learn to regulate their own emotions and behavior, build social skills with peers and adults, and negotiate social situations and conflicts?
- Do I integrate and build curriculum based on play and dramatization to promote children's mastery of social skills and an emerging understanding of their home, school, and community?

Organization of History and Social Science Learning Experiences

The Massachusetts History and Social Science Curriculum Framework has not been updated since its original publication in 2003. The Framework concepts and skills and learning standards for pre-kindergarten and kindergarten (PreK–K) define what students know and should be able to do by the end of kindergarten. The 2003 version of the Guidelines for Preschool Learning Experiences linked Learning Guidelines to the Concept and Skills and Learning Standards. The 2008 version of the Kindergarten Learning Experiences contained two sections, Concept and Skills and Learning Standards. In this combined document the Concepts and Skills and Learning Standards for PreK–K are listed, followed by examples of possible activities to promote learning, possible evidence that children are learning, and supportive teaching practices. These examples address the strands of History, Geography, Civics and Government, and Economics for PreK–K as a whole rather than by individual concepts and skills and learning standards.

History and Social Science

This section will be updated to reflect the current History and Social Science Curriculum Framework (approved on June 26, 2018)

Pre-Kindergarten and Kindergarten Concepts and Skills

With guidance from the educator, students should be able to:

History and Geography

1. Identify sequential actions, such as first, next, last, in stories and use them to describe personal experiences. (H)
2. Use correctly words and phrases related to chronology and time (now, long ago, before, after; morning, afternoon, night; today, tomorrow, yesterday; last or next week, month, year; and present, past, and future tenses of verbs). (H)
3. Use correctly the word because in the context of stories or personal experiences. (H)
4. Use correctly words and phrases that indicate location and direction, such as up, down, near, far, left, right, straight, back, behind, and in front of. (G)
5. Tell or show what a map is and what a globe is. (G)

Civics and Government

6. Give examples that show the meaning of the following concepts: authority, fairness, justice, responsibility, and rules. (C)

Economics

7. Use words relating to work, such as jobs, money, buying, and selling. (E)
8. Give examples of how family members, friends, or acquaintances use money directly or indirectly (e.g., credit card or check) to buy things they want. (E)

HISTORY

Understanding history begins with children developing a sense of time and chronology, sequence, understanding concepts of the past, present and future, and concepts of cause and effect in their own lives. Understanding of historical time starts with classroom routines and events, seasonal changes, and children reviewing and documenting memories of what they have done in school and at home.

History is based on factual accounts as well as stories—some true, some partially true, and some untrue or that have changed over time. Educators should present a balanced view and/or different points of view, depending on the topic, and frame learning activities in terms of historical accuracy and cultural sensitivity. Holidays and traditions should be approached with sensitivity, and some caution. Learning about various traditions and celebrations helps children to develop a sense of connection to others. With diverse ethnic and religious groups in the classroom, a number of different cultures and values may exist. To recognize these differences, holidays and other traditions should be acknowledged in ways that help children understand underlying concepts of peace, unity, and diversity in non-stereotypical ways, emphasizing caring for others, recognizing fairness and injustice, and celebrating with families and friends.

Pre-Kindergarten to Kindergarten Learning Standards

With guidance from the educator, students should be able to:

PreK-K.1 Identify and describe the events or people celebrated during United States national holidays and why we celebrate them. (H)

A. Columbus Day
B. Independence Day
C. Martin Luther King, Jr. Day
D. Presidents' Day
E. Thanksgiving

PreK-K.2 Put events in their own and their families' lives in temporal order. (H)

History and Social Science

This section will be updated to reflect the current History and Social Science Curriculum Framework (approved on June 26, 2018)

Possible learning activities **Children could….**	**Possible evidence of learning** **Children may…**	**Supportive practices:** **Educators could…**
• listen to age-appropriate stories about national figures and holidays. • participate in developmentally appropriate and meaningful events and activities related to national holidays such as Columbus Day, Thanksgiving, Martin Luther King, Jr. Day, Presidents' Day, and Independence Day. • bring in photographs to illustrate and tell family stories or events in chronological order. • make a class timeline beginning with a picture of the class on the first day of school, add pictures and dates throughout the year.	• describe how they celebrated a holiday. • draw, write/dictate, or discuss traditions observed at various holidays, why, and how a holiday is celebrated. • look at collected pictures of people doing things that celebrate specific national holidays and identify which holiday is illustrated and explain how they know. • answer "what comes next"? • describe to a visitor or a child who was absent what the order of planned activities/the sequence in a typical routine. • list and illustrate/ represent key events in their day or keep a running record illustrating events in the school day and year on a mural.	• make sure literature, resources and materials reflect the diversities, cultures and languages of all the children. • point out upcoming and recently passed holidays on the calendar and discuss with children what they or others have seen or done related to that holiday or any holiday their family celebrates, and what might be some reasons that is done. • read developmentally appropriate books about holidays. • reflect on personal cultural backgrounds values and take concrete actions to include diversity in the literature and activities of the classroom. • use picture schedules of daily routines. • use photographs as sequencing cards to describe children's own daily routines and events such as field trips (describing what came first, next, last).

GEOGRAPHY

Understanding geography starts with concepts of location and direction, physical experiences of moving through space, and exploring the environment. These concepts can be advanced by creating maps, and representations of physical space that are manageable and meaningful to children's experiences. Children can identify the characteristics of where they live, and the ways in which people affect the land around them. Even young children build understanding of and respect for others by learning about cultures, languages, people, and places beyond their immediate home, family, and community environments. When studying cultures or celebration, be respectful and develop learning experiences that draw on the cultures in the class or nearby communities.

Pre-Kindergarten to Kindergarten Learning Standards

PreK-K.3 Identify the student's street address, city or town, and Massachusetts as the state and the United States as the country in which he or she lives. Identify the name of the student's school and the city or town in which it is located. (G)

PreK-K.4 Describe the location and features of places in the immediate neighborhood of the student's home or school. (G)

Possible learning activities: **Children could:**	**Possible evidence of learning:** **Children may:**	**Supportive practices:** **Educators could:**
• take walking trips around the neighborhood,	• use locational terms in body movement	• provide multiple opportunities for children to

History and Social Science

This section will be updated to reflect the current History and Social Science Curriculum Framework (approved on June 26, 2018)

Possible learning activities: **Children could:**	**Possible evidence of learning:** **Children may:**	**Supportive practices:** **Educators could:**
making note of geographic features, landmarks • participate in a variety of experiences that build/ reinforce concepts related to directionality e.g. Obstacle courses, movement songs/ activities. • dramatize ways of travel (e.g., a bus, car, train, or plane trip) with road maps, photographs brochures, souvenirs). • brainstorm reasons why they need to know their address (e.g., to call 911, to prevent being lost), and then learn their state, country, and the name and location of their school. • set up a post office, write or dictate letters to each other, then address, send, and deliver the mail. • create representations of their classroom, school building, playground, neighborhood, home (e.g., simple maps, three-dimensional models, photographic displays, chalk drawings on the playground, neighborhood, home (e.g., simple maps, three-dimensional models, photographic displays, chalk drawings on the playground, block buildings). • identify common signs and symbols (e.g., traffic signs, street signs. Traffic lights, street and highway markers) and discuss their purpose. • create a post office in class; check the phone book for their own addresses; make a class address book; create and post "addresses" for different areas of the classroom and/or children's cubbies; and deliver addressed mail to each other.	activities (e.g., up, down, near, far). • manipulate blocks/vehicles on a "road rug" or class-made map; moving their bodies through obstacle courses). • create a personal id that includes address, name of school etc. • identify their own street name, city name, state name and country name from among a group of cards with other names on them. • recite their street address and name their school and the city or town where it is located. • describe features of familiar places (buildings, stores, places of business). • make their own map of the playground, school or neighborhood. • use toy vehicles to follow their own maps and describe the features (e.g., "Can you drive to the post office? What do you see along the way?"). • role play (as a policeman, person in the neighborhood, shopkeeper, etc.) and give descriptions of locations and features such as the post office, fire station, stores, or bus stops on their map.	use location and direction words in the context of body movements, materials etc. • make comments and ask questions that focus on location and direction, ex. Where will your road turn when it reaches the wall? • play movement games which require children to follow directions for movement and location (e.g. "put hands up, down, in front, in back; etc.). • propose putting an address (numbers, letters, or other code) on each cubby or on various centers in the classroom or set up street names for the school walkways; then discuss the order of the address of each location and use of the words, first, next and last; and can refer to the addresses in various ways during the day. • design a project approach to studying the community in which the children live, including neighborhood walks, constructing maps, labeling buildings, finding addresses. • engage children with making and interpreting maps. • provide maps in block, dramatic play, writing areas. • take photos of neighborhoods and display. • create occasions for children to give directions to each other in the classroom, hallways etc. • talk about trips children have taken. • use Google earth to zoom to state, town, neighborhood.

CIVICS AND GOVERNMENT

The concepts of civics and government are founded in an understanding of rules, fairness, personal responsibilities, freedom, authority, and leadership, as well as concepts of personal character (e.g., honesty, courage, friendship, respect). By working together as a group (e.g., to solve a class problem), young children develop the foundation for understanding democracy.

Pre-Kindergarten to Kindergarten Learning Standards

PreK-K.5 Retell stories that illustrate honesty, courage, friendship, respect, responsibility, and the wise or judicious exercise of authority, and explain how the characters in the stories show these qualities. (C)

PreK-K.6 Identify and describe family or community members who promote the welfare and safety of children and adults. (C)

PreK-K.7 Demonstrate understanding that there are important American symbols by identifying

A. the American flag and its colors and shapes
B. the melody of the national anthem
C. the picture and name of the current president
D. the words of the Pledge of Allegiance. (C)

Possible learning activities **Children could:**	**Possible evidence of learning:** **Children may:**	**Supportive practices:** **Educators could:**
• listen to and discuss age appropriate stories with characters that make a difference to others, or situations in which characters take care of each other. • discuss alternative outcomes of stories if the characters had different traits (e.g., honesty/ dishonesty). • create and use puppets to act out a story about ways to show respect to each other and/or about other characteristics listed in this standard. • talk about and dramatize roles of family members (e.g., create a chart listing each child's family members, and the jobs each person does such as shopping, cooking, cleaning, reading bedtime stories, washing clothes, taking out the trash, mowing the lawn, etc.). • engage in dramatic play area with uniforms and accessories (e.g., hats, lunch boxes, brief). • cases, boots, tool kits) that promote community roles such as firefighter, postal	• engage in dramatic play, acting out their ideas, understandings, and personal experiences related to human character and relationships. • compliment the other children in the class by identifying one or more examples of how they showed positive character traits. • in their own words, provide an example of an action that a person or character may take to show different character traits. • answer questions about character and qualities during a read aloud. • draw or dictate a story about a time they were/ or someone else was honest/courageous etc. • given a short description of a character who has demonstrated courage, friendship, respect or wise exercise of authority, identify the word for the particular quality being shown, or select the correct quality from among two or more choices. • contribute to class-made books or lists of facts about various community roles and responsibilities.	• acknowledge and encourage children's efforts and accomplishments. • provide opportunities for children to be leaders. • verbalize in simple terms the reasons for your decisions that involve moral matters such as fairness. • point out/identify positive characteristics observed in children's behaviors in daily routines. • invite community helpers in or visit. • provide props for children to use in dramatic play that include materials community helpers would use: (e.g. police and fireman hats, doctor's white coats, date stamp for librarian, and other items related to community helper's roles). • design a project approach to community helpers that includes stories, field trips, opportunities for children to act out roles. • read stories about community workers, family members.

History and Social Science

This section will be updated to reflect the current History and Social Science Curriculum Framework (approved on June 26, 2018)

Possible learning activities **Children could:**	**Possible evidence of learning:** **Children may:**	**Supportive practices:** **Educators could:**
worker, librarian. • make a chart of community members and what they do. • draw/dictate/write stories about community helpers or family members who keep them safe. • play games that build recognition of colors and shapes in the flag. • discuss appropriate ways to use and care for the American flag (e.g., invite a Boy/Girl Scout troop to demonstrate proper care of the flag). • sing songs about the flag; march while holding the flag. • use red, white and blue paint, crayons, or other materials to make representations of the American flag. • listen to the Pledge of Allegiance recited by staff and adults. • compare the American flag and flags from around the world. • listen to the national anthem and discuss where (or if) they have heard it before and what people do when it is played. • write a letter to the president about something that matters to the class or talk about why people would write to the president about things that concern them.	• talk about people who help keep children safe (e.g., parents, grandparents, older siblings, police officers, firefighters, Educators, doctors). • discuss what it means to be a hero and find examples from literature, their families, and their community. • identify the American flag when looking at a book of flags. • recognize one or more American symbols (can point to or name one or more things that we identify as American) when seen in context, including any of the following: the U.S. flag, current President, the melody of the national anthem, or the Pledge of Allegiance. • design a flag for the class with meaningful colors and symbols. • recite the Pledge of Allegiance as a group chant. • identify a picture of the current President as "the President" and/or by his/her name. • draw an American flag which includes the basic colors and shapes (stars and stripes) in the correct positions.	• visit community helpers such as police, officers, firefighters etc. • keep an American flag on display and point out other places where it is seen. • talk about different places that the national anthem is played and/or sung (at the start of sports games such as baseball, soccer and football; at the Olympics when an athlete from the U.S. wins a medal; on the Fourth of July) and how people stand during the anthem when being respectful of our country (with hand over heart). • talk about the purpose of flags, where they see American flags, at the school or in the community. • display pictures of flags, and of the current President, with his/her name.

ECONOMICS

Foundational concepts of economics emerge from understanding the various kinds of work people do (outside and inside the home) and the function and use of money, buying, trading, and selling.

Pre-Kindergarten to Kindergarten Learning Standards

PreK-K.8 Give examples of different kinds of jobs that people do, including the work they do at home. (E)

PreK-K.9 Explain why people work (e.g., to earn money in order to buy things they want). (E)

History and Social Science

This section will be updated to reflect the current History and Social Science Curriculum Framework (approved on June 26, 2018)

PreK-K.10 Give examples of the things that people buy with the money they earn. (E)

Possible learning activities: **Children could…**	**Possible evidence of learning:** **Children may…**	**Supportive practices:** **Educators could…**
• listen to age appropriate stories about different kinds of jobs and what is required to perform them. • talk about the jobs of different people in their lives at home, at school, and in the community; make a chart to associate pictures of the person, with items related to their work role. • interview class guests about their job choices (including work at home). • create characters with different jobs and interact in dramatic play as those characters (e.g., create a small community with business people, a policeman, a doctor, parents, educator, children, and others). • read or listen to include Mama and Papa Have a Store by Amelia Carling, and Bigmama's by Donald Crews. • discuss tasks they are responsible for at home, why people want to work, and what they might personally enjoy about particular jobs. • explore what jobs people do for money and what ones they do without being paid. • dramatize roles that include money, buying and selling (e.g., set up a store, restaurant, doctor's office, hair salon with accessories such as play money, cash register, order/receipt book; forms; old checkbooks/credit cards, telephones). • listen to age-appropriate stories that relate to economic concepts (e.g., Jack & the Beanstalk; Uh-Oh It's Mama's Birthday; A Chair for My Mother).	• name several kinds of jobs they think they would like to do, and several different jobs they think they would not like to do and explain why. • identify the kind of job or work that their parents or guardians do. • draw pictures of themselves as adults in their chosen job or profession. • create an alphabet book of jobs. • name several kinds of jobs they think they would like to do, and several different jobs they think they would not like to do and explain why. • identify the kind of job or work that their parents or guardians do. • give one or more reasons why someone would choose to do one job instead of another, • give examples of what someone would do with the money they earn in a job. • give examples of how family members, friends, or acquaintances use money directly or indirectly (e.g., credit card or check) to acquire things they need/want. • act out buying/selling, using appropriate vocabulary. • describe or role play the sequence of events in a shopping trip, including picking out items to buy and paying for them.	• provide props and suggest scenarios for dramatic play that support children to act out work activities (e.g. stethoscope, cash register, grocery items, steering wheel/play vehicles, tools, etc.). • have children conduct a study of jobs in the community. Visit local shops and businesses. Invite guests in to describe their job. • read age appropriate stories about different kinds of jobs and what is required to perform them. • interview visitors or workers they meet on field trips to learn about their jobs, (e.g. why they chose it, what they like or do not like about it). • ask children to make a list of "wants" alongside a list of "needs". Discuss differences between the two. • make a chart to list things you can buy and things you cannot buy. • set up a business in the dramatic play area and role play being customers and workers who wait on them (e.g. grocery store; salon or barber shop; auto repair shop). • role play different things a person might do when they receive a paycheck (e.g. go to the bank to deposit it; pay bills such as rent or car payments; go shopping).

Comprehensive Health

Introduction

Comprehensive health education includes development of children's physical, mental, emotional, and social health. Brain, body, and cognitive development are critically linked, especially at a young age, and should be addressed in the preschool and kindergarten curriculum. Some overall goals for children's development include:

- taking turns and sharing;
- negotiating and cooperating;
- asking for help, when appropriate;
- making healthy choices;
- tolerating frustration;
- developing self-esteem;
- appreciating other people's opinions and safety;
- feeling connected;
- developing a sense of humor;
- using imagination;
- knowing right from wrong;
- learning from mistakes; and
- showing feelings appropriately.

Particularly in the early years, brain and body development are critically linked. It is through physical activity and body movement that the brain internalizes the foundations of laterality (left, right), directionality (up, down, in, out), and position in space (over, under, behind). These concepts are critical to living as well as to mathematical thinking and beginning reading and writing. They lay the foundation for the child to understand how letters are formed and put together in patterns called words, and to translate this understanding into symbols on paper. Children should engage routinely in block building and other spatial and manipulative activities as well as in music, art, dramatic play, and language activities, to stimulate connections among various parts of the brain. All children need routine spatial and manipulative activities to develop sensory integration, mathematical, linguistic and logical development.

To build and strengthen the link between motor development and learning, educators should encourage physical exploration and experimentation. Young children need many experiences that integrate body movements with their senses, including kinesthetic (movement), and vestibular (maintaining balance and judging position in space). Experiences that stimulate the inner ear's vestibular area (e.g., rocking, swinging, rolling, turning upside down, spinning) and the cerebellum support higher cognitive skills. Many children learn best through their kinesthetic sense, which can then be used to connect them with academic learning.

The Learning Standards

The Framework divides learning standards into the following four strands:

- Physical Health

Comprehensive Health

This section will be updated to reflect the Comprehensive Health Curriculum Framework currently undergoing revision

- Safety and Prevention
- Social and Emotional Health
- Personal and Community Health

The learning standards define what students know and are be able to do within several grade ranges. Pre-kindergarten and kindergarten expectations can be found in the standards for Pre-kindergarten through Grade 5. Specific activities for each standard are not provided here; instead, a variety of activities for each strand are provided. They may be used as starting points for more extensive activities. Many of the activities in other domains may be used to cover the standards found in the Comprehensive Health Framework.

PHYSICAL HEALTH

The Physical Health Strand is designed to provide a foundation for good health. It includes those aspects of health that are often the most salient in our lives and that closely relate to the progression inherent in human development. The knowledge and skills presented are the foundation for individual control over many of the factors related to a healthy life. These areas share common goals in their emphasis and focus on building and maintaining healthy habits. The maintenance of the body is related to the development of positive health care behaviors and habits. The purpose of this strand is to enable students to recognize decisions that everyone must make about using their bodies in daily living and to identify how actions, conduct and wellness relate.

The PreK–12 Standards for the Physical Health Strand:

1. *Growth and Development.* Students will learn the basic characteristics of physical growth and development, including body functions and systems throughout the life cycle, and acquire skills to promote and maintain positive growth and development.
2. *Physical Activities and Fitness*. Students will, by repeated practice, acquire and refine a variety of manipulative, locomotor, and non-locomotor movement skills, and use principles of training and conditioning, learn biomechanics and exercise physiology, and apply the concept of wellness to their lives.
3. *Nutrition.* Students will gain the knowledge and skills to select a diet that supports health and reduces the risk of illness and future chronic diseases.
4. *Reproduction/Sexuality.* Students will acquire the knowledge and skills necessary to make effective personal decisions that promote their emotional, sexual, and reproductive health.

Growth and Development

Possible learning activities: **Children could…**	**Possible evidence of learning:** **Children may…**	**Supportive practices:** **Educators could…**
• create life-size drawings of their own bodies and label various parts. • illustrate the effects of limited physical or visual abilities (e.g., throw a ball with one arm behind the back; assist another child wearing a blindfold; sit in a wheelchair as another pushes her), then talk about challenges experienced. • role play some conditions that require aids and accommodations and discover the difference in using materials and equipment.	• point to correct body parts when signing songs such as “Head, Shoulders, Knees, and Toes.” • notice and describe accommodations used by people in stories. • respond to movement challenges (e.g., move across the mat backwards, then find 5 or 6 different way to move across it; walk around holding a beanbag on their head, shoulder, elbow).	• read books that focus on a part of the body (e.g., Dem Bones by Bob Barner, The Skeleton Inside You by Philip Balestrino). • lead a tour of the building, locating handicap accessible doorways and other accommodations.

Comprehensive Health

This section will be updated to reflect the Comprehensive Health Curriculum Framework currently undergoing revision

Physical Activities and Fitness		
Possible learning activities: **Children could…**	**Possible evidence of learning:** **Children may…**	**Supportive practices:** **Educators could…**
• grasp scissors correctly with adult guidance (thumb and middle finger in the handles of the scissors, and the index finger outside/under the blades to stabilize). • carry things with both arms (e.g., a tray full of paper cups, an armful of leaves). • build upper body strength in various ways (e.g., support body weight with both arms; use arms to pull/push body upwards by doing pushups, bear-, crab-, and seal-walks).	• Show cutting skills including unstructured snipping (e.g., snipping pieces of plastic straws or strips of paper); cutting within a "track," and cutting on a line and stopping at a marked point. • jump with both feet over a line or over a "river" created with two pieces of masking tape (the obstacle can be made progressively wider as children gain skill.). • transfer objects between two containers placed at opposite sides of the body.	• provide a variety of scissors for children at different levels of grasp-and-release strength and dexterity (spring-action scissors assist a child in opening/ closing; 4-hole educator's "helper" scissors; sharp, blunt scissors with small finger holes and short blades; left-handed, etc.). • provide opportunities to explore movement and balance in structured and unstructured settings, indoors and outdoors, and to use both sides of the body to develop bilateral coordination (e.g., jumping with both feet, lifting with both arms, bouncing a ball using two hands).

Nutrition		
Possible learning activities: **Children could…**	**Possible evidence of learning:** **Children may…**	**Supportive practices:** **Educators could…**
• use replicas of healthy foods in the dramatic play center with themes of cooking, grocery store, or restaurant. • create a recipe book including foods made in class and favorite recipes shared by families. • explore diet and activity levels at different stages of a child's life by comparing portion sizes and creating representations (e.g., books, collages, posters, displays, models) of healthy and unhealthy foods for a baby, child, and adult.	• represent (e.g., paintings, collages) healthy meals and snacks that have balance and variety or represent snacks from one section of the food pyramid (e.g., the dairy section with milk, various cheeses, yogurt). • follow consistent routines regarding washing hands and utensils before and after preparing food and eating.	• talk about the nutritional value of various foods (e.g., milk is good for strong bones and teeth; vegetables provide vitamins; breads and cereals provide fiber) and the relationship between a healthy diet and overall health and fitness. • model consistent daily hygiene (e.g., washing hands for 20 seconds to the tune of "Row, Row, Row Your Boat," or "Mary Had A Little Lamb" before and after preparing food and eating).

Reproduction and Sexuality		
Possible learning activities: **Children could…**	**Possible evidence of learning:** **Children may…**	**Supportive practices:** **Educators could…**

• observe physical changes throughout the growth and life cycles of plants and living creatures, including humans, through observation and/or books.	• talk about young animals and humans in age-appropriate terms (e.g., babies, puppies, kittens, etc.) and note that we all start out as babies.	• talk about the differences between boys and girls, boys and men, girls and women as questions arise.

SAFETY AND PREVENTION

Safety and Prevention includes those aspects of health most often related to risky and dangerous behaviors and conduct that can have negative life-long consequences on health. The topics are of particular importance for young people who are at the age when many of these behaviors are being contemplated. The knowledge and skills presented in the Personal Safety Strand provide a means for young people to avoid risky behavior, now and in the future, so that they can lead healthier lives.

The Safety and Prevention Strand is designed to help students examine how they make decisions and weigh the probable consequences of their actions. Students consider risk in their personal lives, including the need to take risks such as standing up for one's opinion and the need to avoid other risks associated with dangerous situations or actions. The purpose of this strand is to inform students, so they may apply and defend health-enhancing decisions.

The PreK–12 Standards for the Safety and Prevention Strand:

1. *Disease Prevention and Control*. Students will learn the signs, symptoms, and treatment of chronic and communicable diseases, and gain skills related to health promotion, disease prevention, and health maintenance.
2. *Safety and Injury Prevention*. Students will gain the knowledge and skills to administer first aid and carry out emergency procedures, including cardiopulmonary resuscitation, avoid, recognize, and report verbal, physical, and emotional abuse situations, and assess factors that contribute to intentional and unintentional injury, including motor vehicle accidents, fire safety, and weapons safety.
3. *Tobacco, Alcohol and Other Substances*. Students will acquire the knowledge and skills to be competent in making health-enhancing decisions about the use of medications and avoidance of substances, and in communicating about substance use/abuse prevention for healthier homes, schools, and communities.
4. *Violence Prevention.* Students will learn how their actions affect others, understand the power that positive character traits can have in violence prevention, gain skills to report incidents of violence and hurtful behavior to adults in the school and community, avoid engaging in violence, and identify constructive alternatives to violence, including how to discourage others from engaging in violence.

Disease Prevention and Control

Possible learning activities: Children could…	**Possible evidence of learning: Children may…**	**Supportive practices: Educators could…**
• dramatize experiences related to illness and health care or (e.g., set up a doctor's office with props including stethoscope, forms, bandages).	• tell or represent personal experiences of well-child visits to a doctor or clinic for immunizations • practice thorough hand-washing and list classroom strategies that promote cleanliness	• read stories about germs and disease, immunization, preventive visits to the doctor. • invite a dentist or dental hygienist to visit the program or visit a dentist's office to see a demonstration of tooth brushing and tooth care.

Comprehensive Health

This section will be updated to reflect the Comprehensive Health Curriculum Framework currently undergoing revision

Safety and Injury Prevention		
Possible learning activities: **Children could…**	**Possible evidence of learning:** **Children may…**	**Supportive practices:** **Educators could…**
• role play safe play behavior in various situations. • take walks to observe traffic signals, signs, and safety rules for crossing streets. • practice safely entering and exiting a school bus or responding to school fire alarm. • practice treating pretend wounds on dolls or stuffed animal "patients" with first aid supplies. • practice repeating personal information such as address and home phone number.	• state safety rules for crossing streets, riding on bikes, in cars, boats, buses, subways, and trains, or using escalators • identify adults to contact in an emergency and practice what to do if lost or in danger. • give complete information about who they are, where they live, and how to contact a parent or relative (i.e., child's full name, full address, parents' names, and phone numbers).	• explore how to reduce hazards and avoid accidents in the classroom, on the playground, at home and in the community (e.g., shopping cart safety; Halloween safety, safety around bodies of water). • make a chart of things that are and are not safe to touch. • use puppets to demonstrate respectful kinds of touching (e.g., shaking hands, giving a high five or pat on the back) and to talk about kinds of touching that do not feel good (e.g., pushing at the top of the slide, shoving in line, grabbing).

Tobacco Alcohol and Other Substances		
Possible learning activities: **Children could…**	**Possible evidence of learning:** **Children may…**	**Supportive practices:** **Educators could…**
• talk about safety and prevention measure related to poisons. • talk about appropriate/inappropriate use of medications. • dramatize strategies to handle emergencies (dial 911; give name, address and telephone number).	• explain what makes medicines safe or unsafe and provide reasons that child protective caps are placed on medicine bottles.	• talk about safety and prevention measure related to poisons. • share information about substance abuse with families (e.g., young children may begin to understand the concept of "too much" by trying to carry things that are too heavy, wear clothes that are too big). • explain what makes medicines safe or unsafe and provide reasons that child protective caps are placed on medicine bottles.

Violence Prevention		
Possible learning activities: **Children could…**	**Possible evidence of learning:** **Children may…**	**Supportive practices:** **Educators could…**
• talk about personal experiences of when someone has been either helpful or hurtful.	• describe how it feels to be hurt and how they can avoid hurting one another.	• read age-appropriate stories about relationships, helpful or hurtful words or actions.

Possible learning activities: Children could…	Possible evidence of learning: Children may…	Supportive practices: Educators could…
• act out what can be done if someone hurts your feelings.	• view pictures of classroom routines and events and talk about which behaviors are right and which are wrong (e.g., pushing in line).	• act out what can be done if someone hurts your feelings.

PERSONAL AND COMMUNITY HEALTH INFORMATION

Personal and Community Health includes those aspects of health most often related to the larger community and world. The knowledge and skills presented in this strand lay the groundwork for participation in preserving and improving our surroundings and for dealing with future health-related events. The contribution of public health is addressed in this strand.

The Personal and Community Health Strand is designed to help students demonstrate the competence to use information and services in ways that benefit themselves, their peers, their families, and their communities. By making improvements in the health of the environment and the physical safety of communities, students learn to build coalitions with others. Students work with others to determine concrete steps to build a strong social fabric. The purpose of the strand is to assist students to develop an understanding of their personal, social, and civic responsibilities by acting on accurate information to improve health in their communities.

The PreK–12 Standards for the Personal and Community Health Information Strand:

1. *Consumer Health and Resource Management.* Students will acquire the knowledge and skills necessary to obtain, manage, and evaluate resources to maintain physical and mental health and wellbeing for themselves, their families, and their communities.
2. *Ecological Health.* Students will gain knowledge of the interdependence between the environment and human health and acquire skills to care for the environment.
3. *Community and Public Health*. Students will learn the influence of social factors on health and contribution of public health and gain skills to promote health and to collaborate with others to facilitate healthy, safe, and supportive communities.

Consumer Health and Resource Management

Possible learning activities: Children could…	Possible evidence of learning: Children may…	Supportive practices: Educators could…
• act out roles (e.g., doctor, nurse, EMT, physical education educator, dentist, nutritionist) in dramatic play with props.	• identify roles of people who can help them stay safe and healthy.	• read a "career series" about health care workers (e.g., Going to the Doctor by T. Berry Brazelton, Going to the Doctor by Fred Rogers, Judy Moody, M.D.).

Community and Public Health

Possible learning activities: Children could…	Possible evidence of learning: Children may…	Supportive practices: Educators could…
• play "Who am I?" in response to various descriptors (e.g., "I take your temperature when you're not feeling well"); after guessing	• identify jobs directly and not directly related to health that support children's wellbeing (e.g., cafeteria workers, custodians,	• take pictures of school staff and community members, and discuss how they support health, wellbeing, and success in school (e.g.,

Possible learning activities: **Children could…**	**Possible evidence of learning:** **Children may…**	**Supportive practices:** **Educators could…**
the roles described, they offer reasons for their guesses. • talk about products that make living and activities safer (e.g., seat belts, car seats, air bags, helmets for biking, or knee pads for sports), and discuss actions or conditions that might make people with disabilities unsafe, and modifications that are made to assist people with disabilities (e.g., lights that beep for the visually impaired; handicap access).	kindergarten Educators, physical education Educators, guidance counselors, and principals). • identify some things in the familiar physical environment that protect people's health and identify some products and practices that make life safer.	cafeteria workers, custodians, physical education teachers, guidance counselors, principals).

The Arts

Expression through the arts is a universal human behavior. Young children are naturally drawn to be creative, and they eagerly explore new methods through which they may express themselves. Children use the arts to explore sensations and to create or recreate imagined or real events. Through what they choose to dramatize, sing, or paint, children can express what is important, joyful, appealing, or frightening in their lives. Because the arts allow children to play with ideas and concepts, they often express in the arts ideas and understandings that do not emerge in other classroom work.

Arts education encourages children's willingness to explore and experiment in other subjects and in life, develops their aesthetic sense, and shows them how to use art to express themselves and to understand their world.

The *Massachusetts Arts Curriculum Framework* supports children as they:

- explore dance, music, theatre, and visual arts
- express ideas and feelings through the arts
- develop and sustain their natural curiosity and expressiveness

Children's learning of the arts starts out informally, and is based on incidental and spontaneous learning. Arts education progresses to include both structured learning that is concrete, and free learning that is governed by children's own rules. Gradually, learning in school becomes more formal, refined, and enriched. Children's understanding grows to accommodate information that is more removed in time and space, and that gradually approximates more conventional rule systems.[1] Two aspects of the arts are addressed in comprehensive arts education:

- technique (methods of physical movement, tools and materials, and vocabulary)
- creativity and expression, imagination and ideas

These elements must be merged for children to communicate (with themselves and others) effectively through the arts.

The National Art Education Association described the characteristics and types of learning promoted in quality art programs:[2]

- examining intensively both natural and manufactured object from many sources
- expressing individual ideas and feelings through the use of various art media suited to the developmental level and expressive needs of children
- experimenting in-depth with art materials and processes to determine effectiveness in creating new forms
- working with tools appropriate to the child's abilities and developing skills needed for satisfying aesthetic experiences
- organizing, evaluating, and reorganizing works-in-process to gain an understanding of line, form, color, and texture in space
- looking at, reading about, and discussing a variety of works of art
- seeing artists produce art in a studio
- evaluating art of both students and mature artists, as well as industrial products, home, and community design
- engaging in activities that provide opportunities to apply art knowledge and aesthetics to judgment in personal life and in home or community planning

Teaching and learning in the arts serves several functions, including learning and mastering different art forms for their own sake, and using the arts across the curriculum to integrate and express information, as well as thoughts and feelings. Use of the arts stimulates development of critical thinking skills (e.g., "How can I create this?" "How can I translate this onto paper or into music?" "What materials, tools, or techniques will accomplish this task?") in every subject and throughout life.

The Arts

This section will be updated to reflect the curriculum frameworks currently undergoing revision.

The development of learning in the arts follows an upward cycle or spiral, moving from simpler to more sophisticated, from awareness to exploration to inquiry to use.[3] As each more advanced level is reached, new awareness is sparked, which in turn generates a new cycle of learning. Typical kindergartners are engaged at the awareness and exploration stages of the learning cycle, which are vital for them to progress to higher levels of understanding and performance.

Classroom Practices and Techniques

Before being formally introduced to any discipline, children should feel that it is "safe" to try new skills without concerns about "performance." As children progress and gain confidence, Educators can begin to outline or model techniques at a developmentally appropriate level, allowing time for children to practice and refine the skills they are learning.

Originality and Spontaneity

Art can be defined as the use of a variety of media and tools to create works that express ideas and imagination—each child (and each educator) creates and expresses his/her own meaning. Activities such as connect-the-dots, coloring pages, cutting along pre-drawn lines, or pasting pre-cut shapes have some value in allowing children to demonstrate concepts or skills, but these activities are not art even though children are using art materials.

Valuing Process over Product

Meaningful art activities communicate the message that original expression is valued. While art does support cognitive and academic learning, the primary purpose of the arts is to foster creative expression and imagination, and to help children interpret and represent their thinking and their world in a variety of ways. When adults question a child's work (e.g., "Did you ever see a tree with blue leaves?", "That's good but…," "What is it?"), spontaneity can be undermined. Emphasize the process and meaning of creation and the expression of ideas, rather than the replication of steps, tones, colors, or forms. Some programs (the Reggio Emilia curriculum in particular) have demonstrated that young children are able to learn more advanced techniques in the visual arts than is commonly expected.

The educator can emphasize valuing process over product by

- creating open-ended opportunities for the creation of art that encourage originality over conformity
- providing children with appropriate space, materials and sufficient time to experiment with their arts projects (e.g., extended time for practice, opportunities to perform)
- making accommodations for children's individual abilities and needs
- recognizing that not all young children want to, or are ready to, articulate some ideas

Expressiveness and individuality of art may also be drawn out with individual children and small groups with probes or prompts such as "All of you had the same materials—why did using the same materials end up looking different?" or "Tell me about your painting (or dance or music)." The arts section of the *Guidelines for Preschool Learning Experiences* includes activities that may be helpful for some children.

Physical Environment

Educators should ensure that the physical environment for expression of the arts is safe for the children (e.g., appropriately supervised, free from dangerous objects or slippery surfaces). Additionally, Educators can involve children in developing rules and responsibilities related to time spent in arts education and can illustrate for them how to show respect in the care of materials.

Assessment
Photographs or videotapes of children engaged in theatre arts, music, or movement and dance can document process, discovery, and outcomes. Visual artwork can be shared with the school and the larger community through displays such as a classroom "gallery" or a library display that exhibits children's artwork. Document what children say or write about their artwork, photos, dramatizations, and dances. Educators may also use the arts to reach out to and involve families in meaningful way.

Integrating Curriculum
The arts offer many opportunities to integrate curriculum across subject areas. A classroom "word wall" can include vocabulary for all areas of the arts (e.g., dance and music tools/techniques, theatre terminology, visual arts materials/media). Books that include examples of different techniques and materials used in the arts can be made available. Children can talk about the science of materials (e.g., "Where does paper come from?", "What are crayons made from?"). Technology/engineering concepts can be linked to visual art by studying, experiencing, and talking about architecture, the construction of buildings, or mapping out the interior of a building. There are many opportunities to link dance and music to mathematics (e.g., patterns, counting) and science (e.g., inquiry — "What materials around us may be used to sound out a rhythm?")

DANCE

The goal of arts education from Pre-Kindergarten to grade 4 is to develop and sustain the natural curiosity, expressiveness, and creativity that very young children often display. Arts education begins with a foundation that emphasizes exploration, experimentation, engagement of the senses, and discussion as paths to understanding.

Of all the arts, dance and expressive movement may be seen as the most intrinsic to the human experience in early childhood, because it is natural for a young body to move in ways that communicate their current level of energy, mood, interest and emotion. Through how they choose to move or dance, children let others know how they feel. Because movement experiences allow children to play with many kinds of expression children often express freely in their dance, understandings that do not emerge in other classroom work. Versatile educators encourage many forms of expression and learn how to appreciate the messages children transmit through their movement and dance. The National Dance Education Organization (NDEO) proposes that dance experiences in early childhood education naturally promote physical and cognitive development, emotional maturity, and social awareness.

In dance, as in all the arts, people express ideas and emotions that they cannot express in language alone. In order to understand the range and depth of the human imagination, one must have knowledge of the arts.

In every culture, dance uses movement to express and communicate myths, rituals, stories, beliefs, and information to others. Education in dance trains the student to use the body to convey meaning through the language of form, shape, rhythm, energy, space, and movement. Dance communicates in ways that are physical, visceral, affective, symbolic, and intellectual. Dance includes forms that are social and theatrical, sacred and secular, popular and esoteric, historical and contemporary: folk dance, ballet, modern dance, jazz, and tap.

The PreK–12 Standards for Dance in this Strand:

1. **Movement Elements and Dance Skills.** Students will identify and demonstrate movement elements and dance skills.
2. **Choreography**. Students will create movement compositions based on choreographic principles, processes, and forms.
3. **Dance as Expression.** Students will demonstrate an understanding of dance as a way to express and communicate meaning.
4. **Performance in Dance.** Students will rehearse and stage dance works.
5. **Critical Response.** Students will describe and analyze their own dances and the dances of others using appropriate dance vocabulary. When appropriate, students will connect their analysis to interpretation and evaluation.

Connections Strand:

6. **Purposes and Meanings in the Arts.** Students will describe the purposes for which works of dance, music, theatre, visual arts, and architecture were and are created, and, when appropriate, interpret their meanings.
7. **Roles of Artists in Communities.** Students will describe the roles of artists, patrons, cultural organizations, and arts institutions in societies of the past and present.
8. **Concepts of Style, Stylistic Influence, and Stylistic Change.** Students will demonstrate their understanding of styles, stylistic influence, and stylistic change by identifying when and where art works were created, and by analyzing characteristic features of art works from various historical periods, cultures, and genres.
9. **Inventions, Technologies, and the Arts.** Students will describe and analyze how performing and visual artists use and have used materials, inventions, and technologies in their work.
10. **Interdisciplinary Connections.** Students will apply their knowledge of the arts to the study of English language arts, foreign languages, health, history and social science, mathematics, and science and technology/engineering

Movement Elements and Dance Skills

Possible learning activities: **Children could…**	**Possible evidence of learning:** **Children may…**	**Supportive practices:** **Educators could…**
• explore and experience activities and vocabulary related to different types of movement, balance, strength, and flexibility, by engaging in a variety of styles and modes of movement and dance, with support and guidance. • come up with words to describe how they and others are moving and record them in a word bank. • build upper body strength by using push/pull or lift of heavy objects or using climbing equipment for pull-ups. • increase flexibility by holding the body in curved, straight, twisted shapes. • use large outdoor equipment (e.g., climb a ladder or jungle gym, hang from a trapeze). • respond to rhythmic tempos (e.g., read aloud We're Going on a Bear Hunt by Michael Rosen) by adding motions and responding to pacing and tempo changes • walk on a low balance board or a real or	• use a variety of movement words to describe what actions they and others take (see Appendix C for an example of a Movement Word Bank). • compare differences between different modes of moving the body from one point in space to another (e.g., hopping, creeping, skipping) with moving in place while standing, sitting, kneeling, or lying (e.g., twisting, reaching, swaying). • become familiar enough with a series of movements as they relate to predictable/repetitive melodies to be able to continue on their own with the dance/ movements to a song after an educator or peer begins the dance, • demonstrate growth in a variety of movement elements including strength, balance, coordination and flexibility, by taking on increasing movement challenges in each area. • improvise and create dance by generating movements to match different rhythms	• incorporate dance into the daily schedule with rituals such as a greeting movement or handshake, as well as time to practice more difficult movement routines and introduce new ones. • develop a repertoire of class favorite "moves" or dance movements to use throughout the day with the class: for enjoyment (e.g. to lighten the mood and bring laughter), for mastering recall of dance moves, for improving skills as children perform more challenging moves, and for learning to move in time to rhythms of different types of music. • use patterns of movements that the class has learned to bring the group's focus and attention together: e.g. at transition times, when the class becomes too noisy, or to support clean up time (e.g. a sequence of clapping and stamping, perhaps adding a twirl around or other element at different times). • play games that involve movement (see

Possible learning activities: Children could…	**Possible evidence of learning: Children may…**	**Supportive practices: Educators could…**
imaginary tightrope (e.g., a line of masking tape, string or chalk on the floor or playground), and as skills increase try moving sideways, backwards • explore changing shapes in space: moving at different levels, speeds, and directions; and changing dynamics such as strong/light, sudden/sustained, or direct/indirect; vary pathways of movement and the design of movement. • celebrate whatever movement patterns or styles each child is able to demonstrate, with games or songs that invite each child to show a different motion (e.g. Little Johnny Brown, What Can you Do, Punchinello).	and different tempos with increasing accuracy, and to convey different types of symbolism or meaning (e.g. moving like different animals or characters or moving in happy and sad ways). • report feeling good about what their bodies can do and reflect a positive body image in the way they carry themselves.	Appendix C for suggestions) • model motions and movements synchronized with music. • create a dance center which offers children the opportunity to explore pictures and videos of dancers, and experiment with motions related to different music or models of dance from different cultures and styles. • provide props that support movement (e.g. scarves, ribbons, streamers, skirts, hula hoops or rings, masks, and opportunities to use them in different ways). • discuss body image concerns with parents whenever you notice a child who seems to carry themselves with low confidence or a negative body image. Problem solve with other adults, including parents, about what experiences might help the child improve their body image.

Choreography		
Possible learning activities: Children could…	**Possible evidence of learning: Children may…**	**Supportive practices: Educators could…**
• perform patterns of movements to chants or songs, such as alternating clapping and stamping their feet, or following along with movements in time to songs. • copy the rhythm modeled by the educator, whether with hands clapping or instruments, keeping time with a song, by making sounds in the rhythm demonstrated. • invent various ways to move from one point to another (e.g. across the mat or	• distinguish between different movement elements, including space (how much space is taken up by different types of movement), time (tempo or speed) and force (intensity). • echo and perform easy patterns of movement accurately and independently using different movement elements, including changes in form of locomotion or tempo, clapping, stamping, balancing, bending, wiggling and kicking.	• make use of recorded music or clapping patterns (e.g. a series of slow claps, or two fast, one slow, etc.) on a regular basis, to signal transitions, and/or to get children's attention. • use quiet simple movements or gestures (e.g. three hand claps; peace sign salute) to signal and support greeting time, transitions/ lining up, and moving between different centers or activities. • allow children to work in pairs, taking

Possible learning activities: Children could…	**Possible evidence of learning: Children may…**	**Supportive practices: Educators could…**
playground).	• demonstrate the ability to work effectively whether alone, or cooperatively, with a partner, and in an ensemble.	turns being the leader and follower in creating movements, or the one copying/mirroring the movements of the other. • in a number of movement experiences, encourage different members of the class to vary the movements in terms of time (rhythm), space (pathway or pattern, shape, design or level) and energy.

Dance as Expression		
Possible learning activities: Children could…	**Possible evidence of learning: Children may…**	**Supportive practices: Educators could…**
• watch videos of children and/or adults from different cultures performing dances using different costumes related to different holidays or special occasions (some suggestions in Appendix C). • explore dances or traditional forms of movement derived from different cultures, especially the cultures of the children in the group. (see Appendix C for resources and suggestions from major language and cultural groups in Massachusetts). • learn and teach other children songs and dances in languages other than English; interview parents and community members about dances and songs that are part of their family and cultural heritage.	• talk knowledgeably about differences between people or cultures, • act respectfully toward others who demonstrate differences, including those from different nationalities or cultures, those who speak different languages, or those with different abilities and disabilities. • identify two or more specific dances from among a small set of classical or traditional dances (including dances such as the cha-cha, macarena, hokey pokey, hula, or square dance). • describe and demonstrate audience skills of observing attentively and responding appropriately in classroom, rehearsal, and performance settings.	• ask family members from diverse cultures to suggest common dances they know well, especially any popular dances they know (e.g.hip hop, break dancing, circle dance, partner dances)., • introduce words and pictures or videos from different cultures in connection with any stories you are reading or history you are studying. • celebrate the multicultural and multi-lingual nature of each class community: Sharing dance across cultures of the children in class not only helps them understand and enjoy each other's cultures but also builds community • in preparation for viewing a dance performance, discuss positive audience behavior. After the performance, identify and review which behaviors were appropriate and any that were less appropriate.

Performance in Dance		
Possible learning activities: **Children could…**	**Possible evidence of learning:** **Children may…**	**Supportive practices:** **Educators could…**
• discuss what makes a dance or sequence of movements seem complete: when does a dance phrase begin, continue and end? How did you know it was the end? • invent and improvise different ways of moving to solve movement problems (e.g. "Show me what you can do with your hands "glued" to the floor"; "How would a snake move?) • discover or invent ways of moving when they cannot move their feet (non-locomotor motion), as when they are sitting, kneeling or lying down. • use props to support exploring and experimenting with movement and sound: scarves, maracas, rhythm sticks, drums, etc.). • practice movements with a definite rhythm (e.g. Who Stole the Cookies from the Cookie Jar?, Five Little Monkeys Swinging from the Tree) to demonstrate matching and maintaining a rhythm with a group. • practice inventing movements that vary in terms of the energy used (force, weight, effort, flow).	• demonstrate an ability to: o repeat rhythms, o maintain personal space, and o perform movements that vary in terms of: ▪ time (speed), ▪ space (direction). and ▪ force (gentle or intense). • create a dance phrase or sequence of related movements with a sense of rhythmic completion or closure. • invent moving in a variety of different ways, including variations in rhythm, energy, and ways of using space (see Glossary in Appendix C for clarifications). • use words to identify a feeling associated with a dance or movement they perform or witness. • work with others in a small group to put together a short dance or movement performance, including cooperating on planning and making decisions regarding where they will locate themselves and their audience, how they will enter and exit the space, and what costumes they might use.	• play with children by moving to music in a variety of ways; create music tapes to move to, with many different rhythms, styles, moods and tempos. • explore dance concepts by finding dance videos which engage children. • point out when movements illustrate a range of dance dynamics, forms, and combinations, such as great agility or flexibility, partners or groups following a lead dancer, or circle formations, without interrupting the enjoyment of dance. • invite children and family members to bring in objects or costumes that may be used as props or focal points in movement and dance (e.g. hats, skirts, canes, tap shoes, scarves, flags, costumes, etc.).

Critical Response		
Possible learning activities: **Children could…**	**Possible evidence of learning:** **Children may…**	**Supportive practices:** **Educators could…**
• discuss the dances they watch and/or those they perform, and identify what they liked and did not like about each one, as well as what feelings were evoked. They will describe the dance by using as many dance vocabulary terms as they can, with prompts (see examples in Appendix C). • after observing a dance, discuss how dance performance is different from other forms of human movement used in sports, everyday gestures, or social dances.	• identify two or more reasons that a dance performed on stage is different from other forms of human movement such as those used in sports, everyday gestures or social dances. • describe the movements they have seen in a dance performance. (see Appendix C for suggested educator questions.	• arrange for children to attend a school performance by older children or a professional dance performance.

MUSIC

Children need opportunities to make music spontaneously and informally, in addition to scheduled "music times." Educators in elementary schools should work collaboratively with the music specialist in the classroom and integrate music into class activities on a daily basis. Regardless of their personal abilities, educators should be active participants in music activities.

The PreK–12 Standards for Music in this Strand:

1. **Singing.** Students will sing, alone and with others, a varied repertoire of music.
2. **Reading and Notation.** Students will read music written in standard notation.
3. **Playing Instruments.** Students will play instruments, alone and with others, to perform a varied repertoire of music.
4. **Improvisation and Composition.** Students will improvise, compose, and arrange music.
5. **Critical Response.** Students will describe and analyze their own music and the music of others using appropriate music vocabulary. When appropriate, students will connect their analysis to interpretation and evaluation.

Connections Strand

6. **Purposes and Meanings in the Arts**. Students will describe the purposes for which works of dance, music, theatre, visual arts, and architecture were and are created, and, when appropriate, interpret their meanings.
7. **Roles of Artists in Communities**. Students will describe the roles of artists, patrons, cultural organizations, and arts institutions in societies of the past and present.
8. **Concepts of Style, Stylistic Influence, and Stylistic Change**. Students will demonstrate their understanding of styles, stylistic influence, and stylistic change by identifying when and where art works were created, and by analyzing characteristic features of art works from various historical periods, cultures, and genres.
9. **Inventions, Technologies, and the Arts**. Students will describe and analyze how performing and visual artists use and have used materials, inventions, and technologies in their work.

10. **Interdisciplinary Connections**. Students will apply their knowledge of the arts to the study of English Language Arts, foreign languages, health, history and social science, mathematics, and science and technology/engineering.

Singing		
Possible learning activities: **Children could…**	**Possible evidence of learning:** **Children may…**	**Supportive Practices:** **Educators could…**
• explore and experience a variety of music, including songs with predictable and repetitive lyrics and melodies, seasonal songs, songs from different cultures and time periods, and from different styles and genres, with support and guidance. • join the educator in singing selected songs in the classroom's repertoire on a regular basis. • join the educator in moving to music, including full body activities that require rhythm and timing, such as skipping, swinging, and alternating stepping and clapping.	• become familiar enough with a tune and words to songs with predictable melodies and lyrics, in order to demonstrate enough recall of melody and lyrics to be able to continue singing a song on their own after a educator or peer begins the song or sings it through once. • improvise and create music, compose, and generate musical ideas. • sing from memory a variety of songs from different cultural backgrounds and sources. • demonstrate enjoyment of music in one or more ways, including smiling, eagerness to perform or join into musical expression, or repeatedly choosing to sing or use instruments.	• incorporate music into the daily schedule with rituals such as a greeting song, as well as time to practice old songs and introduce new ones. Repeat the use of songs often enough for them to become familiar to all. • develop a repertoire of songs to sing with the class for enjoyment, for mastering recall of both melody and lyrics, and for learning to move in time to the beat or rhythm of music. • as part of the daily routine, make consistent use of songs with lyrics or clapping rhythms that remind children of expected behaviors, or to add a dose of calm: to get the class's attention; at transition times' when the class becomes too noisy; or to support clean up time. • use quiet music as part of the daily routine to support greeting time, quiet work times, nap or rest time, and snack time.

Reading and Notation		
Possible learning activities: **Children could…**	**Possible evidence of learning:** **Children may…**	**Supportive Practices:** **Educators could…**
• follow along while the educator or another child uses a system of notation (may be colored shapes, syllables, numbers or letters) to read and sing a simple familiar song with all notes in the treble clef. • match colored note symbols with the colors on a marked keyboard, chime bars, xylophone, colored cups with different	• explore and play with using one or more methods of musical notation to represent the sounds in a simple musical phrase or song. • repeat the same sequence of notes several times (sung or played on an instrument) as they match the tones or pitches drawn or written with some form of musical	• integrate the use of music into a variety of lessons from different areas of the curriculum, including literacy (e.g. for teaching phonological awareness), math (for counting beats and building spatial awareness), and science (for exploring sounds made by different objects). • label an octave or more on a keyboard, or

Possible learning activities: Children could…	**Possible evidence of learning: Children may…**	**Supportive Practices: Educators could…**
amounts of water in them, or products such as chromanotes deskbells, and boomwhackers. • tap or clap the syllables of their names in rhythmic patter of whole, half, quarter and/or eighth notes.	notation or symbols.	a range of notes available on another instrument, with colors or shapes. • include children's books with familiar song lyrics and music in the classroom library, using either standard iconic or symbolic (e.g.) color coded methods of notation.

Playing Instruments		
Possible learning activities: Children could…	**Possible evidence of learning: Children may…**	**Supportive Practices: Educators could…**
• play traditional and non-traditional percussion instruments (e.g., bells, wood blocks, sand blocks, rhythm sticks, rain sticks, maracas, pans and kitchen utensils) to accompany music with rhythmic beats and tempos. • perform patterns of movements to chants or songs, such as alternating clapping and stamping their feet, or following along with movements in time to songs such as If You're Happy and You Know It", and "Head, Shoulders, Knees and Toes". • use musical instruments to enhance storytelling (e.g., ring bells in response to *The Doorbell Rang* or the *Polar Express*). • with modeling and guidance, improvise an alternative rhythm to a song (e.g. speed up a song that is usually sung more slowly, or add a beat to a song usually sung without syncopation, or add a "cha cha cha" measure between stanzas, etc.).	• accurately echo the melody or pattern of tones performed by another person, OR perform one or more different musical patterns, phrases or songs on a given instrument, either alone or in a small group. • echo and perform easy rhythmic patterns accurately and independently using different forms of sound, including clapping, stamping, and producing sounds with simple musical instruments such as drums, castanets, recorders, triangles, or tambourines. • improvise and compose short vocal or instrumental melodies, which they perform for one or more adults or other children	• provide musical instruments and opportunities to use them in different ways. Vary these across the year. • encourage musical exploration at home. Discuss the music being sung or played in class in the classroom newsletter, invite parents in to observe or participate in music time, and let them know what instruments children are using, or community opportunities to attend performances. • create a musical center which offers children the opportunity to explore and experiment with different instruments and ways of making sound. • have children make simple musical instruments such as shakers, or improvise others, as when using pot lids for cymbals, spoons for castanets or chopsticks for strikers. • encourage children to "compose" music (write out patterns of notes using symbols), and then play the sequence again.

Improvisation and Composition		
Possible learning activities: **Children could…**	**Possible evidence of learning:** **Children may…**	**Supportive Practices:** **Educators could…**
• create original vocal and instrumental sounds/phrases using various sound sources (e.g., body parts, hand-made instruments).	• talk about various times and places in which they hear music (eg., weddings, holidays, at home when parents or siblings are playing or practicing music) and identify times when there must be silence.	• establish a listening center in the classroom for both audio books and music listening, and vary the materials/CDs/ recordings available in the center over time to provide experiences of a wide range of music

THEATRE

Theatre is a natural vehicle for integration with language and literacy as children listen to and read stories from various genres, describe and recreate the characters, act out dialogue and sequences of events, and study the settings in order to create scenery and props. Dramatic play and theater are especially important in early childhood and give children mechanisms for representing, connecting, and integrating many kinds of learning and experiences. Favorite stories, books, songs, or the events of a class trip are all sources for elaborating and dramatization. Storytelling and story acting can be powerful strategies for giving young children an authentic voice and a sense of agency.
Dramatic play is just a step from formal theater. Early Childhood classrooms' dramatic play area might be reorganized and renamed (e.g., "performance area," "green room") to extend use of the space and increase possibilities for dramatization.

The PreK–12 Standards for Theatre in this Strand:

1. **Acting**. Students will develop acting skills to portray characters who interact in improvised and scripted scenes.
2. **Reading and Writing Scripts**. Students will read, analyze, and write dramatic material.
3. **Directing**. Students will rehearse and stage dramatic works.
4. **Technical Theatre**. Students will demonstrate skills in using the basic tools, media, and techniques involved in theatrical production.
5. **Critical Response**. Students will describe and analyze their own theatrical work and the work of others using appropriate theatre vocabulary. When appropriate, students will connect their analysis to interpretation and evaluation.

Acting		
Possible Learning Activities: **Children could…**	**Possible Evidence of Learning:** **Children may…**	**Supportive Practices:** **Educators could…**
• compare and act out different versions of the same story. • retell a story using flannelboard, puppets, dramatic play. • assume roles in dramatic play, playing with other children.	• retell and/or act out traditional fairy tales, folk tales, and stories they have read or heard. • cooperate with peers to negotiate who will play which role in dramatic play.	• invite storytellers to perform in the classroom. • provide time for children to act out stories they have written. • provide regular blocks of time for dramatic play. • model acting out a story using the

Possible Learning Activities: Children could…	Possible Evidence of Learning: Children may…	Supportive Practices: Educators could…
		characters, setting and action.

Reading and Writing Scripts		
Possible Learning Activities: Children could…	**Possible Evidence of Learning: Children may…**	**Supportive Practices: Educators could…**
• use flannelboard characters and setting props to reenact dialogue, action and sequence. • dictate stories to be used during storytelling/story acting.	• discuss characters, setting, what happened and how different parts of the story made them feel. • identify the components of the story.	• use terms such as characters, setting, plot and suspense in conversations about stories. • regularly scribe children's individual stories. • provide time in the schedule for children to act out stories that have been scribed.

Directing		
Possible Learning Activities: Children could…	**Possible Evidence of Learning: Children may…**	**Supportive Practices: Educators could…**
• act out a story, first discussing entrances, exits and placement.	• create a short scene to act out with a beginning, middle, and end.	• provide space for dramatization that is safe, fun and flexible. • allow children to "direct" their story, picking the actors, what they do etc.

Technical Theatre		
Possible Learning Activities: Children could…	**Possible Evidence of Learning: Children may…**	**Supportive Practices: Educators could…**
• create group-constructed murals for use as a backdrop • paint large appliance carton to create houses, vehicles, and simple scenery.	• describe what their scene should look like, plan how they will create the scene, identify props that will be needed, and decide how (and whether) to make sets, or to include sound effects or music.	• provide materials for props, costumes, scenery for children to construct.

Critical Response		
Possible Learning Activities: Children could…	**Possible Evidence of Learning: Children may…**	**Supportive Practices: Educators could…**
• attend a performance in a setting outside the classroom. • draw or paint impressions of performances they see, or respond to them in music or movement.	• use appropriate audience behaviors during a classroom performance. • discuss a play they have seen and give some descriptions of details or scenes they particularly liked, including visuals, sound, and/or actions.	• invite a variety of performers to visit the classroom and perform. • use rich and detailed language when giving feedback on children's storytelling/story acting.

VISUAL ARTS

Creating visual art is an ancient, and probably universal, practice. Young children start illustrating and decorating as toddlers, and are usually eager to work on and study art throughout their school years, if not through adulthood. With skilled guidance, making and studying art can help children cultivate not only art techniques and creative expression, but also thinking skills such as questioning, observing and describing, comparing and connecting, and exploring complexity.

The PreK–12 Learning Standards for the Visual Arts:

1. **Methods, Materials, and Techniques**. Students will demonstrate knowledge of the methods, materials, and techniques unique to the visual arts.
2. **Elements and Principles of Design**. Students will demonstrate knowledge of the elements and principles of design.
3. **Observation, Abstraction, Invention, and Expression**. Students will demonstrate their powers of observation, abstraction, invention, and expression in a variety of media, materials, and techniques.
4. **Drafting, Revising, and Exhibiting**. Students will demonstrate knowledge of the processes of creating and exhibiting their own artwork: drafts, critique, self-assessment, refinement, and exhibit preparation.
5. **Critical Response**. Students will describe and analyze their own work and the work of others using appropriate visual arts vocabulary. When appropriate, students will connect their analysis to interpretation and evaluation.

Methods, Materials and Techniques		
Possible Learning Activities: Children could…	**Possible Evidence of Learning: Children may…**	**Supportive Practices: Educators could…**
• investigate how various media, surfaces, tools, and techniques can be used to produce different visual effects. • experiment with a single material/medium on multiple surfaces, try many materials on the same surface to discover the different ways materials can be used to produce a variety of effects, the advantages or disadvantages of each for specific purposes, and revisit materials to build on past experiences.	• make impressions in clay or play dough with common objects. • use a specific material/medium in order to get an identified effect. • identify some primary and secondary colors, and use them in various ways. • play "I Spy" using appropriate vocabulary (e.g., "I Spy a collage"). • create picture dictionaries, defining various terms to help them using correct terminology for materials, tools, and	• provide a variety of materials and media for children to explore independently. • provide a "studio" space for children to experiment with various mediums. • use appropriate vocabulary (e.g., collage, sculpture, tempera) when introducing activities. • introduce the paper collages of Henri Matisse and compare with the illustrations of Eric Carle. • look at different kinds of prints (eg.,

Possible Learning Activities: Children could…	**Possible Evidence of Learning: Children may…**	**Supportive Practices: Educators could…**
• experiment with combining various materials. • use found materials to create collages (e.g., feathers, buttons, fabric, recycled materials). • use a variety of painting techniques (e.g., various size brushes, sponges, cotton balls, Q-tips, fingerpainting, printing with found objects such as sponges, corks). • create a collage or book of colors, read books about colors, explore one color at a time in wet and dry media, • sort materials by technique (e.g., sculpting materials, collage materials, painting materials, etc.). • discuss how tools such as scissors and brushes should be cared for properly and used safely.	techniques. • discuss use and care for art materials responsibly, carefully, and safely for the purpose intended. • take responsibility for caring for various art media respectfully (e.g. make sure lids are on play dough).	lithographs, woodcuts, rubber-stamps, silk-screened T-shirts). • compare paintings and photographs. • look at sculptures in different media (e.g., marble, bronze, wood, found objects). • develop rules and routines with children around care and safety of materials and tools.

Elements and Principles of Design		
Possible Learning Activities: Children could…	**Possible Evidence of Learning: Children may…**	**Supportive Practices: Educators could…**
• explore ways to use or combine different types of lines to create shapes, letters, drawings. • take a "line walk" to observe and label various kinds of lines in the environment on walls, ceilings, buildings and fences or explore architectural lines in environmental photographs. • examine objects in nature to find naturally occurring lines (e.g., lines on sea shells, in wood, on leaves). • make crayon rubbings and later match their rubbing to the original texture. • use a single texture theme to create a	• identify some primary and secondary colors, and use them in various ways. • identify a few types of lines and symbols in two and three dimensions. • create two-dimensional works using various materials (e.g., colored pencils, crayons, tempera paint, pastels, string or fibers, textiles, papers), separately and together. • use clay or construct assemblages using various materials (e.g., cardboard, small boxed, found objects, pipe cleaners, buttons, shells, recycled materials, plastic straws), experimenting with ways to hold	• introduce primary colors only for children to mix, including paints, food coloring, tissue paper. • create a collage or book of colors, read books about colors, explore one color at a time in wet and dry media, combine primary colors, compare complementary colors, and experiment with adding black or white to colors. • display examples of different kinds of lines in the environment, architecture, or in works of artists such as Piet Mondrian or Henri Matisse. • have available books with highly textured

Possible Learning Activities: Children could…	**Possible Evidence of Learning: Children may…**	**Supportive Practices: Educators could…**
collage(e.g., soft, hard, fuzzy, rough,, smooth, shiny). • use textured materials to create pictures and/or books. • look for patterns in windowpanes, tiles or fabrics. • create a class quilt on a mural using shapes/strips of patterned or colored paper. • draw or paint using a specific area of the paper, such as the middle, corners, edges/borders.	these materials together (e.g., glue, staples, string). • identify and describe samples of various textures without looking (e.g., by touching samples in a mystery bag). • discuss objects with distinctive textures. • make a collage or assemblage using shapes of their choice. • create artwork with a theme of circles squares or triangles or using natural forms. • create repeating patterns with stamps or sponges, or string beads in repeating patterns of color and shapes. • illustrate beginning concepts of space and composition in art works. • identify the center of interest and examples of repetition in paintings as the "the Bathers" by Georges Seurat or "Landscapes with Houses at Ceret" by Juan Gris.	illustrations. • stock art shelves with various textured materials. • display books, posters, prints of geometric and organic shapes and forms (e.g., paintings of Paul Klee, mobiles of Alexander Calder). • display books with illustrations of patterns and symmetry • use art prints to engage children in conversations such as, "What is the center of interest, or subject of this painting?" "What kind of shape is around the subject/center of interest (i.e., negative space)?"

Observation, Abstraction, Invention and Expression		
Possible Learning Activities: Children could…	**Possible Evidence of Learning: Children may…**	**Supportive Practices: Educators could…**
• observe forsythia in a vase and paint a representation of it with watercolors. • create a puppet or clay model of a character from a story. • create props for use in imaginary play.	• create artwork from memory or imagination to tell a story.	• provide opportunities for children to observe and represent a variety of objects. • provide opportunities for children to create artwork from memory or imagination. • have examples of abstract art available in different centers. • provide open ended experiences for children to explore and create with a variety of materials.

Drafting, Revising, and Exhibiting		
Possible Learning Activities: **Children could…**	**Possible Evidence of Learning:** **Children may…**	**Supportive Practices:** **Educators could…**
• work collaboratively to create art work for display. • choose a piece of their artwork to display, accompanied by dictated labels or descriptions.	• create a personal book of their artwork. • explain their choice of personal works of art with a educator, classmate, or parent, and describe how they were made.	• use thinking and feedback protocols to encourage revisions. • organize a classroom art show.

Critical Response		
Possible Learning Activities: **Children could…**	**Possible Evidence of Learning:** **Children may…**	**Supportive Practices:** **Educators could…**
• look at and compare illustrations in story books, finding similarities/differences in line, color, texture.	• use shapes as a starting point in a drawing or design.	• read books with high quality illustrations and use the vocabulary of art, such as line, color, and texture.

Appendix A

STRATEGIES FOR SUPPORTING CHILDREN WITH DISABILITIES IN INCLUSIVE SETTINGS

Effective Instructional Strategies based on Universal Design for Learning (UDL)

- Present curriculum content in more than one way (e.g., audio books for children who have visual disabilities and those who are more auditory learners; creating both a pictorial and literal timeline of the day's activities for visual learners as well as those learning to read) and at various times in the daily routines such as circle time, dramatic play, independent exploration, group problem solving, etc.
- Incorporate children's interests into the curriculum.
- Promote the processes of exploration and discovery.
- Provide children with choices for engaging with the curriculum by offering multiple activities that incorporate the same objective and keep in mind multiple goals and objectives that can be reached through each activity.
- Provide adjustable levels of challenge.
- Allow sufficient time for children to fully explore and practice.
- Choose books, materials and activities that are sensitive and responsive to diversity.
- Avoid using indefinite pronouns (he, she, him, her, it, that, them) – be specific when referring to objects or people.
- Use visual prompts (e.g., picture and word representations or concrete objects).
- Use books that have audio counterparts. Audio books can assist children who have visual disabilities as well as those who are more auditory learners.

Educator Reflection on Inclusion

- Effective teaching means teaching intentionally, and reflecting constantly – both planning ahead and looking back. Reflection impacts the next level of planning and teaching intentionally. If all the children did not have the necessary skills or knowledge for an activity, consider what could have been done differently to prepare for the activity.
- When an activity is over, consider the following questions:
- Did all the children have the necessary skills/knowledge for this activity?
- Were all the children engaged?
- Who was not? Why?
- What did you observe about the group? Individual children?
- What needs to happen next?
- How will we accomplish it?

Strategies for Planning the Environment and Activities

- In inclusive programs, the classroom environment may need to be adapted to enable children with disabilities to access activities and materials with their peers. When planning activities, educators can ask themselves questions such as:
- Can all children access this activity as planned?
- How will a child with vision or hearing disabilities relate to this activity?
- What adaptations can be made to increase sensory input?

- How could a child with delayed cognitive development participate successfully in this counting activity (e.g., would manipulatives, a bead frame, or abacus enhance comprehension?)
- How can group time be relaxed to allow children with short attention spans or behavioral issues to participate successfully?
- How could this activity be made more meaningful relevant to all children?

Strategies for Arranging the Physical Environment for Inclusion:

- Make accommodations to enable children to participate in outdoor experiences and all classroom activities.
- Ensure that all areas are accessible and can accommodate wheelchairs, walkers or special seating devices if needed.
- Place toys and materials on low open shelves that can be reached easily by all children, including those using wheelchairs or adaptive devices.
- Arrange the environment to reduce distractions by separating noisy, active areas from quiet areas, and define areas with furnishings.
- Arrange environment in ways that encourage children's interactions (e.g., placing chairs/tables so children face each other; creating spaces for small groups of two and three children to work together).
- Provide time for children with visual, cognitive, or behavioral disabilities to explore the room with a teacher whenever changes are made (keep furniture rearrangements to a minimum).
- Offer extra encouragement to children with developmental delays, low muscle tone and strength to attempt gross motor activities.
- Children with sensory integration issues may need alternative seating options, such as a soft beanbag chair or chairs with straps that hug their bodies.
- Regardless of physical disabilities, children who are afraid of or intimidated by activities that involve physical skills may need additional planning and encouragement by staff to begin to develop the confidence to participate in physical activities. Such adaptations may be as simple as placing a balance beam on the ground instead of elevating it, or holding the hand or having the physical support of an adult beside them, or beginning.

Instructional Strategies to Support Children with Disabilities:

Strategies designed to support children with disabilities are likely to benefit <u>all</u> children with a range of abilities or background experiences. At the preschool level, educators and families are just beginning to learn about children's developmental capabilities and needs. Some children may have Individual Education Plans (IEPs), but for many children, especially those who have not previously been in group settings with peers, developmental or learning needs may not yet have been diagnosed. It is therefore critical that educators and caregivers observe children carefully and plan experiences with a broad perspective.

Ideas for Strategies Across All Developmental/Curriculum Areas:

- Explore the extent of children's personal background knowledge about topics/concepts by creating K-W-L charts.
- Define and discuss terminology using different modalities based on individual needs.
- Pre-read books to identify vocabulary or concepts that may need to be clarified.
- Provide many opportunities for children to use and revisit a variety of materials and manipulatives for practice & reinforcement.
- Preview an activity with individual children to prepare them for experiences.
- Use visuals such as charts, step-by-step instructions, etc. for children to use as reference to complete projects or processes.
- Provide picture cues, props, manipulatives to help children describe their stories or ideas.
- Use visual cues such as photographs or illustrations for children to identify/express emotions.
- Provide mobile phones, tablets or computers with speech-to-text and photo or video capabilities.
- Accept/encourage various means of communication for children to express knowledge, ideas, needs, feelings, skills, or to share information (e.g., verbal language, sign language, gesture, dramatization).

STRATEGIES FOR SUPPORTING CHILDREN WITH DISABILITIES IN INCLUSIVE SETTINGS

- Accommodate the needs of children who have limited verbal fluency) by offering alternative ways of expressing their ideas.
- Encourage non-verbal responses for children with disabilities.
- Rephrase questions.
- Provide frequent comprehension checks.
- Acknowledge and respond to children's non-verbal communication strategies and confirm understanding of child's intent.
- Use sentence starters ("I notice… ") and question starters ("Who, what, when, where, why, how?").
- Emphasize what children can do and enjoy doing, to build confidence in their capabilities.
- Use conversation strategies (e.g., turn and talk) to help children use language to express themselves and communicate with peers.
- Form heterogeneous partners for activities to allow children to support each other.
- Use peer scaffolding (pair a child with lower skills with a child with higher skills).
- Help children to concentrate or focus by providing a textured object to hold (e.g., a "fidget").
- Make accommodations to enable children with disabilities to participate in outdoor experiences.
- Provide individual physical adaptions or materials for communication or writing as needed (e.g., pencil grips, slant boards, weighted vest or lap vest, lap pad, sit-n-move cushion, adaptive keyboards, IPads, Dictation).
- Give hand-over-hand assistance as needed when supporting children's early writing.
- Use adaptive writing strategies as needed (e.g., pencil grips, small pencils, etc.).
- Use a total communication approach (combination of verbal, gestures, signs, voice output devices, pictures, etc.).
- Use manipulatives such as puppets to help children understand books or stories read aloud.
- Use audio books to help children with disabilities or DLLs.
- Provide larger or sturdier board books for children who need them.
- Label shelves or storage containers with visual cues so that it is easy to find and clean up materials.
- Offer frequent presentation/availability of visual supports, models, or illustrations to aid comprehension.
- Use adaptive/assistive technology, to support individual abilities for children who do not have oral language (e.g., Mayer Johnson Boardmaker™ symbols, iPads or other augmentative communication devices).
- Provide activities that allow children to use their senses to describe, discriminate, identify, and compare the properties/characteristics of materials (this is particularly important for children with sensory-related disabilities needing or those needing sensory integration experiences).
- Use concrete objects or adaptations and hand-on manipulation of materials to facilitate mathematical learning (e.g. abacus, computer software; picture cards).
- Provide individual and/or small group instruction.
- Model, scaffold, repeat and rephrase instructions to help children with disabilities or DLLs.
- "Chunk" information to help children digest new information.
- Allow wait time for children to respond to questions.
- Engage therapists to be sensitive to the fact that some children find certain art materials (e.g., clay, finger paints, foil) unpleasant or threatening to touch and suggest alternatives.

STRATEGIES FOR SUPPORTING CHILDREN WITH DISABILITIES IN INCLUSIVE SETTINGS

Adaptations for Specific Disabilities

For children with visual disabilities:

- Place direct lighting over work areas and locate art areas near bright, indirect light.
- Have children identify themselves before speaking.
- Use thick cord taped to the floor to mark children's personal space.
- Use art materials that provide texture (e.g., gel paint that dries with a raised surface; tempera paint with sand added); high-contrast paper (light, dark, shiny, sparkling); bold colors that are easy to differentiate.
- Provide materials with Braille and tactual symbols along with opportunities for development of tactile skills.

For children with hearing disabilities:

- Use visual pictures or symbols to illustrate the words to songs.
- Provide visual cues such as red and green cards to indicate that the drumbeat or music has started or stopped
- Face children and tap out the rhythm on a drum in their view; invite them to feel the drum.
- Include visual props to enhance the meaning of songs or stories.
- Invite children to sit near the speaker or lean against the piano to feel the vibration as music is played. Also increase the bass.
- Create "storyboxes" for familiar stories. For example, place props for the story *The Three Little Pigs* in a box. When the story is read aloud, the props offer both tactual cues for the words being read, and the opportunity to act out story components. In this way concepts that might be available only by seeing or hearing will be made more meaningful while also allowing children more direct involvement with the story. These strategies enhance the activity for all children, not just those with a disability.

For children with language disabilities:

- Provide positive models of communication (in any language).
- Use special or adaptive devices to increase a child's level of communication and/or participation.
- Use a favorite toy, activity, technology, or person to encourage communication and/or participation.
- Provide opportunities for interaction with typically developing peers.
- Use a variety of symbols (tactual symbols, object symbols, picture symbols such as Mayer-Johnson pictures) around the room along with various printed materials that support children's primary languages while they are learning English (e.g., books, newspapers, magazines in the dramatic play area).
- Arrange the room to encourage language and conversations (e.g., tables pulled away from walls so that children sit or stand opposite each other).

For children with physical disabilities:

- Use adaptive equipment and furniture so children can participate in all parts of the curriculum, small and large group activities, circle time, etc., along with their peers.
- Ensure that classroom space allows for wheelchairs, walkers or other equipment so that children using them can move about the classroom safely and independently.
- Use adaptive equipment on the playground so that children can play with their peers and benefit from physical exercise.
- Ensure that the classroom is arranged so that toys, games, dramatic play and art materials are equally accessible for all children.

STRATEGIES FOR SUPPORTING CHILDREN WITH DISABILITIES IN INCLUSIVE SETTINGS

Supporting Advanced Learners

Some children are noticeably advanced in their thinking and development across several domains. Educators should be careful to look beyond superficial characteristics (family circumstances, culture, and language, i.e., stereotypes) in identifying advanced learners. The following are typical characteristics of young children who are advanced learners (Colangelo et.al., 2004):

- advanced verbal ability
- advanced/early reading
- strong mathematical skills
- long attention span
- ability to reason abstractly
- asking insightful or advanced questions
- interest in time

For these children, insufficient challenge and curriculum designed for typical kindergartners may lead to boredom and frustration, and they may present behavior problems as a result. Some children learn that they do not have to work to succeed. A well-designed differentiated and integrated curriculum will meet the educational needs of most children. The combination of these approaches engages and advances the learning of children across the developmental spectrum. Enrichment activities are valuable and should be used, but not necessarily just with one or a few advanced learners—most of these activities can benefit all children.

STRATEGIES FOR SUPPORTING DUAL LANGUAGE LEARNERS

Strategies for Working with Dual Language Learners

Children who are just starting to learn the English language, or children with limited vocabularies, need many opportunities to use language in conversation, look at illustrations and written language in books, and listen to others speak and read aloud. Listening to books with pictures and print read aloud on CDs or tapes may enhance children's understanding and learning, particularly if discussion with peers or an adult is included. The speaking and listening abilities of these children in particular should be closely observed and assessed on an ongoing basis during classroom activities. The "Classroom Practices and Strategies" listed for children with disabilities are also relevant for DLLs, and a non-exhaustive list of suggestions for teaching English language learners is below.

- Read aloud and add books to the class library in languages represented in the classroom as well as bilingual books for children who are English language learners.
- Be aware of diverse non-verbal social cues, which differ from culture to culture.
- Team teach with a parent/guardian or staff member who speak a child's/children's native language.
- Use staff, parents and/or older children as interpreters.
- Take advantage of cognate words in English and other languages.
- Assist children in composing messages.
- Offer pictures from books to retell, and then help children with dictation.
- Have the child choose a picture from the story, then assist him/her to write a few words to retell the event in the picture.
- Increase background knowledge of subject by adding books and pictures of the subject.

STRATEGIES FOR SUPPORTING DUAL LANGUAGE LEARNERS

- Use words in children's native language if necessary.
- Organize relevant field trips to strengthen understanding of a topic.
- Offer pictures of a topic or experiences to help children recall an event.
- Respect the idea that when children are learning English as a second language, they may need to remain silent as they gradually learn about the sounds and conventions of spoken English.
- When possible, teaching staff may learn the specific sounds in English that do not occur in a child's native language (e.g., the differences in pronunciation of *b* and *v* in spoken English and Spanish). Once children learn sound-symbol relations, they may practice identifying words, decoding simple texts, and writing in English.
- Provide opportunities (and support) for children to talk with one another – informal conversations can be a form of peer tutoring, and have been shown to be a motivator for young children learning a second language.
- Build recognition of word families (e.g., *-at* words such as *bat*, *mat*, *rat*). Use a limited set of letters to build as many familiar words as possible so children gain fluency quickly and learn about written letters and how they relate to sound patterns.
- Build recognition of high-frequency words whenever possible (e.g., *the, of, are, you*) through listening, reading, and writing. A "word wall" that associates words with meaningful objects and actions may be helpful. This kind of resource can be constructed over time by writing new words on paper and alphabetizing them on a bulletin board.
- Build syntactic and semantic awareness. Young children's attempts to understand any language result in incorrect grammar at first in the attempt to create order and generalize rules (e.g., "I *rided* to the store"). Adults can model proper usage and syntax, and ask children whether words make sense in a sentence rather than just pointing out and correcting errors.
- Pair English language learners with native English speakers. Many times children can understand each other before they are understood by adults.
- Pair a child with a peer speaking the same language.
- Use a recording, video or a person who speaks the child's language to introduce a rhyme, song or poem with a beat to help children respond to rhythm and/or rhymes. *Note that some languages do not include rhyme.
- Define/reinforce and emphasize words and events in stories and illustrations from informational books.

FAMILY ENGAGEMENT STRATEGIES

Strategies for Family Engagement

The 2016 joint policy statement from the United States Department of Health and Human Services and Department of Education states that: "LEAs, schools, child care networks, and early childhood programs should send a strong message that family engagement is a priority and that all families are valued as essential partners with systems and programs in supporting children's development, learning, and wellness. LEAs, schools, and early childhood programs can do this by aligning their goals and outcomes with their respective State or Federal Family Engagement Frameworks, such as the Head Start Framework for Parent, Family and Community Engagement; the Strengthening Families Framework; ED's Dual Capacity Building Framework for Family-School Partnerships; or frameworks otherwise adopted in Child Care State plans or SEA plans. Plans should clearly articulate the family engagement principles, goals for family engagement activities, specific actions and timelines to meet those goals, and evaluation activities to measure the attainment of the goals. They should be relevant and culturally responsive to communities, and a diverse array of families, administrators, educators, community members, and other experts should guide the development of local, program-specific family engagement plans. In order to evaluate progress and make any changes needed to ensure continuous improvement, plans and data should be reviewed regularly, with input from families and community partners." (USDHHS/DOE, May

2016)

"Two-way home-school communication reflects the reciprocal nature of parent-teacher communication. Open and dynamic communication channels invite and encourage parents to share questions, comments, and feedback with teachers, and ensures that families inform educators in addition to being informed by them. Using a folder or journal specifically designated for transporting information between home and school provides an easy way to consolidate communication and share information—children, teachers, and families know just what to look for and where to look for it. This also contributes to self-management skills, as it helps children (and their parents) stay organized." (Albright et.al., 2011, p.7)

The tone or quality of communication with families can be critical. "How school personnel talk about children in both formal and informal interactions early in the school year has a significant impact on the development of relationships with their families." For instance, the ability of educators to see different aspects of a child's personality aside from academic achievement, or focusing on the individual child's progress rather than using other children as a reference for comparison. It is important for members of the teaching team to convey clear, consistent messages that they are happy to have this child in the classroom and that they hold high expectations for the child's achievement. (Davern, 1996)

Some ways to engage and involve families include scheduling conferences and meetings around parents' schedules; informing families about the curriculum; offering mentoring and support groups, and soliciting feedback and suggestions from families.

"Effective efforts to promote home-school communication and family involvement at home and in school comprise four key ingredients:

- *Child-centered communication* that is specific to the child; this type of communication is most likely to engage parents, due to its personalized nature and individual relevance.
- *Constructive communication*—information that is meaningful and useful because it provides families with practical suggestions.
- *Clear and concrete guidelines and strategies,* which are most beneficial to families in supporting children's actual learning.
- *Continual, ongoing communication,* which keeps families informed about and in sync with classroom practices and policies, and children's performance and skill development." (Albright et.al. p.3)

Strategies for home-school communication:

- *Assess the different preferences, perceptions, and practices of the children and families you work with:* Educators can distribute surveys to learn about parents' preferences for communication (e.g., in person, phone, mail, e-mail) and involvement, and their perceptions and practices.
- *Involve or highlight children in information shared with families:* Although parents benefit from general information about skill development and performance, they are often most interested in information that is specific to their own child.
- *Be positive and communicate respect, support, and appreciation:* When speaking with families, regardless of the type of information you have to share, acknowledge children's strengths as well as areas for improvement.
- *Share information about policies and practices:* Sharing information about classroom rules and guidelines keeps families informed and minimizes the potential for misunderstandings and miscommunication. Learning about classroom routines also increases the likelihood that parents will use complementary strategies to cue and manage behavior at home.
- *Create a home-school-journal or back-and-forth-folder for parents and educators:* Two-way home-school communication reflects the reciprocal nature of parent-educator communication. Open and dynamic communication channels invite and encourage parents to share questions, comments, and feedback with educators, and ensures that families inform educators in addition to being informed by them. (Albright et.al. p.5-6)
- *Provide diverse and ongoing involvement opportunities for families:* Parents have different styles, skills, and schedules, so schools need to make a

range of opportunities available to accommodate diverse parent interests and availability.

Strategies to support family involvement:

- It is always beneficial to share the context of classroom activities with families and provide ideas for ways that classroom learning might be reinforced or extended at home. Parents can be encouraged to capitalize on "teachable moments," such as encouraging children to observe things that happen during daily routines (e.g., playing "I Spy" while riding in the car) and expanding children's natural curiosity by using prompts and open-ended questions such as "Tell me what you're working on" or "What do you notice?"
- Families could be encouraged to investigate/research internet resources with children to learn new or additional information. The more family members understand HOW their children learn, WHAT they are getting out of various kinds of experiences, and WHY they are interested in various topics that are being investigated in the classroom, the better able they will be to support and reinforce their children's understanding of concepts.
- Educators could assist families by offering "home learning kits" on topics of interest to enhance parents' success in supporting learning at home. Schools could develop family resource centers, collaborate with local libraries to hold such resources and develop parent-child activities, and encourage families to take advantage of area museums and their resources.

English Language Arts:

- Provide story starters to families to encourage children to create stories.
- Provide regular newsletters that include:
  - sharing activities and songs that families can do at home;
  - questions families could ask children about their play and learning during the week to promote conversation;
  - classroom vocabulary with definitions;
  - ideas for ways families might extend or reinforce learning at home.
- Create activity bags that include a related story and activity related to specific concepts being covered in the classroom.
- Encourage families to integrate writing into authentic everyday activities such as making shopping lists, writing thank you notes, writing postcards, letters or cards to relatives.
- Encourage families to play "I Spy" games to find upper and lower case letters in signs, posters, billboards, and other environmental print in their homes, in stores, as they travel, etc.
- Encourage families to do a "word hunt" when reading together with children.
- Share "story starters" or prompts for families to encourage children to retell events from their day, or a story read.
- Encourage children to interview a family member using core question words.
- Encourage families to use temporal language with children (e.g., "yesterday, tomorrow, etc.").
- Use an "Oh What a Weekend' journal in which children write sentences with family members and then return it to school to share.
- Provide guidance for how to do "Think Alouds" during book reading experiences.
- Provide each child with a journal to take home and encourage regular writing with families.
- Send home backpacks with books and questions to stimulate conversations, to be returned a few days later.
- Invite parents to read aloud in the classroom (introduce texts to parents prior to the lesson including dialogic reading kits).
- Invite a parent to talk about a family or cultural tradition which may introduce new word (e.g., a feasting tradition).
- Provide definitions of core vocabulary (e.g., "chrysalis" including a picture of a butterfly).
- Send home copies of songs, short poems, finger plays, etc.

FAMILY ENGAGEMENT STRATEGIES

- Children take home a class-made book, and describe the story and illustrations to family members.
- Send home a class mascot (e.g., a stuffed animal or laminated picture of a character) along with a journal and a related story for families to read and write about.
- Send home a laminated photo of the topic being studied along with journal for responses to a conversation with their child.
- Print out the words of familiar songs, poems, rhymes, or fingerplays and send them home to share with families.
- Ask parents to help their child use technology appropriately (e.g., to send an e-mail to their teacher).
- Send home a survey the children created for families to respond to.
- Model or describe how to have meaningful conversations with children in a variety of settings (e.g., about foods in the supermarket; plants in the garden; traffic or buildings observed while riding in the car or bus; about waking up or bedtime routines; about counting, shapes, and colors).
- Describe opportunities for walking field trips and taking photographs of the community to share with the class.
- Record a video during class of children carrying out a new activity, send the video home to families, and then invite families to see how other children completed the same project.
- Encourage families to build or cook something together at home and then talk about the experience.
- Send home richly-illustrated wordless books for discussion. This will work well with families whose home language is not English.
- Inform families about the importance of early math, model or provide concrete examples of how children learn math, and ways to increase children's interest.

Science & Technology/Engineering:
It may help families to understand Science, Technology and Engineering by simplifying the concepts. A STEM guide developed by the Boston Children's Museum defines these terms as follows:

- "Science is a way of thinking. Science is observing and experimenting, making predictions, sharing discoveries, asking questions, and wondering how things work.
- Technology is a way of doing. Technology is using tools, being inventive, identifying problems, and making things work.
- Engineering is a way of doing. Engineering is solving problems, using a variety of materials, designing and creating, and building things that work." (Boston Children's Museum, 2013)

- Help children to see science in the world around them by taking advantage of natural wonders in their own back yards and neighborhoods (e.g., living creatures, plants, seasonal changes, etc.).
- Simple activities, such as filling a jug full of acorns or rocks from the beach that children have collected can provide hours of fascinating fun as they compare and contrast their characteristics using a magnifying glass.
- While cooking, children could help add ingredients to recipes and observe changes that take place.
- Families can take advantage of community resources, such as nature centers, science museums, children's museums, and museums of natural history.
- Light and shadow: create simple hand puppets with the children.
- Balance: provide illustrations of body balancing exercises (e.g., balancing on one leg); encourage families to engage in blockbuilding constructions with children.
- Heat and cold: compare what happens to different objects put in the sun or in the freezer (e.g., a piece of chocolate vs. a bit of fruit or vegetable vs. a block).
- Go on a scavenger hunt for natural and man-made materials.

FAMILY ENGAGEMENT STRATEGIES

- Observe bubbles in the bath water while bathing.
- Follow weather predictions in the newspaper, online or on the weather channel, then compare the predictions to the actual weather for that day.
- Ask children what kind of clothing they should wear based on the weather.

Mathematics:

- Provide take home activities (e.g., manipulatives and task cards) for children & parents to use together, such as comparing and contrasting attributes of household objects (size, volume, weight).
- Encourage families to use opportunities to reinforce or extend classroom experiences, and concepts in everyday experiences such as:
    - have a shape hunt at home;
    - talk about and identify shapes when shopping;
    - count the number of people in the family, the number of plates needed to set the table, the number of cookies in the jar;
    - when planning a gathering engage child in counting the number of people and calculating the total;
    - follow rebus recipes to make snacks and meals at home;
    - count the number of chocolate chips to put on a pancake or M&Ms on a cookie;
    - use egg cartons to sort objects;
    - sing children's number songs while riding in the car;
    - while at the grocery store ask child to "count on" from current aisle ("We are in aisle 4, what aisle would come next?");
    - use leftover food to feed birds, create a compost pile, etc.; and
    - include children in the process of purchasing items using actual currency.

Some other ways to engage and involve families include scheduling conferences and meetings around parents' schedules; informing families about the curriculum; offering mentoring and support groups; and soliciting feedback and suggestions from families.

ASSESSMENT STRATEGIES

The strategies outlined below refer to classroom strategies that could be used for informal, ongoing assessment in the classroom (assessment that is embedded in instruction) across various curriculum areas. They are not intended to replace or interfere with more formal methods of assessing children's development that may be used across districts, nor do they refer to procedures that may be used for screening children to determine risks for developmental delays.

Assessment Strategies

- Make recordings of small group discussions.
- Use photos, audio, or video recordings to document children's understanding and concept development.
- Add photographs of children in action, or of completed work to individual portfolios on an ongoing basis to document progress over time.
- Review portfolios with children and families.
- Make written or recorded transcriptions of child's responses.
- Support observations with anecdotal notes or running records.
- Create a class book or documentation panels illustrating children's work.

ASSESSMENT STRATEGIES

- Use a checklist/rubric for observation or specific skills/knowledge (e.g., children's retelling of a story and responses to questions).
- Create rubrics for ongoing observation to determine progress and acquisition of various skills. (e.g., a writing continuum, matching letters with sounds, etc.).
- Engage in frequent conversations with children and document vocabulary use, concept development, etc. (e.g., for mathematics - shapes, numbers, patterns, etc.).
- Review children's drawings and text (dictated or written) to determine understanding of connections between text and illustrations.
- Use illustrations from a book read aloud to discern children's understanding of characters, events, etc.
- Observe appropriate use of technology.
- Assess the quality of children's questions or the information children gather for shared research or writing projects.
- Use Bloom's Taxonomy:
    a. ***Remembering*:** can the child recall or remember the information?
    b. ***Understanding*:** can the child explain ideas or concepts?
    c. ***Applying*:** can the child use the information in a new way?
    d. ***Analyzing*:** can the child distinguish between the different parts?
    e. ***Evaluating*:** can the child justify a stand or decision?
    f. ***Creating*:** can the child create a new product or point of view?
- Observe children's interactions at the beginning of the year and document their growing independence in working with others as the year progresses.
- Observe children at play in a variety of settings throughout the day, including meal times, and document their thinking or learning demonstrated in informal comments or conversations.
- Examine children's writing samples in journals, on pictures, or other authentic writing experiences.
- Listen for children's use of vocabulary and language structure in informal routines and activities.
- Create a checklist for use of target language.

Appendix B

SCIENCE AND TECHNOLOGY/EGINEERING: INQUIRY STRATEGIES

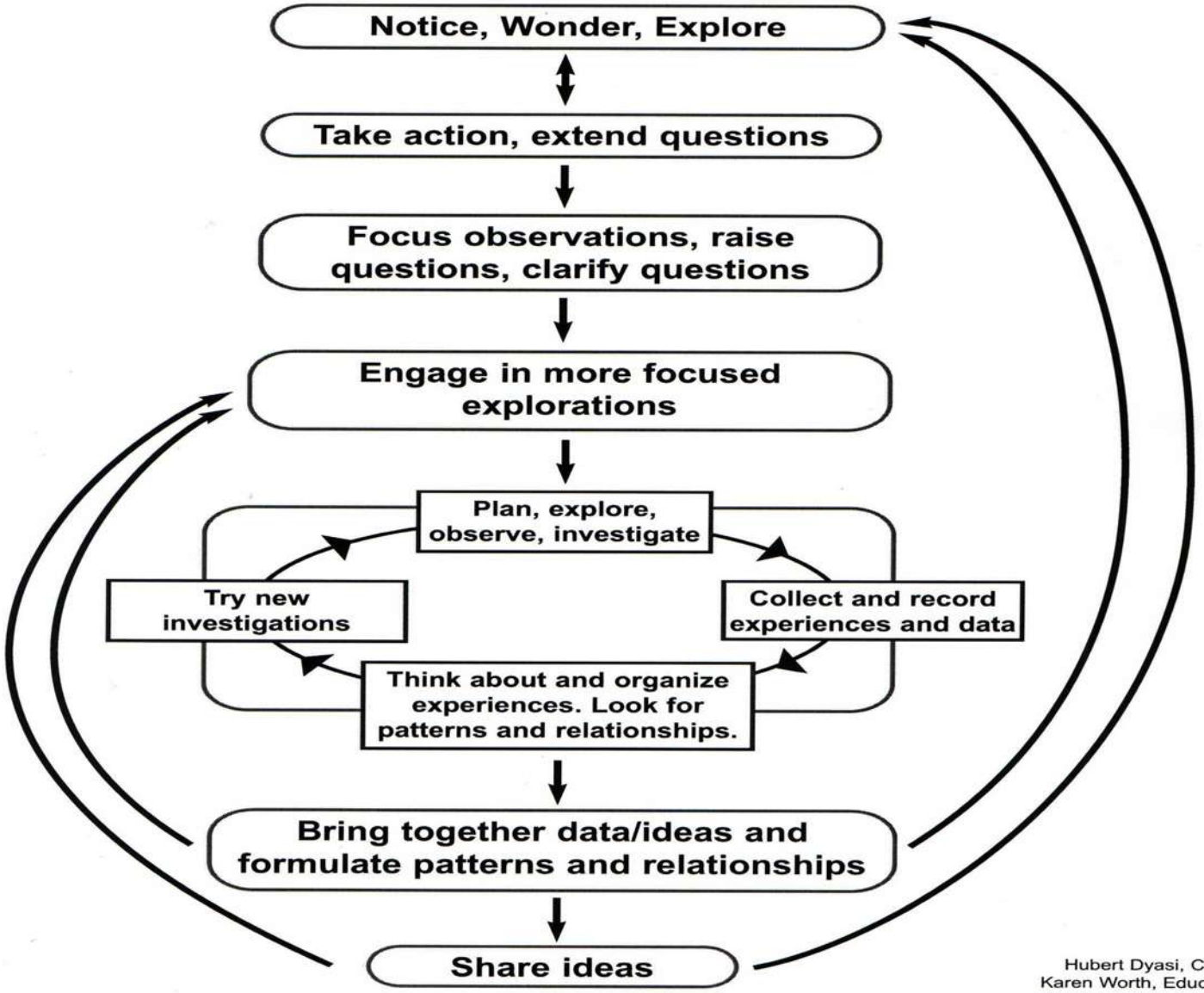
INQUIRY

The topic of "Inquiry" is not addressed as a separate strand in the 2016 standards for Science and Technology/Engineering, but rather is embedded in other topics by assumption. This is a change from the *Guidelines for Preschool Learning Experiences* (2003 green book) and the *Kindergarten Learning Experiences* (2008 pink book).

Inquiry is defined by the National Research Council in The National Science Education Standards (1996):
"Inquiry is a multifaceted activity that involves making observations; posing questions; examining books and other sources of information to see what is already known; planning investigations; reviewing what is already known in light of experimental evidence; using tools to gather, analyze, and interpret data; proposing answers, explanations, and predictions; and communicating the results." (National Committee on Science Education Standards and Assessment, p. 23)

Inquiry transcends the boundaries of content to embrace all other curriculum areas as young children seek answers to their questions about who, what, where, when, why, and how things work in the world. So, we begin by recognizing that learning cannot and should not be delegated into "silos" of content, but are all interconnected, and the more connections educators can make among content areas, the more meaningful children's learning will be.
Children need to see adults' desire to learn about the world by observing their interest in exploring and learning. They learn from adults' modeling of questions such as "I wonder why/how/what if?" and from adults promoting discussions about how they might find the answers to their questions. Children's understanding of an idea can be deepened by going beyond the activity - by asking and refining their questions, reflecting on what was experienced, and communicating with others.

YOUNG CHILDREN'S INQUIRY



Hubert Dyasi, CCNY;
Karen Worth, Education
Development Center, Inc.

PRACTICES THAT SUPPORT YOUNG CHILDREN'S LEARNING IN SCIENCE AND TECHNOLOGY/ENGINEERING:

Some strategies for supporting learning in science and technology/engineering:

- *Set up an environment that invites investigation*: Offer opportunities for children to observe, examine, experiment, discuss, describe, document, and compare/contrast materials, events, living things, and phenomena, and opportunities for them to collect data and reflect on changes over time. A learning center for science in a classroom should be safe and attractive, frequently change elements and focuses, lead children to investigate and extend their observations through the use of tools and allow children to describe their findings through representation. It should offer opportunities for children to observe, explore, discuss, document, and compare and contrast materials, events, living things, and ideas. Give children opportunities to explore the properties and capabilities of various materials by combining, constructing, sorting, and to handle/explore materials in the classroom, outdoors, or through field trips to museums or science centers. Contact with nature, preferably out of doors, but also with plants and animals in the classroom, is essential to healthy development of science skills and concepts. For many children in urban and suburban settings, spontaneous and semi-structured experiences in nature are becoming less frequent than in the past. Efforts to ensure that these children have chances to experience the natural world first-hand are critical. Give opportunities to observe and care for plants and living organisms (e.g., fish, guinea pig, salamander, snails, butterfly garden). Provide materials that children can use to create simple machines such as ramps, pulleys, wheels, and levers. Create opportunities for children to experiment with various tools and materials to solve practical design and engineering problems. Have interesting materials available that might inspire children's thinking. Provide a wide variety of literacy supports for children's research including non-fiction and scientifically accurate fiction books, magazines, and media-based articles related to classroom projects and themes and children's interests. It's also important to help children to understand that the quest for knowledge is a process that goes on throughout life, and to learn that changing their minds based on new information is to be expected.

- *Talk with and listen to children:* Children need to feel safe to share their thinking. Think about your questioning strategies and ask yourself whether you ask open-ended questions about objects, organisms, and events that encourage children to share their ideas. Take time for pondering and discussion so children can explore their current thinking. Talking about a science experience is perhaps the best way to find out what ideas children already have about a phenomenon and how they might have reached their conclusions. Give children opportunities to discuss what they KNOW, what they WANT to know, and what they LEARN ("K-W-L"). Children should also be encouraged predict what they think will happen, or what they will discover through investigations. Provide regular opportunities for children to reflect on their experiences in a variety of ways including discussions, journals, or cooperative projects. During and after children's investigations, educators can extend children's learning with experience charts, videotapes or digital photographs of the children in action, as well as their group or individual discussions. Record as many responses as possible, encourage all children to talk, and use open-ended questions that promote expansion. When adults ask "why" questions of children, it implies that the adult is asking for a discrete right answer. Instead, prompts such as "Tell me more about that…" can draw out information about children's thinking and what they know (or think they know) about the world. With this knowledge, educators can guide children toward exploration that represents the next step in their individual thinking about scientific ideas. Children are typically full of questions about the natural world, which can turn into an endless series of "why..."

  Educators can help children develop questions that are of interest to them (as a group, or as individuals) into forms that may be answerable (e.g., turn a "why" question into a "what if," "when," "how," and/or "what" question). "What" questions can generate conversations as educators help children focus on what they are observing and noticing. Examples of valuable "what" questions include:
  - What happened?
  - What did you try?
  - What have you changed about what you are making?

- What are some ideas you haven't tried yet?
- What have you seen other people trying?
- What do you notice about ___?
- What do you think will happen if we ___? (Boston Children's Museum, 2013)

- *Encourage children to find answers to their questions and evidence for their ideas.* Often, an adult's first impulse is to identify a child's misconceptions and then provide evidence and correct information, with the underlying assumption that the child will assimilate this information into his or her thinking. However, young children do not change their beliefs quickly or easily. It's important to address their prior knowledge and misconceptions. By asking children questions such as "What do you *think* you know about…?" and "What makes you think that?" educators can find out what children's misconceptions are and structure opportunities for children to correct them. Educators can first listen to children's ideas (regardless of whether or not they are considered scientifically correct) and ask the children to "find evidence" to support their theories. Educators can model use of the scientific method. By finding their own evidence to support/refute their ideas, children learn that ideas can be taken seriously if there is some evidence on which the ideas are based. By seeking and finding (or not finding) evidence that supports their theories, children learn that their ideas about the world are valued and that explanations of the world require more than imagination. This helps children understand that the quest for knowledge continues over time and learn that changing their minds based on new information is to be expected. As children examine a variety of resources to answer their questions, discuss the differences between factual and fictional books.

- *Encourage and facilitate documentation.* A science center should be safe and attractive, should change frequently, invite children to investigate, and extend their observations through the use of tools and representations. Children process their ideas and their experiences through drawing, writing or constructing. Children can brainstorm data collection methods as a group, then collect, record, and represent collected data in variety of ways such as tallies, simple bar graphs, charts, diagrams, drawings, photographs, cooperative projects, class books, or journals. Children can collect data and reflect on changes, such as in the growth of a plant. Children can communicate and represent their ideas and experiences through drawing, writing, constructing models, and demonstrations. Notebooks, descriptions, charts, and labels help children organize their thinking while also linking science with literacy. Labels/descriptions on constructions can help children begin to organize their thinking about engineering, while also linking with literacy skills. Some children might compare and discuss how simple data are displayed in two different forms (e.g., the same data displayed in a bar graph and in pictorial format).

- *Build on children's innate curiosity and provide opportunities for them to investigate and test theories:* Children are likely to become invested in topics that naturally interest them. Listening carefully to children's conversations, questions, and ideas in the classroom and outdoors can provide insight into the concepts that children wonder about, or have theories about. Kindergarten children can get involved in in-depth projects or studies over a period of time, gaining deeper and more detailed information as they go. They can be encouraged to forge ahead independently in their investigations, or the educator might join children in the activity, beginning by imitating the children, then moving beyond what children are doing. A key element in children's investigations is the opportunity to process their ideas by talking with each other and with the educator. Supporting children's learning does not necessarily mean asking probing questions during or after children's explorations… adults' probes and questions can actually interfere with learning. Educators might record data from children's conversations and explorations on chart paper, then later put the materials out so the children can recall what they did and why.

- *Keep children's safety in mind constantly:* Demonstrate the safe and proper use of tools and materials. See Appendix VI (pages 169-178) of the *Massachusetts Science and Technology/Engineering Curriculum Framework* for safety information around Facilities, Safety Practices, and Legal Issues related to science learning, including classroom safety and safety practices for working with tools, materials, and living organisms.

- *Give children opportunities to reflect on and revisit experiences:* Children sometimes get so engaged in the "process" that they do not consciously think about the reasons why things happen. They may not be able/ready to recall what they did or explain their thinking. Revisiting experiences is important so that children can refine and build on their understanding. Even after they have developed a concept, children may need to go back to the exploring stage to test it out in different ways. The more they work with activities and materials, the more they will be able to sort out and verbalize their experiences ("if I do this, that will happen").

- *Try to avoid isolated activities:* Draw attention to connections among topics to extend learning (e.g., the topic of habitats and homes overlaps with standards for life science and other standards such as weather and its impact). Help children to see patterns and connections through repeated explorations and conversations. Look for topics that can be explored over extended periods of time. Hands-on experiences put children into contact with the world, so that their explanations can be based on experiences with things that can be used as evidence. For instance, if children are able to observe, describe, and control the movement of a ball on a ramp, when they say, "the heavier one goes faster," they can actually show you what they mean, even if their theory is not scientifically accurate.

- *Prepare in advance:* Familiarize yourself with the material as much as possible. While reading about the concepts involved can help, actually engaging in hands-on experiences in advance can prepare you to anticipate the kinds of questions that are likely to develop as children explore the same materials. Learn for yourself by taking advantage of professional development opportunities; talk and partner with other educators to share information and ideas for activities.

Citations:

Boston Children's Museum (2013). *STEM Sprouts: Science, Technology, Engineering & Math Teaching Guide*. Sponsored by National Grid. Retrieved July 2, 2016 at: bostonchildrensmuseum.org.

Brenneman, K., Stevenson-Boyd, J., and Frede, E. (2009) Math and science in preschool: Policies and practice. *Preschool Policy Brief.* National Institute for Early Education Research (NIEER).

MA Department of Elementary and Secondary Education (2016). *Massachusetts Curriculum Framework in Science and Technology/Engineering*. Author.

NGSS Lead States (2013). *Next Generation Science Standards: For States, By States.* Washington, DC: The National Academies Press. Retrieved online July 2, 2016 from: http://www. nap.edu.

National Committee on Science Education Standards and Assessment, National Research Council (1996). *National Science Education Standards*. Retrieved online July 1, 2016 from: http://www.nap.edu/catalog/4962.html

Stone-Macdonald, A., Wendell, K., Douglass, A., and Love, M.L. (2014). *Engaging Young Engineers: Teaching Problem-solving Skills Through STEM.* Baltimore: Paul H. Brookes.

Appendix C

ADDITIONAL RESOURCES AND IDEAS FOR DANCE AND MOVEMENT EXPERIENCES

This section will be updated to reflect the Arts Curriculum Framework currently undergoing revision

Weblinks to Resources
Action songs: children's songs for movement, participation and dance from Songsforteaching.com Five Easy Social Dances for Early Elementary from the Kennedy Center ArtsEdge. Brain breaks: hundreds of movement videos with models and ideas from gonoodle.com Brain breaks: seven Youtube channels to get kids moving and grooving National Dance Education Organization Standards for Dance in Early Childhood Fostering Preschooler's Critical Thinking and Problem Solving Through Movement (Marigliano and Russo, 2011. ***Young Children.***) Teaching Young Children article: The Power of Creative Dance

Activity Examples
Moving with children. Examples of games and ways to incorporate movement might include: Play games that involve movement (e.g., "Simon Says," "Hokey Pokey", "Head, Shoulders, Knees and Toes", "**WHAT CAN YOU DO, PUNCHINELLO?", LITTLE JOHNNY BROWN** ; If you're happy and you know it) Play "statues" and "freeze" when the music stops. Move freely to recordings. Teach a variety of group dance styles including circle dances, conga and other line dances, and partner dances (see examples in the Kennedy Center ArtsEdge link in the resource list). Critical response: sample questions for discussion. • What body parts moved the most, and how were they moving? • What dance elements did you notice the most, and which were used most effectively: Rhythm? Use of space? (levels, types of locomotion, shape, design) Energy? Feeling? Costumes? Connections to culture? Music? • What is your overall impression of the dance? • What do you think the choreographers intended/what purpose does this dance have? • What is the choreographer trying to say? • Who made this, and why? • How does this work make me feel? • How would you evaluate this dance in general?

Activity Examples
Examples of dances and movement celebrating diversity, multiple cultures and/or languages: Popular children's dances from different cultures: AMERICAN: Kindergartener's Square Dance Canadian Step Dancing SPANISH: Mexican Hat Dance Columbian Cumba Dance Dominican children sing and play Brown Girl in the Ring (in English) PORTUGEUSE: Brazil Axe Dance Brazilian Street Dance JAPANESE: Japanese dance- Bon Odori CHINESE: Chinese New Year song: Gong Xi Gong Xi (Wishing you joy!) (learn to sing)- Chinese traditional dance Chinese dance for kids Children perform Chinese Ribbon dance FRENCH: Alouette (more complex version) Alouette (simple movements) Sur le pont d'Avignon Jean Petit qui Danse CARIBBEAN CREOLE A Bele dance song: Annayé Woy Woy Woy FRENCH CREOLE: Jamaican Dance Jamaican Dance: kid's song

Activity Examples
ISRAELI: The Hora: Hava Nagila (video) Directions ITALIAN: Traditional Italian dance: Tarentella Italian Folk dance in costume Giro, Giro, Tondo (circle game, similar to Ring around the Rosie) Puncinello, Funny Fellow (Originated with Punch and Judy, centuries ago; also used in Jamaica, Great Britain, the West Indies, Australia, and in the U.S. over the past century or more) 2nd graders perform Punchinello. A blog with History of Punchinello. AFRICAN (and AFRICAN AMERICAN): Blog on African singing games and dances: Zumalayah South African traditional dance West Aftrican dance and drumming from Mali Columbian singer Shakira, with South African dancers, for 2010 World Cup: Waka waka (esto es Africa: this time for Africa)

Glossary of Dance Terms
choreography: the art of making dances; making a dance with a process that involves the understanding of choreographic principles, processes, and structure ***force***: the instigator of movement, a push or pull. ***Locomotor***: movement across space; for example, running, skipping, walking, galloping, creeping, leaping, sliding and hopping. ***non-locomotor or axial movement***: movement in place, or around the axis of the body; for example: twisting, bending, balancing, arm and hand movements, twirling alone in place, or while holding hands with a partner; twisting and reaching, or seated "dance". ***Dance elements***: ***rhythm:*** The treatment of time in music and dance: how often time is divided and how evenly. ***space*:** the medium in which movement takes place; a defined area. Space includes levels, pathway or pattern, including types of locomotion, shape and design ***energy***: force, weight or effort and intensity; ***meaning*:** the message, connection to culture, or feeling the choreographer intended for the dance, or that the audience interprets. ***personal space*:** the "space bubble" or the kinesphere that one occupies; the space that social convention dictates that people should keep between them, so that no one feels "crowded"; it includes all levels, planes, and directions both near and far from the body's center.

Glossary of Dance Terms
The notion of ***kinesphere*** was created by Rudolf Laban (1966) to define: "the sphere around the body whose periphery can be reached by easily extended limbs without stepping away from that place which is the point of support when standing on one foot". ***flexibility***: range of motion determined by a person's particular skeletal structure and muscular elasticity ***phrase*****:** a brief sequence of related movements that has a sense of rhythmic completion. ***positive body image*****:** body image is the perception of one's body and may have no relation to what others see. A positive body image is an acceptance of one's body as it is with recognition of the possibilities of its capabilities and limitations. ***shape*****:** the positioning of the body in space: curved, straight, angular, twisted, symmetrical, or asymmetrical. ***Movement Word Bank*** with vocabulary to use, teach, and expand on with students: Run, walk, skip, hop, gallop, creep, leap, slide, glide. Twist, bend, reach, stretch, balance, twirl, spin, lean, tap, shake, wiggle, kick, move, freeze, floppy, stiff, hold, rock, swing, slither, curl, forward, backward, together, separately. Sudden, abrupt, sustained, fast, faster, slow, slower. Curved, straight, bent, twisted. Levels: high, low, in, out, around Rhythms: regular, irregular Calm, peaceful, frenzied, frenetic, intense, joyful, exuberant, All body parts that move: head, hands, arms, feet, legs, hips, waist, shoulders, wrists, elbows, etc. Purpose or intent of movement; Solo or individual vs. partner or group dance; Circle dances, line dances, partner dances.

ADDITIONAL RESOURCES AND IDEAS FOR MUSIC EXPERIENCES

Weblinks to Resources

The National Association for Music Education, and their Pre-K-grade 8 standards.

Songs for children, with lyrics, melodies and videos

Songs for teaching.

Songs in other languages: Lyrics, videos and melody for most songs listed (Mama Lisa's World)

Tips on creating a music center in your classroom

Science songs for young children

Pre-kindergarten or early K:

Kindergarten: (after letters are recognized). Teaching kids to read music (youtube video lesson)

Teaching Young Children: Article: Music Sets the Tone for Learning.

Taking young children to live performances. Article in Teaching Young Children: Theatre, Live Music and Dance: Conversations about young audiences

Article in the Music Education Journal about how teachers can support improvisation, and how it changes as students grow. By John Kratus, Growing with Improvisation.

Activity Examples

Singing with children. Examples of songs and ways to incorporate singing might include:

- a clean-up or transition song; the days of the week song (sung to tune of Twinkle, Twinkle Little Star) used during the calendar portion of morning meeting; and/or a variety of songs sung for fun during transitions or music times.
- Songs that are useful to know, since they are commonly used as the tune for other learning songs, include: Twinkle, Twinkle; Row, Row, Row Your Boat; Farmer in the Dell; and Knick Knack, Paddy Whack (This Old Man).
- For Pre-K: Old Macdonald, Itsy Bitsy Spider, Frere Jacques, The Wheels on the Bus, and the Alphabet Song are classics.
- For K: Ten Little Indians works for counting, and the tune can be used for months of the year; phonics songs for letter sounds, spelling songs (e.g. APPLE (sung to tune of BINGO, or The 3-letter Word Song, to tune of Mary Had a Little Lamb), and science songs (e.g. Butterfly Cycle by Suzy Gazley; The Germs Song: Wash Your Hands).

Activity Examples

Learning about tempo and rhythm: play drum games with children, including having them change the tempo on a metronome and then try to match it by beating on a drum in the same tempo. For rhythm: have children copy a rhythm by clapping or drumming in the same pattern (e.g. fast-fast-slow, fast-fast-slow, etc), and allow them to invent patterns for others to copy. Some teachers use "ti" and "ta" or "tikka ti, tikka ta" syllables to model rhythms for children to copy, as in this Copycat Rhythm game. See also: Twenty Ways to Plan and Learn with Drums (Musical activities for kids).

Learning about notation: Sing along to songs that are illustrated with color coded notes (see sheet music for many children's songs in color codes). Just learning to draw a note and color it in, and to make patterns of notes in different colors for different sounds, helps children to match colors as they learn them. See a teacher's blog posting about Colorful Fun with Musical Notes,)

Popular songs for young children which involve movement:

- Itsy Bitsy Spider
- Head, Shoulders, Knees, and Toes

Examples of songs celebrating diversity, multiple cultures and/or languages:

- One World
- Let the Children Sing
- All the Children Sing
- Hello to All the Children of the World
- A Train Ride to the Great Wall

Popular children's songs in different languages:

SPANISH:
De Colores (The Colors)
El Burro: Rima de sorteo (counting out rhyme based around the vowels)

PORTUGEUSE:
O meu chapéu tem três bicos (My Hat It Has Three Corners—same tune as in English)
O canguru (Kangaroo; simple repetitive song with motions)
Frei João (same tune as Frere Jacques, similar words, but translation is "Friar John")
Meu lanchinho (My Little Snack; also to the tune of Frere Jacques)
A Barata diz que tem (The Cockroach Says) (humorous)

CHINESE: (Mandarin)
Traditional Song: Mo Li Hua (Jasmine Flower) (video on YouTube)
Lian zhi lao hu (Two Tigers) (sung to the tune of Frere Jacques; video on YouTube)

FRENCH:

Activity Examples
Freres Jacques Bonjours, Mes Amis (French Greetings Song) FRENCH CREOLE: (Haitian) Panama m tonbe (with video) Ti Zwazo (Little Bird) ITALIAN: Giro, giro tondo (circle game like Ring Around the Rosie) See video also. Fra Martino (Italian nursery rhyme with same tune as Freres Jacques; translation)

Glossary of Musical Terms
Beat: the unit of rhythm; rhythmic pulse felt in most music. ***Chord:*** a combination of three or more tones sounding in a harmony. ***Compose:*** to create original music by organizing sound, usually written down for others to perform. ***Dynamics or volume:*** the effect of varying degrees of loudness and softness in the performance of music. ***Duration:*** the length of time that a note is played or held, including very short or staccato notes, and long, sustained notes. ***elements of music:*** pitch, rhythm, harmony, dynamics, phrasing, style, interpretation, and appropriate variations in dynamics and tempo. ***harmony/harmonic:*** the simultaneous sounding of two or more tones; structure in terms of treatment of chords. ***Improvise:*** to compose, or simultaneously compose and perform. ***Interval:*** the difference in pitch between two notes. ***level of difficulty:*** for purposes of these standards, there are six levels of difficulty: Level 1 –very easy; easy keys, meters, and rhythms; limited ranges. Level 2 – easy; may include changes of tempo, key, and meter; modest ranges. Level 3 – moderately easy; contains moderate technical demands, expanded ranges, and varied interpretive requirements. Level 4 – moderately difficult; requires well-developed technical skills, attention to phrasing and interpretation, and ability to perform various meters and rhythms in a variety of keys. Level 5 – difficult; requires advanced technical and interpretive skills; contains key signatures with numerous sharps or flats, usual meters, complex rhythms, subtle dynamic requirements Level 6 – very difficult; suitable for musically mature students of exceptional competence. (Adapted with permission from *NYSSMA Manual*, Edition XXIII, published by the New York State School Music Association)

Glossary of Musical Terms
Melody: rhythmic arrangement of tones in sequence to express a musical idea. ***Musical ideas****:* the act of generating a pattern of sound with particular characteristics is an act expressing a musical idea. Musical ideas range from the simple, including a focus on just a repeated rhythm or melody, otherwise known as a motif (a brief sequence of sound, or a pattern made with different instruments or sounds), to the complex, including compositions and orchestration in particular forms such as symphonies or concertos. (**If** we include this term (MUSICAL IDEAS) in the glossary, it would be to help teachers interpret the standards for music education provided by the National Association for Music Education, which include both PK and K level standards. But I just figured out that the standards of NAME do not use the same terminology as that used by the National Coalition for Core Arts Standards, so that in fact the terms I am struggling with ---like "musical ideas" and "iconic notation" are not in widespread use anyway!) ***Phrase:*** a melodic idea that acts as a complete thought, something like a sentence, consisting of two or more motives. ***Pitch:*** pitch refers to the highness or lowness of a tone, ***rhythm:*** treatment of time in music. ***Scale:*** an arrangement of pitches from lower to higher according to a specific pattern of intervals or steps. ***Tempo:*** the speed of the beat in music