

Welcome to 8th 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 eighth 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 EIGHTH GRADE:

- ▶ Compare different pieces of evidence for the same claim. Decide which piece of evidence is the strongest.
- ▶ Analyze the effect of specific words, sentences, and paragraphs: for example, when a certain phrase reveals how the author or a character really feels.
- ▶ Explain how differences in point of view can make a text funny or suspenseful: for example, when the reader knows something that a character does not know (dramatic irony).
- ▶ Analyze how someone's motives affect the way they share information. For example, explain how a newspaper or political advertisement uses photos and headlines to influence readers.



BY THE END OF EIGHTH GRADE, STUDENTS CAN:



- ▶ Understand connections between modern texts and traditional ones, like when a short story reminds its readers of (alludes to) an ancient myth.
- ▶ Notice when someone includes irrelevant information in their argument—evidence that does not relate to their claim.
- ▶ Use words and details carefully to show how they feel about a topic (convey a tone, like *happy* or *disapproving*) when writing.
- ▶ Use technology to present information and communicate with others. For example, use platforms like Google Classroom or Schoology for discussions with teachers and classmates.
- ▶ In class discussions, make contributions and ask questions that connect what several other people have said.
- ▶ Use commas (,), dashes (—) and ellipses (...) to signal a pause: for example, write *Yesterday's basketball game was exciting—especially the end!*

QUESTIONS YOU CAN ASK YOUR CHILD:

- ▶ What do you think about _____? Why might someone disagree with you? What would you say to them?
- ▶ How is the book different from the movie? Why do you think they are different? Which one do you think is better? Why?



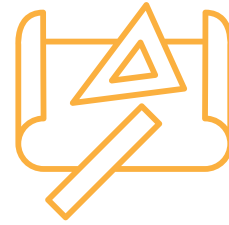
TOPICS YOU CAN DISCUSS WITH YOUR CHILD'S TEACHER:

- ▶ What speaking or listening skills your child is working on
- ▶ Ways to practice critical reading and viewing in everyday life, like with advertisements



FOCUS AREAS FOR EIGHTH GRADE:

- ▶ Understand and use linear equations (like $100 + 40x$) to solve problems. For example, compare the costs of two phone plans, each with a one-time charge and a monthly fee.
- ▶ Understand and use functions: situations where one quantity depends on another, like when the distance a train travels depends on its speed.
- ▶ Explore and use the Pythagorean Theorem for right triangles ($A^2 + B^2 = C^2$). For example, find the height of a ladder leaning against a wall.
- ▶ Create linear equations to model real-life data. For example, graph the height of a plant based on the hours of sunlight it gets.



BY THE END OF EIGHTH GRADE, STUDENTS CAN:



- ▶ Explain the concept of irrational numbers (like π and $\sqrt{2}$).
- ▶ Use square and cube roots (like $\sqrt{16}$ and $\sqrt[3]{8}$).
- ▶ Explain how proportions and linear equations are related. For example, explain the slope of a line as a unit rate.
- ▶ Solve single and paired linear equations. For example, if $3x + 5 = 11$, then $x = 2$.
- ▶ Compare functions shown in different forms, like a table of values and a graph.
- ▶ Explain how angles inside and outside of a triangle are related.
- ▶ Explain how angles created by two parallel lines being cut by another line are related.
- ▶ Use formulas to solve real-world problems involving the volume of cylinders, cones, and spheres.
- ▶ Create a scatter plot of two related variables, like arm length and leg length.

QUESTIONS YOU CAN ASK YOUR CHILD:



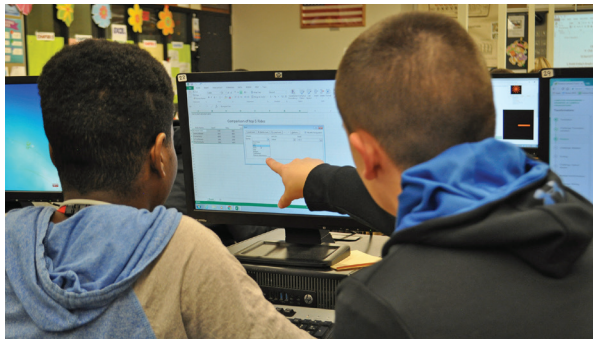
- ▶ Which video game system will cost more in total if you use it for five years?
- ▶ How long is a straight line from home plate to second base on a baseball diamond?
- ▶ Will our plant grow faster if we increase the amount of water we give it each day?

TOPICS YOU CAN DISCUSS WITH YOUR CHILD'S TEACHER:



- ▶ Projects you can do at home to practice solving linear equations
- ▶ Your child's readiness for advanced math courses





FOCUS AREAS FOR EIGHTH GRADE:

- ▶ Understand how the ocean affects weather and climate.
- ▶ Use data to understand how human activity affects global temperatures.
- ▶ Understand how genes and environments affect the growth of living things (organisms).
- ▶ Understand how atoms combine in many ways to make the substances that make up all living and nonliving things.



BY THE END OF EIGHTH GRADE, STUDENTS CAN:



- ▶ Make a model of the Earth-Sun system. Use it to explain seasons.
- ▶ Explain how gravity creates tides.
- ▶ Use data to explain that some places on Earth have more resources (like minerals and fossil fuels) than others.
- ▶ Describe how food molecules are broken down and rearranged through chemical reactions.
- ▶ Compare the advantages and disadvantages of sexual and asexual reproduction.
- ▶ Show how genes can change (mutate) and how those changes can be helpful, harmful, or neither.
- ▶ Use evidence to talk about natural selection (like in evolution) and artificial selection (like breeding dogs).
- ▶ Make a model to predict changes in particle motion (like when molecules move faster or slower) in phase changes (like when water changes to ice or steam).
- ▶ Demonstrate Newton's Third Law, about action and reaction forces.
- ▶ Show how forces affect objects differently depending on their mass.
- ▶ Understand that materials can be cut and change shape without changing what they are made of (their composition).

QUESTIONS YOU CAN ASK YOUR CHILD:

- ▶ Why do we have seasons like winter and summer?
- ▶ What are some examples of chemical reactions?



TOPICS YOU CAN DISCUSS WITH YOUR CHILD'S TEACHER:

- ▶ Places in the community (museums, universities, businesses) where your child can learn science by working or volunteering
- ▶ Your child's readiness for advanced classes like biology, environmental science, physics, or chemistry



FOCUS AREAS FOR EIGHTH GRADE:

- ▶ Explore how and why government systems developed, including the Massachusetts and United States Constitutions.
- ▶ Understand how court decisions and legislative actions can affect government systems over time.
- ▶ Understand how individual people work to keep democracy healthy in Massachusetts and the United States.
- ▶ Think about how to decide which information and opinions to trust in print and online media (like news outlets).



BY THE END OF EIGHTH GRADE, STUDENTS CAN:



- ▶ Explain how the United States political system was affected by ancient Greece and Rome, European Enlightenment thinkers, British ideas about government, and the governments of Native Peoples in North America.
- ▶ Explain how the writers of the United States Constitution tried to balance power and freedom in the system they were creating.
- ▶ Understand major aspects of the United States political system (like separation of powers, elections, and political parties).
- ▶ Use Amendments to the Constitution and important Supreme Court decisions to explain how the country's system has changed over time.
- ▶ Understand how Massachusetts state and local governments are organized and lead a civics project in their community.
- ▶ Explain how a free press supports democratic government.
- ▶ Recognize the differences between fact, well-supported opinion, and unsupported opinion in texts.
- ▶ Explain what citizens and residents of the United States can do if they think a law is wrong.

QUESTIONS YOU CAN ASK YOUR CHILD:

- ▶ Can you tell me about a Supreme Court case you studied? Why is it important?
- ▶ What can teenagers do to participate in state and local politics?

TOPICS YOU CAN DISCUSS WITH YOUR CHILD'S TEACHER:

- ▶ Trustworthy sources of news to read and discuss
- ▶ Different ways your child can be involved in the school and community

