

# Welcome to 4th GRADE!

The Commonwealth of Massachusetts sets expectations, or standards, for what every student will know and be able to do in school. This guide is designed to help you understand those standards and partner with teachers to support your child's learning during fourth grade. If you have questions about this information or your child needs extra help, please talk to your child's teacher.

## To talk to your child about school, you can ask:

- ▶ Can you tell me about something you **read** today?
- ▶ How could you use the **math** you learned today?
- ▶ What **scientific ideas** did you talk about today?
- ▶ What did you learn about your **role in society** today?
- ▶ How did someone help you learn today?

## If your child is also learning English, you can ask:

- ▶ How does your teacher help you understand and participate in class?
- ▶ How do you work on your English while you learn academic material?



### TO LEARN ENGLISH LANGUAGE ARTS AND LITERACY at every grade, your child will:

- ▶ Read various texts, like books, poems, letters, news articles, and Internet pages.
- ▶ Speak and listen in formal and informal ways, like presentations and conversations.
- ▶ Communicate opinions, information, and experiences in writing for various readers.
- ▶ Use knowledge of English grammar and vocabulary in both speech and writing.



### TO LEARN MATHEMATICS at every grade, your child will:

- ▶ Use math to represent and solve real-world problems.
- ▶ Use math to make arguments about why something is true or false.
- ▶ Use tools, like rulers and calculators, to show mathematical relationships.
- ▶ Use patterns and the structures of numbers to think about math.



### TO LEARN SCIENCE AND TECHNOLOGY/ENGINEERING at every grade, your child will:

- ▶ Ask scientific questions about the natural world and things humans design.
- ▶ Learn through various experiences, like observations and experiments.
- ▶ Solve problems using the skills and tools of engineers and scientists.
- ▶ Share solutions and communicate explanations of how the world works.

### TO LEARN HISTORY AND SOCIAL SCIENCE at every grade, your child will:

- ▶ Learn about their local community and about the state, country, and world.
- ▶ Discover how people and events from the past relate to the present.
- ▶ Work to understand how different people see the world differently.
- ▶ Use various sources of information in research, discussion, and inquiry.



## NEW EXPECTATIONS FOR FOURTH GRADE:

- ▶ Compare and contrast stories from different cultures and stories told from different points of view: for example, first-person and third-person.
- ▶ Explain the meaning of figurative language (like metaphors and similes) in speech and writing: for example, *the homework was a breeze* or *the lake was as pretty as a picture*.
- ▶ Choose precise words when speaking, writing, or editing writing, including words related to academic subjects: for example, *renewable energy* from science.
- ▶ Understand when it is important to speak more formal English (like when giving class presentations) and when more informal English is appropriate.



## BY THE END OF FOURTH GRADE, STUDENTS CAN:



- ▶ Read aloud smoothly, paying attention to punctuation marks. For example, pause between sentences; and sound excited at an exclamation point (!).
- ▶ Use words like *chapter*, *stanza*, and *scene* to explain how poems and plays are different from prose (like stories and articles).
- ▶ Use graphs, charts, timelines, and other visual displays to help understand what they are reading.
- ▶ At the end of a class discussion, review the ideas and information people shared.
- ▶ Provide a list of sources they used when doing research.
- ▶ Use technology to find information and work with other people.
- ▶ Type at least one page at a time on a computer.
- ▶ Use easily confused words (like *there*, *their*, and *they're*) correctly.
- ▶ Make visual patterns when writing poems: for example, group lines into verses.
- ▶ Write their given names (first names) in cursive.

## QUESTIONS YOU CAN ASK YOUR CHILD:

- ▶ What kinds of things do you like to read? Why?
- ▶ What are you writing in school this week?
- ▶ What new words or phrases did you use in school today?



## TOPICS YOU CAN DISCUSS WITH YOUR CHILD'S TEACHER:

- ▶ Topics your child enjoys researching
- ▶ How your child participates in class discussions
- ▶ Online resources that can help your child learn



## FOCUS AREAS FOR FOURTH GRADE:

- ▶ Solve multi-step word problems using multiplication, division, addition, and subtraction. For example, find the total area of two rooms.
- ▶ Understand that multiplication and division can be used to compare quantities. For example, explain that a rubber band can stretch to *three times* its usual length.
- ▶ Understand and use equivalent fractions (like  $\frac{1}{2}$  and  $\frac{3}{6}$ , which are the same) and unit fractions (like  $\frac{1}{3}$  or  $\frac{1}{5}$ , with a 1 on top).
- ▶ Describe, analyze, compare, and classify shapes using types of lines and angles. For example, compare the types of angles in two triangles.



## BY THE END OF FOURTH GRADE, STUDENTS CAN:



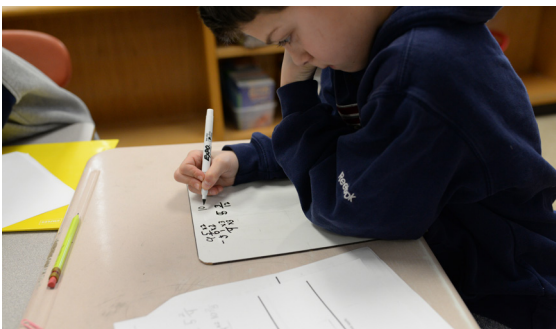
- ▶ Know multiplication facts up to  $12 \times 12 = 144$  and their related division facts (like  $144 \div 12 = 12$ ).
- ▶ Multiply and divide multi-digit whole numbers (like 536 and 23) using various strategies.
- ▶ Fluently (quickly and correctly) add and subtract numbers up to 1,000,000 using the standard algorithm.
- ▶ Add and subtract fractions and mixed numbers (like  $4\frac{2}{5}$ ) with the same denominator (number on the bottom).
- ▶ Multiply fractions by whole numbers: for example,  $\frac{1}{4} \times 5$ .
- ▶ Understand how decimals and fractions are related: for example,  $0.63 = \frac{63}{100}$ .
- ▶ Convert larger measurement units (like *miles, hours, or liters*) to smaller units (like *feet, minutes, or milliliters*).
- ▶ Use formulas (like *length  $\times$  width*) for the area and perimeter of rectangles.
- ▶ Use a protractor to measure and draw angles.

### QUESTIONS YOU CAN ASK YOUR CHILD:

- ▶ How many times older am I than you?
- ▶ We need half a cup of milk for this cake. How many times should we fill the  $\frac{1}{4}$ -cup measure with milk?

### TOPICS YOU CAN DISCUSS WITH YOUR CHILD'S TEACHER:

- ▶ Which multiplication and division strategies work best for your child
- ▶ Activities to do at home that use fractions (like baking)





## FOCUS AREAS FOR FOURTH GRADE:

- ▶ Understand how weathering and erosion (like blowing wind, flowing water, and moving ice) can break and move rocks and other things.
- ▶ Understand how the different parts of plants (like seeds, leaves, roots, and fruit) and animals (like bones, legs, ears, and eyes) help them grow and survive.
- ▶ Understand how energy moves and changes. Observe energy as light, sound, electricity, or heat: for example, the electrical energy that lights up a bulb when a wire is attached to a battery.
- ▶ Try out the design process like an engineer: for example, plan, develop, test, and improve products to solve specific problems.



## BY THE END OF FOURTH GRADE, STUDENTS CAN:



- ▶ Explain how renewable energy sources (like sun, water, and wind) are different from non-renewable ones (like coal, oil, and nuclear power).
- ▶ Use evidence to show how erosion has changed the local landscape over time
- ▶ Use maps of Earth's continents and oceans to analyze where volcanoes, earthquakes, and mountain ranges form.
- ▶ Compare different ways of protecting people and things from events like floods and blizzards.
- ▶ Explain how energy and the speed of objects are connected. Predict what will happen when two objects run into each other.
- ▶ Show how wave patterns carry energy and can cause objects to move.
- ▶ Compare ways of communicating using patterns, like Morse code.
- ▶ Design a solution to a problem. Test it to see how well it works. Use the test results to improve the design.

## QUESTIONS YOU CAN ASK YOUR CHILD:

- ▶ What are some ways to make sure a flooding river does not damage roads and bridges?
- ▶ How do our eyes allow us to see the world around us?



## TOPICS YOU CAN DISCUSS WITH YOUR CHILD'S TEACHER:

- ▶ Ways of applying what your child learns in science to everyday situations
- ▶ Places in the community that can help your child learn science



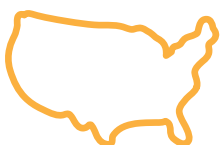


## FOCUS AREAS FOR FOURTH GRADE:

- ▶ Use maps and knowledge of geography to learn about North America and its peoples.
- ▶ Explain how archaeologists learn about ancient peoples in North America and the Caribbean.
- ▶ Use evidence to explain why Europeans first began to travel across the Atlantic Ocean.
- ▶ Explain how the United States expanded to include today's 50 states and 16 territories.



## BY THE END OF FOURTH GRADE, STUDENTS CAN:



- ▶ Use maps of North America to find and learn about physical features (like mountain ranges) and political features (like state borders).
- ▶ Describe the Native civilizations that were in North America before the Europeans arrived.
- ▶ Use maps of North America and the Caribbean to show where Europeans explored in the 1400s and 1500s.
- ▶ Use maps and timelines to explain how the United States grew and expanded westward in the 1800s.
- ▶ Explain how people adapted to the environments of different United States regions (Northeast, Southeast, Midwest, Southwest, West).
- ▶ Explain the different meanings of the terms *continent*, *country*, *nation*, *county*, *state*, *province*, and *city*.
- ▶ Understand that some people immigrated to the United States and some were brought against their will.
- ▶ Compare firsthand and secondhand accounts (like a witness statement and a newspaper story) of the same historical event or topic.

## QUESTIONS YOU CAN ASK YOUR CHILD:

- ▶ Can you use this map of North America to show me what you're learning?
- ▶ How did different groups of people come to North America?

## TOPICS YOU CAN DISCUSS WITH YOUR CHILD'S TEACHER:

- ▶ Books about archaeology to look for at the library
- ▶ Places in the community to learn about Native Peoples



## PHYSICAL EDUCATION

FOCUS AREAS FOR FOURTH GRADE:

- Students will understand that the four areas of physical fitness will help contribute to achieving a healthy lifestyle.
- Students will understand the lead pass is used in many sports, games, and activities.



BY THE END OF FOURTH GRADE, STUDENTS CAN:

- Demonstrate smooth transitions from offense to defense during game play.
- Throw overhand to a partner or target with reasonable accuracy.
- Incorporate game strategy in small-sided games (i.e. 3vs3 games).
- Students will be able to demonstrate partner activities while performing dance and gymnastics.
- Students will understand that non-manipulative skills develop confidence, creativity, body control, and proficiency.
- Students will demonstrate moving to open space to make and receive lead passes while playing invasion games.

## HEALTH

BY THE END OF FOURTH GRADE STUDENTS CAN:

- Demonstrates an understanding of health facts and how they relate to their personal lives.
- Demonstrates an understanding of the physical, social, and emotional health facts and their significance to a healthy lifestyle.
- Develop positive habits and attitudes toward healthy hygiene and nutrition.
- Demonstrates cooperative effort and participation in health class.



## ART

BY THE END OF FOURTH GRADE STUDENTS CAN:

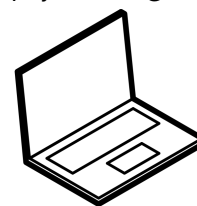
- Explore drawing, painting, 3D design, and printmaking.
- Creating visual texture through the use of:
  - scratch art
  - pen & ink techniques
  - bamboo paint brush techniques
- Use monochromatic color, watercolors.
- Understand the elements of foam and relief printing.
- Design elements of positive and negative shape and space using a medium.



## LIBRARY

FOCUS AREAS FOR FOURTH GRADE:

- Learning how to find reliable sources of information on the internet.
- Understanding plagiarism and citing sources.
- Becoming more proficient with applications in their Google accounts.
- Creating original code to express themselves and/or solve problems.
- Learning to apply coding skills to robotics.



## MUSIC

FOCUS AREAS FOR FOURTH GRADE:

- Develop their singing technique.
- Explore increasingly complex melodic and rhythmic concepts.



BY THE END OF FOURTH GRADE STUDENTS CAN:

- Continue violin lessons, or may choose to learn to play a band instrument.