

# What will my student learn in Kindergarten?



Alaska's public schools now have higher expectations in English and math. These parent guides help you understand what your child will learn. For more information, see <http://education.alaska.gov>

## English Language Arts

In kindergarten your child will learn the alphabet and basic features of letters and words. The children will break down spoken and written words into syllables and letters, and identify the sounds each letter represents. These fundamental skills allow your child to learn new words and to read and understand simple stories. Your child will learn to write and will practice speaking aloud and listening to others.

### YOUR CHILD WILL:

- Follow words from left to right. Know that spoken words are represented by specific sequences of letters. Know the uppercase and lowercase letters of the alphabet.
- Recognize rhyming words. Pronounce syllables in spoken words. Know one-to-one letter-sound correspondences. Associate the long and short sounds with the common spellings for the five major vowels. Read common words by sight.
- Use drawing, dictating, and writing to state an opinion or preference, compose an informational text, or tell a story.
- Converse with children and adults, and follow agreed-upon rules for discussions. Ask questions. Describe familiar people, places and things. Speak audibly in complete sentences.
- Use standard grammar and usage when writing and speaking. Use the most common nouns and verbs. Form regular plural nouns. Understand question words such as *who* and *why*. Use the most common prepositions such as *to*, *from*, *for*, *of*.
- Use the conventions of capitalization, punctuation, and spelling.
- Talk about a story. Retell a story. Identify characters, settings, and major events. Talk about unknown words. Identify common types of writing (picture books, poems, songs). Know what moment in a story an illustration depicts.
- Talk about an informational text. Describe the connection between two individuals, events, or ideas in the text. Identify the front cover, back cover, and title page.



## Help Your Child Learn at Home

**Parent Tips** Try to create a quiet place for your child to study, and carve out time every day when your child can concentrate. You should also try to sit down with your child at least once a week for 15 to 30 minutes while he or she works on homework. This will keep you informed about what your child is working on, and it will help you be the first to know if your child needs help with specific topics.



### English Language Arts— Kindergarten

- Read with your child every day. Ask your child to explain his or her favorite parts of the story. Share your own ideas.
- Encourage your child to tell you about his or her day at school.
- Have your child describe the picture to you.

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## Math

In kindergarten your child will focus on learning whole numbers, addition and subtraction, and describing shapes and space.

### YOUR CHILD WILL:

- Know number names and the count sequence. Count to tell the number of objects. Understand addition as putting together and subtraction as taking apart and taking from. Add or subtract whole numbers to 10 by using objects or drawings.
- Count to 100 by ones and tens. Count forward from a beginning number in a sequence. Work with numbers 11 to 19 to gain foundation for place value (tens and ones). Write numbers from 0 to 20.
- Know how to count objects and understand that the number of objects is the same regardless of their arrangement. Identify whether the number of objects in one group is greater than, less than, or equal to the number of objects in another group.
- Recognize and continue simple patterns of color, shape, and size. Describe measurable attributes of objects such as length or weight. See which object has more of or less of the attribute and describe the difference. Describe the relative difference of objects such as above, below, next to.
- Name in sequence the days of the week. Tell time to the hour using analog and digital clocks. Identify coins by name.



## Help Your Child Learn at Home

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### Math—Kindergarten

- Ask your child questions that require counting as many as 20 things. For example, ask, "How many books do you have about animals?"
- Ask your child questions that require comparing numbers. "Who is wearing more beads, you or your sister?" (Your child might use matching or counting to find the answer.)

# What will my student learn in grade 1?



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## English Language Arts

In Grade 1 your child will grow in independence as a reader and writer. Your child will continue to learn and practice rules for recognizing the sounds that make up words and be able to sound out more complex words. Students will learn to think about what they read, and talk about the main ideas of simple stories.



### YOUR CHILD WILL:

- Talk about a literary text using key details. Retell stories and understand the theme. Describe characters, settings, events, and problem-solutions in a story, play, or poem.
- Identify words and phrases in stories, plays, or poems that suggest feelings or appeal to the senses. Identify who is telling the story, such as a character or a narrator.
- Use illustrations and details in a story to describe its characters, events, setting, or problem-solution. Compare and contrast the adventures of characters. Read prose and poetry from a variety of cultures.
- Explain major differences between books that tell stories and books that give information. Talk about an informational text using key details. Identify the main topic. Retell key details of a text.
- Apply phonics and word analysis skills to pronounce words. Know how to read and pronounce two consonants that form one sound, such as *sh* or *ch*. Pronounce regularly spelled one-syllable words. Know the conventions for long vowel sounds. Read words with inflectional endings, such as *-ed* and *-ing*. Read grade-appropriate irregularly spelled words.
- Converse with peers and adults using agreed-upon rules for discussions. Talk about what a speaker says. Describe people, places, things, and events with details, expressing ideas and feelings clearly. Use drawings or other visual displays to clarify thoughts and feelings.
- Use conventions of grammar, usage, capitalization, punctuation, and spelling. Print all uppercase and lowercase letters.
- Use common, proper, and possessive nouns. Use singular and plural nouns with matching verbs like *I am* and *they are*. Use verbs to convey past, present, and future. Use determiners like *the* and common adjectives, conjunctions, prepositions. Produce simple and compound declarative, interrogative, imperative, and exclamatory sentences.

## Help Your Child Learn at Home

**Parent Tips** Try to create a quiet place for your child to study, and carve out time every day when your child can concentrate. You should also try to sit down with your child at least once a week for 15 to 30 minutes while he or she works on homework. This will keep you informed about what your child is working on, and it will help you be the first to know if your child needs help with specific topics.



### English Language Arts— First Grade

- Encourage your child to read to you books such as *Little Bear* by Else Holmelund Minarik. Help him or her sound out difficult words.
- Pick a “word of the day” each day starting with a different letter.
- Have your child write the word and look for other things beginning with the same letter.

# What will my student learn in grade 1?



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## Math

In Grade 1 your child will focus on understanding addition and subtraction, whole number relationships and place value, linear measurement, and geometric shapes.



### YOUR CHILD WILL:

- Skip count by 2s and 5s. Use ordinal numbers such as first, second. Know the order of numbers 1-100, and count forward and backward.
- Count a large quantity of objects by grouping into 10s, and counting 10s and 1s to find the quantity. Identify place value positions of two-digit numbers, such as knowing that 12 is a 10 and two 1s.
- Subtract multiples of 10 up to 100. Use addition and subtraction to solve word problems with numbers up to 20 using a number line. Use symbols for greater than, less than, or equal.
- Understand and apply the properties of operations and the relationship between addition and subtraction. For example, if  $8 + 3 = 11$ , then  $3 + 8 = 11$ . To add  $2 + 6 + 4$ , you can add  $2 + 10$ .
- Understand subtraction as an unknown-addend problem. For example, subtract  $10 - 8$  by finding the number that makes 10 when added to 8. Add and subtract using numbers up to 20. Use various strategies to add and subtract.
- Understand that the equal sign means same as, and determine if equations involving addition and subtraction are true, such as  $7 = 8 - 1$ . Determine the unknown whole number in an equation, such as  $8 + ? = 11$ .
- Measure and compare three objects. Express the length of an object as a whole number of length units by laying copies of a shorter object (the length unit) end to end.
- Tell time in half hours using analog and digital clocks. Read a calendar. Read and write a date. Recognize money symbols. Identify values of coins.
- Distinguish between defining attributes of shapes and non-defining attributes. Compose shapes to create a larger shape. Partition circles and rectangles into two and four equal shares. Use words such as halves, fourths and quarters.

## Help Your Child Learn at Home

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### Math—First Grade

- Look for “word problems” in real life. Some 1st-grade examples might include: If you open a new carton of a dozen eggs, and you use four eggs to cook dinner, close the carton and ask your child how many eggs are left.
- Play the “I’m thinking of a number” game. For example, “I’m thinking of a number that makes 11 when added to 8. What is my number?”

# What will my student learn in grade 2?



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## English Language Arts

In Grade 2 your child will think, talk, and write about a variety of texts, such as literary, historical, and scientific. Students will develop a topic and learn to revise their writing. Students will continue to practice rules for matching sounds to letters, but they will learn new concepts that help them figure out the meaning of new words.



### YOUR CHILD WILL:

- Know who, what, where, when, and why in a story or informational text. Describe the beginning, middle, and end of a story. Retell stories. Pay attention to details. Identify words that supply rhythm, sensory images, and meaning. Explain how specific images, such as a diagram or illustration, add to a text.
- Distinguish long and short vowels in regularly spelled one-syllable words. Read and pronounce words with common vowel teams like *ie* and *ea*. Pronounce words with common prefixes like *un-* and suffixes like *-er*. Identify words with inconsistent spelling-sound correspondences. Read irregularly spelled words.
- Write and revise short opinion pieces, informative texts, and narratives with details. Use linking words and provide a conclusion. Use digital tools to produce and publish writing. Participate in shared research and writing projects.
- Converse with peers and adults using agreed-upon rules of discussion. Describe ideas from a text read aloud. Talk about what a speaker says. Tell a story with details, speaking audibly. Create audio recordings of stories or poems. Add drawings or other visual displays to stories.
- Use standard grammar, usage, capitalization, punctuation, and spelling. Use collective nouns such as *group*. Use common irregular plural nouns such as *feet*. Use the past tense of common irregular verbs such as *was*.

## Help Your Child Learn at Home

**Parent Tips** Try to create a quiet place for your child to study, and carve out time every day when your child can concentrate. You should also try to sit down with your child at least once a week for 15 to 30 minutes while he or she works on homework. This will keep you informed about what your child is working on, and it will help you be the first to know if your child needs help with specific topics.

### English Language Arts— Second Grade

- Read at home every day and assist your child by reading every other paragraph.
- Have your child write a thank you note or letter to family members or friends.



# What will my student learn in grade 2?



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## Math

In Grade 2 your child will add and subtract two-digit numbers, understand place value in a three-digit number (hundreds, tens, and ones), and build expertise in solving addition and subtraction word problems.



### YOUR CHILD WILL:

- Estimate and solve word problems that involve comparing, adding to, taking from, putting together, and taking apart, with unknowns in any position.
- Fluently add and subtract using numbers up to 100. Know from memory all the sums of two one-digit numbers. Add up to four two-digit numbers. Mentally add or subtract 10 or 100 to or from a given number from 100 to 900.
- Determine whether a group of objects is odd or even. Model an even number as two equal groups of objects, then write an equation as a sum of two equal addends.
- Model and identify place value for three-digit numbers. Know that 100 can be thought of as ten 10s and is called a hundred.
- Count up to 1,000. Skip-count by 5s, 10s, and 100s. Read, write, and order up to 1,000 using numerals, number names, and expanded form (147 is  $100 + 40 + 7$ ).
- Compare two three-digit numbers based on the meanings of 100s, 10s, and 1s, and use symbols for greater than, equal, and lesser than to record the results.
- Measure the length of an object using rulers, yardsticks, meter sticks, and measuring tapes. Solve addition and subtraction problems involving length. Write an equation with a symbol for the unknown to represent the problem. Represent whole numbers as lengths on a number line.
- Tell and write time to the nearest five minutes using a.m. and p.m. from analog and digital clocks. Solve word problems involving dollar bills and coins.
- Collect and describe data in a table, graph or line plot. Draw a picture graph and bar graph. Solve problems presented in a bar graph.
- Identify and draw shapes. Partition circles and squares into shares, describing the shares with words such as halves and thirds, and describe the whole as two halves, three thirds, and so on.

## Help Your Child Learn at Home

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### Math—Second Grade

- Look for “word problems” in real life. Some 2nd-grade examples might include: When saving for a purchase, compare the cost of the item to the amount of money you have; then ask your child to determine how much more money he or she needs to buy the item.
- Play “draw the shape.” For example, ask your child to draw a hexagon with one side longer than the others, or ask him or her to shade in a quarter of a rectangle.

# What will my student learn in grade 3?



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## English Language Arts

In Grade 3 your child will learn to read with fluency and confidence, in increasingly challenging texts that build knowledge about the world. By year-end, your child will write clear sentences and paragraphs, drawing on an expanding vocabulary.



### YOUR CHILD WILL:

- Understand key ideas and details in a literary or informational text, such as the author's message, and explain how they are conveyed. Summarize stories or main ideas. Describe characters and explain how their actions create or solve a problem. Describe the relationship among a series of historical events, scientific ideas, or technical procedures in a text. Read a range of literature and informational texts.
- Determine the meaning of words as they are used in a text, noting the differences between literal and figurative uses. Use known root words to help figure out unknown words. Use terms such as chapter, scene, and stanza. Describe how each part of a text builds on what went before it. Explain how illustrations contribute to a text. Use text features such as indexes, tables of content, or hyperlinks to locate information on a topic.
- Apply phonics and word analysis to pronounce words. Know the most common prefixes and suffixes. Pronounce multi-syllable words. Read irregularly spelled words. Read fluently with understanding. Read prose and poetry orally with expression.
- Write opinion pieces and informative texts with an introduction, supporting details, and a conclusion. Use linking words such as *therefore* and *because*. Write narratives with dialogue, description, concrete and sensory details, and chronology. Plan, edit, and revise writing. Use technology to produce and publish writing.
- Conduct short research projects that build knowledge on a topic. Gather information, take notes, and sort evidence into categories.
- Engage in discussions one-on-one, in groups, and teacher-led, building on others' ideas and expressing his or her own clearly. Ask and answer questions about information from a speaker. Report on a topic or tell a story, speaking clearly. Create audio recordings and add visual displays.
- Use standard grammar, usage, capitalization, punctuation, and spelling to produce simple, compound, and complex sentences. Use nouns, pronouns, verbs, adjectives, and adverbs. Use regular and irregular plural verbs. Use comparative and superlative adjectives and adverbs, such as good, better, and best.

## Help Your Child Learn at Home

**Parent Tips** Try to create a quiet place for your child to study, and carve out time every day when your child can concentrate. You should also try to sit down with your child at least once a week for 15 to 30 minutes while he or she works on homework. This will keep you informed about what your child is working on, and it will help you be the first to know if your child needs help with specific topics.



### English Language Arts— Third Grade

- Make reading for fun a part of your child's daily routine.
- Encourage your child to find a picture from a newspaper or magazine, cut it out, paste it on paper, and write a story about it.
- Start a family vocabulary box or jar. Have everyone write down new words they discover, add them to the box, and use the words in conversation.

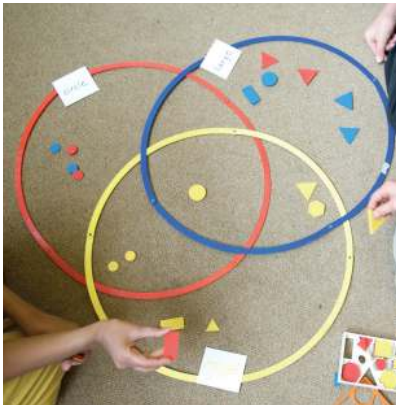
# What will my student learn in grade 3?



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## Math

In Grade 3 your child will learn multiplication, division, fractions, rectangular patterns in columns and rows, area, and two-dimensional shapes.



### YOUR CHILD WILL:

- Solve multiplication and division problems. Understand the properties of multiplication and the relationship between multiplication and division. Multiply and divide up to 100. Memorize the multiplication tables for one-digit numbers.
- Use place value and properties of operations to perform multi-digit arithmetic. Use place value to round whole numbers to the nearest 10 or 100. Fluently add and subtract numbers up to 1,000. Multiply one-digit whole numbers by multiples of 10 in the range of 10-90, such as  $9 \times 80$ .
- Understand fractions as numbers. Represent fractions on a number line. Compare fractions by reasoning about their size. Recognize simple equivalent fractions, such as  $\frac{1}{2} = \frac{2}{4}$ . Express whole numbers as fractions.
- Tell and write time to the nearest minute. Solve word problems involving addition and subtraction of minutes or hours. Measure liquid volumes using grams, kilograms, and liters. Solve one-step word problems involving masses or volumes that are given in the same units.
- Represent and interpret data in a scaled graph and bar graph. Measure and record lengths using a ruler marked with halves and fourths of an inch. Make a line plot with data marked off in whole numbers, halves, or quarters. Use the terms minimum and maximum.
- Know that area is an attribute of plane figures. Measure areas by tiling with unit squares. Relate area to the operations of multiplication and addition. Recognize perimeter as an attribute of plane figures and distinguish between linear and area measures.
- Categorize shapes by different attributes. Partition shapes into parts with equal areas. Express the area of each part as a unit fraction of the whole.

## Help Your Child Learn at Home

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### Math—Third Grade

- Look for “word problems” in real life. Some 3rd-grade examples might include: Notice those everyday occasions when you find yourself using your times tables — such as to determine how many days there are in four weeks. Ask your child for the answer.
- Involve your child when you notice yourself using division to “work backward” in the times tables — such as determining how many candies each child will get if 36 candies are shared equally among nine children at a party.



# What will my student learn in grade 4?



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## English Language Arts

In Grade 4 your child will continue to learn about the world and build vocabulary skills by reading a range of literature and texts on history, science, and other topics. Your child will be able to explain in detail what a text says. Your child will practice writing and speaking, using correct grammar.



### YOUR CHILD WILL:

- Refer to details when explaining a text. Describe in depth a story or drama. Determine the meaning of words as they are used in the text, including figurative language. Explain major differences between poems, drama, and prose.
- Determine the main idea of an informational text and how it is supported by details. Explain relationships among events, procedures, or concepts in a historical, scientific, or technical text. Determine the meaning of subject-specific words (such as scientific terms).
- Interpret information that is presented visually, orally, or quantitatively, as in charts, graphs, and diagrams. Use information from two texts on the same topic to write or speak about it.
- Apply grade-level phonics and word analysis in pronouncing words. Read unfamiliar multi-syllable words. Read prose and poetry orally with expression.
- Write opinion pieces and informative texts, including an introduction, a structure to group ideas and evidence, and a conclusion. Write narratives to develop characters or events, using dialogue, description, sensory details, and a clear chronology. Plan, edit, and revise writing.
- With adult guidance, use technology, including the Internet, to produce and publish writing, collaborate with others, and gather information. Keyboard at least one page in a single sitting. Conduct short research projects.
- Engage in discussions, building on others' ideas and expressing his or her own clearly. Ask and answer questions about information from a speaker. Report on a topic or tell a story, speaking clearly. Create audio recordings and add visual displays. Use formal English when appropriate.
- Use standard grammar, usage, capitalization, punctuation, and spelling. Use relative pronouns (*who, that*), and relative adverbs (*where, when*). Use the progressive verb tenses (*I was walking*) and modal auxiliaries (*can, may*). Use dictionaries.

## Help Your Child Learn at Home

**Parent Tips** Try to create a quiet place for your child to study, and carve out time every day when your child can concentrate. You should also try to sit down with your child at least once a week for 15 to 30 minutes while he or she works on homework. This will keep you informed about what your child is working on, and it will help you be the first to know if your child needs help with specific topics.



### English Language Arts— Fourth Grade

- Urge your child to use logical arguments to defend his or her opinion. If your child wants a raise in allowance, ask him or her to research commonsense allowance systems and, based on that research, explain reasons why, supported by facts and details.
- Talk about the news together. Pick one story in the news, read it together, and discuss with your child what it means.

# What will my student learn in grade 4?



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## Math

In Grade 4 your child will become fluent with multi-digit multiplication, know how to find quotients involving multi-digit dividends, add and subtract fractions with like denominators, multiply fractions by whole numbers, and classify geometric figures based on their properties.



### YOUR CHILD WILL:

- Use addition, subtraction, multiplication, and division with whole numbers to solve problems. Solve multi-step word problems with whole numbers. Become familiar with factors and multiples.
- Generate and analyze patterns, and express the pattern in algebraic terms.
- Read and write multi-digit whole numbers using base-ten numerals, number names, and expanded form. Fluently add and subtract multi-digit whole numbers using any algorithm. Multiply a whole number of up to four digits by a one-digit whole number, and multiply two-digit numbers. Explain the calculation by using equations, rectangular columns and rows, and area models. Find whole-number quotients and remainders with up to four-digit dividends and one-digit divisors.
- Compare two fractions with different numerators and different denominators. Use symbols for greater than, equal, and lesser than. Add and subtract fractions that refer to the same whole. Multiply a fraction by a whole number. Understand decimal notation for fractions ( $3/10 + 4/100 = 34/100$ ).
- Know relative sizes of measurement units within one system of units, including km, m, cm; kg, g; lb, oz; l, ml; hr, min, sec. Add, subtract, multiply, and divide to solve word problems involving distances, intervals of time, liquid volumes, masses of objects, and money.
- Apply the area and perimeter formulas for rectangles in real-world and mathematical problems. Make a line plot to display a data set of measurements in fractions of a unit.
- Measure angles.

## Help Your Child Learn at Home

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### Math—Fourth Grade

- Ask your child to compare numbers using phrases like "times as much." For example, if the family cat weighs 8 lbs. and the family dog weighs 56 lbs., how many times as much does the dog weigh?
- Ask your child to help you compare fractional amounts—for example, if one recipe calls for  $2/3$  of a cup of oil, but another recipe calls for  $3/4$  of a cup of oil, which recipe calls for more oil? (In 5th grade, your child will learn ways to determine just how much more oil.)

# What will my student learn in grade 5?



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## English Language Arts

In Grade 5 your child will read increasingly challenging fiction and nonfiction. Students will build knowledge about subjects through research projects and analysis of literary and informational sources. They will write stories and essays of several paragraphs, using precise language and correct grammar and punctuation.



### YOUR CHILD WILL:

- Refer to details when explaining a text. Describe in depth a story or drama. Determine the meaning of words as they are used in the text, including figurative language.
- Determine the main idea of an informational text and how it is supported by details. Explain relationships among events, procedures, or concepts in a historical, scientific, or technical text. Determine the meaning of subject-specific words (such as scientific terms).
- Interpret information that is presented visually, orally, or quantitatively, as in charts, graphs, and diagrams. Use information from two texts on the same topic to write or speak about it.
- Apply grade-level phonics and word analysis in pronouncing words. Read unfamiliar multi-syllable words. Read prose and poetry orally with expression.
- Write opinion pieces and informative texts, including an introduction, a structure to group ideas and evidence, and a conclusion. Write narratives to develop characters or events, using dialogue, description, sensory details, and a clear chronology. Plan, edit, and revise writing.
- With adult guidance, use technology, including the Internet, to produce and publish writing, collaborate with others, and gather information. Keyboard at least one page in a single sitting. Conduct short research projects.
- Engage in discussions, building on others' ideas and expressing his or her own clearly. Ask and answer questions about information from a speaker. Report on a topic or tell a story, speaking clearly. Create audio recordings and add visual displays. Use formal English when appropriate.
- Use standard grammar, usage, capitalization, punctuation, and spelling. Use the perfect verb tenses (*I had walked*) and correlative conjunctions such as *either/or* and *neither/nor*. Understand figurative language and common idioms.

## Help Your Child Learn at Home

**Parent Tips** Try to create a quiet place for your child to study, and carve out time every day when your child can concentrate. You should also try to sit down with your child at least once a week for 15 to 30 minutes while he or she works on homework. This will keep you informed about what your child is working on, and it will help you be the first to know if your child needs help with specific topics.



### English Language Arts— Fifth Grade

- Invite your child to read his or her writing out loud to other family members. Ask questions about your child's word choices and ideas.
- Watch a movie with your child. Discuss the way the actors bring the words to life.
- Discuss your family and village stories and history. Encourage your child to ask relatives and elders questions about their lives. Put the information together in an album or brainstorm different ways to tell family tales, such as poems or short stories.

# What will my student learn in grade 5?



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## Math

In Grade 5 your child will build understanding of place value by working with decimals up to the hundredths place. Students will add, subtract, and multiply fractions, including fractions with unlike denominators. They will continue to expand their geometry and measurement skills, learning the concept of volume and measuring the volume of a solid figure.



### YOUR CHILD WILL:

- Write and interpret numerical expressions. For example, express “add 8 and 7, then multiply by 2” as  $2 \times (8 + 7)$ .
- Analyze patterns and relationships. For example, given the rule add 3 and the starting number as 0, and given the rule add 6 and the starting number as 0, generate terms in the resulting sequences.
- Understand place values. Explain and extend the patterns in the number of zeroes of the product when multiplying by powers of 10, or in the placement of a decimal point when a decimal is multiplied or divided by a power of 10. Read, write, and compare decimals to thousandths.
- Add, subtract, multiply, and divide with multi-digit whole numbers and with decimals to the hundredths.
- Use equivalent fractions to add and subtract fractions with unlike denominators. Multiply and divide fractions.
- Convert like measurement units within a given measurement system in solving multi-step real-world problems. Solve problems involving time, including elapsed time between world time zones.
- Represent and interpret data. Make a line plot to display a data set of measurements in fractions of a unit. Solve problems involving information presented in line plots. Use the terms mean and median.
- Understand concepts of volume. Relate volume to multiplication and addition, and solve real-world and mathematical problems involving volume.
- Graph points on a coordinate plane to solve real-world and mathematical problems. Classify two-dimensional figures into categories based on their properties.

## Help Your Child Learn at Home

**Parent Tips** Try to create a quiet place for your child to study, and carve out time every day when your child can concentrate. You should also try to sit down with your child at least once a week for 15 to 30 minutes while he or she works on homework. This will keep you informed about what your child is working on, and it will help you be the first to know if your child needs help with specific topics.



### Math—Fifth Grade

Look for “word problems” in real life. Some 5th-grade examples might include:

- Doing arithmetic with decimals, for example when balancing a checkbook.
- Multiplying with fractions — for example, if you used about  $\frac{2}{3}$  of a  $\frac{3}{4}$ -cup measure of vegetable stock or berries, then how much stock or berries did you use? About how much is left over?
- Using the length, width, and depth of a garden plot to determine how many bags of garden soil to buy. At fish camp, use the weight of fish to determine how many people the fish will feed.

# What will my student learn in grade 6?



Alaska's public schools now have higher expectations in English and math. These parent guides help you understand what your child will learn. For more information, see <http://education.alaska.gov>

## English Language Arts

In Grade 6 your child will read increasingly challenging fiction and nonfiction. Students will build knowledge about subjects through research projects and analysis of literary and informational sources. They will write stories and essays of several paragraphs, using a larger vocabulary, precise language, and correct grammar and punctuation.



### YOUR CHILD WILL:

- Cite textual evidence to support his or her analysis and inferences drawn from a text. Distinguish among fact, opinion, and reasoned judgment in a text. Analyze a text's structure and how each part contributes. Explain how an author develops the point of view of the narrator or speaker. Compare the experience of reading a literacy text with listening to or viewing an audio or video version of it.
- Write opinion pieces and informative texts in historical, scientific, and technical subjects, including an introduction, a structure to group ideas and evidence, and a conclusion. Support claims with clear reasons and relevant evidence. Use a formal style. Write narratives to develop characters or events, using dialogue, description, concrete and sensory details, and a clear chronology. Plan, edit, and revise writing.
- Use technology, including the Internet, to produce and publish writing, collaborate with others, and gather information. Conduct short research projects, gathering information from multiple print and digital sources. Avoid plagiarism.
- Engage in discussions, building on others' ideas and expressing his or her own clearly. Ask and answer questions about information from a speaker. Report on a topic or tell a story, speaking clearly. Create audio recordings and add visual displays.
- Use standard grammar, usage, capitalization, punctuation, and spelling. Use intensive pronouns, such as *myself*. Ensure that pronouns are in the proper case: subjective, objective, possessive (*we, us, our* or *ours*). Understand nuances in word meanings.

## Help Your Child Learn at Home

**Parent Tips** Try to create a quiet place for your child to study, and carve out time every day when your child can concentrate. You should also try to sit down with your child at least once a week for 15 to 30 minutes while he or she works on homework. This will keep you informed about what your child is working on, and it will help you be the first to know if your child needs help with specific topics.



### English Language Arts— Sixth Grade

- Listen with your child to a television reporter, politician, or other speaker. Ask your child to tell you the speaker's main points. Was the speaker trying to convince the audience of something? How?
- Encourage your child to learn at the library or on the Internet what life in your community was like 100 years ago. Have your child write a story, poem, or play about that time.

# What will my student learn in grade 6?



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## Math

In Grade 6 your child will use reasoning about multiplication and division to solve ratio and rate problems. Students will understand why the procedures for dividing fractions make sense. They will understand the use of variables in mathematical expressions. Students will begin to develop their ability to think statistically.



### YOUR CHILD WILL:

- Understand ratio concepts, and use ratio reasoning and ratio language to solve real-world and mathematical problems. For example, if it took 7 hours to mow 4 lawns, then at that rate how many lawns could be mowed in 35 hours? At what rate were lawns being mowed?
- Divide fractions by fractions. For example, create a story context for  $\frac{2}{3}$  divided by  $\frac{3}{4}$  and use a visual fraction model to show the quotient.
- Compute fluently with multi-digit numbers and find common factors and multiples. Express the remainder as a whole number, decimal, or simplified fraction.
- Understand that positive and negative numbers describe quantities having opposite directions or values, such as temperature above and below zero, or elevation above and below sea level.
- Apply arithmetic to algebraic expressions. Identify parts of an expression using the terms sum, term, product, factor, quotient, coefficient.
- Solve one-variable equations and inequalities. For example, does 5 make “ $3x$  is greater than 7” true?
- Analyze quantitative relationships between dependent and independent variables, including the use of graphs and tables. For example, in a problem involving constant speed, list and graph ordered pairs of distances and times, and write the equation  $d = 65t$  to represent the relationship between distance and time.
- Solve real-world and mathematical problems involving area, surface area, and volume.
- Develop his or her understanding of statistical variability. Understand that a set of data can be described by its center (mean, median, or mode), spread (range), and overall shape. Summarize and describe distributions, using dot or line plots, histograms, and box plots.

## Help Your Child Learn at Home

**Parent Tips** Try to create a quiet place for your child to study, and carve out time every day when your child can concentrate. You should also try to sit down with your child at least once a week for 15 to 30 minutes while he or she works on homework. This will keep you informed about what your child is working on, and it will help you be the first to know if your child needs help with specific topics.



### Math—Sixth Grade

Look for “word problems” in real life. Some 6th-grade examples might include:

- Determining the average speed of a family trip in a car, skiff or snowmachine, based on the distance traveled and the time taken; or estimating the time that a trip will take, given the distance and an estimate of the average speed.
- Finding the surface area of the walls and ceiling in a room to determine the cost of painting the room.

# What will my student learn in grade 7?



Alaska's public schools now have higher expectations in English and math. These parent guides help you understand what your child will learn. For more information, see <http://education.alaska.gov>

## English Language Arts

In Grade 7 your child will analyze, define, compare, and evaluate ideas when reading, writing, speaking, and listening. Students will use relevant evidence when supporting their own points, making their reasoning clear to others.



### YOUR CHILD WILL:

- Cite textual evidence to support his or her analysis and inferences drawn from a text. Distinguish among fact, opinion, and reasoned judgment in a text. Analyze a text's structure and how each part contributes. Analyze the impact of rhymes and other repetitions of sounds on a specific stanza of a poem or section of a story or drama. Explain how an author develops the point of view of the narrator or speaker.
- Compare the experience of reading a literary text with listening to or viewing an audio or video version of it, analyzing the effects of techniques unique to each medium.
- Write opinion pieces and informative texts in historical, scientific, and technical subjects, including an introduction, a structure to group ideas and evidence, and a conclusion. Support claims with clear reasons and relevant evidence. Use a formal style. Write narratives to develop characters or events, using dialogue, description, concrete and sensory details, and a clear chronology. Plan, edit, and revise writing.
- Use technology, including the Internet, to produce and publish writing, collaborate with others, and gather information. Conduct short research projects, gathering information from multiple print and digital sources. Avoid plagiarism.
- Engage in discussions, building on others' ideas and expressing his or her own clearly. Ask and answer questions about information from a speaker. Report on a topic or tell a story, speaking clearly. Create audio recordings and add visual displays.
- Use standard grammar, usage, capitalization, punctuation, and spelling. Choose among simple, compound, complex, and compound-complex sentences to signal differing relationships among ideas. Express ideas precisely and concisely.

## Help Your Child Learn at Home

**Parent Tips** Try to create a quiet place for your child to study, and carve out time every day when your child can concentrate. You should also try to sit down with your child at least once a week for 15 to 30 minutes while he or she works on homework. This will keep you informed about what your child is working on, and it will help you be the first to know if your child needs help with specific topics.



### English Language Arts— Seventh Grade

- Visit a local museum together. Take time to closely observe the details of the objects and talk about what you see there.
- Ask your child who his or her favorite authors are. Why does your child like their books? What ideas does the author write about? Who are his or her favorite characters? Why?

# What will my student learn in grade 7?



Alaska's public schools now have higher expectations in English and math. These parent guides help you understand what your child will learn. For more information, see <http://education.alaska.gov>

## Math

In Grade 7 your child will extend his or her understanding of ratios and understand proportionality. Students will develop a unified understanding of number, recognizing fractions, decimals, and percents as different representations of rational numbers. They will continue to work with area. Students will begin informal work with random sampling to generate data sets.

### YOUR CHILD WILL:

- Analyze proportional relationships and use them to solve real-world and mathematical problems.
- Add, subtract, multiply, and divide rational numbers.
- Use addition, subtraction, multiplication, and division to generate equivalent expressions. Solve real-life and mathematical problems using numerical and algebraic expressions and equations.
- Draw, construct, and describe geometrical figures and describe the relationship between them. Solve real-life and mathematical problems involving angle measure, area, surface area, and volume.
- Use random sampling to draw inferences about a population. Draw informal comparative inferences about two populations. Investigate chance processes and develop probability models.



## Help Your Child Learn at Home

**Parent Tips** Try to create a quiet place for your child to study, and carve out time every day when your child can concentrate. You should also try to sit down with your child at least once a week for 15 to 30 minutes while he or she works on homework. This will keep you informed about what your child is working on, and it will help you be the first to know if your child needs help with specific topics.



### Math—Seventh Grade

Look for “word problems” in real life. Some 7th-grade examples might include:

- Figuring the percent of baskets your basketball team makes in field goals and free throws.
- For a long-term project, help your child choose a stock and follow its value on the stock market using the newspaper or the Internet. Have your child calculate the stock's percent increase or decrease each month.



# What will my student learn in grade 8?



Alaska's public schools now have higher expectations in English and math. These parent guides help you understand what your child will learn. For more information, see <http://education.alaska.gov>

## English Language Arts

In Grade 8 your child will learn how authors present their ideas through word choice, sentence and paragraph structure, and other methods. Students will build their writing around strong central ideas, supporting them with sound reasoning and evidence, precise word choices, smooth transitions, and various sentence structures.



### YOUR CHILD WILL:

- Cite the strongest textual evidence to support his or her analysis and inferences drawn from a text. Distinguish among fact, opinion, and reasoned judgment in a text. Analyze a text's structure and how each part contributes. Analyze how particular lines of dialogue or incidents in a story or drama propel the action, reveal aspects of a character, or provoke a decision.
- Analyze the extent to which a filmed or live production of a story or drama stays faithful to or departs from the text, evaluating the choices of the director or actors. Analyze how a modern work of fiction draws on myths, traditional stories, or religious works.
- Write opinion pieces and informative texts in historical, scientific, and technical subjects, including an introduction, a structure to group ideas and evidence, and a conclusion. Support claims with clear reasons and relevant evidence. Use a formal style. Write narratives to develop characters or events, using dialogue, description, concrete and sensory details, and a clear chronology. Plan, edit, and revise writing.
- Use technology, including the Internet, to produce and publish writing, collaborate with others, and gather information. Conduct short research projects, gathering information from multiple print and digital sources. Avoid plagiarism.
- Engage in discussions, building on others' ideas and expressing his or her own clearly. Ask and answer questions about information from a speaker. Report on a topic or tell a story, speaking clearly. Create audio recordings and add visual displays.
- Use standard grammar, usage, capitalization, punctuation, and spelling. Explain the function of verbals (gerunds, participles, infinitives). Use verbs in the active and passive mood. Use verbs in the indicative, imperative, interrogative, conditional, and subjunctive mood.

## Help Your Child Learn at Home

**Parent Tips** Try to create a quiet place for your child to study, and carve out time every day when your child can concentrate. You should also try to sit down with your child at least once a week for 15 to 30 minutes while he or she works on homework. This will keep you informed about what your child is working on, and it will help you be the first to know if your child needs help with specific topics.



### English Language Arts— Eighth Grade

- Make time in everyone's busy schedule for family discussions about things going on around the world. Weekends can be a chance for everyone to catch up.
- Begin talking about college early. What does he or she expect from college?
- What high school courses will your child need to pass to prepare for college?

# What will my student learn in grade 8?



Alaska's public schools now have higher expectations in English and math. These parent guides help you understand what your child will learn. For more information, see <http://education.alaska.gov>

## Math

In Grade 8 your child will use linear equations to solve a variety of problems. Students will understand that functions describe situations in which one quantity determines another. They will use ideas about distance and angles, and about congruence and similarity, to describe and analyze two-dimensional figures.

### YOUR CHILD WILL:

- Know there are numbers that are not rational, and will approximate them with rational numbers.
- Work with radicals and integer exponents. Perform operations with numbers expressed in scientific notation.
- Understand the connections between proportional relationships, lines, and linear equations. Solve linear equations and pairs of simultaneous linear equations.
- Understand congruence and similarity using physical models, transparencies, or geometry software. Apply the Pythagorean Theorem. Solve real-world and mathematical models involving volume of cylinders, cones, and spheres.
- Investigate patterns of association in bivariate data. Define, evaluate, and compare functions. Use functions to model relationships between quantities.



## Help Your Child Learn at Home

**Parent Tips** Try to create a quiet place for your child to study, and carve out time every day when your child can concentrate. You should also try to sit down with your child at least once a week for 15 to 30 minutes while he or she works on homework. This will keep you informed about what your child is working on, and it will help you be the first to know if your child needs help with specific topics.



### Math—Eighth Grade

Ask your child to share with you any work he or she is doing in math class that strikes him or her as interesting. Some possibilities might include:

- Solving interesting problems involving cylinders and spheres, such as figuring out how much fuel oil fits inside a tank, or how many earths would fit inside the sun.
- Analyzing data with a scatterplot, for example to decide whether exercise and obesity are related.

# What will my student learn in grade 9–12?



Alaska's public schools now have higher expectations in English and math. These parent guides help you understand what your child will learn. For more information, see <http://education.alaska.gov>

## English Language Arts

In high school your student will become ready for education and careers after graduation, whether it is taking a job, joining the military, attending a technical school, enrolling in an associate degree program, or enrolling in a bachelor's degree program. Whatever students choose, they need to be able to read, write, speak, and listen well, both to gather and analyze information and to express themselves.



### YOUR STUDENT WILL:

- Cite strong and thorough textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text. Analyze the development of a text's central theme in detail. Analyze how complex characters or ideas develop over the course of a text.
- Determine the meaning of words as they are used in the text, including figurative and connotative meanings. Analyze how an author creates effects through structure, literary devices, the order of events, and use of time.
- Analyze a particular point of view reflected in a work. Analyze multiple interpretations of a story, poem, or drama. Analyze various accounts of a subject told in different media.
- Evaluate the argument and specific claims in a text, assess whether the reasoning is valid and the evidence is relevant and sufficient.
- Write arguments to support claims in an analysis of substantive topics or texts. Develop claims and counterclaims fairly. Use a formal style and objective tone. Write informative texts to convey complex ideas and information. Use precise language and subject-specific vocabulary. Write narratives with well-chosen details and well-constructed sequences of events. Use techniques such as dialogue, pacing, description, reflection, and multiple plot lines. Write to conform to a style manual.
- Use technology, including the Internet, to produce and publish texts, link to other information, and convey information dynamically.
- Participate in collaborative discussions. Come to discussions prepared. Work with peers to set rules for collegial discussions. Respond thoughtfully to diverse perspectives. Evaluate a speaker's point of view, reasoning, and use of evidence and rhetoric. Make strategic use of digital media in presentations.

## Help Your Child Learn at Home

**Parent Tips** At the beginning of high school, sit down with your child's teachers, counselor or other advisor to discuss what it will take for your child to graduate, your child's goals, and his/her plans after high school.



Create a plan together to help your child reach these goals. This plan should include:

- An appropriate course sequence to meet your child's goals.
- The most appropriate extracurricular activities for your child.
- Your plan to help your child prepare for college or career. For example, if your child is interested in a particular field, look to see if internships exist to build his/her work experience in that subject area.
- Financing college.

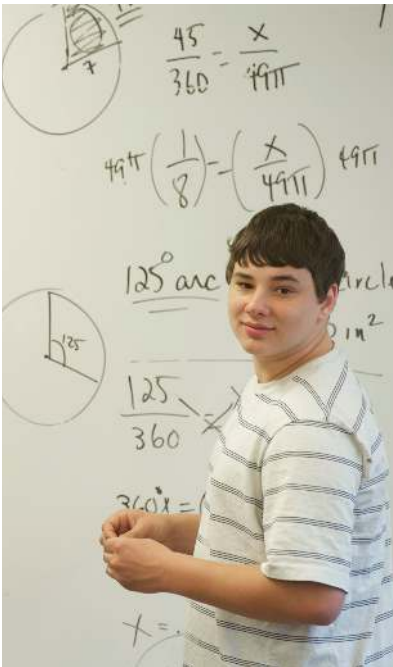
# What will my student learn in grade 9–12?



Alaska's public schools now have higher expectations in English and math. These parent guides help you understand what your child will learn. For more information, see <http://education.alaska.gov>

## Math

In high school your student will become ready for education and careers after graduation, whether it is taking a job, joining the military, attending a technical school, enrolling in an associate degree program, or enrolling in a bachelor's degree program. Whatever students choose, they need to be able to navigate a world rich in data and technology.



### YOUR STUDENT WILL:

- Through modeling, link classroom mathematics and statistics to everyday life, work, and decision-making. Modeling uses mathematics and statistics to analyze empirical situations, to understand them better, and to improve decisions.
- Extend his or her understanding of number, augmenting real numbers with imaginary numbers to form the complex numbers. Calculators, spreadsheets, and computer algebra systems can be used to generate data for numerical experiments, to help understand the workings of algebra, and to experiment with non-integer exponents.
- Extend his or her work in measurement to include a wider variety of units of modeling, such as acceleration, currency conversions, heat-degree day, social science rates like per-capita income, and everyday rates like batting averages. Quantification is important in science and business.
- Read a mathematical expression with comprehension and analyze its underlying structure. An expression is a record of computation with numbers, symbols that represent numbers, arithmetic operations, and exponentiation.
- Interpret and write expressions to solve equations. An equation is a statement of equality between two expressions. Competence in solving equations often involves looking ahead for productive manipulations and anticipating the nature and number of solutions.
- Understand and use functions. Functions describe situations in which one quantity determines another, such as the effect on an investment of the length of time the money is invested. Because we make theories about dependencies between quantities in nature and society, functions are important tools in constructing mathematical models.
- Understand the attributes and relationships of geometric objects. This knowledge can be applied in many contexts, such as interpreting a schematic drawing, estimating the amount of wood needed to frame a sloping roof, rendering computer graphics, or designing a sewing pattern.
- Understand and use statistics and probability. Decisions or predictions often are based on using data—numbers in context. Statistics provides tools for describing variability in data and for making informed decisions. Technology makes it possible to simulate many possible outcomes in a short amount of time.