Tolland Public Schools

K-5 Parent Curriculum Guides

Math Practices

What are they?

- Foundation for mathematical thinking,
- PreK-12 for students as well as guidance that helps teachers modify their classrooms to approach teaching in a way that develops a more advanced mathematical understanding

Think of these standards as a guide to creating a more complex learning experience that can be applied to everyday life.

- Practice Standards Examples: Illustrative Mathematics
- Teacher Step - Breaking Down the CCSS Math Practice

The 8 Math Practices

1. Make sense of problems and persevere in solving them - **I never give up on a problem and I do my best to get it right.**
2. Reason abstractly and quantitatively - **I can solve problems in more than one way.**
3. Construct viable arguments and critique the reasoning of others - **I can explain my math thinking and talk about it with others.**
4. Model with mathematics - **I see math in everyday life and I can use math to solve everyday problems.**
5. Use appropriate tools strategically - **I know how to choose and use the right tools to solve math problems.**
6. Attend to precision - **I can work carefully and check my work.**
7. Look for and make use of structure - **I can use what I know to solve new problems.**
8. Look for and express regularity in repeated reasoning - **I can solve problems by looking for rules and patterns.**

Kindergarten Mathematics Critical Areas:

- Representing and comparing whole numbers (counting sets, modeling joining and separation, subitizing)
- quickly identifying the quantity of small sets and using models and strategies to solve problems, and name, identify and describe
- 2D and 3D shapes

Counting & Cardinality

- Count objects and tell how many write numbers 0-20
- Compare numbers or sets of objects to compare them

Numbers & Operations in Base Ten

- Work with numbers 11-19 to gain foundations for place value. Ex: Teen numbers are 10 and some more.

Operations & Algebraic Thinking

- Understand addition as putting together and adding to
- subtraction as taking apart and taking from.
- Fluently add and subtract to 5
- Add and Subtract within 10 using objects, fingers, drawing, numbers or equations
- Use these skills to solve story problems

Measurement & Data

- Describe and compare measurable attributes
- Classify objects and count the number of objects in each category
- Understand length and weight as something that can be measured

Geometry

- Identify and describe shapes and analyze, compare, create and compose shapes

Grade 1 Mathematics Critical Areas:

- Understanding of adding and subtracting focusing on strategies/models to add and subtract within 20
- Fluently add and subtract within 10
- Whole number relationships and place value; a two digit number represents amounts of tens and ones
- Reasoning about attributes of geometric shapes, creating 2D and 3D shapes and partitioning shapes into equal parts
- Measure and compare the length of objects (whole numbers only) using smaller identical objects called “length units” which is called unit iteration.

Numbers & Operations in Base Ten

- Read, write and count by ones and tens to 120
- Understand place value by describing what the digits mean in two-digit numbers; use this knowledge to add and subtract.

Operations & Algebraic Thinking

- Understand and use the properties of operations and the relationships between adding and subtracting to represent and solve problems
- Solve story problems with addition and subtraction (strategies, models, equations) Add and subtract within 20

Measurement & Data

- Measure length using non-standard units such as Popsicle sticks, linking cubes, etc.
- Tell and write times to the hours and half hour on analog and digital clocks
- Read or construct a graph and answer questions about the data

Geometry

- Reason with and compare shapes and their attributes
- What unique properties does each shape have?

Grade 2 Mathematics Critical Areas:

- Extending understanding of place value and base ten notation (with number up to 1000)For example, 853 is 8 hundreds +5 tens + 3 ones.
- Solve problems with fluency (within 100) and with models and strategies (within 1000)
- Measure length using standards units (centimeter, inch, foot, yard etc.)
- Describe and analyze 2D and 3D shapes using knowledge of their sides and angles
- Create and reason about shapes by combining and breaking apart shapes

Numbers & Operations in Base Ten

- Read and write 3 digit numbers using numerals, words and expanded notation (726 = 700 + 20 + 6)
- Understand that the three digits of a 3-digit number represent amounts of hundreds, tens, and ones(place value)
- Use place value and properties of operations to add and subtract.

Operations & Algebraic Thinking

- Fluently add and subtract within 20
- Use symbols >, =, < to compare two 3-digit numbers
- Add and subtract 2-digit numbers accurately and efficiently, and explain strategies for doing so
- Add and subtract 3-digit numbers using models, sketches, and/or numbers and explain strategies for doing so
- Represent and solve addition and subtraction story problems using models, strategies, and algorithms to 100

Measurement & Data

- Estimate and measure length in centimeters and meters, inches and feet
- Solve money problems.

Geometry

- Divide circles and rectangles into two, three, and four equal parts and describe the parts
- Recognize, draw, and analyze 2- and 3-D shapes

Grade 3 Mathematics Critical Areas:

- Add and subtract 2 and 3 digit numbers
- Develop and use strategies to multiply and divide within 100, including rectangular arrays and how they relate to area
- Use visual models to develop an understanding of unit fractions and use that to solve problems

Numbers & Operations in Base Ten

- Apply knowledge of place value and properties of use addition, subtraction, multiplication, and division to solve story problems
- Round numbers to nearest 10 or 100

Geometry

- Identify and construct different kinds of quadrilaterals
- Sort and classify shapes
- Express the area of part of a shape as a unit fraction of the whole. Solve area and perimeter problems

Number & Operations - Fractions

- Extend understanding of Part-Part-Whole to a fraction as part of the whole.
- Compare, recognize, and generate equivalent fractions and place them on a number line and other visual models

Measurement & Data

- Measure and estimate intervals of time, volume and mass
- Focus on geometric measurement; relating area to multiplication
- Distinguish between linear (perimeter) and area measures

Operations & Algebraic Thinking

- Use models and strategies based properties of operations to develop the relationship between multiplication and division and apply that to solve problems
- Solve multiplication and division facts accurately and efficiently
- Multiply 1-digit numbers by multiples of 10, e.g., 3 x 70

Grade 4 Mathematics Critical Areas:

- Fluency with multi-digit multiplication,
- Dividing to find answer a to division problems (quotients) with multi digit dividends (the number being divided)
- Fraction equivalence
- Adding and subtracting fractions with like denominators (bottom number)
- Multiplying fractions by whole numbers
- Classifying geometric figures based on their properties

Numbers & Operations in Base Ten

- Use the standard algorithm to add and subtract multi-digit numbers accurately and efficiently
- Read, write, and compare multi-digit numbers and round multi-digit numbers to any place
- Multiply multi-digit numbers using strategies and models based on place value and properties of operations
- Divide 2-digit numbers by 1-digit numbers using strategies based on place value and the relationship between multiplication and division

Geometry

- Use formulas for area and perimeter of a rectangle to solve problems
- Measure and sketch angles with a protractor
- Classify 2-D shapes
- Identify and draw lines of symmetry

Number & Operations - Fractions

- Recognize and generate equivalent fractions.
- Compare two fractions with different numerators and denominators.
- Add and subtract fractions and mixed numbers with like denominators.
- Multiply a fraction by a whole number. Write fractions with denominators of 10 or 100 in decimal notation.
- Use visual model to solve problems with fractions.

Measurement & Data

- Know the relative sizes of measurement units within one system of units, including metric length, metric mass, customary weight, metric volume, and time.

Operations & Algebraic Thinking

- Understand factors and multiples of prime and composites, e.g., 1,2,4,5,10, and 20 are all factors of 20, and 20 is a multiple of each of those numbers
- Multiply or divide to solve multistep word problems, using models, algorithms, and equations with variables

Grade 5 Mathematics Critical Areas:

- Finalize fluency with multi-digit addition, subtraction, multiplication, and division
- Apply understandings of models for decimals, decimal notation, and properties of operations to add and subtract decimals
- Fluency with adding and subtracting fractions
- Developing an understanding of volume

Numbers & Operations in Base Ten

- Use models and strategies to divide 2- and 3-digit numbers by 2-digit numbers, with and without remainders (Students are not expected to use the standard long division algorithm until sixth grade.).
- Explain patterns in the number of zeros and the placement of the decimal point in the answer when multiplying or dividing by powers of 10
- Read, write, round, compare, add & subtract, multiply & divide decimals
- Multiply multi-digit whole numbers

Operations & Algebraic Thinking

- Write simple expressions
- Evaluate expressions with symbols, including parentheses, brackets and braces

Geometry

- Classify 2D figures into categories based on their properties
- Graph points on a coordinate plane to solve real world problems.

Measurement & Data

- Convert measurement from a larger unit to a smaller unit (ex: centimeters to meters)
- Understand the concept of volume, relate it to multiplication and addition

Number & Operations - Fractions

- Add and subtract fractions with unlike denominators (bottom number)
- Multiply fractions and divide fractions in simple cases (unit fractions only) using models and algorithms

5 Tips for Parents Helping Students Learn Math At Home

When your child is struggling with a math problem, encourage her/him by looking for right mathematical thinking.

Don't share with your children the idea that you were bad at math at school or you dislike it. Instead share how you challenged yourself to successfully overcome your struggles.

Math is not a race; there is no need to time your child when she/he is working on math fluency.

Encourage number sense-the ability to separate and put numbers together flexibly-by talking with your child about how you solve math problems. Play board games for family fun night!

Encourage a growth mindset, the idea that ability change as you work more and learn more and mistakes are part of learning.

Resources:

HW Tips

Family Fun! - Board Games that Inspires Math Thinking

Youcubed - Parent Resources for Math Mindset

English/Language Arts and the CT Core Standards:

What are they?

The Common Core State Standards represent the next generation of K-12 standards designed to prepare all students for success in college, career, and life by the time they graduate from high school.

- Reading Literature, Informational Text
- Reading Foundational Skills
- Writing
- Speaking/Listening
- Language

Students who are ready for life after high school:

- Demonstrate independence
- Build strong content knowledge
- Respond to varying demands of audience, task, purpose, and discipline
- Comprehend and critique
- Value evidence
- Use technology strategically and capably
- Understand other perspectives and cultures

English/Language Arts in Tolland:

Programs/Resources:

- Houghton-Mifflin Journeys 2017
- Fountas and Pinnell Guided Reading- Kindergarten
- Geodes Decodable- Birch Grove Primary School
- Flyleaf Decodable books- available K-5

- SPIRE for striving readers, K-8
- RAZ Kids
- Heggerty Phonological Awareness Drills (K-2)
- Spellography-grade 4
- MegaWords-grade 5
- Wit and Wisdom-grade 5

Kindergarten Language Arts

Reading, Foundational Skills,

Writing, Speaking, Listening, Language

Fundations/Heggerty

Print concepts, Vocabulary, Phonological Awareness, Phonics, High Frequency Words, Spelling, and Handwriting

Guided Readers

We are a Community of Learners
Family/Friends
Living/Nonliving
We are Readers/Writers
Push/Pull

Writer's Workshop

Narrative- All About Me
Opinion-I like
Information- How to...

First Grade ELA

Fundations

Print concepts, Phonological Awareness, Phonics, High Frequency Words, Spelling, and Handwriting

Journeys Reading Series:

Target skills:

- Main idea
- Understanding characters
- Predictions
- Sequence of Events
- Text features
- Story structure
- Summarizing
- Word Work

Guided Reading

Small group instruction with accompanying lessons

Writer's Workshop

- Narrative
- Opinion
- Poetry
- Realistic Fiction

Second Grade ELA

Fundations

Print concepts, Phonological Awareness, Phonics, High Frequency Words, Spelling, and Handwriting

Journeys Reading Series:

Target skills:

- Sequence of Events
- Compare/Contrast
- Analyze/Evaluate
- Author's Purpose
- Text Features
- Conclusions
- Main idea/Details
- Cause/Effect
- Story structure
- Summarizing
- Visualizating
- Word Work

Guided Reading

Small group instruction with accompanying lessons

Writer's Workshop

- Narrative
- Information books
- Opinion
- Poetry

Third Grade ELA

Fundations

Print concepts, Phonological Awareness, Phonics, High Frequency Words, Spelling, and Handwriting

Journeys Reading Series:

Target skills:

- Story Structure
- Summarizing
- Conclusions
- Sequence of Events
- Infer/Predict
- Understanding characters
- Text features
- Visualizing
- Cause/Effect
- Word Work
- Compare and contrast
- Main idea/Details

Guided Reading

Small group instruction with accompanying lessons

Writer's Workshop

- Personal Narrative
- The Art of Information
- Changing the world-persuasive
- Once upon a time: Adapting and Writing Fairy Tales

Fourth Grade ELA

Spellography

Word study program that reinforces multisyllabic decoding skills, teaches vocabulary using word roots

Journeys Reading Series:

Target skills:

- Story structure
- Author's purpose
- Monitor/Clarify
- Cause/Effect
- Visualizing
- Theme
- Analyze/Evaluate
- Fact/Opinion
- Text features
- Understanding characters
- Summarizing
- Infer/Predict

Guided Reading

Small group instruction with accompanying lessons

Writer's Workshop

- Opinion
- Information
- Narrative
- Realistic fiction

Fifth Grade ELA

MegaWords

Teaches the reading, spelling, and contextual use of multisyllabic words through a multisensory instruction.

Wit and Wisdom Series:

Modules:

- Cultures in Conflict
- Playing with Words
- Breaking Barriers

Guided Reading

Small group instruction with accompanying lessons

Writer's Workshop

- Narrative
- Opinion
- Poetry
- Realistic Fiction

S.P.I.R.E.

- Specialized Program Individualizing Reading Excellence
- Intensive reading intervention
- Research based
- Explicit and systematic
- Structured literacy approach
- Consistent ten step lesson
- Multisensory learning
- Mastery of concepts

SPIRE
Reading Intervention Program

RAZ Kids

- Digitally delivered leveled books and quizzes
- Billions of leveled readers
- Award winning resource
- Differentiated books at 29 levels of difficulty
- Used at school, home or on the go

Raz-Kids

Flyleaf Decodable Books

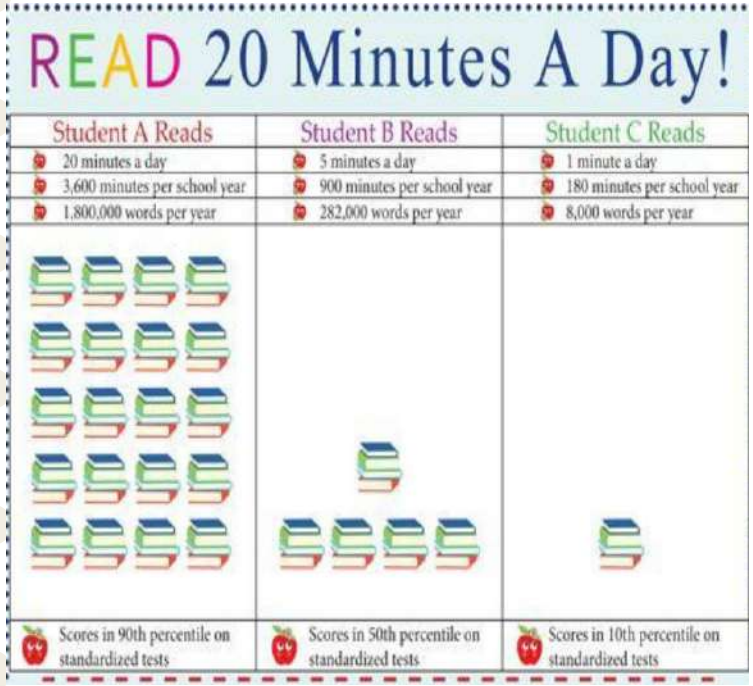
- Authentic, decodable books
- Early reading experiences
- Comprehensive instructional materials
- Develops foundational reading skills

Geodes Decodable Books

- Corresponds with Fundations
- 64 informational and literary texts
- Includes a teacher resource
- Provide a rich textual experience

Parent tips

- Children are made readers in the laps of their parents/guardians
- Develop oral language skills
- Create a quiet and comfortable reading environment
- Read 20 minutes a day to and with your child
- Talk about books
- Introduce your child to different types of books
- Talk about what is happening in the book



NGSS Science "Standards"

What are they?

The NGSS is organized into grade level Performance Expectations that weave Disciplinary Core Ideas (content), Science and Engineering Practices (skills), and Cross-cutting Concepts (overarching scientific principles) together. This requires teachers to **facilitate students' learning** of science by allowing them to "do" science. It also puts a greater emphasis on **students applying their scientific understanding** rather than simply memorizing scientific facts.

NGSS K-12 Performance Expectations- Click above to see all performance expectations, organized by grade level and core ideas

Disciplinary Core Ideas

Life Science	Physical Science
LS1: From Molecules to Organisms: Structures and Processes	PS1: Matter and Its Interactions
LS2: Ecosystems: Interactions, Energy, and Dynamics	PS2: Motion and Stability: Forces and Interactions
LS3: Heredity: Inheritance and Variation of Traits	PS3: Energy
LS4: Biological Evolution: Unity and Diversity	PS4: Waves and Their Applications in Technologies for Information Transfer
Earth & Space Science	**Engineering & Technology**
ESS1: Earth's Place in the Universe	ETS1: Engineering Design
ESS2: Earth's Systems	ETS2: Links Among Engineering, Technology, Science, and Society
ESS3: Earth and Human Activity	

Cross-Cutting Concepts

1. Patterns
2. Cause and Effect (Mechanism and Explanation)
3. Scale, Proportion, and Quantity
4. Systems and System Models
5. Energy and Matter (Flows, Cycles, and Conservation)
6. Structure and Function
7. Stability and Change

Science and Engineering Practices

What are they?

The Next Generation Science Standards include a greater emphasis on students "doing" science, and a focus on applying science through engineering to solve problems. Engaging in the practices of science helps students understand how scientific knowledge develops. Engaging in the practices of engineering likewise helps students understand the work of engineers, as well as the links between engineering and science. Science and Engineering Practices Learning Progressions- More details about each Practice, and how these important skills are expected to develop during the course of a student's K-12 education.

The 8 Science and Engineering Practices

1. Asking questions (for science) and defining problems (for engineering)- **I ask questions that help me understand ideas or problems better.**
2. Developing and using models- **I can draw or build models to show my thinking or explain an idea.**
3. Planning and carrying out investigations- **I can make a procedure to investigate an idea.**
4. Analyzing and interpreting data- **I can identify and explain patterns in data.**
5. Using mathematics and computational thinking- **I can use math to solve problems, analyze data, or understand ideas.**
6. Constructing explanations (for science) and designing solutions (for engineering)- **I can explain my thinking and ideas.**
7. Engaging in argument from evidence- **I can support my ideas with evidence.**
8. Obtaining, evaluating, and communicating information- **I can find reliable information I need and explain my ideas to others.**

Kindergarten Science

In kindergarten, students begin their study of the world around them. They investigate how it affects them and how they affect it.

Disciplinary Core Ideas

- LS1: From Molecules to Organisms: Structures and Processes
- ESS2: Earth's Systems
- ESS3: Earth and Human Activity
- PS2: Motion and Stability: Forces and Interactions

Cross-Cutting Concepts

- Patterns
- Structure and Function
- Stability and Change

Weather

Students explore different types of weather and the effect it has on their lives. This unit continues throughout the year as they record the types of weather they see everyday, and how it changes with the seasons. This unit also interweaves with the other units as they consider the effects of weather on living things, and how wind applies force to objects.

Animal Care Guides

Through investigations, students explore what plants and animals need to survive, all while considering how to care for an animal in a zoo. Once the students choose which animal they want to bring to the zoo, they use their learning to develop a care guide for their animal.

Push, Pull, Play

Students explore forces and collisions through observing and investigating while playing. Students consider the effects of stronger and weaker forces on objects in the classroom and on the playground, as well as the directions of forces. They also explore collisions and ultimately seek to model and explain the forces involved in different play activities.

Grade 1 Science

In grade 1, students are asked to develop models to begin explaining phenomena, and apply their understandings to design objects or solutions.

Disciplinary Core Ideas

- LS1: From Molecules to Organisms: Structures and Processes
- ESS1: Earth's Place in the Universe
- PS4: Waves and Their Applications in Technologies for Information Transfer

Cross-Cutting Concepts

- Patterns
- Structure and Function
- Systems and System Models
- Cause and Effect

Patterns of Sun and Moon

Students are engaged by tracing their shadow at three different times of day and observing how it changes. Throughout the unit students investigate the types of shadows produced by different objects, how mirrors and prisms affect light, begin to understand what causes moon phases, and consider how light changes with the seasons.

Communicating with Light and Sound

Students then investigate what causes sound, and the types of sounds they hear around their school. They also consider how light is important for sight, and how it can be used for communication. Students design a shadow puppet show, and the unit culminates with students designing their own soundtrack for a new video clip.

Learning From Nature Through Our Senses

Students build on learning from kindergarten and begin to consider how plant and animal parts help them meet their needs for survival. Through investigations and texts, students learn about plant and animal parts, and determine what role each part plays in helping the plant or animal survive. The unit culminates with students considering how plant and animal parts can be inspiring to engineers as they design solutions for human problems.

Grade 2 Science

In grade 2, students learn about engineers and the design process, and how they work to solve problems.

Disciplinary Core Ideas

- LS2: Ecosystems: Interactions, Energy, and Dynamics
- LS4: Biological Evolution: Unity and Diversity
- ESS1: Earth's Place in the Universe
- ESS2: Earth's Systems
- PS1: Matter and Its Interactions

Cross-Cutting Concepts

- Energy and Matter
- Stability and Change
- Cause and Effect
- Systems and System Models

Matter and Its Interactions

Students are engaged in a design challenge- the story of the "fourth pig" who needs to build a home to withstand the Wolf. Students investigate materials and their properties, how combining materials can lead to new properties, and how choosing the correct materials for a particular use can be key in the success of a design. They will apply their learning to design, build, and test a house for the fourth pig.

Beavers, Nature's Engineers

Students study beavers to understand how they survive and their role in the environment. They study how and why beavers construct their dams, how they are similar and different to human homes and dams, and how their presence can drastically change an environment and what lives there.

Ecosystem Dynamics

Students build on their learning from grade 1, and begin to understand how plants and animals are equipped to survive in their environments. Students explore different environments, including examples from around Birch Grove. They also consider how relationships between plants and animals help them survive, specifically studying pollination and seed dispersal.

Grade 3 Science

In grade 3, students study a range of topics as scientist detectives. Each unit presents the students with a mystery that they need solve using the concepts they explore during the unit.

Disciplinary Core Ideas

- LS1: From Molecules to Organisms: Structures and Processes
- LS2: Ecosystems: Interactions, Energy, and Dynamics
- LS3: Heredity: Inheritance and Variation of Traits
- LS4: Biological Evolution: Unity and Diversity
- ESS2: Earth's Systems
- ESS3: Earth and Human Activity
- PS2: Motion and Stability: Forces and Interactions

Cross-Cutting Concepts

- Systems and System Models
- Cause and Effect
- Structure and Function
- Stability and Change

Monarch Disappearance

Students are presented with the significant decrease seen in monarch butterfly populations in recent years. Students explore the characteristics of different environments, weather and climate, and factors that can change environments, all while considering what organisms need to survive in their environments. The unit culminates with a project to improve the TIS memorial butterfly garden to better support butterflies overall, and monarchs in particular.

Harper's Fossil Find

Harper discovered a fossil while walking in the woods with her family. Students explore animal structures, traits, genetics, and life cycles, in order to determine the type of fossil Harper found and what may have been the story of its life.

Odd Motions

Students investigate and try to explain examples of unusual motions (ex. levitation), while learning about forces, gravity, electricity, magnetism, and material properties.

Grade 4 Science

In grade 4, students are engaged as problem solvers, as they are asked to use their learning to design solutions to problems involving biology and earth science.

Disciplinary Core Ideas

- LS1: From Molecules to Organisms: Structures and Processes
- ESS1: Earth's Place in the Universe
- ESS2: Earth's Systems
- ESS3: Earth and Human Activity
- PS3: Energy
- PS4: Waves and Their Applications in Technologies for Information Transfer

Cross-Cutting Concepts

- Energy and Matter
- Systems and System Models
- Structure and Function
- Stability and Change

Changing Earth

Students are presented with the question, "Why aren't the oldest mountain ranges in the world also the tallest?" Students study the forces involved in creating and breaking down mountain ranges. Students also investigate the effect of rainfall on different soil types, and apply their learning to developing an erosion management plan to protect a Tolland trail.

Waves and Erosion

Students investigate CT shoreline erosion through the use of historical imagery, and learn about waves and their ability to transfer energy and erode the coastline. Students will be asked to engineer and construct a barrier to minimize coastline erosion against simulated waves in the lab.

Biomimicry

Students investigate the many ways that human engineers have found inspiration in nature when designing solutions to human problems. Throughout the unit students investigate the senses- human, animal, and even plant- and how they have been mimicked through engineering. Ultimately students are asked to design a novel use of an animal or plant feature to solve a problem of their choosing.

Grade 5 Science

In grade 5, students are presented with phenomena that require a range of science learning to fully understand.

Disciplinary Core Ideas

- LS1: From Molecules to Organisms: Structures and Processes
- LS2: Ecosystems: Interactions, Energy, and Dynamics
- ESS1: Earth's Place in the Universe
- ESS2: Earth's Systems
- ESS3: Earth and Human Activity
- PS1: Matter and Its Interactions
- PS2: Motion and Stability: Forces and Interactions

Cross-Cutting Concepts

- Energy and Matter
- Systems and System Models
- Scale, Proportion, and Quantity
- Stability and Change

Patterns of Earth, Sun, and Moon

Students learn about a wide range of topics in astronomy including star life cycles, shooting stars, seasons, moon phases, and eclipses. Students will be asked to develop a model to explain why a shooting star is not actually a star.

Golden Jellies of Palau

Students build on their environmental science learning from grade 3, looking at how organisms are able to survive and thrive considering the various factors that affect ecosystems. They will develop explanations for why the Golden Jellies are only found in one lake on an island in Palau, and why they travel from one end of the lake to the other everyday. Students also consider the impacts of humans on environments, and how that may be affecting the jellies.

Water World

Students travel the world with Brooke Riverton, exploring and explaining a variety of phenomena involving water. Students learn about the forces that cause geysers at Old Faithful, massive tidal variations in the Bay of Fundy, methane bubbles frozen in ice in Abraham Lake, Alberta, Canada, and the beauty of the Sea of Stars.

Tips for Parents Helping Students Learn Science At Home

Supporting your students in science is no longer about helping them to memorize long lists of vocabulary and facts. Students need to be able to think critically, problem solve, and find and evaluate information they need.

NGSS Parent Guides

- Download the Grades K-2 Parent Guide
- Download the Grades 3-5 Parent Guide
- Download the Grades 6-8 Parent Guide
- Download the Grades 9-12 Parent Guide

CT NGSS Parent Toolkit is a short document that will guide parents to better understand the shifts in science education demanded by the NGSS. It includes many useful links to resources that will help parents identify the various components of an exemplary science program.

1 Enjoy science together as a family and encourage science as a hobby	• Take it outside. Watch what's happening around you, and have your child keep track of things like the temperature or the time the sun sets. Visit one of our local free museums or the zoo. • Get Active. Activities, like cooking, working in the garden, hiking, and doing chores around the house encourage students creativity and problem solving ability. • Be Curious. Join your children in learning new things about science and technology. Take advantage of not knowing all the answers to your children's questions and embrace opportunities to learn together!
2 Read and explore with your children.	• You don't need to have all the answers. When your child asks you "why"? Use books, apps, videos, and other resources, to find out more about a topic! Help them read and discover more. • Explore your Library. Our local librarians can help you find books about topics your students may be interested in.
3 Encourage your children to ask questions and pursue answers.	• Chat and Chew. Ask questions and engage in conversation during mealtime around things they have observed. • Ask 3. Three basic questions can help lead children to a better understanding of the world: ✓ What do you see? ✓ How does it work? ✓ Why do you think _____ • I spy... Use the trip between school and home to develop student's observation skills.
4 Help your students with "hands-on" assignments when necessary.	• Reach out for resources. Talk to your student's teacher or other community resources (Rec centers, etc.) about how best to help your child with their project. • Network: Find support for your student in your community. Talking about your child's project with family, friends, doctors, neighbors, at church, or even at the grocery store, can help connect you with resources. As your child gets older, have them begin these conversations. • Google -it! Online resources for parents and students around hands on projects can help relieve a lot of stress and help guide the process. Use recommended sites, as they will have age appropriate and safe projects for students to conduct.
5 Encourage older children in science.	• College and career ready. Students studying in STEM fields will be better prepared to participate in the 21st-century workforce. • Find Mentors: Mentors and internships will develop your student's confidence and ability in the Sciences. Your student's teachers or counselors can connect you with resources in the community. • Get Help Early On! Science can be difficult for students at times. Help them connect them with tutorial options at school or in the community, before it becomes a problem. • Be Informed. Connect with teachers and school staff around the science program and expectations around science at your student's school.

Courtesy of osse.dc.gov

Do you have any questions?

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Thank you!

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