Early Learning Content Standards

EARLY LEARNING CONTENT STANDARDS

English Language Arts

Mathematics

Science

Social Studies

Ohio Department of Education

Ohio Department of Education
Center for Students, Families and Communities
Columbus, Ohio 43215-4183

2004
Revised 2006

State Board of Education of Ohio

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Dear Early Childhood Education Teacher,

Ohio's Early Learning Content Standards provide the guidance required to help all of our youngest children enter kindergarten ready for success. These standards describe the knowledge and skills that can serve as the foundation for meaningful early learning experiences. They are aligned with our kindergarten through grade 12 standards and thus provide a framework for preschool through primary grade connections, teaching strategies and transition practices. In December 2003, the State Board of Education adopted these standards, an important step in the creation of a seamless P-12 education system.

I want to thank all of the content writing team members – teachers, providers, higher education faculty and program administrators – who provided the leadership for the development of our early learning standards. To view the complete set of standards, pre-kindergarten through grade 12, visit the Ohio Department of Education Web site at www.OhioAcademicStandards.com.

I wish you much success in your work and thank you for providing the very best education to all of our children.

Sincerely,

Susan Tave Zelman

Susan Tave Zelman
Superintendent of Public Instruction

Dear Early Childhood Education Teachers,

The Ohio Department of Education (ODE) and Ohio Department of Job and Family Services (ODJFS) are working in partnership to ensure that all of our youngest learners enter kindergarten ready for success. Ohio's Early Learning Content Standards serve as an important framework for creating learning experiences and designing teaching strategies to meet the needs of all children.

These standards express a shared vision of what our children should experience, learn and know as a result of quality early education and care programs. In addition, they provide a common base with which we can assess how we are helping our children reach their goals and offer a direction for professional development.

While the early learning content standards are grounded in the research within each discipline – English language arts, mathematics, social studies and science – the ways in which we develop quality curriculum and experiences should address the unique learning processes of preschool children.

We offer four principles that can serve as a lens for planning early learning experiences:

- *All children are born ready to learn – starting our experiences from the place of potential and ability;*
- *Relationships are influential – ensuring that we meet the social and emotional needs of our children in the ways in which we design our activities and relate to our children;*
- *Communication is critical – recognizing the importance of language as the foundation for all learning, designing experiences that capitalize on introducing print in a variety of meaningful ways;*
- *Environments matter – designing our learning spaces to reinforce and support what children are learning.*

On behalf of the ODE's Office of Early Learning and School Readiness and ODJFS's Bureau of Child Care and Development, we thank you for your commitment to helping all of our children succeed.

Sandra Miller, Director
Office of Early Learning and School Readiness
Ohio Department of Education

Terrie Hare, Chief
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Ohio Department of Job and Family Services

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What are they?
Here are the heads of four insects photographed through a powerful microscope.
Can you guess their names?
$1.19

Overview

"The early years of schooling are an important period of development. It is in pre-kindergarten through third grade that children learn to read and write, acquire a basic understanding of content areas and develop important dispositions toward learning. It is also a time to begin the process of assessing children's performance related to the standards" (Helm & Gronlund, 2000).

In response to Amended Substitute House Bill 94 of 2001, the Ohio Department of Education's (ODE's) Office of Early Learning and School Readiness and the Office of Curriculum and Instruction collaborated to convene Ohio stakeholders to develop early learning content standards for English language arts, mathematics, social studies and science.

The early learning content standards describe essential concepts and skills for young children. Based on research, these achievable indicators emerge as the result of quality early learning experiences regardless of the setting (e.g., nursery school, preschool, family care, etc.). In addition, the early learning content indicators are aligned to the K-12 indicators, benchmarks and standards that result in a seamless educational framework for children pre-kindergarten through kindergarten and primary grades.

Membership of the writing teams for the development of the content indicators was selected from a pool of nominees representing Ohio's early childhood stakeholders. They included Head Start; public and private preschool teachers; kindergarten teachers; program administrators and faculty members from higher education teacher preparation institutions. The team was balanced to include representation from geographic areas of the state, as well as ethnic diversity.

A draft of the early learning content standards for the four content areas was disseminated for review and focused feedback from experts within and outside of Ohio. It also was posted on the ODE Web site for broad public input. Final revisions to the early learning content standards were made based on feedback from the field.

These early learning standards serve as a framework for designing and implementing meaningful curricula and intentional learning experiences within all preschool and child care settings. The early learning standards are the expectations for the end of the preschool years and thus serve as a guide for parents and provide the foundation for professional development.

Writing Team Members

The Ohio Department of Education, Office of Early Learning and School Readiness and Office of Curriculum and Instruction express our sincere appreciation to the writing team members who contributed their expertise and time to the development of Ohio's Early Learning Content Standards. The following members represent the many individuals across the state dedicated to their profession and to high-quality early education and care for all of Ohio's young children:

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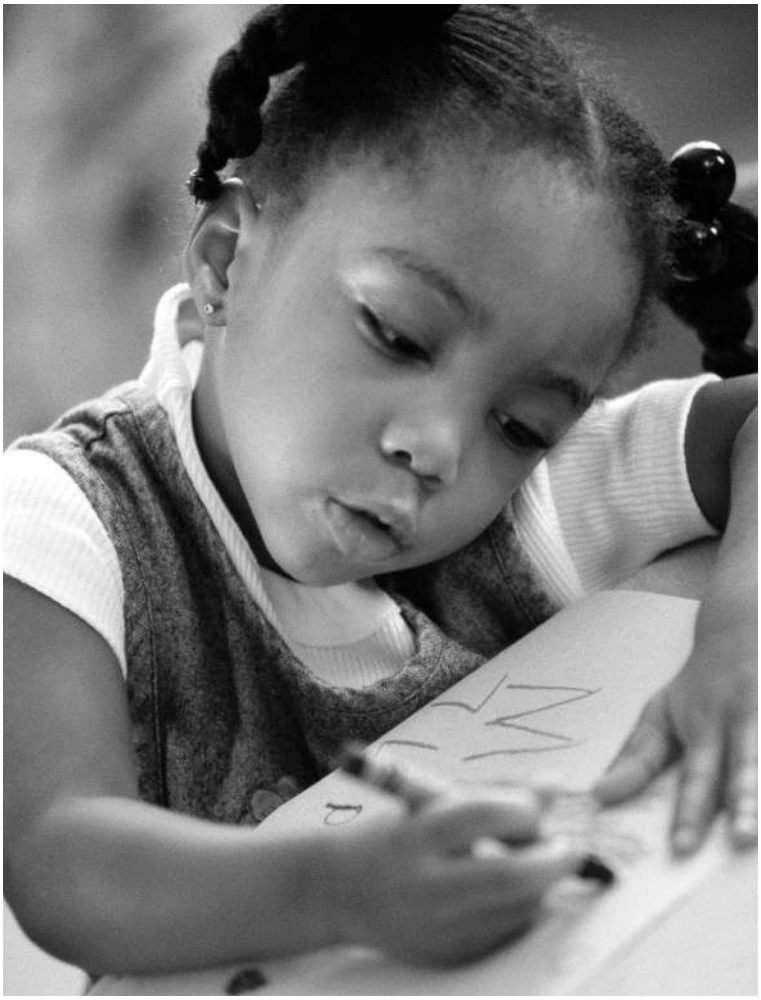


Learning to read and write is one of the most important and powerful achievements in life. Its value is clearly seen in the faces of young children – the proud, confident smile of a capable reader contrasts sharply with the furrowed brow and sullen frown of the discouraged non-reader. Ensuring that all young children reach their potentials as readers and writers is the shared responsibility of teachers, administrators, families and communities. Educators have a special responsibility to teach every child and not to blame children, families, or each other when the task is difficult. All responsible adults need to work together to help children become competent readers and writers.

National Association for the Education of Young Children (NAEYC), 1998

English Language Arts

The emergence of language and literacy in young children is a dynamic process. The research is clear: children who enter kindergarten "language rich," that is, using and knowing many different words, engaging in conversations with other children and adults, sharing information and asking questions, come to school ready to participate in reading instruction.

It is also clear from the research that there are "clear and consistent patterns of relationship between children's language and literacy development" (Dickinson and Tabors, 2001). Speaking, listening, reading and writing are bound together as a system that is useful and has meaning for young learners. Language and literacy are interactive processes. When children are immersed in an environment where oral and written communications are valued, they have the motivation, the modeling and the sense of purpose to master language.

During the preschool years, with appropriate guidance and curriculum experiences, children turn conscious attention to print. They acquire concepts about print such as linearity and directionality and learn to write their names and recognize and write some alphabet letters. They develop early phonological awareness through hearing stories and rhymes and playing games with rhyming words and alliteration. In addition, young children learn to listen to and talk about books that are read aloud to them. They construct understandings about a variety of kinds of books and print in the environment and begin to develop a concept about story. The young learners' vocabularies grow as they acquire understanding of new words through their experiences, including experiences with books.

Over the past few years, practitioners and researchers have studied how children learn to read, write and understand language. The concepts children need to become competent and confident readers and writers and the kinds of experiences that help them make progress have been identified. Based on this research, the key components or "big ideas" of effective early literacy programs include vocabulary and oral language development; phonological awareness; awareness and knowledge of print; letters and words; comprehension; awareness and knowledge of books and other texts; and beginning awareness and understanding of the process, composition and conventions of writing. A deep understanding of these key components can assist early childhood

educators in planning and developing preschool curriculum and in designing appropriate and effective early literacy experiences for young children.

Developing a strong foundation for literacy doesn't just happen. Instead, early childhood educators must thoughtfully and purposefully interact with children and plan experiences that support emerging literacy. During these first years of children's reading and writing, wide exposure to print and to developing concepts about its forms and functions are emphasized. Classrooms filled with meaningful print, language and literacy play, storybook reading and writing allow children to experience the joy and power associated with reading and writing. A print-rich environment that allows children to engage in hands-on experiences that offer countless opportunities to practice literacy skills in real-life, combined with explicit teaching of key concepts is the foundation of literacy learning in preschool.

The relation of thought to word is not a thing but a process.

Vygotsky, 1986

Phonemic Awareness, Word Recognition and Fluency for Early Childhood

A key finding in recent research has been the importance of developing phonological awareness in children during the preschool years. Phonological awareness is hearing and understanding the different sounds of spoken language. It includes the different ways oral language can be broken down into individual parts (for example, separate sounds and syllables). The skills that make up phonological awareness are on a continuum of complexity. The most basic level includes skills such as playing with rhymes, noticing how words begin with the same sounds or clapping out individual words or syllables of a song, rhyme or chant. Playing with sounds in speech helps children in their growing understanding of phonemic awareness – the ability to hear, identify and manipulate the individual sounds (phonemes) in spoken language. Although phonemic awareness is not an expectation for preschool, some preschool children demonstrate the ability to take words apart, sound by sound. Phonemic awareness is addressed in kindergarten curriculum.

Preschool-age children also begin to recognize some printed alphabet letters and words, especially the ones found in their own names. Knowing about letters involves understanding that a letter is a symbol that represents one or more sounds in the English language, that these symbols can be grouped together to form words and that these words have meaning. To support young learners, early childhood educators should draw children's attention to letters and words in the environment as they come up in everyday activities and provide children easy access and opportunities for engagement with letters and words in many forms, such as alphabet blocks, letter and word cards, board games, ABC and word walls, alphabet books and books with repetitive words and phrases. Children who use magnetic letters or other alphabet materials to form their name or attempt to write a phone message in the dramatic play center provide examples of how young learners demonstrate their understanding of letters and words.

Pre-K - Grade 12 Organizers	Indicators
Phonological and Phonemic Awareness	1. Identify matching sounds and recognize rhymes in familiar stories, poems, songs and words (e.g., cat/hat, dog/frog). 2. Hear sounds in words by isolating the syllables of a word using snapping, clapping or rhythmic movement (e.g., *cat, ap-ple*). 3. Differentiate between sounds that are the same and different (e.g., environmental sounds, animal sounds, phonemes).

Phonemic Awareness, Word Recognition and Fluency for Early Childhood *(cont.)*

Pre-K - Grade 12 Organizers	Indicators
	4. Recognize when words share phonemes (sounds) and repeat the common phoneme (e.g., /b/ as in *Bob, ball, baby*; /t/ as in *Matt, kite, boat*).
Word Recognition	5. Identify own name in print. 6. Recognize and name some upper and lower case letters in addition to those in first name. 7. Recognize that words are made up of letters (e.g., c-a-t).
Fluency	8. Recognize and "read" familiar words or environmental print (e.g., McDonald's, Bob Evans). 9. Demonstrate an understanding of reading fluency by use of phrasing, intonation and expression in shared reading (e.g., *Brown Bear, Brown Bear*).

A child cannot help but begin life with a love of poetry if you consider that the first sound he hears is a poem: the rhythmic beat of his mother's heart.

Jim Trelease
The Read-Aloud Handbook (1985)

Acquisition of Vocabulary for Early Childhood

The preschool years are a time of vocabulary explosion. Children who are exposed to sophisticated vocabulary in the course of interesting conversations learn the words they will later need to recognize and understand when reading. Vocabulary children acquire is related to their language experiences at home and school. Therefore, during the preschool years, early childhood educators must provide many opportunities for children to develop vocabulary and use these words as part of their growing ability to engage in conversations, ask for information and provide information. These opportunities include informal conversations with adults and peers through the day; engagement in songs, rhymes, finger plays or movement activities and first-hand experiences that involve sharing new words to describe what children are seeing and doing. In addition, read alouds using books with unique words – words that appear infrequently in everyday spoken language – facilitate children's listening, talking about and developing understanding of words they do not hear while listening to television or engaging in everyday conversations.

Trust with familiar adults, including the early childhood educator, must be developed and maintained for children to take risks using language, particularly in new and creative ways. Children need to play with familiar language, explore meanings and test uses of language in different settings. Using new words to describe familiar objects, inventing new ways to use well-known words and discovering additional ways to tell about events and dreams all happen in interactive settings with a devoted adult who listens and responds in positive ways to reinforce the vocabulary and language play so it will continue. These many and varied opportunities support the oral language and vocabulary development critical to future reading and writing success in school.

Pre-K - Grade 12 Organizers	Indicators
Contextual Understanding	1. Understand the meaning of new words from context of conversations, the use of pictures that accompany text or the use of concrete objects. 2. Recognize and demonstrate an understanding of environmental print (e.g., STOP on a stop sign).
Conceptual Understanding	3. Name items in common categories (e.g., animals, food, clothing, transportation, etc.). 4. Demonstrate or orally communicate position and directional words (e.g., inside, outside, in front of, behind).

Acquisition of Vocabulary for Early Childhood *(cont.)*

Pre-K - Grade 12 Organizers	Indicators
Tools and Resources	5. Determine the meaning of unknown words with assistance or cues from an adult (e.g., providing a frame of reference, context or comparison).

Our best moments as teachers or parents are likely to come when we stop, look and listen to children, when we walk along the trail with them — experiencing the everyday, ordinary, extraordinary life of the child.

Mimi Brodsky Chenfeld

Reading Process: Concepts of Print, Comprehension Strategies and Self-Monitoring Strategies for Early Childhood

A central goal during the preschool years is to enhance children's exposure to and concepts about print. These concepts are related to the visual characteristics, features and properties of written language. Some early childhood educators use Big Books to help children distinguish many book and print features, including the fact that a book must be held right side up to read the words and view the illustrations; that print, rather than pictures, carries the meaning of the story; that print conveys not just any message, but a specific message; that the strings of letters between spaces are words that correspond to an oral version; and that reading progresses from left to right and top to bottom.

The process of gaining meaning from spoken language begins in infancy — as young children search for meaning through the context, gestures and facial cues. Children demonstrate their understanding or comprehension by asking questions and making comments throughout the day. They bring this curiosity to reading events and develop comprehension skills through the conversation around the story — by making predictions about story events or characters or commenting on the topic of a story being read to them. In addition, children take delight in retelling stories or acting out the events of a story in their play. Pausing at the end of a sentence to let children join in, asking open-ended questions and helping children make connections to prior experiences are all effective teaching strategies for developing comprehension skills.

Pre-K - Grade 12 Organizers	Indicators
Concepts of Print	1. Understand that print has meaning by demonstrating the functions of print through play activities (e.g., orders from a menu in pretend play). 2. Hold books right side up, know that people read pages from front to back, top to bottom and read words from left to right. 3. Begin to distinguish print from pictures.
Comprehension Strategies	4. Begin to visualize, represent, and sequence an understanding of text through a variety of media and play. 5. Predict what might happen next during reading of text. 6. Connect information or ideas in text to prior knowledge and experience (e.g., "I have a new puppy at home too."). 7. Answer literal questions to demonstrate comprehension of orally read age-appropriate texts.

Reading Process: Concepts of Print, Comprehension Strategies and Self-Monitoring Strategies for Early Childhood *(cont.)*

Pre-K - Grade 12 Organizers	Indicators
Self-Monitoring Strategies	8. Respond to oral reading by commenting or questioning (e.g., "That would taste yucky.").
Independent Reading	9. Select favorite books and poems and participate in shared oral reading and discussions.

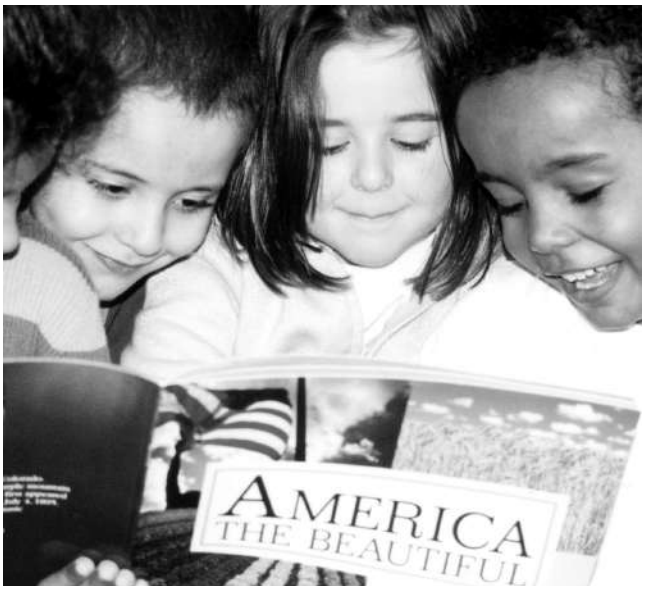
Effective early literacy instruction provides preschool children with developmentally appropriate settings, materials, experiences and social support that encourage early forms of reading and writing to flourish and develop into conventional literacy.

Kathleen Roskos and James Christie, 2003

Reading Applications: Informational, Technical and Persuasive Text for Early Childhood

During the preschool years, children learn that books contain different kinds of information – books that provide facts about a topic; books that help us understand general ideas or themes, such as numbers and the alphabet; books that tell us stories about real people and events and those that share fairy tales and make believe, such as *The Three Little Pigs*. Through multiple, varied and engaging experiences, children develop concepts about these texts, how they are organized and how they are useful tools in learning about the world.

Pre-K - Grade 12 Organizers	Indicators
Reading Applications	1. Use pictures and illustrations to aid comprehension (e.g., talks about picture when sharing a story in a book). 2. Retell information from informational text. 3. Tell the topic of a selection that has been read aloud (e.g., What is the book about?). 4. Gain text information from pictures, photos, simple charts and labels. 5. Follow simple directions.



Young children need to chew on books, hug them, laugh at them, touch and feel them, and associate them with a warm voice and an interested adult.

Betsy Harne

Reading Applications: Literary Text for Early Childhood

Storybooks offer important learning opportunities about narrative text. By listening to many stories, children begin to build an awareness of the ways stories are organized. Children's concept of story gradually includes the notion that stories have characters that are sustained throughout the story and that stories have actions or events that lead up to an ending. In addition, through read alouds and shared readings with adults, children learn that a story has a setting where it takes place and conversations might be taking place between characters. Their growing awareness and understanding of stories is often demonstrated when they attempt to retell or re-enact events from their favorite story with the support of their peers.

Pre-K - Grade 12 Organizers	Indicators
Reading Applications	1. Identify characters in favorite books and stories. 2. Retell or re-enact events from a story through a variety of media and play events (e.g., dramatize a favorite story). 3. Begin to demonstrate an understanding of the differences between fantasy and reality (e.g., talking flowers and animals). 4. Participate in shared reading of repetitious or predictable text.

Children's success in school can be linked to reading to children and listening to them read. The single most important activity for building the knowledge required for eventual success is reading aloud to children.

U.S. Department of Education

Writing Processes for Early Childhood

Children's books and personal and shared experiences provide opportunities for early childhood educators to demonstrate and engage young children in the process of writing. Through small group discussion, or one-on-one dialogue, adults engage children through modeled and shared writing experiences where text is created, the relationship between the written and spoken word is modeled and the function and purpose of writing are illustrated. Writing invitations, letters, morning messages and lists with children are a few meaningful contexts for educators to support children's understanding that writing is a process – you can change your mind as you write, add new thoughts later and reread the thoughts you have recorded. It is through these meaningful modeled and shared experiences with writing that children will be motivated and find purpose to create "writing" on their own.

Pre-K - Grade 12 Organizers	Indicators
Prewriting	1. Generate ideas for a story or shared writing with assistance. 2. Choose a topic for writing related to shared or personal experience. 3. Begin to determine purpose for writing (e.g., writing invitations to a birthday party).
Drafting, Revising and Editing	4. Generate related ideas with assistance. 5. Dictate or produce "writing" to express thoughts. 6. Repeat message conveyed through dictation or "writing" (e.g., retell what was written). 7. Begin to use resources (e.g., labels, books, adults, word walls, computer, etc.) to convey meaning.
Publishing	8. Display or share writing samples, illustrations and dictated stories with others.

Writing Applications for Early Childhood

Preschool-age children who have had plenty of opportunities to express themselves on paper – scribbling, drawing and painting – are already on their way to becoming writers. They understand that print carries a different kind of message than pictures, and they begin to demonstrate their understanding of print as they incorporate it into drawings and paintings. This early application of writing often takes the form of asking for adult assistance or trying on their own to have their name, labels or a story written on their drawings and paintings. As children learn to form letters and develop phonological awareness, their writing takes on more conventional forms as they print their own name and write words using inventive spelling to express their ideas and thoughts.

Within preschool settings, children need access to a variety of paper, writing utensils and materials for bookmaking, as well as numerous opportunities to experiment and explore writing for authentic reasons. Writing to remember a phone number in the dramatic play area, to tell the steps used to build a tower of blocks or to invite a friend to their birthday party are authentic reasons for writing. Adults must celebrate all early writing attempts and approximations of writing. Children should be viewed as they view themselves — young authors and writers.

Pre-K - Grade 12 Organizers	Indicators
Writing Applications	1. Dictate stories or produce simple stories using pictures, mock letters or words. 2. Name objects and label with assistance from adult cues (e.g., table, door). 3. Play at writing from top to bottom, horizontal rows as format. 4. Dictate words or produce writing approximations for a variety of purposes (e.g., menus in dramatic play, note to friend).

Writing Conventions for Early Childhood

When children are surrounded by print and observe others around them reading and writing, they become aware of print and its function. As children play at writing, they scribble, print letter-like shapes and form cursive-like markings, imitating the adults they see. These early scribbles or writing may or may not be intended to carry a message. Often writing is mixed in with a painting or drawing. However, through experiences with "writing," children quickly learn to distinguish between drawing and writing. Their scribbling and pretend writing should be supported and encouraged as children move from these immature attempts at writing to more conventional forms, using letter-like marks, symbols and strings of actual letters and/or words.

Pre-K - Grade 12 Organizers	Indicators
Handwriting	1. Print letters of own name and other meaningful words with assistance using mock letters and/or conventional print. 2. Begin to demonstrate letter formation in "writing."
Spelling	3. Scribble familiar words with mock letters and some actual letters (e.g., love, Mom, child's name).
Punctuation and Capitalization	4. Indicate an awareness of letters that cluster as words, words in phrases or sentences by use of spacing, symbols or marks.

Research for Early Childhood

Young children are naturally curious – asking questions about experiences and areas of interest to them. A preschool environment filled with informational books of many types, picture dictionaries and other resource materials provide numerous tools and opportunities for adults and children to capitalize on the young learners' motivation and quest for information around their inquiries. With the support of the adult, young children then share their new findings with others through many and varied media, including drawings, dramatization and oral expressions.

Pre-K - Grade 12 Organizers	Indicators
Research	1. Ask questions about experiences, areas of interest, pictures, letters, words, logos or icons (e.g., EXIT on a sign in the grocery store). 2. Use a variety of resources to gather information with assistance (e.g., pictionary, informational picture books). 3. Recall information about a topic dictated or constructed by child. 4. Share findings of information through retelling, media and play (e.g., draw a picture of the desert).

Like growing flowers, where certain specific conditions are provided to produce beautiful blossoms...adults provide the conditions that establish the growing ground for empowered children.

Wasserman, 1990

Communication: Oral and Visual for Early Childhood

During the preschool years, children learn language more quickly than at any other time in their lives. The world is filled with sound and as children develop growing awareness of their environment, they begin to recognize and discriminate between the sounds of machines, music, street noise, the talk on television, people and animals. However, learning to listen should be considered part of a broader context that includes speaking, interpersonal relationships and information processing. Learning to listen involves paying attention to adults and peers as they talk to share information and their ideas. Children begin to understand and appreciate another's point of view as they connect the new information heard with their own personal ideas and experiences.

Oral communication is developed through socialization. Through interaction with peers and adults, children learn to engage in social interaction and to use language for a variety of functions. When early childhood educators talk with children and give them opportunities to talk, language is being taught. Children need appropriate and effective language skills to think and learn; to share ideas, feelings and needs; and to make friends and enjoy each other. Associating language with interesting, exciting and pleasant experiences encourages children to talk. Children will talk when the environments where they live and play promote a natural need to communicate. Young children's oral language grows when environments encourage risk-taking, someone listens and there is a need to initiate, sustain and exchange language with others.

Oral communication plays an important role in all aspects of learning. It provides the foundation for reading and writing. Young children's proficiency in oral language – their sense of words and sentences, sensitivity to the sound system and understanding of word meanings – influences their beginning attempts to read and write. Although listening and oral communication (speaking) appear within this separate standard, their interdependence and influence on all other aspects of the language arts program must be recognized and understood.

Communication is used in all content areas and should be incorporated within the instruction and assessment of the content-specific standards and benchmarks.

Pre-K - Grade 12 Organizers	Indicators
Listening and Viewing	1. Attend to speakers, stories, poems and songs. 2. Connect information and events to personal experiences by sharing or commenting. 3. Follow simple oral directions.

Communication: Oral and Visual for Early Childhood *(cont.)*

Pre-K - Grade 12 Organizers	Indicators
Speaking Skills and Strategies	4. Speak clearly and understandably to express ideas, feelings and needs. 5. Initiate and sustain a conversation through turn taking.
Speaking Applications	6. Present own experiences, products, creations or writing through the use of language (e.g., share and talk about a drawing with others). 7. Participate in the recitation of books, poems, chants, songs and nursery rhymes (e.g., Little Miss Muffet).

Children who are not spoken to by responsive adults will not learn to speak properly. Children who are not answered will stop asking questions. They will become incurious. And children who are not told stories and who are not read to will have few reasons for wanting to learn to read.

Gail E. Haley
1971 Caldecott Medal Acceptance Speech

Play teaches the child, without his being aware of it, the habits most needed for intellectual growth, such as stick-to-itiveness, which is so important in all learning. Perseverance is easily acquired around enjoyable activities such as chosen play. But if it has not become a habit through what is enjoyable, it is not likely to become one through an endeavor like school.

Bettelheim in Wasserman, S., 1990

Mathematics

Research evidence indicates that long before entering school, children spontaneously explore and intuitively use number concepts. Mathematical foundations begin as children participate in such activities as giving each peer at the table a cracker, pouring water from one container to another, putting all the big buttons in one pile and the smaller ones in another, or clapping a rhythmic pattern to words or a song. Everyday experiences such as these provide the context for preschool children to progress in mathematics.

Early childhood educators can foster children's mathematical development by providing environments rich in language, where thinking is encouraged and exploration is supported. The preschool environment should include concrete mathematics manipulatives and materials for exploration and should allow children to learn mathematics through real situations and playful activities that encourage counting, measuring, patterning and mathematical problem-solving.

Young children's knowledge of mathematics is constructed over time. Teachers should ensure that mathematics experiences are woven throughout the curriculum, follow logical sequences, allow depth and focus and scaffold young children's development of knowledge and skills. Besides embedding and supporting mathematics learning in play, classroom routines and learning experiences across the curriculum, a quality early mathematics curriculum provides carefully planned experiences that focus children's attention on a particular mathematical concept.

The design of appropriate and effective early mathematics programs requires educators to stay focused on the "big ideas" of mathematics and on the sequences and connections among these ideas. The big ideas, or vital understandings, are those that are central and accessible to children at their current level of understanding. Both national standards and Ohio's early learning content standards reflect core ideas in five major content areas: number, number sense and operations; measurement; geometry and spatial sense; algebra and patterning; and data analysis. Within these content areas, appropriate mathematics programs for young children provide environments and experiences that encourage exploration and understanding of the following "big ideas": number sense and counting, including one-to-one correspondence; classifying; comparing; part/part-whole; grouping and sharing; measurement; shapes and space; patterning and ordering; and mathematical language development within natural contexts. Problem-solving and reasoning are the heart of mathematics. Thus, children are encouraged to observe, question, collect information, communicate ideas, make connections and representations, and reflect on their mathematical experiences within problem-solving situations. Through high-quality educational environments and intentional experiences, educators provide children a solid cognitive foundation in mathematics.

Number, Number Sense and Operations for Early Childhood

At the heart of mathematics is an understanding of number relationships. Children need to be able to make sense of the ways numbers are used in their everyday world. Number sense and concepts develop gradually over time as young children explore, manipulate and organize materials and as they communicate their mathematical thinking. Counting is one of the earliest number concepts and begins with the development of oral counting skills or rote counting. One-to-one correspondence follows rote counting and means linking one, and only one, number with each item in a set of objects. Other number concepts addressed within the early mathematics curriculum include quantity, comparisons and number symbols. Quantity is the concept of an entire set; knowing that the last object counted represents the entire set of objects.

Children will begin to find ways of representing numbers. They may make marks or write numerals. Through children's involvement in real-life experiences and their curiosity, they come to understand the meaning of number operations and make comparisons using terms such as *more than, bigger than, less than* and *the same as*.

Young children are natural learners. They construct their own understanding about quantity, relationships and symbols. They approach new tasks with curiosity and a sense of experimentation.

Juanita Copley, 2000

Number, Number Sense and Operations for Early Childhood *(cont.)*

Pre-K - Grade 12 Organizers	Indicators
Number and Number Sense	1. Count to 10 in the context of daily activities and play (e.g., number songs). 2. Touch objects and say the number names when counting in the context of daily activities and play (e.g., cookies on a plate, steps on a set of stairs). 3. Demonstrate one-to-one correspondence when counting objects (e.g., give one cookie to each child in group). 4. Determine "how many" in sets of 5 or fewer objects. 5. Construct two sets of objects, each containing the same number of objects (e.g., 5 crayons and 5 blocks). 6. Compare sets of equal, more, and fewer and use the language of comparison (e.g., equal, more and fewer). 7. Group and regroup a given set in the context of daily activities and play (e.g., 5 blocks can be 2 blue and 3 green or 1 blue and 4 green). 8. Represent quantity using invented forms (e.g., child's marks to represent a quantity of objects). 9. Write numerical representations (e.g., scribbles, reversals) or numerals in meaningful context (e.g., play situations). 10. Identify and name numerals 0-9. 11. Compare and order whole numbers up to 5. 12. Identify penny, nickel, dime and quarter and recognize that coins have different values.
Meaning of Operations	13. Construct sets with more or fewer objects than a given set. 14. Count on (forward) using objects such as cards, number cubes or dominoes that have familiar dot patterns (e.g., when selecting 5 apples from a bag, takes out two and continues counting 3, 4, 5). 15. Join two sets of objects to make one large set in the context of daily routines and play (e.g., combining 2 bags of raisins, each containing 3 pieces; combining 2 groups of blocks, each containing 3 blocks). 16. Equally distribute a set of objects into 2 or more smaller sets (e.g., shares 6 crackers with 3 friends equally).

Measurement for Early Childhood

The focus of measurement activities in preschool is on the development and understanding of the principles and uses of measuring. Children learn measurement from opportunities to use a variety of non-standard and standard materials for measurement through hands-on activities. Often as a first step, children make comparisons without any measurement tools. Using the materials provided in their play, children begin to notice materials that are longer, shorter, heavier and lighter. Next, children often demonstrate an interest in measurement through non-standard tools by using their hand or a piece of string or ribbon to measure things and the spaces in their world. It is often through a variety of experiences that children will find the need for more conventional measurement tools. Formal instruction on the uses of standard measures such as clocks, rulers and scales can be introduced in the preschool grades and made available through play.

Pre-K - Grade 12 Organizers	Indicators
Measurement Units	1. Begin to identify and use the language of units of time. For example: a. Day, night, week; b. Yesterday, today, tomorrow.
Use Measurement Techniques and Tools	2. Recognize that various devices measure time (e.g., clock, timer, calendar). 3. Sequence or order events in the context of daily activities and play (e.g., wash your hands before and after snacks, who's next for the computer). 4. Begin to use terms to compare the attributes of objects (e.g., bigger, smaller, lighter, heavier, taller, shorter, more and less). 5. Order a set of objects according to size, weight or length (e.g., cups of different sizes). 6. Measure length and volume (capacity) using non-standard units of measure (e.g., how many paper clips long is a pencil, how many small containers does it take to fill one big container using sand, rice or beans).

Geometry and Spatial Sense for Early Childhood

Geometry and spatial sense refers to the recognition of shapes and structures in the environment. Children learn about and use their knowledge of two- and three-dimensional shapes when given the opportunity to create designs with pattern blocks; draw, paint and cut shapes for their artwork; organize blocks by sorting them; and locate shapes in outdoor settings.

Geometry also involves an understanding of space. Children gain spatial sense as they investigate, experiment and explore everyday objects and physical materials and become aware of themselves in relation to the world around them. Children need to feel themselves in space, climbing high, swinging low, crawling in and out of objects, on top of and under other objects. Through these experiences, early childhood educators introduce children to the vocabulary of space, question them about their position in space and help them learn about location and position (on, off, on top of, under, in, out, behind, below), movement (backward, forward, around through, across, up and down) and distance (near, far, next to).

Pre-K - Grade 12 Organizers	Indicators
Characteristics and Properties	1. Match identical two-and three-dimensional objects found in the environment in play situations (e.g., 2 squares of same size, 2 stop signs). 2. Sort and classify similar two- and three-dimensional objects in the environment and play situations (e.g., paper shapes, 2 balls of different size). 3. Identify, name, create and describe common two-dimensional shapes in the environment and play situations (e.g., circles, triangles, rectangles and squares). 4. Identify, name and describe three-dimensional objects using the child's own vocabulary (e.g., sphere – "ball," cube – "box," cylinder – "can" or "tube," and cone – "ice cream cone").
Spatial Relationships	5. Demonstrate and begin to use the language of the relative position of objects in the environment and play situations (e.g., up, down, over, under, top, bottom, inside, outside, in front, behind, between, next to, right side up and upside down).

Patterns, Functions and Algebra for Early Childhood

The creation of a pattern is the arrangement of shapes and objects in an organized manner. Pattern recognition facilitates children's understanding of the relationships among objects and their ability to make generalizations about number combinations and counting. As a component of algebra, the creation and use of patterns can be interesting and accessible to young children. Children can begin to notice patterns in the routine of the day, or patterns of colors, shapes or sizes through teacher guidance and comment. Recognizing patterns and relationships is not just an important objective in mathematics, but one that children will use in other content areas such as science and literacy. For preschoolers, the goal is to recognize and analyze simple patterns, copy them, create them and make predictions about them by extending them.

Pre-K - Grade 12 Organizers	Indicators
Use Patterns, Relations and Functions	1. Sort, order and classify objects by one attribute (e.g., size, color, shape, use). 2. Identify, copy, extend and create simple patterns or sequences of sounds, shapes and motions in the context of daily activities and play (e.g., creates red, blue, red, blue pattern with blocks).
Use Algebraic Representations	3. Use play, physical materials or drawings to model a simple problem (e.g., There are 6 cookies to be shared by 3 children. How many cookies can each child receive?).

There is no one best way to educate all children. We must discover a child's areas of strengths and characteristic approaches to learning. We must, as much as possible, bring the teaching to where the child is.

Gardner, 1983

Data Analysis and Probability for Early Childhood

Active children learn through active experiences. Data collection, organization, representation and analysis in preschool involve sorting, classifying, graphing, counting, measuring and comparing. Instruction in each of these areas can build on young learners' natural interest in making collections. As part of collecting, children first sort and make sets without any plan in mind and then sort more purposefully (i.e., by properties such as color, shape or size). As children develop and refine their sorting skills, they can sort by more than one attribute. Early childhood educators can strengthen this ability when young children are encouraged to talk about their sorting rules.

Graphing is a direct extension of sorting and classifying. A graph presents information in a visually organized way that helps children to see relationships. While the concept of graphing is an abstract concept for young children, simple graphs using concrete (real objects) and then later symbolic (pictures) representations can provide an appropriate and meaningful way to display findings and information. For example, a simple graph of the kinds of shoes children are wearing could develop from a concrete representation (shoes with ties, Velcro, buckles and slip-on shoes), to a symbolic one (pictures representing the types of shoes), or marks to represent the number of shoes.

Pre-K - Grade 12 Organizers	Indicators
Data Collection	1. Gather, sort and compare objects by similarities and differences in the context of daily activities and play (e.g., leaves, nuts, socks). 2. Place information or objects in a floor or table graph according to one attribute (e.g., size, color, shape or quantity).
Statistical Methods	3. Select the category or categories that have the most or fewest objects in a floor or table graph (e.g., favorite ice cream).

Mathematical Processes for Young Children

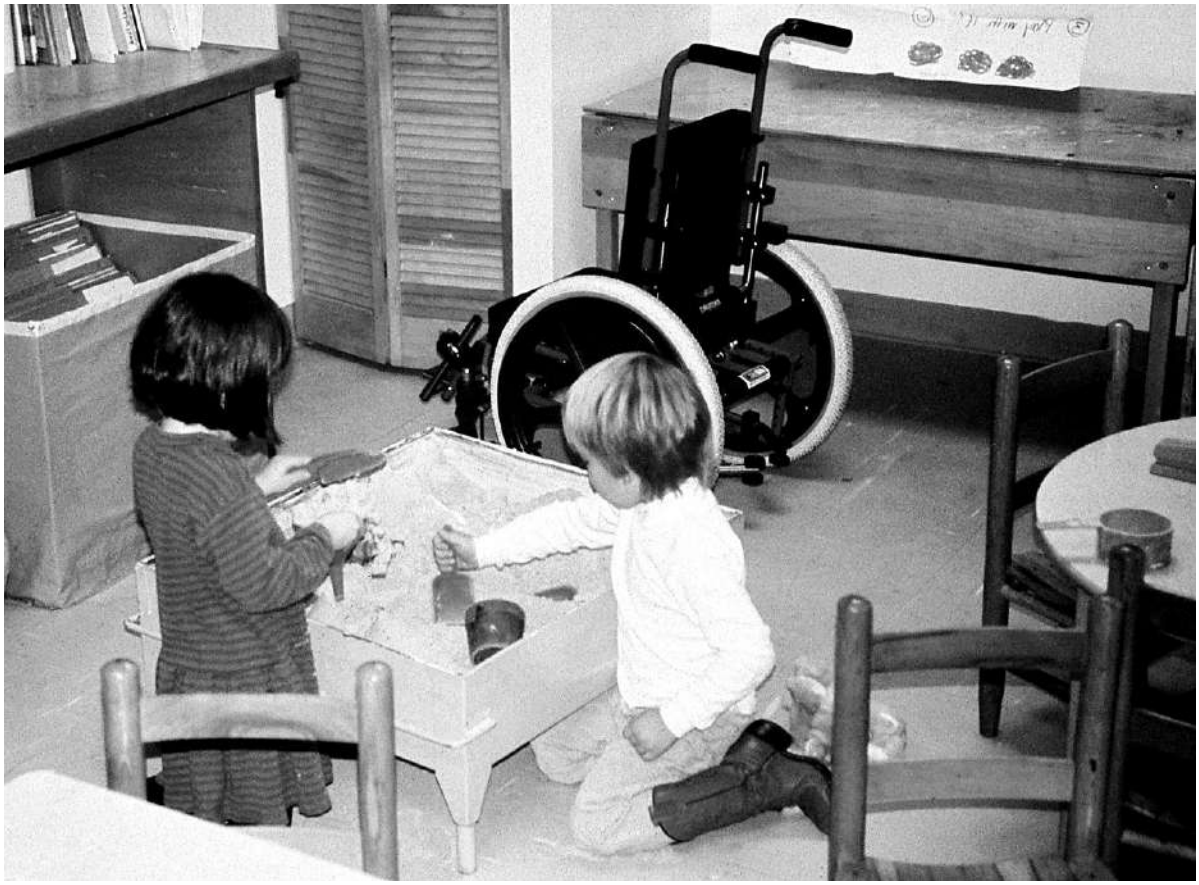
Young children are problem-solvers. As they explore and examine their work – pulling, pushing, tasting and taking things apart – they are attempting to find out how things work. This natural drive to solve problems should be built upon in the mathematics curriculum. For example, children will need to count the number of cups of sugar to make cookies, the number of children they will need to play a game or the number of children who can work together in the block area at one time. Within these learning opportunities, real problems to solve are posed and children are guided to use the mathematical processes of reasoning, communication, representation and connections.

Within the six standards for mathematics, mathematical processes are specified through benchmark statements only. Mathematical process skills are addressed and embedded within the pre-kindergarten indicators. Young children should be guided to use these processes in problem-solving situations.

Note: There are no indicators for this standard. Mathematical processes are used in all content areas and should be incorporated within other curriculum content and as part of instructional strategies and assessment procedures as relevant.

We have seen that children learn the real basics of thinking about mathematics through personal experience and playful activities. With appropriate learning experiences from birth through the early elementary years, children will develop a lifelong interest in using mathematics.

McCracken, 1987



Play – a dynamic, active and constructive behavior – is a necessary and integral part of childhood, infancy through adolescence. Teachers must take the lead in articulating the need for play in children's lives, including the curriculum.

Joan Isenberg and Nancy Quisenberry, 1988

Science

It is instinctive for the young child to search out, describe and explain patterns of events experienced in the natural and physical world. Children develop an understanding of science as they investigate and interact with real objects and phenomena. They are natural scientists – curious, observant and questioning. Their knowledge of science grows out of an attempt to find meaning in their environment and by relating new experiences to prior knowledge and personal experience.

Science content is more than isolated facts such as the stages in the life of a butterfly or the life cycle of a plant. Although scientific facts are important, it is how the information is organized into meaningful concepts and ideas that is of significance for the learner. For example, learning about the development of a butterfly should lead to the big idea that all living things develop in a series of stages called a life cycle.

The process of science is learned through active engagement. Preschool children learn science by exploring the world around them. When provided an environment with varied materials, they try out things to see how they work, they experiment, they manipulate, they are curious and they ask questions. As they seek answers to their questions, opportunities are provided for hypothesizing and predicting, observing, collecting data over time, formulating conclusions. Through active engagement in authentic and meaningful science experiences, they learn to enjoy and appreciate their surroundings.

The science curriculum provides for a balance among the three broad disciplines of life science, physical science and earth/space science. Thematic units or topics of study, arising from the interests of children, are used to plan meaningful experiences in which children explore ideas, manipulate materials and engage in conversations to construct their own understandings of science.

Children need opportunities to present their view to other children and adults through their drawings, constructions and verbal exchanges. By exchanging opinions with others, children begin to move from an egocentric point of view and compare their views with those of others. Their concepts about the natural world are expanded and enhanced through sharing of experiences.

Earth and Space Sciences for Early Childhood

Young children are naturally interested in everything they see around them – soil, rocks, streams, rain, sand and shells. Science should include experiences that provide for the study of earth's materials and the discovery of their patterns and changes over time. Since children cannot directly interact with the sky or space, learning experiences with the sky or space are based on observing it. Preschool children learn about the earth and space when they play shadow tag, talk about things they do during the day and at night, add water to dirt while making mud pies and paint with water on the sidewalk and notice that the pictures soon disappear. Continuous opportunities to clean up their immediate space, the playground, and to collect and recycle materials support young learners' understanding about their role in respecting, protecting, preserving and caring for the natural world and environment. Children are very interested in the outdoor environment, naturally use it as a laboratory for learning and enjoy drawing or charting what they see and think.

Pre-K - Grade 12 Organizers	Indicators
The Universe	1. Begin to use terms such as night and day, sun and moon to describe personal observations. 2. Observe and represent the pattern of day and night through play, art materials or conversation.
Processes that Shape the Earth	3. Observe, explore and compare changes that animals and plants contribute to in their surroundings (e.g., humans building roads and houses, holes left by worms or squirrels). 4. Explore and compare changes in the environment over time (e.g., soil erosion, fossils, outdoor temperature). 5. Explore how their actions may cause changes in the environment that are sometimes reversible (e.g., hand in flowing water changes the current) and sometimes irreversible (e.g., rock dropped that breaks). 6. Demonstrate understanding of fast and slow relative to time, motion and phenomena (e.g., ice melting, soil eroding, water running quickly down a steep hill compared to running slowly down a gentle hill). 7. Observe and use language or drawings to describe changes in the weather (e.g., sunny to cloudy day).

Life Science for Early Childhood

Life science is about living things. Young children should be provided direct experiences with living things, their life cycles and their habitats. Although understanding is developing, children learn concepts of living and non-living things, the behavior and needs of living things and respect for living things as they interact with nature, animals and people. Key ideas emerge from exploring the immediate environment. Therefore, a preschooler in Ohio might explore familiar plants and animals native to their area, studying how living things get food, their characteristics and how they change as they grow.

Pre-K - Grade 12 Organizers	Indicators
Characteristics and Structure of Life	1. Identify common needs (e.g., food, air, water) of familiar living things. 2. Begin to differentiate between real and pretend through stories, illustrations, play and other media (e.g., talking flowers or animals).
Diversity and Interdependence of Life	3. Observe and begin to recognize the ways that environments support life by meeting the unique needs of each organism (e.g., plant/soil, birds/air, fish/water).
Heredity	4. Match familiar adult family members, plants and animals with their young (e.g., horse/colt, cow/calf). 5. Recognize physical differences among the same class of people, plants or animals (e.g., dogs come in many sizes and colors).

Physical Sciences for Early Childhood

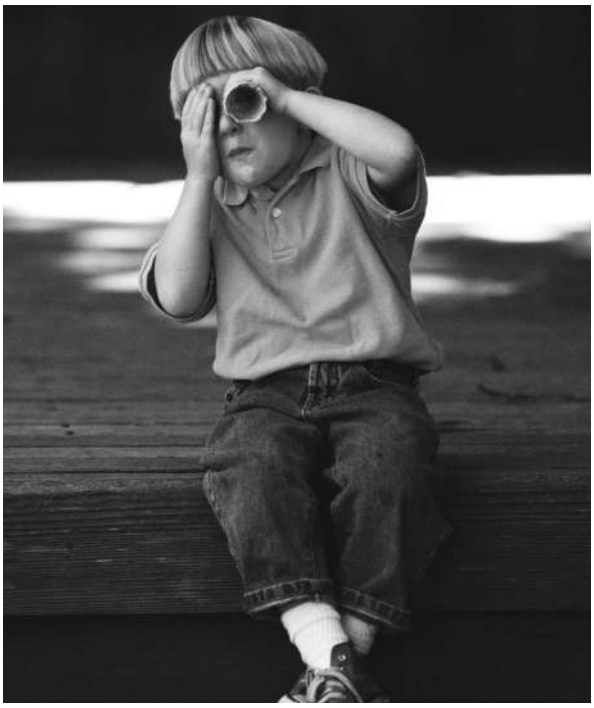
Physical science is the study of the physical properties of materials and objects. Through exploration of materials, children learn about weight, shape, size, color and temperature. They explore how things move and change. Conceptual development is formed as young children act on objects to produce a desired effect, put objects together to form new constructions of various kinds and draw conclusions about how the desired effect was produced. When children make a block ramp to race cars, look through a kaleidoscope or pick up objects with magnets, they are learning about the physical properties of objects.

Pre-K - Grade 12 Organizers	Indicators
Nature of Matter	1. Explore and identify parts and wholes of familiar objects (e.g., books, toys, furniture). 2. Explore and compare materials that provide many different sensory experiences (e.g., sand, water, wood). 3. Sort familiar objects by one or more property (e.g., size, shape, function).
Forces and Motion	4. Demonstrate understanding of motion related words (e.g., up, down, fast, slow, rolling, jumping, backward, forward). 5. Explore ways of moving objects in different ways (e.g., pushing, pulling, kicking, rolling, throwing, dropping).
Nature of Energy	6. Explore musical instruments and objects and manipulate one's own voice to recognize the changes in the quality of sound (e.g., talks about loud, soft, high, low, fast, slow). 7. Explore familiar sources of the range of colors and the quality of light in the environment (e.g., prism, rainbow, sun, shadow).

Science and Technology for Early Childhood

For young children, central ideas and skills related to science technology include: identifying simple and familiar tools such as a magnifying glass or hammer; using appropriate tools to explore objects and phenomena or solve a problem; and exploring creative uses for materials or objects. When preschool children appropriately use a hammer and a magnifying glass or use a paper towel roll as a telescope, they are learning about the importance and use of science technology.

Pre-K - Grade 12 Organizers	Indicators
Understanding Technology	1. Identify the intended purpose of familiar tools (e.g., scissors, hammer, paintbrush, cookie cutter). 2. Explore new uses for familiar materials through play, art or drama (e.g., paper towel rolls as kazoos, pan for a hat).
Abilities to do Technological Design	3. Use familiar objects to accomplish a purpose, complete a task or solve a problem (e.g., using scissors to create paper tickets for a puppet show, creating a ramp for a toy truck). 4. Demonstrate the safe use of tools, such as scissors, hammers, writing utensils, with adult guidance.



The job of a teacher is to excite in the young a boundless sense of curiosity about life, so that the growing child shall come to apprehend it with an excitement tempered by awe and wonder.

John Garrett from *Peter's Quotations: Ideas for Our Time*, 1977

Scientific Inquiry for Early Childhood

Preschool children learn science by exploring the world around them. They develop an understanding of science as they investigate and interact with real objects and phenomena. Children should be provided with a variety of simple equipment/materials and opportunities for playing, questioning, exploring, demonstrating, investigating and experimenting. Through scientific processes of inquiry or seeking answers based on their curiosities, young children predict, observe, collect or chart information over time, represent and formulate conclusions. Sharing books and stories, engaging in conversations and play provide varied opportunities for exploration, discovery and the communication of findings.

Pre-K - Grade 12 Organizers	Indicators
Doing Scientific Inquiry	1. Ask questions about objects, organisms and events in their environment during shared stories, conversations and play (e.g., ask about how worms eat). 2. Show interest in investigating unfamiliar objects, organisms and phenomena during shared stories, conversations and play (e.g., "Where does hail come from?"). 3. Predict what will happen next based on previous experiences (e.g., when a glass falls off the table and hits the tile floor, it most likely will break). 4. Investigate natural laws acting upon objects, events and organisms (e.g., repeatedly dropping objects to observe the laws of gravity, observing the life cycle of insects). 5. Use one or more of the senses to observe and learn about objects, organisms and phenomena for a purpose (e.g., to record, classify, compare, talk about). 6. Explore objects, organisms and events using simple equipment (e.g., magnets and magnifiers, standard and non-standard measuring tools). 7. Begin to make comparisons between objects or organisms based on their characteristics (e.g., animals with four legs, smooth and rough rocks). 8. Record or represent and communicate observations and findings through a variety of methods (e.g., pictures, words, graphs, dramatizations) with assistance.

Scientific Ways of Knowing for Early Childhood

Early impressions about who learns and does science appear to be persistent and lasting. For young children, science should be experienced in ways that actively engage young learners in the construction of ideas and explanations of doing science. Children's ideas and explanations, whether accurate or not, should be valued and serve as a basis for further investigation and discovery. Science should be modeled as an activity for all learners, where they individually and collectively contribute to a growing understanding of the natural world.

Pre-K - Grade 12 Organizers	Indicators
Nature of Science	1. Offer ideas and explanations (through drawings, emergent writing, conversation, movement) of objects, organisms and phenomena, which may be correct or incorrect.
Ethical Practices	2. Recognize the difference between helpful and harmful actions toward living things (e.g., watering or not watering plants).
Science and Society	3. Participate in simple, spontaneous scientific explorations with others (e.g., digging to the bottom of the sandbox, testing materials that sink or float).

If a child is to keep alive his inborn sense of wonder...he needs the companionship of at least one adult who can share it, rediscovering with him the joy, excitement and mystery of the world we live in.

Carson, 1965

The criterion of social competence does not require that all children be social butterflies. It is not a source of concern if a child chooses to work or play alone, as long as he or she is capable of interacting productively and successfully with another when social interaction is desired, appropriate or necessary.

Katz and Chard, 1990

Social Studies

Social studies is the study of how people live, work, get along with others, solve problems, shape and are shaped by their surroundings. For young children, the family, school, neighborhood and community are content-rich workshops, inviting exploration and inquiry into the study of social units. These social study contexts invite children to locate, acquire, organize and generate information through field trips and first-hand experiences. The content of social studies also is a familiar theme in many books and poems for young children.

In preschool, simple board games help children understand rules of participation (citizenship); the challenge of riding around a tricycle path teaches and supports mapping (geography) concepts and skills. Children learn about time (history) from the daily predictable routines established – a story before rest time, circle time after interest areas and outdoor play after lunch. When the dramatic play area is set up as a grocery store, children can explore the concepts of jobs and the buying and selling of goods — this is economics in preschool. Everyday experiences pertinent to children's interactions with others and their communities serve as the foundation for learning social studies.

History for Early Childhood

History is the study of the past — a study of people and the events that influenced behavior. Preschool children focus on the here and now and are developing their understanding of chronological time that is essential to understand history. They learn about time in relation to themselves, including the sequence and order of their daily routines and schedule, what they did yesterday and what they will do tomorrow. Preschool children love to consider what they can do now that they couldn't do when they were "babies." They enjoy listening to stories of the recent past as well as of times and places of long ago – if the topics are relevant to their own experiences.

Pre-K - Grade 12 Organizers	Indicators
Chronology	1. Begin to use the language of time (e.g., day, night, yesterday, today, tomorrow). 2. Label days by function (e.g., school day, stay home day, swim day, field trip day). 3. Begin to use or respond to the language of time such as next, before, soon, after, now and later as related to daily schedules and routines.
Daily Life	4. Share episodes of personal history from birth to present through personal memorabilia or connected to stories. 5. Arrange sequences of personal and shared events through pictures, growth charts and other media.
Heritage	6. Share personal family stories and traditions (e.g., photo album put together by family members).

There is always one moment in childhood when the door opens and lets the future in.

Graham Greene

People in Societies for Early Childhood

A social unit can be defined as a group of individuals who have an ongoing relationship with one another. Examples of social units are the family, school, neighborhood, community, state and nation. Understanding people and how they live within a social unit includes physical characteristics of people; similarities and differences in habits, traditions, homes and work; family structures and roles. In preschool, exploration of social units should focus on the family, neighborhood and community with all learning related to the child's own experiences.

Supporting children in understanding the value of diversity requires experiences through a multifaceted, diverse curriculum. Racial/ethnic awareness starts with the identification of physical characteristics and ethnic values, customs and language styles and ends with respect for others. Through story, art, music and games of diverse culture, children come to learn about others who differ from them and respect the uniqueness of each individual. Culture is expressed daily through story, music, foods and sharing of family traditions through the year within the general curriculum.

Pre-K - Grade 12 Organizers	Indicators
Cultures	1. Develop a sense of belonging to different groups (e.g., family, group of friends, preschool class, boys or girls). 2. Demonstrate awareness of different cultures through exploration of family customs and traditions (e.g., exploration of music, food, games, language, dress).

People have one thing in common; they are all different.

Robert Zend

Geography for Early Childhood

Geography is the study of characteristics of the place where one lives and the relationships between and among places and people. For preschool children, geography is about the physical world of their homes, playgrounds, schools, the homes of friends and places to shop and visit. The materials for teaching this content area are the playground, the rug, centers and centers within the classroom, and the locations for field trips. The strategies for understanding geography include talking about and demonstrating how to navigate these areas; mapping ways to get to the playground, the bathroom or the library within a school. Children can be encouraged to recreate their neighborhood in the block area and draw or paint maps of places they go. Young learners draw upon immediate personal experiences as a basis for exploring geographic concepts and skills.

Pre-K - Grade 12 Organizers	Indicators
Location	1. Demonstrate and use terms related to location, direction and distance (e.g., up, down, over, under, front, back, here, there). 2. Demonstrate the ways that streets and buildings can be identified by symbols, such as letters, numbers or logos (e.g., street signs, addresses). 3. Demonstrate how maps can be useful to finding places (e.g., streets, homes, places to visit).
Places and Regions	4. Navigate within familiar environments, such as home, neighborhood or school, under supervision. 5. Describe and represent the inside and outside of familiar environments such as home and school (e.g., playground). 6. Recognize and name the immediate surroundings of home (e.g., homes, buildings, bridges, hills, woods, lakes) following supervised explorations.
Human Environmental Interaction	7. Explore the ways we use natural resources found in our environment (e.g., water to drink, dirt to plant).

Economics for Early Childhood

Economics is the study of how people organize for the production, distribution and consumption of goods and services. For young children, exploration and understanding of these concepts is often through authentic or play experiences. For example, as young learners take on the jobs and the life of a farmer through dramatic play, the concepts of growing, harvesting and selling of crops may be explored. Their understanding may be deepened with a class field trip to a peer's family farm. Also, young children can begin to differentiate between wants and needs and explore economic decisions as they learn the importance of sharing and begin to consider the wider consequences of their decision-making on peers within the classroom.

Pre-K - Grade 12 Organizers	Indicators
Scarcity and Resource Allocation	1. Recognize that people have many wants within the context of family and classroom. 2. Understand how sharing classroom materials will meet everyone's wants (e.g., turn taking at the water table, distributing crayons equitably).
Production, Distribution	3. Demonstrate an understanding of the concepts of production, distribution and consumption through play (e.g., food from the farm to the grocery store) and concrete experiences (e.g., food purchased from the store and cooked at home). 4. Obtain things they want (e.g., goods and services) in socially acceptable ways (e.g., verbalizing, turn taking).

When all families are valued by society, all of society benefits.

Denny Taylor
Many Families, Many Literacies

Government for Early Childhood

For preschool aged children, social studies should include experiences that provide for the study of roles, responsibilities, principles and practices in a democratic society. Children are introduced to democratic ideals and practices by helping set and follow classroom expectations, taking on roles and responsibilities as a member of the group, accepting leadership and guidance from familiar adults and demonstrating how to balance their needs, as well as the needs of their peers and adults within a group.

Pre-K - Grade 12 Organizers	Indicators
Role of Government	1. Interact with and respond to guidance and assistance in socially accepted ways from familiar adults at school and home (e.g., responds to redirection, invites others to play). 2. Interact with familiar and appropriate adults for assistance when needed (e.g., family member, teacher, police, firefighter). 3. Demonstrate an understanding of the specific roles and responsibilities within a group (e.g., picking up own toys). 4. Recognize the flag of the United States as a symbol of our government.
Rules and Laws	5. Participate in creating and following classroom rules and routines.

Citizenship Rights and Responsibilities for Early Childhood

Young children learn about civics as they engage in the practices of cooperation and the resolving of differences, and begin to accept responsibility for their independent choices. Young children should be offered many opportunities to make choices and to experience the consequences of their decisions. It is the process of choosing and contributing to the classroom community that counts in the early years, not the particular choice that children make.

Pre-K - Grade 12 Organizers	Indicators
Participation	1. Demonstrate cooperative behaviors, such as helping, turn taking, sharing, comforting and compromising. 2. Engage in problem-solving behavior with diminishing support from adults (e.g., negotiating roles in play, turn taking).
Rights and Responsibilities	3. Demonstrate increasing ability to make independent choices and follow through on plans (e.g., putting toys away, moving from activity to activity). 4. Demonstrate awareness of the outcomes of one's own choices (e.g., picking up toys helps create a safe environment).

The classroom is treated as a laboratory...where children explore values and learn rules of social living and respect for individual differences through experience.

Bredekamp, 1997

Social Studies Skills and Methods for Early Childhood

Young children gather information about people and their environments through multiple sources. These sources include observation, questioning, sharing of books and conversation. They then make predictions, evaluate information and draw conclusions. Finally, children use a variety of methods, such as drawing, dramatic play and language to communicate what they have learned about the social world around them.

Pre-K - Grade 12 Organizers	Indicators
Obtaining Information	1. Gain information through participation in experiences with objects, media, books and engaging in conversations with peers.
Thinking and Organizing	2. Begin to make predictions (e.g., guess whether other countries around the world celebrate birthdays).
Communicating Information	3. Represent ideas through multiple forms of language and expression (e.g., drawing, dramatic play, conversation, art media, music, movement, emergent writing).

...reaching the school readiness goal will require a twofold strategy: one part focused on supporting families in their efforts to help their children get ready for school, and the second on helping the schools to be responsive to the wide range of developmental levels, backgrounds, experiences and needs children bring to school with them.

Katz, 1991

Glossary

Alliteration: The repetition of the same sound, usually a consonant, at the beginning of two or more words immediately succeeding each other or at short intervals (e.g., Ben bought blue balloons).

Alphabetic principle: The underlying assumption of alphabetic writing systems that each speech sound or phoneme of a language has its own distinctive graphic.

Attribute: A qualitative or inherent characteristic of a person or a thing. Children are asked to group objects according to such attributes as color, size, shape and other identifiable characteristics.

Benchmark: A specific statement of what all students should know and be able to do at a specified time in their schooling. Benchmarks are used to measure a student's progress toward meeting the standard.

Big Books: Oversized books that allow children to see the print and pictures as adults read them.

Classification: The ability to recognize likenesses and differences between objects and to group them accordingly (e.g., group by color, size or shape).

Comprehension: The process in which a reader constructs meaning through interaction with text; accurately understanding what is written or said.

Concepts of print: Those elements or features of written language such as the front and back of the book, recognition of a letter and/or word as different from a picture, that there are big and little letters, that different marks such as a period, comma or question mark have meaning.

Concept of word: The ability to match spoken words to printed words, as demonstrated by the ability to point to the words of memorized text while reading.

Concrete materials: Materials used to allow children hands-on experience with mathematics. Examples include counters, markers, etc; also called manipulative materials.

Cone: A three-dimensional figure whose base is a circle and whose sides taper to a point.

Consumer: A person whose wants are satisfied by using goods and services.

Counting: To name or list (the units of a group or collection) one by one to determine a total. At this level, children need to understand that the last number they count represents the total.

Country: The entire land area of a nation or state.

Cube: A geometric solid with six square faces, each perpendicular to those adjoining itself. More specifically, a rectangular solid with equal length, width and height.

Culture: Learned behavior of a group of people, which includes their belief systems and languages, their social relationships, their institutions and organizations and their material goods such as food, clothing, buildings, tools and machines.

Dictate: The act of children speaking aloud while someone else writes the words down.

e.g.: *Exempli gratia* (Latin), meaning "for example."

Emergent literacy: A range of activities and behaviors related to written language, including those undertaken by very young children who depend on the cooperation of others and/or on creative play to deal with the materials; reading and writing related activities and behaviors that change over time, culminating in conventional literacy during middle childhood.

Emergent reading: Reading-related activities and behaviors, especially those before a child achieves the capacity to read fluently and conventionally (e.g., page turning, letter naming, pointing to words on a page, "reading" a book).

Emergent writing: Writing-related activities and behaviors, especially those before a child achieves the capacity to write fluently and conventionally (e.g., scribbling letter-like forms, inventive spelling).

Environmental print: Print that is encountered outside of books and that is a pervasive part of everyday living (e.g., food labels, logos and road signs).

Environmental sounds: Sounds that are part of the world around us, such as music, voices, traffic.

Explicit instruction: Teaching children in a systematic and sequential manner.

Floor or table graph: A graph made of actual objects arranged in categories on a tabletop or on the floor.

Fluency: The act of reading easily, smoothly and automatically with a rate appropriate for the text, indicating that students understand meaning.

Forms of print: The various ways print is formatted (e.g., recipes, books, magazines, newspapers, menus).

Geometric figures: Refers to rectangles, circles and related three-dimensional solids.

Goods: Objects that are capable of satisfying people's wants.

Habitat: The native environment of an animal or plant, or the kind of place that is natural for an animal or plant.

Human characteristic/feature: An aspect of a place or a quality of the Earth's surface constructed by people including cities, parks, buildings and roads.

i.e.: *Id est* (Latin), meaning "that is."

Indicator: A specific statement of knowledge that all students demonstrate at each grade level. The indicators serve as checkpoints that monitor progress toward the benchmarks.

Inquiry: A process that consists of principles and procedures for the systematic pursuit of knowledge, involving the formulation of a problem or hypotheses and the collection of data through observation and experiment.

Invented forms: Symbols used to represent or communicate an understanding in a non-standard format (*T4* to stand for the numeral 24 or *npp* to represent a child has a nickel and two pennies). Invented representation gives a child a format to communicate understanding. We do not teach invented representation, but appreciate a child's desire to communicate in ways that are meaningful to him/her.

Invented spelling: A child's spelling system based on letter names and/or sounds. It also is called creative or estimated spelling.

Language: The systematic use of sounds, signs and symbols as a method of communication; in writing, the choice of words used to convey meaning.

Letter knowledge: The ability to identify the names and shapes of the letters of the alphabet.

Life cycle: A series of stages through which an animal or plant passes during its lifetime.

Location: The position of a point on the Earth's surface expressed by means of a grid or in relation to the position of other places.

Mock letters: Symbols or letter-like marks formed by children to represent "writing."

Natural: Existing in, or produced by nature.

Natural resource: A productive resource supplied by nature (e.g., ores, trees, arable land).

Natural world: Refers to all of the living components (animals and plants) in the world.

Non-standard measure: Using a device to measure that is not a widely accepted tool (e.g., a measurement of six index fingers for length or 25 kernels of popcorn for volume). This method is generally used as an approximation strategy.

Number: The total or quantity (how many) in a group (e.g., three bears, five blocks).

Numeral: The symbol for how many (e.g., 3 is a symbol for three items, such as three bears).

Observe: To watch carefully, especially with attention to details or behavior, for the purpose of arriving at a judgment.

One-to-one correspondence: The process of pairing items or objects (e.g., a cup for every child at the table).

Onset: The initial consonant or consonant cluster of a word (e.g., bat: onset is /b/; strap: onset is /str/).

Organism: Any living thing.

Patterns: Designs that repeat themselves, including patterns of sounds and physical movements (e.g., clap, stomp, clap, stomp…); patterns in the environment (e.g., day follows night, repeated phrases in storybooks, patterns in carpeting or clothing); patterns in numbers or symbols (e.g., 1-2-3, 1-2-3…or aabccd, aabccd…).

Phenomenon: A fact or event of scientific interest susceptible to scientific description and explanation.

Phoneme: The smallest unit of sound in a given language. The phonemes in a word are not always the same as the letters in a word. In the word *dog*, there are three phonemes (d-o-g) and three letters. In the word *snow*, there are three phonemes (s-n-o) but four letters. The English language has 41 phonemes.

Phonemic awareness: The ability to hear, identify and manipulate the individual sounds – phonemes – of spoken words. Phonemic awareness is a necessary step for learning to read. To learn the correspondences between letters and sounds, one must understand that words are made up of phonemes.

Phonics: The understanding that there is a predictable relationship between phonemes (the sounds of spoken language) and graphemes (the letters and spellings that represent those sounds in written language). A way of teaching reading and spelling that stresses symbol-sound relationships, used especially in beginning instruction.

Phonological awareness: A broad term that includes phonemic awareness. In addition to phonemes, phonological awareness activities can involve work with rhymes, words, syllables and onsets and rimes.

Physical strategies: A problem-solving method that incorporates building a model of the situation, acting out the problem narrative or using concrete materials.

Physical world: Refers to all of the nonliving components in the world (e.g., air, water, sun/light, rocks, soil and other formations and materials).

Pictograph: A diagram or graph using pictured objects to convey ideas or information.

Place: A location having distinctive characteristics which give it meaning and character and distinguishes it from other locations.

Play: A dynamic process that develops and changes, becoming more varied and complex, allowing children to practice skills they will need later in life. Play is the vehicle for learning and development across domains, reflecting the social and cultural contexts in which children live.

Position or directional word: A word that describes position or place in space (e.g., *up, down, left, right, over, under*).

Predict: Use of prior knowledge to guess what an outcome will be.

Predictable books: Books that use repetitive words, phrases and familiar patterns that make it possible for listeners or readers to know or guess what is coming next, such as "Brown bear, brown bear, what do you see?"

Print awareness: The knowledge that printed words carry meaning and that reading and writing are ways to get ideas and information.

Prior knowledge: Knowing that stems from a previous experience. Prior knowledge is a key component of reading comprehension.

Problem-solving: The process of identifying a problem or a goal, generating ideas to solve the problem or reach the goal and testing and analyzing solutions.

Producer: A person who makes goods and services.

Product: Something produced by human or mechanical effort or by a natural process.

Read aloud: The act of reading a story, modeling proficient, fluent reading for the purpose of promoting enjoyment of the story and/or appreciation of literature.

"Reads": The act of a young child imitating common reading behaviors, including holding the book right side up, following words across and down the page, turning the pages from front to back, and "telling" the story as he or she remembers or imagines it to be.

Recitation: An experience in which a child or group of children say aloud text that has been memorized (e.g., songs, poems, chants).

Recycle: To process in order to regain material for human use; the salvage and reprocessing of used materials (such as paper, metals, glass and cloth).

Re-enact: A retelling of a story through dramatization.

Relative position: Position of an object in relation to another (e.g., above, below, under, beside, before, after).

Representational graph: Pictures of real objects are placed on a wall or chalkboard.

Rhyme: A word corresponding with another in end sound (e.g., hat, bat, cat, sat).

Rhythm: An ordered recurrent alternation of strong and weak elements in the flow of sound and silence (e.g., a clock ticking, beat of words in a nursery rhyme verse).

Rime: Part of a word (vowel and consonants) following the onset (e.g., bat's rime is –at; book's rime is –ook).

Scaffolding or scaffolding instruction: Instruction in which adults build upon what children already know/express and provide support/encouragement that allows children to perform more complex tasks, to make discoveries and to problem-solve results.

Scribble writes: The first attempts of writing by young children. This "writing" is often illegible.

Segment syllables: The division of words into syllables; the minimal units of sequential speech sounds comprising a vowel sound or a vowel-consonant combination, as /a/, /ba/, /ab/ and /bab/.

Sequence: An ordered set of objects or numbers.

Sequencing: The arrangement in which objects or events follow in a logical order or a recurrent pattern; a following of one event after another in time.

Shared reading: An experience in which the teacher and a group of students read together from a single, enlarged text. Text is typically simple stories with repeating language patterns, poems or songs.

Square: A rectangle with four equal sides.

Stable order counting: Saying the words for numbers in a correct, consistent order when counting.

Standard: A general statement of what all students should know and be able to do.

Syllable: A word part that contains a vowel or, in spoken language, a vowel sound (e.g., rib-bon; news-pa-per).

Symbol: Something that represents or stands for something else. Young children often use scribbling, scribble writing, letter-like forms, letters, numbers and pictures to represent sounds, words, ideas and feelings.

Topic: The general category of ideas, often stated in a word or phrase, which expresses what the passage or text is about (e.g., The topic of the storybook, *My Friend Rabbit*, is "friendship"); the shared focus of a conversation.

Two-dimensional figure: A shape that has two dimensions, usually described in terms of length and breadth or length and height.

Vocabulary: Words we must know to communicate effectively. In general, vocabulary can be described as oral vocabulary or reading vocabulary. Oral vocabulary refers to words that are used in speaking or recognized in listening. Reading vocabulary refers to words that are recognized or used in print.

Want: A psychological or physical desire that can be fulfilled through the consumption of goods and services.

Weather: The state of the atmosphere with respect to heat or cold, wetness or dryness, calm or storm, clearness or cloudiness.

Weight: The amount of heaviness of a solid (e.g., objects, animals, people).

Word recognition: The quick and easy identification of the form, pronunciation and appropriate meaning of a word previously seen in print or writing.

Word wall: A large area of a wall (generally in the classroom) where important words are displayed as references for reading and writing.

Resources

Resources and Professional Organizations Websites

***Center for the Improvement of Early Reading Achievement* (CIERA) –** CIERA's mission is "to improve the reading achievement of America's youth by generating and disseminating theoretical, empirical, and practical solutions to learning and teaching beginning reading." This national center for research examines the many influences on children's reading acquisition. The center produces a variety of materials for educators. This site offers access to CIERA publications and special online-only resources. http://www.ciera.org

***Children's Literature Web Guide* –** This site collects and organizes Internet resources related to books for children and young adults. In addition, this site contains lists of book awards. http://www.acs.ucalgary.ca/~dkbrown

***Eisenhower National Clearinghouse for Mathematics and Science Education* (ENC) –** This Internet site is full of useful information. The site is organized into four areas; curriculum resources, Web links, professional resources and topics. Within the professional resources, under "timesavers," there are lesson plans organized by discipline and standards. This is only a starting point for an educator implementing standards using this site. http://www.enc.org

***The Educational Resources Information Center (ERIC) Clearinghouse of Reading, English and Communication* –** This site is dedicated to "providing educational materials, services and coursework to everyone interested in the language arts." ERIC has served the needs of parents and teachers for more than 40 years. This Web site provides access to lesson plans and resources for listening, literature, reading, storytelling, vocabulary and writing composition. http://www.eric.ed.gov

***ERIC Clearinghouse for Science, Mathematics and Environmental Education* –** This site, sponsored by the U.S. Department of Education, provides access to the best information about teaching and learning in the areas of science, mathematics and the environment for educators, students and others. Use the icons to access the different areas within ERIC; find research papers and journal articles, use the AskERIC database to get questions answered, access the National Education Library to find information and answer questions. http://www.eric.ed.gov

***ERIC Clearinghouse for Social Studies/Social Science Education* (ERIC/ChESS) –** The ERIC database, which serves teachers, parents, administrators, policymakers, researchers, students and others interested in educational information consists of 16 subject-oriented clearinghouses across the nation. Each clearinghouse specializes in a broad subject area as it relates to education. For example, ERIC/ChESS specializes in social studies/social science education. http://www.eric.ed.gov

***International Reading Association* (IRA) –** The goal of IRA is "to promote high levels of literacy for all by improving the quality of reading instruction, disseminating research and information about reading and encouraging the lifetime reading habit." This site provides access to programs that promote literacy, information on conferences and forums that provide professional development, special commissions and task forces that address particular issues. http://www.ira.org

***National Association for the Education of Young Children* (NAEYC) –** NAEYC exists for the purpose of "leading and consolidating the efforts of individuals and groups working to achieve healthy development and constructive education for all young children. Primary attention is devoted to assuring the provision of high quality early childhood programs for young children." This site provides access to information on conferences and forums that provide professional development and resources that address early language and literacy, mathematics, science, social studies and other relevant issues. http://www.naeyc.org

***National Center on Education and the Economy* –** This organization is dedicated to "providing policies, tools, technical assistance and professional development that people everywhere can use to design and implement effective standards-based education and training systems." This Web site provides access to resources, tools and technical assistance to schools, districts and states for designing and implementing standards. http://www.ncee.org

***Ohio Resource Center for Mathematics, Science, and Reading* (ORC) –** ORC is the unique service that provides peer-reviewed, best practice Web sites for educators. Its purpose is to help educators enhance learning opportunities for the young people of Ohio and to provide ideas for teaching the high expectations found in the Ohio academic content standards. http://www.ohiorc.org

***The Partnership for Reading* –** A national research dissemination project authorized by the *No Child Left Behind* Act of 2001, the Partnership for Reading's mission is to make scientifically-based reading research more accessible to educators, parents, policymakers and other interested individuals. Its efforts include a diverse set of public awareness, professional development and program replication activities. The National Institute for Literacy (NIFL) carrying out this effort using existing information dissemination networks when possible. http://www.nifl.gov/partnershipforreading

State Agencies and Departments

Ohio Department of Education	http://www.ode.state.oh.us (Search: Early Learning)
U.S. Department of Education	http://www.ed.gov/
Office of Early Learning and School Readiness	http://www.ode.state.oh.us/ece/
Ohio Department of Job and Family Services	http://jfs.ohio.gov/

Research and Instructional Resources

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Children's Literature

Children's picture books provide excellent tools for early childhood educators as a resource for the design of meaningful learning experiences. Children's literature can be used in multiple ways to support children's conceptual knowledge and understanding within and across the disciplines of language arts, mathematics, science and social studies. The reference after the author indicates the discipline. The following is a sample of picture book titles recommended by county and public libraries:

 = English language arts;  = mathematics;  = science;  = social studies.

- ***A My Name is Alice*** by Steven Kellogg 
- ***Aardvarks, Disembark!*** by Ann Jonas 
- ***Abuela*** by Arthur Dorros 
- ***Alexander and the Terrible, Horrible, No Good, Very Bad Day*** by Judith Viorst 
- ***Alphabet Under Construction*** by Denise Fleming 
- ***Anansi and the Moss-Covered Rock*** by Eric A. Kimmel 
- ***Andy and the Lion*** by James Daugherty 
- ***Animals Should Definitely Not Wear Clothing*** by Judi Barrett 
- ***The Apples Pie Tree*** by Zoe Hall 
- ***Arlene Alda's 1 2 3*** by Arlene Alda 
- ***Benny Bakes a Cake*** by Eve Rice 
- ***Ben's Trumpet*** by Rachel Isodora 
- ***Blueberries for Sal*** by Robert McCloskey 
- ***The Bossy Gallito: A Traditional Cuban Folk Tale Retold*** by Ludia M. Gonzalez 
- ***Bread and Jam for Frances*** by Russell Hoban 
- ***Brown Bear, Brown Bear, What Do You See?*** by Bill Martin, Jr. 
- ***Caps for Sale; A Tale of a Peddler, Some Monkeys and Their Monkey Business*** by Esphyr Slobodkina 
- ***The Carrot Seed*** by Ruth Krauss 
- ***A Chair for My Mother*** by Vera B. Williams 
- ***The Chick and the Duckling*** translated from the Russian of V. Suteyev by Mirra Ginsburg 

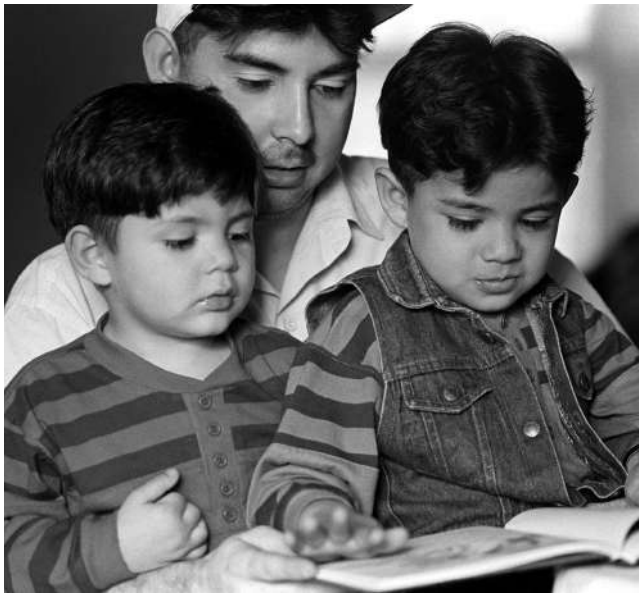
- ***Chicka Chicka Boom Boom*** by Bill Martin, Jr. and John Archambault
- ***Corduroy*** by Don Freeman
- ***Counting Wildflowers*** by Bruce McMillan
- ***Curious George*** by H.A. Rey
- ***The Day Jimmy's Boa Ate the Wash*** by Trinkia H. Noble
- ***Dear Zoo*** by Rod Campbell
- ***Doctor De Soto*** by William Steig
- ***The Doorbell Rang*** by Pat Hutchins
- ***Farmer Duck*** by Martin Waddell
- ***The Fortune-Tellers*** by Lloyd Alexander
- ***Frederick*** by Leo Lionni
- ***Freight Train*** by Donald Crews
- ***G is for Goat*** by Patricia Polacco
- ***George and Martha*** by James Marshall
- ***Go Away, Big Green Monster!*** by Ed Emberley
- ***Goodnight Moon*** by Margaret W. Brown
- ***Goose*** by Molly Bang
- ***Grandfather's Journey*** by Allen Say
- ***Group Soup*** by Barbara Brenner
- ***Guess How Much I Love You*** by Sam McBratney
- ***Happy Birthday, Moon*** by Frank Asch
- ***Harold and the Purple Crayon*** by Crockett Johnson
- ***Harry the Dirty Dog*** by Gene Zion
- ***Henny Penny*** illustrated by Paul Galdone
- ***Horton Hatches the Egg*** by Dr. Seuss
- ***How Many?*** by Debbie MacKinnon
- ***I Know an Old Lady Who Swallowed a Fly*** illustrated by Glen Rounds
- ***I Went Walking*** by Sue Williams

- ***The Icky Bug Counting Book*** by Jerry Pallotta
- ***If You Give a Mouse a Cookie*** by Laura J. Numeroff
- ***In the Small, Small Pond*** by Denise Fleming
- ***Inch by Inch*** by Leo Lionni
- ***Is It Red? Is It Yellow? Is It Blue? An Adventure in Color*** by Tana Hoban
- ***It Could Always Be Worse: A Yiddish Folktale*** retold and illustrated by Margot Zemach
- ***January Brings the Snow*** by Sara Coleridge
- ***John Henry*** by Julius Lester
- ***The Judge: An Untrue Tale*** by Harve Zemach
- ***Julius*** by Angela Johnson
- ***Komodo!*** by Peter Sis
- ***Leo the Late Bloomer*** by Robert Kraus
- ***Let's Count It Out, Jesse Bear*** by Nancy Carlstrom
- ***Little Blue and Little Yellow*** by Leo Lionni
- ***Little Cloud*** by Eric Carle
- ***The Little Dog Laughed and Other Nursery Rhymes*** by Lucy Cousins
- ***The Little Old Lady Who Was Not Afraid of Anything*** by Linda Williams
- ***Little Red Riding Hood*** retold and illustrated by Paul Galdone
- ***Lunch*** by Denise Fleming
- ***Lyle, Lyle, Crocodile*** by Bernard Waber
- ***Madeline*** by Ludwig Bemelmans
- ***Mailing May*** by Michael Tunnel
- ***Maisy Goes Swimming*** by Lucy Cousins
- ***Make Way for Ducklings*** by Robert McCloskey
- ***Martha Calling*** by Susan Meddaugh
- ***Mike Mulligan and His Steam Shovel*** by Virginia L. Burton
- ***Millions of Cats*** by Wanda Gag
- ***Miss Nelson is Missing*** by Harry Allard and James Marshall

- ***Miss Spider's Tea Party*** by David Kirk 
- ***The Mitten*** by Jan Brett 
- ***Mr. Gumpy's Outing*** by John Burningham 
- ***The Monkey and the Crocodile*** retold and illustrated by Paul Galdone 
- ***Monkey Face*** by Frank Asch 
- ***Morris' Disappearing Bag*** by Rosemary Wells 
- ***Mouse Paint*** by Ellen S. Walsh 
- ***Mufaro's Beautiful Daughters: An African Tale*** retold and illustrated by John Steptoe 
- ***Mushroom in the Rain*** adapted from the Russian of V. Suteyev by Mirra Ginsburg 
- ***The Napping House*** by Audrey Wood 
- ***Now I'm Big*** by Margaret Miller 
- ***Officer Buckle and Gloria*** by Peggy Rathmann 
- ***Old Black Fly*** by Jim Aylesworth 
- ***One Hungry Monster*** by Susan O'Keefe 
- ***Over in the Meadow*** by John Langstaff 
- ***Owen*** by Kevin Henkes 
- ***Owl Babies*** by Martin Waddell 
- ***Papa, Please Get the Moon for Me*** by Eric Carle 
- ***Perez and Martina*** by Pura Belpre 
- ***Pierre: A Cautionary Tale*** by Maurice Sendak 
- ***The Polar Express*** by Chris Van Allsburg 
- ***Potluck*** by Anne Shelby 
- ***Quilt Alphabet*** by Lesa Cline-Ransome 
- ***Rain*** by Robert Kalan 
- ***Rainbow Fish*** by Marcus Pfister 
- ***The Rainforest Counts!*** by Lisa McCourt 
- ***The Random House Book of Mother Goose: A Treasury of 386 Timeless Nursery Rhymes*** selected and illustrated by Arnold Lobel 
- ***Rosie's Walk*** by Pat Hutchins 

- ***Round Trip*** by Ann Jonas 
- ***Rumpelstiltskin*** retold and illustrated by Paul O. Zelinsky 
- ***The Runaway Bunny*** by Margaret Wise Brown 
- ***Seven Blind Mice*** by Ed Young 
- ***The Snowy Day*** by Ezra Jack Keats 
- ***This is Our House*** by Michael Rosen 
- ***Stellaluna*** by Janell Cannon 
- ***Stone Soup*** retold and illustrated by Marcia Brown 
- ***The Story of Babar, the Little Elephant*** by Jean de Brunhoff 
- ***The Story of Ferdinand*** by Munro Leaf 
- ***The Story of Ping*** by Marjorie Flack 
- ***Strega Nona*** by Tomie dePaola 
- ***Swamp Angel*** by Anne Isaacs 
- ***Swimmy*** by Leo Lionni 
- ***Sylvester and the Magic Pebble*** by William Steig 
- ***The Tale of Peter Rabbit*** by Beatrix Potter 
- ***Ten, Nine, Eight*** by Molly Bang 
- ***There's a Nightmare in My Closet*** by Mercer Mayer 
- ***There Was an Old Lady Who Swallowed a Fly*** by Simms Taback 
- ***The Three Billy Goats Gruff*** by P.C. Asbjfrnsen & J.E. Moe 
- ***The Three Robbers*** by Tomi Ungerer 
- ***Tikki Tikki Tembo*** retold by Arlene Mosel 
- ***Time to Sleep*** by Denise Fleming 
- ***The Tiny Seed*** by Eric Carle 
- ***The True Story of the Three Little Pigs*** by A. Wolf as told to John Scieszka 
- ***Tuesday*** by David Wiesner 
- ***Two of Everything: A Chinese Folktale*** retold and illustrated by Lily Toy Hong 
- ***The Very Hungry Caterpillar*** by Eric Carle 

- ***We're Going on a Bear Hunt*** retold by Michael Rosen
- ***The Wheels on the Bus*** adapted and illustrated by Paul O. Zelinsky
- ***When I Was Young in the Mountains*** by Cynthia Rylant
- ***Where the Wild Things Are*** by Maurice Sendak
- ***Where's Spot?*** by Eric Hill
- ***Whistle for Willie*** by Ezra Jack Keats
- ***Who's Counting?*** by Nancy Tafuri
- ***Why Mosquitoes Buzz in People's Ears: A West African Tale*** retold by Verna Aardema
- ***The Year at Maple Hill Farm*** by Alice and Martin Provensen
- ***Zin! Zin! Zin!: A Violin*** by Lloyd Moss
- ***Zomo the Rabbit: A Trickster Tale from West Africa*** retold and illustrated by Gerald McDermott



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all children are born ready to learn

relationships are influential

communication is critical

environments matter