# Parent Roadmap to Common Core Standards

## English Language Arts

### *America's schools are working to provide higher quality instruction than ever before.*

The way we taught students in the past simply does not prepare them for the higher demands of college and careers today and in the future. Your school and schools throughout the country are working to improve teaching and learning to ensure that all children will graduate high school with the skills they need to be successful.

In English language arts and literacy, this means three major changes. Students will continue reading and writing. But in addition to stories and literature, they will read more texts that provide facts and background knowledge in areas including science and social studies. They will read more challenging texts and be asked more questions that will require them to refer back to what they have read. There will also be an increased emphasis on building a strong vocabulary so that students can read and understand challenging material.

### . Grade Level Expectations

In grade eight, students will read major works of fiction and nonfiction from all over the world and from different time periods. They will continue to learn how to understand what they read and evaluate an author's assumptions and claims. They will also conduct research that will require the analysis of resources and accurate interpretation of literary and informational text. Activities in these areas will include:

- Identifying what a reading selection explicitly says and drawing inferences based on evidence from the text
- Analyzing the impact of specific word choices on meaning and tone, including analogies or allusions to other texts
- Evaluating the argument and specific claims in a text, assessing whether the reasoning is sound and the evidence is relevant and sufficient
- Connecting information and ideas efficiently and effectively in writing
- Analyzing the purpose of information presented in diverse media formats, such as video clips or interactive maps
- Participating in class discussions on various topics, texts, and issues by expressing ideas and building on the ideas of others
- Developing a large vocabulary of multi-use academic words and phrases
- Interpreting figures of speech, such as puns or verbal irony, in context

*"Verbal irony" is when words are used to say something other than their usual meaning. For example, calling something "as clear as mud" in order to say something isn't clear at all.*

***Adapted by Prairie-Hills Elementary School District 144 Curriculum Department***

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***In grade eight, students will read a wide range of literature, including stories, plays, and poems. Additionally, they will read to learn information about history, the world, science, and other areas. Here are just a few examples of how your child will develop important reading skills across grade levels.***

## READING LITERATURE

| Grade Seven Reading | Grade Eight Reading | High School Reading |
|---|---|---|
| • Students determine a theme or central idea of a text and analyze its development over the course of the text. Students also provide an objective summary of the text.<br>• Students analyze how an author develops and contrasts the points of view of different characters or narrators in a text. | • Students determine a theme or central idea of a text and analyze its development over the course of the text, including its relationship to the characters, setting, and plot. Students also provide an objective summary of the text.<br>• Students analyze how differences in the points of view of the characters and the audience or reader create such effects as suspense or humor. | • Students determine a theme or central idea of a text and analyze in detail its development over the course of the text, including how it emerges and is shaped and refined by specific details. Students provide an objective summary of the text.<br>• Students analyze a particular point of view or cultural experience reflected in a work of literature from outside the United States. |

## READING FOR INFORMATION

| Grade Seven Reading | Grade Eight Reading | High School Reading |
|---|---|---|
| • Students cite several pieces of evidence from the text to support analysis of what the text says explicitly as well as inferences drawn from the text.<br>• Students compare and contrast a text to an audio, video, or multimedia version of the text, analyzing each medium's portrayal of the subject (such as how the delivery of a speech affects the impact of the words). | • Students cite evidence from the text that most strongly supports an analysis of what the text says explicitly as well as inferences drawn from the text.<br>• Students evaluate the advantages and disadvantages of using different mediums (such as print or digital text, video, or multimedia) to present a particular topic or idea. | • Students cite strong and thorough evidence from the text to support an analysis of what the text says explicitly as well as inferences drawn from the text.<br>• Students analyze various accounts of a subject told in different mediums (such as a person's life story recounted in print, video, and multimedia), determining which details are emphasized in each account. |

*As they progress through grade levels, students will be asked more questions that require them to cite details or information from increasingly challenging texts. This will encourage them to become observant and analytical readers.*

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## LITERACY IN HISTORY/SOCIAL STUDIES

**Key Ideas and Details**

- Students will cite specific textual evidence to support analysis of primary and secondary sources.
- Determine the central ideas or information of a primary or secondary source; provide an accurate summary of the source distinct from prior knowledge or opinions.
- Identify key steps in a text's description of a process related to history/social studies (e.g., how a bill becomes law, how interest rates are raised or lowered).

**Craft and Structure**

- Students will determine the meaning of words and phrases as they are used in a text, including vocabulary specific to domains related to history/social studies.
- Describe how a text presents information (e.g., sequentially, comparatively, causally).
- Identify aspects of a text that reveal an author's point of view or purpose (e.g., loaded language, inclusion or avoidance of particular facts).

**Integration of Knowledge and Ideas**

- Integrate visual information (e.g., in charts, graphs, photographs, videos, or maps) with other information in print and digital texts.
- Distinguish among fact, opinion, and reasoned judgment in a text.
- Analyze the relationship between a primary and secondary source on the same topic.

## LITERACY IN SCIENCE/TECHNICAL SUBJECTS

**Key Ideas and Details**

- Students will cite specific textual evidence to support analysis of science and technical texts.
- Determine the central ideas or conclusions of a text; provide an accurate summary of the text distinct from prior knowledge or opinions.
- Follow precisely a multistep procedure when carrying out experiments, taking measurements, or performing technical tasks.

**Craft and Structure**

- Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to *grades 6–8 texts and topics*
- Analyze the structure an author uses to organize a text, including how the major sections contribute to the whole and to an understanding of the topic.
- Analyze the author's purpose in providing an explanation, describing a procedure, or discussing an experiment in a text.

**Integration of Knowledge and Ideas**

- Integrate quantitative or technical information expressed in words in a text with a version of that information expressed visually (e.g., in a flowchart, diagram, model, graph, or table).
- Distinguish among facts, reasoned judgment based on research findings, and speculation in a text.
- Compare and contrast the information gained from experiments, simulations, video, or multimedia sources with that gained from reading a text on the same topic.

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*Writing tasks in grade eight may include stories, essays, reports, and persuasive papers. Here are just a few examples of how your child will develop important writing skills across grade levels.*

| Grade Seven Writing | Grade Eight Writing | High School Writing |
|---|---|---|
| • Students introduce a topic clearly, previewing what is to follow, and develop the topic with relevant facts, definitions, concrete details, quotations, or other information.<br>• Students provide a concluding statement or section that follows from and supports the information or explanation presented.<br>• Students organize ideas, concepts, and information using strategies such as definition, classification, comparison/contrast, and cause/effect.<br>• Students use appropriate transitions to create cohesion and clarify the relationships among ideas and concepts.<br>• Students use precise language and subject-specific vocabulary to inform about or explain the topic. | • Students introduce a topic clearly, previewing what is to follow, and develop the topic with relevant, well-chosen facts, definitions, concrete details, quotations, or other information.<br>• Students provide a concluding statement or section that follows from and supports the information or explanation presented.<br>• Students organize ideas, concepts, and information into broader categories.<br>• Students use appropriate and varied transitions to create cohesion and clarify the relationships among ideas and concepts.<br>• Students use precise language and subject-specific vocabulary to inform about or explain the topic. | • Students introduce a topic and develop the topic with well-chosen, relevant, and sufficient facts, extended definitions, concrete details, quotations, or other information and examples appropriate to the audience's knowledge of the topic.<br>• Students provide a concluding statement or section that follows from and supports the information or explanation presented (such as articulating implications or the significance of the topic).<br>• Students organize complex ideas, concepts, and information to make important connections and distinctions.<br>• Students use appropriate and varied transitions to link the major sections of the text, create cohesion, and clarify the relationships among complex ideas and concepts.<br>• Students use precise language and subject-specific vocabulary appropriate for the complexity of the topic. |

*Some writing guidelines may seem similar from year to year. However, with practice at each grade level, students continue to learn and apply the rules of standard written English and to strengthen and expand their vocabulary, use of language, and sophistication in the development and organization of ideas.*

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## *Partnering with your child's teacher:*

Don't be afraid to reach out to your child's teacher—you are an important part of your child's education. Ask to see a sample of your child's work or bring a sample with you. Ask the teacher questions like:

- Is my child's work meeting grade-level expectations?
- What are my child's strengths and weaknesses?
- What can I do at home to make sure that my child is successful?

# Helping Your Child Learn Outside of School

1. Provide time and space for your child to read independently. This time should be free from distractions such as television.
2. Ask your child what topics, events, or activities he or she likes. Then subscribe to magazines or look for books or other materials about those topics that would motivate your child to read.
3. It is also helpful when your child sees other people reading at home. You could share what you have read.
4. Make time for conversation at home. Discuss current events, shared interests, and future aspirations for education and career.
5. Visit museums, zoos, theaters, historical sites, aquariums, and other educational places to help increase your child's exposure to new knowledge and vocabulary.
6. Use technology to help build your child's interest in reading. There are several websites where students can read books or articles online. The computer will help with words the student cannot read independently. Libraries also have computers students can use to access those sites. Feel free to ask a librarian or teacher for suggestions.

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# Mathematics

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In mathematics, teachers will concentrate on teaching a more focused set of major math concepts and skills. This will allow students time to master key math concepts and skills in a more organized way throughout the year and from one grade to the next. It will also call for teachers to use rich and challenging math content and to engage students in solving real-world problems in order to inspire greater interest in mathematics.

## . Grade Level Expectations

In grade eight, students take their understanding of unit rates and proportional relationships to a new level, connecting these concepts to points on a line and ultimately using them to solve linear equations that require them to apply algebraic reasoning as well as knowledge of the properties of operations. Students will also expand their understanding of numbers beyond rational numbers to include numbers that are irrational—meaning that they cannot be written as a simple fraction, such as the square root of 2 or 2 . Activities in these areas will include:

- Understanding that every *rational* number (such as ½, 0.3, 2, or -2) can be written as a decimal, but that the decimal form of an *irrational* number (such as 2 ) is both non-repeating and infinite
- Applying the properties of exponents to generate equivalent numerical expressions
- Determining the value of square roots of small perfect squares (such as $\sqrt{\ }49 = 7$) and cube roots of small perfect cubes (such as $\sqrt[3]{\ }64 = 4$)
- Graphing proportional relationships and interpreting the unit rate as the *slope* (how steep or flat a line is)
- Solving and graphing one- and two-variable linear equations
- Understanding that a *function* is a rule that assigns to each value of x exactly one value of y, such as y=2x, a rule that would yield such ordered pairs as (-2,-4), (3,6), and (4,8)
- Comparing the properties of two functions represented in different ways (in a table, graph, equation, or description)
- Determining *congruence* (when shapes are of equal size and shape) and *similarity* (same shape but different sizes)
- Learning and applying the Pythagorean Theorem (an equation relating the lengths of the sides of a right triangle: $a^2 + b^2 = c^2$)
- Solving problems involving the volume of cylinders, cones, and spheres

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*Here are just a few examples of how students will learn about and work with expressions and equations in grade eight*

**MATHEMATICS**

| **Grade Seven Mathematics** | **Grade Seven Mathematics** | **High School Mathematics** |
|---|---|---|
| • Re-write an expression in different forms to show how quantities are related<br><br>• Use variables to represent quantities and construct simple equations and inequalities to solve problems<br><br>• Solve multi-step word problems involving positive and negative numbers<br><br>• Understand that solving an inequality or an equation such as ¼ (x+5) = 21 means answering the questions, *what number does x have to be to make this statement true?* | • Understand the connections between proportional relationships, lines, and linear equations<br><br>• Use linear equations to graph proportional relationships, interpreting the unit rate as the slope of the graph<br><br>• Know and apply the properties of integer exponents (positive numbers, negative numbers, or 0) to write equivalent expressions (such as $4^2 \cdot 4^3 = 4^5$) ---------- | • Solve quadratic equations (equations that include the square of a variable, such as $5x^2-3x+3=0$)<br><br>• Use the structure of an expression to identify ways to rewrite it. For example, $x^4 - y^4 = (x^2)^2 - (y^2)^2$<br><br>---------- "•" is a multiplication symbol students use in grade eight |
| | | |
| | | |

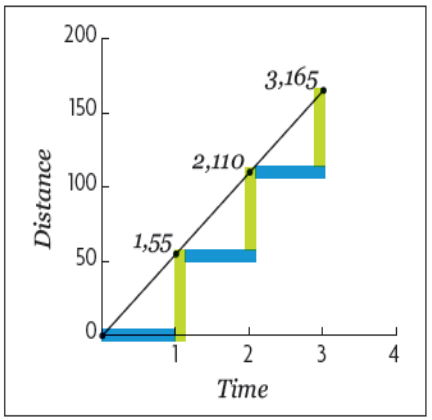
***Students interpret and compare linear relationships represented in different ways, making the connection between equations, tables of values, and graphs.***

*Solution:* Even though car #1 starts out ahead by 4 miles, students identify the rate of change—or slope—of the equations presented in the table and graph as equal (55 miles per hour), meaning that both cars are travelling at the same speed.

Car # 1
$y=55x + 4$

Car # 2
$y=55x$

| Time (x) | Distance (y) |
|---|---|
| 1 | 59 |
| 2 | 114 |
| 3 | 169 |



*Here are just a few examples of how an understanding of rates, ratios, and proportions will help students learn about and work with functions in grade eight and high school.*

| Grade Seven Mathematics | Grade Eight Mathematics | High School Mathematics |
|---|---|---|
| • Analyze proportional relationships and use them to solve real-world problems<br><br>• Calculate the unit rates associated with ratios of fractions, such as the ratio of ½ a mile for every ¼ of an hour<br><br>• Recognize and represent proportional relationships in various ways, including using tables, graphs, and equations<br><br>• Identify the unit rate in tables, graphs, equations, and verbal descriptions of proportional relationships | • Understand that a function is a rule that assigns to each input exactly one output, and the graph of a function is the set of ordered pairs consisting of an input and the corresponding output<br><br>• Compare the properties of two functions each represented in a different way (for example, in a table, graph, equation, or description)<br><br>• Determine the rate of change and initial value of a function based on a description of a proportional relationship or at least two given (x,y) values | • Calculate and interpret the average rate of change of a function over a given interval<br><br>• Understand and use function notation (for example, f(x) denotes the output of f corresponding to the input x)<br><br>• For a function that models a relationship between two quantities, interpret key features of graphs and tables, including intercepts, intervals where the function is increasing or decreasing, relative maximums and minimums, etc. |

***This table shows the height of a tree, in inches, in the months after it was planted.***

| Month | Height, in inches |
|---|---|
| 3 | 51 |
| 5 | 54 |
| 9 | 60 |
| 11 | 63 |

Given these sets of values, students determine that the rate of change is constant: a tree replanted as a sapling grows 3 inches every 2 months, which is 3/2—or 1.5—inches each month. Therefore, students can compute the tree's height when it was replanted by taking its height at month 3 (51 inches) and subtracting 3 months of growth: $51 - 3/2 \cdot 3 = 51 - 4.5 = 46.5$ inches.

***Students apply their understanding of rates and ratios to analyze pairs of inputs and outputs and to identify rates of change and specific values at different intervals.***

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- Where is my child excelling? How can I support this success?
- What do you think is giving my child the most trouble? How can I help my child improve in this area?
- What can I do to help my child with upcoming work?

# Helping Your Child Learn Outside of School

1. Ask your child to do an Internet search to determine how mathematics is used in specific careers. This could lead to a good discussion and allow students to begin thinking about their future aspirations.
2. Have your child use magazines, clip art, and other pictures to find and describe examples of *similar* and *congruent* figures
3. Using different objects or containers (such as a can of soup or a shoebox), ask your child to estimate surface area and volume, and check the answer together.
4. Encourage your child to stick with it whenever a problem seems difficult. This will help your child see that everyone can learn math.
5. Prompt your child to face challenges positively and to see mathematics as a subject that is important. Avoid statements like "*I wasn't good at math*" or "*Math is too hard*."
6. Praise your child when he or she makes an effort, and share in the excitement when he or she solves a problem or understands something for the first time.

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