

What your child will learn in Grade 4

4 | INSIDE | Math | Reading | Science | Social Studies | Encore Classes



Grade 4 Mathematics

	Concepts	Vocabulary	Numerical Fluency	Problem Solving
What your child will learn	 Generalize place value understanding for multidigit whole numbers Use place value understanding and properties of operations to perform multi-digit arithmetic Extend understanding of fraction equivalencies, comparing and ordering Use decimal notation for fractions Add and subtract fractions and mixed numbers Develop and apply number theory concepts to find factors and multiples Generalize and analyze patterns Explore and categorize lines, angles and shapes Solve problems involving measurement and conversions of measurements Represent and interpret data 	 Read and comprehend mathematical vocabulary in isolation and in context. Use formal and informal language to describe and discuss mathematical concepts and skills Relate informal language to mathematical language and symbols Communicate orally and in writing using mathematical language 	 Develop mental math strategies to add, subtract, multiply and divide Mentally round and estimate Use different strategies fluently to compute answers Model and explain relationship between fractions and decimals 	 Investigate and solve real world problems Formulate a plan to solve a given problem Apply efficient strategies to solve problems Use logical reasoning Use mental estimation to determine reasonableness of answers
What your child will do	 Explore the relationship between multiplication and division to solve problems Add and subtract accurately and efficiently using a variety of strategies Apply place value and numeration concepts to compare, find equivalencies and estimate Use operations to solve problems involving fractions and decimals Recognize, describe, extend, create and replicate a variety of patterns List properties, classify, draw and identify 2-D and 3-D geometric figures Solve problems involving length, weight, liquid volume, time, area and perimeter Organize, display, answer questions and make predictions using data 	 Explore concepts through discussions with partners, small groups and within the class Translate mathematical symbols into mathematical language Justify conclusions, communicate them to others and respond to the arguments of others Use mathematical vocabulary in oral and written communication 	 Play games used in class that require strategy and recall of basic facts Engage in mental math exercises Choose mathematical procedures that are the most efficient Apply basic facts within the context of story problems Use and explain various strategies used in computation 	 Apply reading comprehension strategies to word problems Demonstrate fluency with more than one strategy to solve problems accurately and efficiently Solve one-step and multistep problem Show and or explain thinking orally and in writing Make sense of problems and persevere in solving them

Grade 4 Mathematics

	Concepts	Vocabulary	Numerical Fluency	Problem Solving
What you'll see (Products)	 An increased enthusiasm for mathematics An increase in opportunities to communicate mathematically Projects/assignments that require the application of concepts Homework that requires increased mathematical thinking and reasoning Use of various tools/manipulatives to make sense of math concepts and solve problems 	 Graphic organizers or journal entries that explain mathematical terms Assignments that require students to use mathematical vocabulary in a variety of contexts 	 Problems solved using a variety of strategies Improvement in basic fact recall Improved number sense Math games that require strategy and reinforce computational strategies and basic facts 	 Self-generated story problems Written explanations of solutions Application of the problem solving process and strategies outside the math classroom
How you can help	 Have your child search for math in a newspaper or news app and explain how it is used Point out math at home, in games, sports, music, shopping, travel etc. Read literature that relates to mathematics Refer to the District Math eBoard for websites that further enhance understanding of concepts and/or provide additional practice 	 Encourage the use of mathematical terms Set aside time everyday for a homework discussion Ask your child to explain their mathematical thinking when solving problems "Why did you solve it that way?" 	 Assist your child in utilizing websites and/or apps to increase fact recall in all operations Practice fact recall while waiting in line, driving in the car, etc. Encourage use of First in Math to practice math facts and reinforce other concepts Ask your child to explain their strategies used in computation Use store advertisements to estimate the cost of items and practice computation with decimals 	 Ask your child to explain the problem solving process and the strategy used to solve the problem During homework ask "What do you know that will help you solve the problem?" and "Does the answer make sense?" Read the home connection newsletters that preview the unit and provide valuable tips for helping your child

Grade 4 Reading

	Reading Comprehension	Reading Fluency	Vocabulary	Writing
What your child will learn	 Identify key ideas and details in literature and informational texts. Point of view from which different stories are narrated. How an author uses reasons and evidence to support particular points in a text. Make connections within, between, and/or among literature and informational texts. Paraphrase and respond to information presented in discussions. Analyze evidence that speakers/writers use to support particular points. 	Read with accuracy and fluency to support comprehension	 Understand vocabulary and figurative language in literature and informational text. Determine or clarify the meaning of unknown and multiple-meaning words and phrases, choosing flexibly from a range of strategies. Recognize an understanding of figurative language, word relationships, an nuances in word meanings. 	 Write opinion pieces on topics or texts, supporting a point of view with reasons and information. Write informational/explanatory texts to examine a topic and convey ideas and information clearly. Write narratives (real or imaginary experiences) using effective techniques, descriptive details, and clear event sequences. Draw evidence from literary or informational texts to support analysis, reflection, and research. Demonstrate command of grammar and usage, capitalization, punctuation, and spelling.

Grade 4 Reading

	Reading Comprehension	Reading Fluency	Vocabulary	Writing
What your child will do	 Refer to details and examples in a text when explaining the text explicitly and when drawing inferences. Determine a theme of a story, drama, or poem from details in the text; summarize the text. Describe in depth a character, setting, or event in a text, drawing on specific details in the text. Compare and contrast the point of view, themes, topics, and patterns of events in literature from different cultures. Integrate information from two texts on the same topic in order to demonstrate subject knowledge. Interpret text features and/or make connections between text and the content of text features. 	 Orally read on-level text 118 words per minute (by end of year) Read on-level text with purpose and understanding Read on-level text orally with accuracy, appropriate rate, and expression on successive readings Use context to confirm or self-correct word recognition and understanding, rereading as necessary Read grade level irregularly spelled and multisyllable words 	 Use context as a clue to the meaning of a word or phrase Use common, gradeappropriate Greek and Latin prefixes, suffixes, and roots as clues to the meaning of a word Explain the meaning of similes and metaphors in context Recognize and explain the meaning of common idioms, adages, and proverbs Demonstrate understanding of words by relating them to their antonyms and synonyms 	 Introduce a topic for the audience, and create an organizational structure in which related ideas are grouped in paragraphs and/or sections to support the writer's purpose. Use concrete words and phrases, sensory details, and narrative techniques to convey experiences, events, and character responses to situations. Use precise language to inform about or explain the topic. Use a variety of transitional words and phrases to manage the sequence of events, or to link ideas. Use correct capitalization. Use commas and quotation marks to mark direct speech and quotations from a text. Spell grade-appropriate words correctly. Choose punctuation, words, and phrases to both convey ideas precisely and for effect.

Grade 4 Reading

	Reading Comprehension	Reading Fluency	Vocabulary	Writing
What you'll see (Products)	 Determine the main idea of a text and explain how it is supported by key details Summarize the text Describe the basic elements of stories- characters, events and settings by drawing on specific details in the text. Describe the overall structure of a text and text features in a text. Explain how the author uses facts, details, etc. to support particular points. Compare and contrast information. 	 Read with accuracy and fluency 118 words a minute with appropriate rate and expression Ability to confirm or self-correct word recognition using context 	 Various templates for word maps that show word meanings Word lists (such as word parts and their meanings) and skill sheets Journeys Practice Book activities 	 Webs and flowcharts used for planning Student corrections Written summaries, stories or opinions about topics supported with a set of well organized facts, details and examples.
How you can help	 Have your child retell a favorite story or TV show in order. Take your child to the library to check out books. Take our child to bookstores when author visits occur. Discuss a book together – ask open-ended questions. Supply/read to your child more nonfiction text. Read with your child multiple books on the same topic. Encourage the use of evidence in everyday discussions and disagreements. 	 Time your child to see how many words s/he can read in one minute Encourage your child to read poems and stories to you Tape your child while reading aloud Read aloud to your child 	 Ask your child the meaning of unfamiliar words while you are reading together Help your child to find clues to the meaning of a word Help your child collect interesting new words during daily activities 	 Have your child plan a story using a web or flowchart Write a story with your child Write or email a letter to a family member or friend Encourage the use of complete sentences with correct capitalization and spelling.

Grade 4 Science

What your child will learn

The FOSS **Energy and Electromagnetism Module** consists of five sequential investigations, each designed to introduce or reinforce concepts in physical science dealing with energy and change. Students experience electricity and magnetism as related effects and learn useful applications of electromagnetism in everyday life.

The FOSS Sun, Moon, and Planets Module has four investigations that focus on Earth's place in the solar system.

In the STC Ecosystem module, students set up terrariums for crickets and isopods. Duckweed, algae, *Elodea*, guppies, and snails are introduced to an aquarium. Connecting the two habitats to create an "ecocolumn," students observe the relationship between the two environments and the organisms living within them. Students simulate the effects of pollutants—road salt, fertilizer, and acid rain—on the environment. To discover how pollutants might affect the organisms in their ecocolumn, students create a food chain and make inferences about the effects of pollutants based on the relationships between the organisms in their ecocolumns. Students explore the Chesapeake Bay as a model ecosystem, analyzing the environmental problems present there from various perspectives. Applying their knowledge of ecosystems to a real-world situation, students generate possible solutions to the pollution problem and share their conclusions with the class. This activity enables students to appreciate the trade-offs necessary to reach mutually acceptable solutions to environmental problems.

Ecosystem Concepts

- An ecosystem is a community of organisms and its interaction with its environment.
- Organisms can be categorized by the functions they serve in an ecosystem: producers, consumers, or decomposers.
- Organisms in an ecosystem have dependent and interdependent relationships, which can be illustrated by food webs.
- Factors that affect growth and reproduction of organisms in an ecosystem include light, water, temperature, and soil.
- Natural and human-made events can "disturb" an ecosystem.
- A pollutant is anything that can harm living organisms when too much of it is released into an ecosystem. Pollution is the condition that results when pollutants interact with the environment.
- Pollutants can affect the stability of an ecosystem; solutions can be developed to minimize or alleviate the effects of pollutants.
- Model ecosystems can be used to learn more about the complex relationships that exist on earth.

Grade 4 Science

In the Energy and Electromagnetism module, students will: What your Ask questions that can be answered about electricity and child will do magnetism. Plan and conduct investigations about electromagnetism; record and organize data using appropriate tools for the task. Analyze observations; build reasonable explanations; discuss and justify the merits of explanations. Conduct an experiment to determine how the force of attraction between two magnets changes with the distance between the magnets. Conduct an experiment to determine how the number of winds in an electromagnet coil affects the strength of the magnetism. Design and build a model telegraph system. Use tools and techniques to make observations and build explanations about light. Use reading strategies to comprehend nonfiction texts Write to demonstrate understanding of concepts. In the Sun, Moon, and Planets module, students will: Observe and compare shadows during a school day. Relate the position of the Sun in the sky to the size and orientation of an object's shadow. Use physical models to explain day and night. Record observations of the night sky. Observe and record changes in the Moon's appearance every day for a month.

- Analyze observational data to discover the sequence of changes that occur during the Moon's phase cycle.
- Make and interpret a model of the Earth, Moon, and Sun system.
- Classify planets by their various properties.
- Record and display the organization of the solar system graphically.
- Identify several constellations as stable, predictable patterns of stars.
- Use models to build explanations.
- Use reading strategies to comprehend nonfiction texts
- Write to demonstrate understanding of concepts.

Grade 4 Science

What your child will do (continued)

In the Ecosystems module, students will:

- Determine an organism's environmental preferences for various nonliving environmental factors to better understand the environment in which it will survive.
- Observe and record changes in organisms and their environment over time.
- · Identify and describe ecosystem feeding relationships.
- Use modeling to construct representations of the natural world and make predictions.
- Conduct controlled experiments with organisms to discover their range of tolerance for environmental factors.
- Graph and interpret data from multiple trials from experiments, and build explanations from evidence.
- Plan, implement, and analyze experiments and draw conclusions form the results
- Identify ecosystems as stable or disturbed and recognize whether the causes of a disturbed ecosystem are natural or human-made
- Use reading strategies to comprehend nonfiction texts
- Write to demonstrate understanding of concepts.

What you'll see (products)

- Science Readers
- Science Notebooks with recorded observations, drawings, diagrams and predictions
- Science vocabulary
- · Math concepts
- Home and School Connection activities
- Family letters for each module
- Safety Rules and Procedures

How you can help

- Use family discussions to review concepts taught in school
- Read the Family Letter that provides suggestions for follow-up activities at home
- Do the Home and School Connection Activities noted in each of the modules
- Read about Science with your child
- Review and discuss the Science Notebook with your child
- Visit FOSSweb with your child for additional engaging activities for parents and students
- · Listen to your child and engage him/her on STEM topics that interest him/her
- Visit the library and science museums

Grade 4 Social Studies

What your child will learn	 Pennsylvania history, geography, and government Native Americans Colonial time period William Penn and his legacy Benjamin Franklin and his legacy
What your child will do	 Participate in whole and small group discussions and collaborative activities Build specific grade level vocabulary words and concepts Use maps, globes, and other resources to study geography Learn study skills Use reading strategies to comprehend fiction and nonfiction texts Write to demonstrate understanding of concepts.
What you'll see (Products)	 Summaries and restatements of gathered information Projects to showcase learning Research notes
How you can help	 Encourage your child to read books about the subject and time period Encourage curiosity about Pennsylvania Visit the library, museum, and historical sites Encourage map reading on outings Listen to and engage your child on concepts taught and topics of interest to him/her

Grade 4 Encore Classes

FLES (Foreign Language in the Elementary School)

What your child will learn	What your child will do	What you'll see and hear (products)	How you can help
Review and recycle basic concepts from previous years. Numbers	Greetings, Calendar, Weather, Colors, Shapes, Family, Animals, Basic Directions Identify numbers 1 – 1000. Solve mathematical problems.	SongsPostersDialogues	 Become knowledgeable about the program. Encourage your child to speak the target language outside of school.
Preferences	Expand vocabulary to describe one's preferences. Expand the amount of topics students can discuss.	Technology-based projectsGraphic organizers	 Look for the target language and its culture in your own community.
Questions	Ask and answer questions to gather information about others.	Role playingGames in target language	 Encourage your child to read in the target language.
Ocean Animals	Identify various ocean animals.	Activity sheets	 Expose your child to a variety of media in the target
Gender of nouns and adjective agreement.	Use appropriate noun, article, and adjective agreements as they relate to gender and number.	Online activitiesMini books	language.Volunteer and participate in school-wide language events.
Sports and Activities	Discuss pastime preferences.	Oral presentations School wide activities	 Celebrate your child's success.
Emotions	Express a broader range of emotions and feelings.	School-wide activities	
Clothing	Identify various items of clothing.		
Geography	Locate and name countries where the target language is spoken.		
Culture	Explore cultural components of countries where the target language is spoken.		

Grade 4 Encore Classes

	Music - Band	Music – Vocal	Art
What your child will learn	 Students will learn the fundamentals of music performance. More specifically that music is organized sound and silence that consists of a steady beat grouped in meter. Students will learn the proper technique to produce a characteristic tone quality, as well as effective practice strategies and techniques. Through concert rehearsals and performance students will collaborate with their peers as the work together toward the common goal of a polished musical performance. 	Students will explore rhythmic elements, melodic, and harmonic elements of music as well as tone color, form, and expressive elements in music. This includes the study of time signature, dotted notes, syncopation, triplets, and half/whole note steps. Students will have experiences with chord progressions, two part harmony, world music, school ensembles, theme and variations, and musical articulations.	Your child will build on their prior knowledge of the design elements. They are introduced to symmetry, proportion, textiles, value, monochromatic, complex 3-dimensional forms, emphasis, focal point, and repetition.
What your child will do	 Demonstrate proper assembly, playing position and and care of the instrument. Produce a tone which is characteristic of the instrument Demonstrate knowledge of rhythmic and tonal notation Students will learn to listen, analyze and evaluate music and music performances 	Students will sing in harmonic parts including rounds, partner songs and descants, play classroom instruments, and move to music. Students will also read and demonstrate musical articulations, listen to world instruments, and analyze music according to form.	Your child will explore a wide variety of media while creating paintings, drawings and sculptures. They will identify and create texture in an artwork within these media.
What you'll see (Products)	 Music and technical development. With consistent practice at home students will refine the skills and concepts they learn in school. 	This grade level has the opportunity to perform vocally and instrumentally in concert as well as in classroom performances. Additionally, there are opportunities for students to perform publicly for the school community through chorus, orchestra and band.	Your child's portfolio will show examples of both 2-dimensional and 3-dimensional artwork.
How you can help*	 Provide a setting at home for your child to practice (music stand, chair, etc.) Encourage your child to set aside time each week to practice Be a supportive audience for your young performer Celebrate your child's success 	Encourage students to study an instrument and join a school music ensemble. Support students in their musical practice and concert preparations. Sing a song or share an activity from Music class. Foster musical appreciation by attending concerts, recitals, and other live music opportunities	You can help by practicing manipulative skills at home, reinforce key ideas learned and exposing them to art in your community. Contact your school for volunteer opportunities.

Grade 4 Encore Classes

	Physical Education
What your child will learn	 conflict resolution safe practices in physical activity settings individual responsibility for safety during various activities engage in physical activities that promote physical activity and health good sportsmanship the positive effects of regular participation in moderate to vigorous physical activity applying ways to monitor and assess body responses during physical activity factors that affect childhood physical activity practices reasons why regular participation in physical activities improves motor skills recognize positive and negative interactions of small group activities how to apply basic movement skills and concepts to create and perform movement sequences and advanced skills how to identify and apply concepts of motor skill development to a variety of basic skills the relationship between practice and skill development how to apply exercise principles to the components of health and skill-related fitness know and describe scientific principles that affect movement and skills using appropriate vocabulary how to apply game strategies to basic games and physical activities
What your child will do	 participate in all aspects of physical education class to improve physical fitness and health follow safe practices during physical activities engage in individual, small group, team and whole group activities practice skills taught during physical education class use teacher feedback to improve physical fitness and practice skills taught during P.E. class
What you'll see (Products)	 develop motor skills such as running, hopping, jumping, skipping, sliding, galloping develop confidence acquire an appreciation for physical activities develop cooperative skills
How you can help*	 promote healthy lifestyle choices in relation to nutrition, fitness, hygiene, sleep etc. visit your local community centers to become involved in activities advocate to increase active play time and reduce screen time

Second Step

What your child will learn	What your child will do	What you'll see and hear (products)	How you can help
Unit 1: Empathy and Skills for Learning	 Empathy and Respect Listening with Attention Being Assertive Respecting Similarities and Differences Understanding Complex Feelings Understanding Different Perspectives Conversation and Compliments Joining in Showing Compassion 	 Define respect Define empathy Demonstrate listening-with-attention skills Identify passive, aggressive, and assertive responses Demonstrate assertive responses with their partners Identify clues that help them recognize other people's feelings Identify similarities and differences between how two people feel Identify multiple feelings in a given scenario Give possible reasons for multiple feelings Identify differing perspectives in given scenarios Generate pro-social responses to scenarios in which different perspectives could cause a conflict Identify components of a successful conversation Demonstrate giving and receiving a compliment Identify skills for joining a group Demonstrate expressing concern or showing compassion for someone 	 Home links are simple, fun activities for you and your child to complete together. They are a great way for you to understand what your child is learning and for your child to show you what they know. Make sure to join www.secondstep.org with activation key for your child's grade level. 4th grade activation key is SSP4 FAMI LY74

Second Step

What your child will learn	What your child will do	What you'll see and hear (products)
Unit 2: Emotion Management	 10. Introducing Emotion Management 11. Managing Strong Feelings 12. Calming Down Anger 13. Managing Anxiety 14. Avoiding Jumping to Conclusions 15. Handling Put-Downs 	 Describe what triggers their own strong emotions Describe what happens in their brains and bodies when they experience strong emotions Demonstrate the ability to interrupt escalating emotions Determine a personal "signal" Identify and name strong feelings and they occur Identify situations in which they might need to calm down Demonstrate the technique for deep, centered breathing Identify and demonstrate other Calming-Down Strategies (counting, using positive self-talk) Identify situations that cause anxiety Apply what they've learned about calming down to anxiety-provoking scenarios, including academic challenges Identify emotion-management strategies Demonstrate Assertiveness Skills Identify and demonstrate positive self-talk statements Identify strategies for handling put-downs Demonstrate what they've learned about strategies for calming down Demonstrate assertive responses to put-downs

Second Step

What your child will learn	What your child will do	What you'll see and hear (products)
Unit 3: Problem Solving	 16. Solving Problems, Part 1 17. Solving Problems, Part 2 18. Making a Plan 19. Solving Playground Problems 20. Taking Responsibility for Your Actions 21. Dealing with Peer Pressure 22. Reviewing Second Step Skills 	 Recall the S: Say the problem step of the Problem-Solving Steps State the problem without blaming anyone Generate safe and respectful solutions to a problem Identify consequences of potential solutions Select an appropriate solution to a problem Explain the purpose of making a plan Create a three-step plan to carry out a solution to a problem Identify common playground conflicts Demonstrate using the Problem-Solving Steps to handle playground conflicts Demonstrate the ability to use the Problem-Solving Steps to handle scenarios in which someone has been wronged Demonstrate acknowledging mistakes Demonstrate making an apology and offering to make amends Demonstrate using Assertiveness Skills to resist peer pressure Demonstrate using the Problem-Solving Steps to figure out ways to resist peer pressure Identify Second Step skills and concepts being used in scenarios students might encounter at school Include Second Step skills in a written script about solving a problem

	What your child will learn	What your child will do	What you'll see and hear (products)	How you can help
No Place for Hate	The No Place for Hate program was developed by the Anti Defamation League to organize communities to participate in projects that encourage an awareness of differences as well as to encourage acceptance	 To appreciate individual and group differences. To have honest and respectful conversations and interactions in order to develop connections with other students and school staff 	The No Place for Hate® campaign empowers schools to create projects to help children to learn about the differences of others and to work together to build a community where everyone can feel safe and happy at school	At home, you are encouraged to continue the discussion about diversity and to foster a sense of all belonging in the Lower Merion School District
Safe Kids	This program, with its emphasis on teaching children personal safety, is geared toward teaching children how to differentiate between good and bad touch and to assert their rights to protect themselves from unsafe personal situations.	 Fourth graders will watch the video "Yes, You Can Say No!" The video preview and discussion will be 45 minutes long. Children will learn the rules of personal safety, will practice being assertive, and will discuss the adults they can trust and talk to if they have a problem. 	 Rules of safety-Adults can touch your body to keep you clean and healthy What Assertive means and ways to be assertive 	 Come to the video presentation/discussion to learn about the program. At home, you are encouraged to continue this conversation on personal safety.

	What your child will learn	What your child will do	What you'll see and hear (products)	How you can help
That's a Family	 Fourth grade students will have the opportunity to participate in a two-part guidance classroom lesson pertaining to families. We will show the DVD, "That's a Family!" to introduce the idea that there are many different types of families. In the video, children talk about their families and the kinds of things they do together (cooking, bowling, gardening, etc.). There are sections on mixed families (in terms of ethnicity, religion, language, and race), adoption, divorce, lesbian and gay parents, single parents, grandparents and guardians. 	 Children will participate in two lessons: Lesson 1- Children will write on an index card their definition of a family. Children will watch the "That's a Family" video Lesson 2- Children will participate in structured discussions about the video and also about what they have learned about families. Culminating Activity – Whip; Ask Children to think of 1 word they would like to share about "Family". Then ask each student in the room to share their 1 word, children can have the option to pass on this activity. 	 These lessons address the stated goals of the Lower Merion School District's strategic plan to strive to meet the holistic needs of students. The lessons were developed by the District's Elementary School Counselors and are in accordance with the American School Counseling Association (ASCA) model. Children will be able to identify different types of families. Children will learn that all families are welcomed at Lower Merion and that there is no "normal" family. Children will gain an awareness of the importance of everyone feeling safe and happy at school and to show empathy for each other 	 Come to the video presentation/discussion to learn about the program. At home, you are encouraged to continue this conversation on family diversity in an effort to increase all students' understanding and appreciation of each other and reduce teasing and bullying behaviors