



AKS

ACADEMIC KNOWLEDGE AND SKILLS
GWINNETT COUNTY PUBLIC SCHOOLS

4TH GRADE 2012-13 COMPLETE AKS

Gwinnett's curriculum for grades K-12 is called the Academic Knowledge and Skills (AKS) and is aligned to the state-adopted Common Core Georgia Performance Standards (CCGPS) in Language Arts and Mathematics for elementary school students. Gwinnett's AKS is a rigorous curriculum that prepares students for college and 21st century careers in a globally competitive future. The AKS for each grade level spell out the essential things students are expected to know and be able to do in that grade or subject. The AKS offer a solid base on which teachers build rich learning experiences. Teachers use curriculum guides, textbooks, technology, and other materials to teach the AKS and to make sure every student is learning to his or her potential.

The Academic Knowledge and Skills (AKS) were developed by our teachers, with input from our parents and community, in response to Gwinnett County Public Schools' mission statement:

The mission of Gwinnett County Public Schools is to pursue excellence in academic knowledge, skills, and behavior for each student resulting in measured improvement against local, national, and world-class standards.

In this booklet, you will find a complete list of the AKS for 4th grade. We encourage you to talk to your child about what he or she is learning.

WELCOME TO 4TH GRADE!



About the Academic Knowledge and Skills (AKS) Curriculum

The AKS are the standards for academic excellence for all students in Gwinnett County Public Schools (GCPS). In every GCPS classroom, instruction and assessment are tailored so that all students learn the AKS. The alignment of AKS with standardized assessments— such as the state-required Iowa Tests of Basic Skills (ITBS) for grades 3 and 5— ensures that GCPS elementary students are well-prepared for this national measurement of achievement. GCPS’ rigorous AKS curriculum also aligns with the state curriculum— the Common Core Georgia Performance Standards (CCGPS) in Language Arts and Mathematics and the Georgia Performance Standards (GPS) in other content areas. This alignment assures that students are prepared for state tests, including the Criterion-Referenced Competency Tests (CRCT), which measure the grade-level achievement of Georgia elementary and middle school students in grades 3–8.

Since its inception in 1996, GCPS’ AKS curriculum has reflected the collective wisdom of thousands of educators and community members who worked together to determine what students need to know and be able to do in order to be successful at the next grade level and in the future. This investment by GCPS’ stakeholders has ensured that the AKS curriculum remains a rigorous and relevant blueprint for student learning in Gwinnett. As part of that ongoing effort, the GEMS Oversight Committee— made up of community and GCPS staff members— meets annually to review proposed additions, deletions, and changes to the AKS that come out of school and community surveys. Following validation by the GEMS committee, recommendations are submitted to the superintendent for approval by the School Board, with implementation the following school year.

About Testing for 4th Grade

All 4th grade students participate in the state’s Criterion-Referenced Competency Tests (CRCT) in the spring. The multiple-choice CRCT measures what students should know and be able to do at the end of 4th grade, based on the state’s curriculum— the Common Core Georgia Performance Standards (CCGPS) in Language Arts and Mathematics, and the Georgia Performance Standards (GPS) in other content areas. (Gwinnett’s AKS curriculum includes and goes beyond the state’s curriculum.) Georgia students in 4th grade take the CRCT in Reading, English/Language Arts, Mathematics, Science, and Social Studies. Students are expected to meet or exceed grade-level expectations on each CRCT to be on track for success in school.

About Promotion to 5th Grade

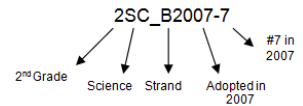
To earn promotion to the 5th grade, a child enrolled in 4th grade must earn a passing score on each of the following Criterion-Referenced Competency Tests (CRCT) subtests: Reading, English/Language Arts, Mathematics, Science, and Social Studies.* Should a child not pass all required CRCT subtests to earn promotion to 5th grade, he or she may have the opportunity to attend summer school for targeted instruction. A student who does not meet all promotion requirements after summer school will not be promoted to 5th grade. Instead, the student will receive extra help the next year through a transition program.

* Note: A special education student’s promotion is determined by his or her Individualized Education Program (IEP). Promotion for a student with Limited English Proficiency (LEP) is determined by his or her AKS Intervention and Modification Plan, or by recommendation of the English Language Learner (ELL)/Test Participation Committee.

Notes about this Booklet

- Correlations to the following state-required curriculum standards/objectives and elementary school assessments are indicated for respective Academic Knowledge and Skills: Common Core Georgia Performance Standards (CCGPS), Georgia Performance Standards (GPS), Iowa Tests of Basic Skills (ITBS), and Character Education (CE).
- Academic Knowledge and Skills beginning with “explore” will not be assessed for mastery at that grade level, but are prerequisite for mastery at a higher grade level.
- AKS booklets are available for other grade levels (K–8 and combined grades for high school) and by core academic subject (Language Arts, Mathematics, Science, and Social Studies) on the district website at www.gwinnett.k12.ga.us. In addition, a comprehensive book includes the AKS for all elementary grade levels as well as the AKS in core subjects for 6th grade. These booklets are posted in PDF form.

- Parents also can find online PDFs of grade-level brochures (grades K–8) with a more general overview of what students will learn, available services, promotion requirements, and grade-level testing. The Choice Book serves this purpose for high school students, providing an overview of the high school experience, high school and postsecondary planning tools, and a “course catalog.” Parents receive a printed copy of their child’s grade-level AKS brochure (K–8) at the start of the school year, and rising 9th graders receive a printed copy of The Choice Book.
- The AKS numbering system was developed to allow for additions and deletions of AKS without changing the number reference of other AKS. The reference code includes the subject and/or grade level, a letter representing the topic strand and the year implemented. *(See the example to the right.)*



Character Education

The school system supports a mandate from the Georgia General Assembly requiring all schools to teach character education. Society and culture are tied together through common threads that guide the way we live, work, and learn. These common beliefs are taught at home and reinforced by the community, schools, religious institutions, and youth service groups. These basic tenets guide the way Gwinnett County teachers teach and the way the school system conducts the business of teaching and learning. Character education is thoroughly embedded in the AKS curriculum. Traits emphasized in the curriculum include the following:

courage	respect for	self-control	generosity	respect for	creativity
patriotism	others	courtesy	punctuality	environment	sportsmanship
citizenship	cooperation	compassion	cleanliness	respect for	loyalty
honesty	kindness	tolerance	cheerfulness	creator	perseverance
fairness	self-respect	diligence	school pride	patience	virtue

Parent Involvement



Research shows that when parents are involved in their children’s education at home, their children do better in school.

When parents are involved at school, their children’s achievement excels and the schools they attend become even stronger.

Be There is a national movement that inspires parents to become more involved in their child’s education and their public schools. Teachable moments are everywhere. You can be your child’s favorite teacher by connecting in meaningful ways as you go through the ordinary routines of the day... driving in the car, preparing a meal, shopping, or doing chores. Below and in your child’s AKS brochure, you will find tips for helping your child have a successful 4th grade experience. Look for more helpful tipsheets and other resources on the school system website and your local school website.

Suggestions for Helping Your Child Achieve Academically

The school system encourages parents to be an active part of their child’s education. Following are just a few ways you can be involved:

- Review the AKS for your child’s grade. You also can access the AKS on the system’s website (www.gwinnett.k12.ga.us).
- Ask to see your child’s work.
- Support your child and communicate that his or her academic success is important to you.
- Read and write with your child often. Remind students to edit the entire sentence and paragraph when they write and to use complete sentences with appropriate grammar and spelling.
- In their assignments, ask children to show their work, making sure they answer the question asked, not just provide information that may or may not be relevant.
- Participate in parent-teacher conferences.
- Share these Keys to School Success with your child:
 - ➔ **Be prepared** each day. Have the needed materials and assignments for each class.
 - ➔ **Stay organized.** Keep your desk, notebooks, book bag, and home study area neatly arranged.
 - ➔ **Use an agenda book or calendar** to keep track of assignments and due dates. Check it every day.
 - ➔ **Give your best effort** to both homework and in-class assignments. Complete assignments and turn them in on time.
 - ➔ **Review your work** from each class every evening, even if you don’t have a homework assignment due the next day.
 - ➔ **Study** for every test and quiz.
 - ➔ **Ask your teacher questions** if you do not understand a lesson or an assignment.
 - ➔ **Get involved** in at least one extracurricular activity.

Language Arts

A - Reading: Literature

- refer to details and examples in a text when explaining what the text says explicitly and when drawing inferences from the text (CCGPS) (4LA_A2012-1/ELACC4RL1)
- determine a theme of a story, drama, or poem from details in the text; summarize the text (CCGPS) (4LA_A2012-2/ELACC4RL2)
- describe in depth a character, setting, or event in a story or drama, drawing on specific details in the text (e.g., a character's thoughts, words, or actions) (CCGPS) (4LA_A2012-3/ELACC4RL3)
- determine the meaning of words and phrases as they are used in a text, including those that allude to significant characters found in mythology (e.g., Herculean) (CCGPS) (4LA_A2012-4/ELACC4RL4)
- explain major differences between poems, drama, and prose, and refer to the structural elements of poems (e.g., verse, rhythm, meter) and drama (e.g., casts of characters, settings, descriptions, dialogue, stage directions) when writing or speaking about a text (CCGPS) (4LA_A2012-5/ELACC4RL5)
- compare and contrast the point of view from which different stories are narrated, including the difference between first- and third-person narrations (CCGPS) (4LA_A2012-6/ELACC4RL6)
- make connections between the text of a story or drama and a visual or oral presentation of the text, identifying where each version reflects specific descriptions and directions in the text (CCGPS) (4LA_A2012-7/ELACC4RL7)
- compare and contrast the treatment of similar themes and topics (e.g., opposition of good and evil) and patterns of events (e.g., the quest) in stories, myths, and traditional literature from different cultures (CCGPS) (4LA_A2012-8/ELACC4RL9)
- read and comprehend literature, including stories, dramas, and poetry, in the grades 4–5 text complexity band proficiently, with scaffolding as needed at the high end of the range by the end of grade 4 (CCGPS) (4LA_A2012-9/ELACC4RL10)

B - Reading: Informational Text

- refer to details and examples in a text when explaining what the text says explicitly and when drawing inferences from the text (CCGPS) (4LA_B2012-10/ELACC4RI1)
- determine the main idea of a text and explain how it is supported by key details; summarize the text (CCGPS) (4LA_B2012-11/ELACC4RI2)
- explain events, procedures, ideas, or concepts in a historical, scientific, or technical text, including what happened and why, based on specific information in the text (CCGPS) (4LA_B2012-12/ELACC4RI3)
- determine the meaning of general academic language and domain-specific words or phrases in a text relevant to a grade 4 topic or subject area (CCGPS) (4LA_B2012-13/ELACC4RI4)
- describe the overall structure (e.g., chronology, comparison, cause/effect, problem/solution) of events, ideas, concepts, or information in a text or part of a text (CCGPS) (4LA_B2012-14/ELACC4RI5)
- compare and contrast a firsthand and secondhand account of the same event or topic; describe the differences in focus and the information provided (CCGPS) (4LA_B2012-15/ELACC4RI6)
- interpret information presented visually, orally, or quantitatively (e.g., in charts, graphs, diagrams, time lines, animations, or interactive elements on web pages) and explain how the information contributes to an understanding of the text in which it appears (CCGPS) (4LA_B2012-16/ELACC4RI7)
- explain how an author uses reasons and evidence to support particular points in a text (CCGPS) (4LA_B2012-17/ELACC4RI8)
- integrate information from two texts on the same topic in order to write or speak about the subject knowledgeably (CCGPS) (4LA_B2012-18/ELACC4RI9)
- read and comprehend informational texts, including history/social studies, science, and technical texts, in the grades 4–5 text complexity band proficiently, with scaffolding as needed at the high end of the range by the end of grade 4 (CCGPS) (4LA_B2012-19/ELACC4RI10)

C - Reading: Foundational Skills

- know and apply grade-level phonics and word analysis skills in decoding words (CCGPS) (4LA_C2012-20/ELACC4RF3)
- read with sufficient accuracy and fluency to support comprehension (CCGPS) (4LA_C2012-21/ELACC4RF4)

D - Writing

- write opinion pieces on topics or texts, supporting a point of view with reasons and information (CCGPS) (4LA_D2012-22/ELACC4W1)
- write informative/explanatory texts to examine a topic and convey ideas and information clearly (CCGPS) (4LA_D2012-23/ELACC4W2)
- write narratives to develop real or imagined experiences or events using effective technique, descriptive details, and clear event sequences (CCGPS) (4LA_D2012-24/ELACC4W3)
- produce clear and coherent writing in which the development and organization are appropriate to task, purpose, and audience (CCGPS) (4LA_D2012-25/ELACC4W4)
- develop and strengthen writing as needed by planning, revising, and editing, with guidance and support from peers and adults (CCGPS) (4LA_D2012-26/ELACC4W5)
- use technology, including the Internet, to produce and publish writing as well as to interact and collaborate with others; demonstrate sufficient command of keyboarding skills to type a minimum of one page in a single sitting, with some guidance and support from adults (CCGPS) (4LA_D2012-27/ELACC4W6)
- conduct short research projects that build knowledge through investigation of different aspects of a topic (CCGPS) (4LA_D2012-28/ELACC4W7)
- recall relevant information from experiences or gather relevant information from print and digital sources; take notes and categorize information, and provide a list of sources (CCGPS) (4LA_D2012-29/ELACC4W8)
- draw evidence from literary or informational texts to support analysis, reflection, and research (CCGPS) (4LA_D2012-30/ELACC4W9)
- write routinely over extended time frames (time for research, reflection, and revision) and shorter time frames (a single sitting or a day or two) for a range of discipline-specific tasks, purposes, and audiences (CCGPS) (4LA_D2012-31/ELACC4W10)

E - Speaking and Listening

- engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grade 4 topics and texts, building on others' ideas and expressing their own clearly (CCGPS) (4LA_E2012-32/ELACC4SL1)
- paraphrase portions of a text read aloud or information presented in diverse media and formats, including visually, quantitatively, and orally (CCGPS) (4LA_E2012-33/ELACC4SL2)
- identify the reasons and evidence a speaker provides to support particular points (CCGPS) (4LA_E2012-34/ELACC4SL3)
- report on a topic or text, tell a story, or recount an experience in an organized manner, using appropriate facts and relevant, descriptive details to support main ideas or themes; speak clearly at an understandable pace (CCGPS) (4LA_E2012-35/ELACC4SL4)
- add audio recordings and visual displays to presentations when appropriate to enhance the development of main ideas or themes (CCGPS) (4LA_E2012-36/ELACC4SL5)
- differentiate between contexts that call for formal English (e.g., presenting ideas) and situations where informal discourse is appropriate (e.g., small-group discussion); use formal English when appropriate to task and situation (CCGPS) (4LA_E2012-37/ELACC4SL6)

F - Language

- demonstrate command of the conventions of standard English grammar and usage when writing or speaking (CCGPS) (4LA_F2012-38/ELACC4L1)

F – Language (continued)

- demonstrate command of the conventions of standard English capitalization, punctuation, and spelling when writing (CCGPS) (4LA_F2012-39/ELACC4L2)
- use knowledge of language and its conventions when writing, speaking, reading, or listening (CCGPS) (4LA_F2012-40/ELACC4L3)
- determine or clarify the meaning of unknown and multiple-meaning words and phrases based on grade 4 reading and content, choosing flexibly from a range of strategies (CCGPS) (4LA_F2012-41/ELACC4L4)
- demonstrate understanding of figurative language, word relationships, and nuances in word meanings (CCGPS) (4LA_F2012-42/ELACC4L5)
- acquire and use accurately grade-appropriate general academic and domain-specific vocabulary, including words and phrases that signal precise actions, emotions, or states of being (e.g., quizzed, whined, stammered) and words and phrases basic to a particular topic (e.g., wildlife, conservation, and endangered when discussing animal preservation) (CCGPS) (4LA_F2012-43/ELACC4L6)

Mathematics

A - Operations and Algebraic Thinking

- explain a multiplication equation as a comparison and represent verbal statements of multiplicative comparisons as multiplication equations (e.g., interpret $35 = 5 \times 7$ as a statement that 35 is 5 times as many as 7 and 7 times as many as 5) (CCGPS) (4MA_A2012-1/MCC4.OA.1)
- solve multiplication and division word problems involving multiplicative comparison using drawings and equations (e.g., by using drawings and equations with a symbol for the unknown number to represent the problem, distinguishing multiplicative comparison from additive comparison) (CCGPS) (4MA_A2012-2/MCC4.OA.2)
- solve multi-step word problems posed with whole numbers and having whole-number answers using the four operations, including problems in which remainders must be interpreted and with a letter standing for the unknown quantity (CCGPS) (4MA_A2012-3/MCC4.OA.3)
- determine the reasonableness of answers using mental computation and estimation strategies, including rounding, when using the four operations (CCGPS) (4MA_A2012-4/MCC4.OA.3)
- explain the different meanings of the remainder in division problems (CCGPS) (4MA_A2012-5/MCC4.OA.3)
- determine multiples and factors for whole numbers 1-100 (CCGPS) (4MA_A2012-6/MCC4.OA.4)
- determine whether a given whole number in the range 1-100 is prime or composite (CCGPS) (4MA_A2012-7/MCC4.OA.4)
- investigate, represent, and generate number or shape patterns to describe given rules and solve problems (CCGPS) (4MA_A2012-8/MCC4.OA.5)

B - Number and Operations in Base Ten

- explain that in a multi-digit whole number, a digit in one place represents ten times what it represents in the place to its right (e.g., recognize that $700 \div 70 = 10$ by applying concepts of place value and division) (CCGPS) (4MA_B2012-9/MCC4.NBT.1)
- read and write multi-digit whole numbers using base-ten numerals, number names, and expanded form for places from hundredths through millions (CCGPS) (4MA_B2012-10/MCC4.NBT.2)
- compare two multi-digit numbers based on meanings of the digits in each place, using $>$, $=$, and $<$ symbols to record the results for comparisons (CCGPS) (4MA_B2012-11/MCC4.NBT.2)
- use place value understanding to round whole numbers to any place using tools such as a number line and/or charts (CCGPS) (4MA_B2012-12/MCC4.NBT.3)
- add and subtract multi-digit whole numbers fluently using the standard algorithm (CCGPS) (4MA_B2012-13/MCC4.NBT.4)

B - Number and Operations in Base Ten (*continued*)

- illustrate and explain multiplication calculations by using equations, rectangular arrays, and/or area models (CCGPS) (4MA_B2012-14/MCC4.NBT.5)
- multiply a whole number of up to four digits by a one-digit whole number, and multiply two two-digit numbers, using strategies based on place value and the properties of operations (CCGPS) (4MA_B2012-15/MCC4.NBT.5)
- illustrate and explain division calculations by using equations, rectangular arrays, and/or area models (CCGPS) (4MA_B2012-16/MCC4.NBT.6)
- calculate whole number quotients and remainders with up to four-digit dividends and one-digit divisors using strategies based on place value, the properties of operations, and/or the relationship between multiplication and division (CCGPS) (4MA_B2012-17/MCC4.NBT.6)

C - Number and Operations: Fractions

- explain why a fraction a/b is equivalent to a fraction $(n \times a)/n \times b$ by using visual fraction models with attention to how the number and size of the parts differ even though the two fractions themselves are the same size; use this principle to recognize and generate equivalent fractions (CCGPS) (4MA_C2012-18/MCC4.NF.1)
- compare two fractions with different numerators and different denominators by creating common denominators or numerators, or by comparing to a benchmark fraction such as $1/2$ (CCGPS) (4MA_C2012-19/MCC4.NF.2)
- use the symbols $>$, $=$, or $<$ to compare fractions and justify the conclusions by using a visual fraction model (CCGPS) (4MA_C2012-20/MCC4.NF.2)
- recognize that a fraction a/b with $a > 1$ as a sum of fractions $1/b$ (CCGPS) (4MA_C2012-21/MCC4.NF.3)
- model and explain addition and subtraction of fractions as joining and separating parts referring to the same whole (CCGPS) (4MA_C2012-22/MCC4.NF.3_a)
- decompose a fraction, by using a visual fraction model, into a sum of fractions with the same denominator in more than one way, recording each decomposition by an equation (e.g., $3/8 = 1/8 + 1/8 + 1/8$; $3/8 = 1/8 + 2/8$; $2 \frac{1}{8} = 1 + 1 + 1/8$; $8/8 = 7/8 + 1/8$) (CCGPS) (4MA_C2012-23/MCC4.NF.3_b)
- add and subtract mixed numbers with like denominators (e.g., by replacing each mixed number with an equivalent fraction and/or by using properties of operations and the relationship between addition and subtraction) (CCGPS) (4MA_C2012-24/MCC4.NF.3_c)
- solve word problems involving addition and subtraction of fractions referring to the same whole and having like denominators by using visual fraction models and equations to represent the problem (CCGPS) (4MA_C2012-25/MCC4.NF.3_d)
- apply and extend previous understanding of multiplication to multiply a fraction by a whole number (CCGPS) (4MA_C2012-26/MCC4.NF.4)
- recognize a fraction a/b as a multiple of $1/b$ [e.g., use a visual fraction model to represent $5/4$ as the product $5 \times (1/4)$, recording the conclusion by the equation $5/4 = 5 \times (1/4)$] (CCGPS) (4MA_C2012-27/MCC4.NF.4_a)
- understand a multiple of a/b as a multiple of $1/b$, and use this understanding to multiply a fraction by a whole number [e.g., use a visual fraction model to express $3 \times (2/5)$ as $6 \times (1/5)$, recognizing this product as $6/5$; (In general, $n \times (a/b) = (n \times a)/b$] (CCGPS) (4MA_C2012-28/MCC4.NF.4_b)
- solve word problems involving multiplication of a fraction by a whole number (e.g., by using visual fraction models and equations to represent the problem. For example, if each person at a party will eat $3/8$ of a pound of roast beef and there will be 5 people at the party, how many pounds of roast beef will be needed? Between what two whole numbers does your answer lie?) (CCGPS) (4MA_C2012-29/MCC4.NF.4_c)
- express a fraction with denominator 10 as an equivalent fraction with denominator 100, and use this technique to add two fractions with respective denominators 10 and 100 (e.g., express $3/10$ as $30/100$ and add $3/10 + 4/100 = 34/100$) (CCGPS) (4MA_C2012-30/MCC4.NF.5)
- use decimal notation for fractions with denominators 10 or 100 (e.g., rewrite 0.62 as $62/100$; describe a length as 0.62 meters; locate 0.62 on a number line diagram) (CCGPS) (4MA_C2012-31/MCC4.NF.6)
- read, write, order, and compare place value of decimals to hundredths, using $<$, $>$, or $=$, by reasoning about their size and justify the conclusions using a visual model (CCGPS) (4MA_C2012-32/MCC4.NF.7)

D - Measurement and Data

- compare one unit to another within a single system of linear measurement and record measurement equivalents in a two-column table, including kilometer, meter, centimeter, yard, foot, inch. (e.g., 1 foot is 12 times as long as 1 inch; express the length of a 4-foot snake as 48 inches.) (CCGPS) (4MA_D2012-33/MCC4.MD.1)
- compare one unit to another within a single system of capacity measurement and record measurement equivalents in a two-column table, including liter, milliliter, cup, pint, quart, gallon (CCGPS) (4MA_D2012-34/MCC4.MD.1)
- compare one unit to another within a single system of weight measurement and record measurement equivalents in a two-column table, including gram, kilogram, pound, and ounce (CCGPS) (4MA_D2012-35/MCC4.MD.1)
- solve word problems by applying the four operations to problems involving whole number, decimal and fractional distances, intervals of time, liquid volumes, masses of objects, and money (CCGPS) (4MA_D2012-36/MCC4.MD.2)
- represent measurement quantities using diagrams such as number line diagrams that feature a measurement scale (CCGPS) (4MA_D2012-37/MCC4.MD.2)
- apply the area and perimeter formulas for rectangles in real-world and mathematical problems (CCGPS) (4MA_D2012-38/MCC4.MD.3)
- solve problems involving addition and subtraction of fractions by using information presented in line plots (e.g., from a line plot find and interpret the difference in length between the longest and shortest specimens in an insect collection) (CCGPS) (4MA_D2012-39/MCC4.MD.4)

E - Geometry

- recognize angles as geometric shapes that are formed wherever two rays share a common endpoint and understand concepts of angle measurement (CCGPS) (4MA_E2012-40/MCC4.MD.5)
- recognize that an angle is measured with reference to a circle with its center at the common endpoint of the rays, by considering the fraction of the circular arc between the points where the two rays intersect the circle; an angle that turns through $\frac{1}{360}$ of a circle is called a “one-degree angle,” and can be used to measure angles (CCGPS) (4MA_E2012-41/MCC4.MD.5_a)
- recognize that an angle that turns through “n” one-degree angles is said to have an angle measure of “n” degrees (CCGPS) (4MA_E2012-42/MCC4.MD.5_b)
- measure and draw angles using tools such as a protractor or angle ruler (CCGPS) (4MA_E2012-43/MCC4.MD.6)
- model and explain angle measure as additive (e.g., when an angle is decomposed into non-overlapping parts, the angle measure of the whole is the sum of the angle measures of the parts) (CCGPS) (4MA_E2012-44/MCC4.MD.7)
- solve addition and subtraction problems to find unknown angles on a diagram in real-world and mathematical problems by using an equation with a symbol for the unknown angle measure (CCGPS) (4MA_E2012-45/MCC4.MD.7)
- draw points, lines, line segments, rays, angles (right, acute, obtuse), and perpendicular and parallel lines and identify these in two-dimensional figures (CCGPS) (4MA_E2012-46/MCC4.G.1)
- examine and compare angles in order to classify and identify two-dimensional figures by their angles to include right triangles (CCGPS) (4MA_E2012-47/MCC4.G.2)
- classify two-dimensional figures based on the presence or absence of parallel or perpendicular line segments, or the presence or absence of angles of a specified size (CCGPS) (4MA_E2012-48/MCC4.G.2)
- identify and draw lines of symmetry for two-dimensional figures (CCGPS) (4MA_E2012-49/MCC4.G.3)

Science

A - Characteristics of Science

- discuss the importance of curiosity, honesty, openness, and skepticism in science and exhibit these traits in efforts to understand how the world works (GPS, ITBS) (4SC_A2006-1)
- demonstrate knowledge of scientific processes and inquiry methods (GPS, ITBS) (4SC_A2006-2)

A - Characteristics of Science (*continued*)

- apply computation and estimation skills necessary for analyzing data and following scientific explanations (GPS, ITBS) (4SC_A2006-3)
- use tools and instruments for observing, measuring, and manipulating objects in scientific activities utilizing safe laboratory procedures (GPS, ITBS) (4SC_A2006-4)
- use the concepts of system, model, change, and scale when exploring scientific and technological matters (GPS, ITBS) (4SC_A2006-5)
- communicate scientific ideas and activities clearly (GPS, ITBS) (4SC_A2006-6)
- question scientific claims and arguments effectively (GPS, ITBS) (4SC_A2006-7)

B - Earth Science

- analyze the components of our solar system and their relationship to one another (GPS, ITBS) (4SC_B2006-8)
- analyze the role of relative position and motion in determining the sequence of the phases of the moon (GPS, ITBS) (4SC_B2006-9)
- differentiate between the states of water and how they relate to the water cycle and weather (GPS, ITBS) (4SC_B2006-10)
- analyze weather charts/maps and collect weather data to predict weather events and infer patterns and seasonal changes (GPS, ITBS) (4SC_B2006-11)

C - Physical Science

- investigate the nature of light using tools (mirrors, lenses, prisms) (GPS, ITBS) (4SC_C2006-12)
- investigate how sound is produced by vibrating objects (GPS, ITBS) (4SC_C2006-13)
- demonstrate the relationship between force and motion (GPS, ITBS) (4SC_C2006-14)

D - Life Science

- describe the roles of organisms and the flow of energy within an ecosystem (GPS, ITBS) (4SC_D2006-15)
- explain various factors (adaptation, variation, behavior, external features) that affect the survival or extinction of organisms (GPS, ITBS) (4SC_D2006-16)

Social Studies

A - Map and Globe Skills

- use cardinal directions (GPS) (4SS_A2008-1)
- use intermediate directions (GPS) (4SS_A2008-2)
- use a letter/number grid system to determine location (GPS) (4SS_A2008-3)
- compare and contrast the categories of natural, cultural, and political features found on maps (GPS) (4SS_A2008-4)
- use inch-to-inch map scale to determine distance on a map (GPS) (4SS_A2008-5)
- use map key/legend to acquire information from historical, physical, political, resource, product, and economic maps (GPS) (4SS_A2008-6)
- use a map to explain impact of geography on historical and current events (GPS) (4SS_A2008-7)
- draw conclusions and make generalizations based on information from maps (GPS) (4SS_A2008-8)
- use latitude and longitude to determine location (GPS) (4SS_A2008-9)
- use graphic scales to determine distances on a map (GPS) (4SS_A2008-10)
- compare maps of the same place at different points in time and from different perspectives to determine changes, identify trends, and generalize about activities (GPS) (4SS_A2008-11)
- compare maps with data sets (charts, tables, graphs) and/or readings to draw conclusions and make generalizations (GPS) (4SS_A2008-12)

B - Information Processing Skills

- compare similarities and differences (GPS) (4SS_B2008-13)
- organize items chronologically (GPS) (4SS_B2008-14)
- identify issues and/or problems and alternative solutions (GPS) (4SS_B2008-15)
- distinguish between fact and opinion (GPS) (4SS_B2008-16)
- identify main idea, detail, sequence of events, and cause and effect in a social studies context (GPS) (4SS_B2008-17)
- identify and use primary and secondary sources (GPS) (4SS_B2008-18)
- interpret timelines (GPS) (4SS_B2008-19)
- identify social studies reference resources to use for a specific purpose (GPS) (4SS_B2008-20)
- construct charts and tables (GPS) (4SS_B2008-21)
- analyze artifacts (GPS) (4SS_B2008-22)
- draw conclusions and make generalizations (GPS) (4SS_B2008-23)
- analyze graphs and diagrams (GPS) (4SS_B2008-24)
- translate dates into centuries, eras, or ages (GPS) (4SS_B2008-25)
- formulate appropriate research questions (GPS) (4SS_B2008-26)
- determine adequacy and/or relevancy of information (GPS) (4SS_B2008-27)
- check for consistency of information (GPS) (4SS_B2008-28)
- interpret political cartoons (GPS) (4SS_B2008-29)

C - Native American Cultures

- describe how early Native American cultures developed in North America (GPS) (4SS_C2008-30)
- locate important physical and man-made features in the United States (GPS) (4SS_C2008-31)

D - European Exploration in North America

- describe European exploration in North America (GPS) (4SS_D2008-32)
- compare and contrast examples of cooperation and conflict between Europeans and Native Americans (GPS) (4SS_D2008-33)
- name positive character traits of key historic figures and government leaders (honesty, patriotism, courage, trustworthiness) (GPS) (4SS_D2008-34)
- use the basic economic concepts of trade, opportunity cost, specialization, voluntary exchange, productivity, and price incentives to illustrate historical events (GPS) (4SS_D2008-35)

E - Colonial America

- explain the factors that shaped British Colonial America (GPS) (4SS_E2008-36)
- describe colonial life in America as experienced by various people, including large landowners, farmers, artisans, women, indentured servants, slaves, and Native Americans (GPS) (4SS_E2008-37)
- name positive traits of key historic figures and government leaders (honesty, patriotism, courage, trustworthiness) (GPS) (4SS_E2008-38)
- use basic economic concepts of trade, opportunity cost, specialization, voluntary exchange, productivity, and price incentives to illustrate historical events (GPS) (4SS_E2008-39)

F - The American Revolution

- trace the events that shaped the revolutionary movement in America (GPS) (4SS_F2008-40)
- explain the development of the Declaration of Independence (GPS) (4SS_F2008-41)
- describe the major events of the Revolution and explain the factors leading to American victory and British defeat (GPS) (4SS_F2008-42)
- describe key individuals in the American Revolution (GPS) (4SS_F2008-43)
- describe how physical systems affect human systems in regard to the American Revolution (GPS) (4SS_F2008-44)
- name positive character traits of key historic figures and government leaders (honesty, patriotism, courage, trustworthiness) associated with the American Revolution (GPS) (4SS_F2008-45)

F - The American Revolution (*continued*)

- use the basic economic concepts of trade, opportunity cost, specialization, voluntary exchange, productivity and price incentives to illustrate historical events specific to the American Revolution (GPS) (4SS_F2008-46)

G - The New Nation

- analyze the challenges faced by the new nation (GPS) (4SS_G2008-47)
- differentiate natural rights as found in the Declaration of Independence (the right to life, liberty, and the pursuit of happiness) (GPS) (4SS_G2008-48)
- compare and contrast “We the People” from the Preamble to the U.S. Constitution as a reflection of consent of the governed or popular sovereignty (GPS) (4SS_G2008-49)
- explain the federal system of government in the U.S. (GPS) (4SS_G2008-50)
- discuss the importance of freedom of expression as guaranteed by the First Amendment to the U.S. Constitution (GPS) (4SS_G2008-51)
- describe the functions of the government (GPS) (4SS_G2008-52)
- explain the importance of Americans sharing certain central democratic beliefs and principles, both personal and civic (GPS) (4SS_G2008-53)
- describe how physical systems affect human systems in regard to development of a new nation (GPS) (4SS_G2008-54)
- use the basic economic concepts of trade, opportunity cost, specialization, voluntary exchange, productivity, and price incentives to illustrate historical events specific to the development of a new nation (GPS) (4SS_G2008-55)

H - Westward Expansion

- explain westward expansion of America between 1801 and 1861 (GPS) (4SS_H2008-56)
- describe the economic conditions and the effect on growth and expansion (GPS) (4SS_H2008-57)
- locate important physical and man-made features in the United States (GPS) (4SS_H2008-58)
- describe how physical systems affect human systems in regard to westward expansion (GPS) (4SS_H2008-59)

I - Reform Movements

- examine the main ideas of the abolitionist and suffrage movements (GPS) (4SS_I2008-60)
- name positive character traits of key historic figures and government leaders (honesty, patriotism, courage, trustworthiness) associated with the reform movements (GPS) (4SS_I2008-61)
- use the basic economic concepts of trade, opportunity cost, specialization, voluntary exchange, productivity, and price incentives to illustrate historical events specific to the reform movements (GPS) (4SS_I2008-62)

J - Personal Finance

- identify the elements of a personal budget and explain why personal spending and saving decisions are important (GPS) (4SS_J2008-63)

General Music

A - Skills and Techniques/Performance

- sing, alone and with others, a varied repertoire of music (GPS) (4GM_A2011-1)
- perform on instruments, alone and with others, a varied repertoire of music (GPS) (4GM_A2011-2)
- read and notate music (GPS) (4GM_A2011-3)

B - Creative Expression and Communication

- improvise melodies, variations, and accompaniments (GPS) (4GM_B2011-4)
- compose and arrange music within specified guidelines (GPS) (4GM_B2011-5)

C - Critical Analysis/Investigation

- listen to, analyze, and describe music (GPS) (4GM_C2011-6)
- evaluate music and music performances (GPS) (4GM_C2011-7)

D - Cultural and Historical Context

- understand relationships between music, the other arts, and disciplines outside the arts (GPS) (4GM_D2011-8)
- understand music in relation to history and culture (GPS) (4GM_D2011-9)
- move, alone and with others, to a varied repertoire of music (GPS) (4GM_D2011-10)

Health

A - First Aid

- apply appropriate first aid procedures for treating bleeding wounds (4HE_A2009-1)

B - Safety

- describe how each person can impact the health and safety of others (GPS) (4HE_B2009-2)

C - Personal Care

- explain the influence of rest, food choices, exercise, sleep, and recreation on a person's well-being (GPS) (4HE_C2009-3)
- set a personal health goal based on an individual health risk assessment and make progress toward its achievement (GPS) (4HE_C2009-4)

D - Disease Prevention

- recognize diseases/illnesses and discuss methods of prevention (GPS) (4HE_D2009-5)

E - Tobacco, Alcohol, and Other Drugs

- examine the effects of tobacco products on the circulatory and respiratory systems (GPS) (4HE_E2009-6)
- examine the harmful effects of marijuana, hallucinogens, amphetamines, and inhalants on the body (GPS) (4HE_E2009-7)
- explain the safe and appropriate use of over-the-counter drugs (GPS) (4HE_E2009-8)
- critique advertisements and commercials which encourage the use of medicines, tobacco, and alcohol (GPS) (4HE_E2009-9)

F - Nutrition

- detect the short- and long-term effects that diet and physical activity have on health (GPS) (4HE_F2009-10)

G - Emotional Expression/Mental Health

- describe ways to resolve conflicts without fighting (GPS) (4HE_G2009-11)
- develop and practice skills that communicate care, consideration, and respect of self and others, including those with disabilities (GPS) (4HE_G2009-12)

H - Family Life

- recognize the importance of the role that mothers and fathers play in the nurturing, guidance, care, and support of a child (4HE_H2009-13)
- explore the concept of basic physical and emotional changes related to maturity (4HE_H2009-14)

I - Applied Anatomy and Physiology

- identify the parts and major functions of the digestive system (4HE_I2009-15)

Physical Education

A - Fitness

- participate in health-enhancing fitness activities (GPS) (4PE_A2009-1)
- demonstrate progress toward meeting health-related fitness standards as defined by research (GPS) (4PE_A2009-2)

B - Motor Skills and Movement Patterns

- exhibit combinations of locomotor patterns (GPS) (4PE_B2009-3)
- demonstrate static and dynamic balances incorporating directional changes and various movement levels (GPS) (4PE_B2009-4)
- demonstrate a combination of throwing and catching skills (GPS) (4PE_B2009-5)

C - Movement Concepts and Principles

- create and demonstrate movement sequences to a rhythm (GPS) (4PE_C2009-6)
- design and perform sequences involving rolling and weight transfer (GPS) (4PE_C2009-7)

D - Personal and Social Behavior

- demonstrate progress and accuracy striking with body parts and implements (GPS) (4PE_D2009-8)
- create relationships by understanding self, space, and equipment (GPS) (4PE_D2009-9)
- demonstrate and identify the purposes for activities while following rules to games and using game-play etiquette (GPS) (4PE_D2009-10)

Visual Arts

A - Meaning and Idea/Creative Thinking

- engage in the creative process to generate and visualize ideas (GPS) (4VA_A2011-1)
- formulate personal responses to visual imagery (GPS) (4VA_A2011-2)
- select and use subject matter, symbols, and/or ideas to communicate meaning (GPS) (4VA_A2011-3)

B - Contextual Understanding

- investigate and discover the personal relationship of the artist to the community, culture, and world through the study and creation of art (GPS) (4VA_B2011-4)
- view, discuss, and critique selected artworks (GPS) (4VA_B2011-5)

C - Production

- create artwork based on personal experience and selected themes (GPS) (4VA_C2011-6)
- explore and apply media, techniques, and processes of two-dimensional art processes (drawing, painting, printmaking, mixed-media) using tools and materials in a safe and appropriate manner to develop skills (GPS) (4VA_C2011-7)
- explore and apply media, techniques, and processes of three-dimensional works of art (ceramics, sculpture, crafts, and mixed-media) using tools and materials in a safe and appropriate manner to develop skills (GPS) (4VA_C2011-8)
- plan and participate in appropriate exhibition(s) of artworks (GPS) (4VA_C2011-9)

D - Assessment and Reflection

- explore and discuss art portfolios (GPS) (4VA_D2011-10)
- utilize a variety of approaches to understand and critique works of art (GPS) (4VA_D2011-11)
- explain how selected elements and principles of design are used in an artwork to convey meaning (GPS) (4VA_D2011-12)

E - Connections

- apply information and processes from other disciplines to enhance the understanding and production of artworks (GPS) (4VA_E2011-13)
- develop life skills through the study and production of art (GPS) (4VA_E2011-14)

Fry Words by Spelling Stages

The spelling stages begin with Stage 1 and continue through Stage 5. Stage 1 is not a list of words, but is a learning process that requires students to become proficient in phoneme awareness— the ability to hear sounds in words. Once students have developed this awareness, they begin to match sounds with letters to spell words, which is the beginning of Stage 2. Stages do not represent specific grade levels but instead the developmental stages of spelling.

Irregularly Spelled Words		
eye	gone	they
give	great	though
very	have	thought
a	here	to
add	I	touch
again	key	two
against	laughed	want
any	length	war
are	live	warm
been	love	was
blood	many	wear
bought	move	were
break	of	what
brought	off	where
build	oh	who
built	on	whose
buy	once	shall
come	one	you
do	poem	young
does	said	your
done	seven	half
else	some	
four	son	
from	their	
front	them	
full	there	

Fry Words by Spelling Stage					
Stage 2					
act	did	has	lot	ship	then
all	dog	hat	man	shop	thin
am	dress	held	map	sing	thing
an	drop	help	men	sit	think
and	end	hill	milk	six	this
as	fact	him	miss	skin	thus
at	fall	his	much	small	top
bad	fast	hit	must	smell	trip
ball	fell	hot	next	soft	up
bank	felt	if	not	song	us
bed	fig	in	past	spell	wall
bell	fish	is	plan	spot	well
best	fit	it	plant	stand	went
big	flat	let	put	step	west
bill	fresh	job	ran	still	when
bit	fun	just	red	stop	which
box	gas	kept	rest	such	will
bring	get	king	rich	sum	win
but	glass	land	ring	sun	wind
call	God	last	run	swim	wish
can	got	led	sand	tall	with
cat	grass	left	sat	tell	yet
class	guess	less	sell	ten	yes
cost	gun	list	send	test	
cross	had	long	sent	than	
cut	hand	lost	set	that	

Fry Words by Spelling Stage												
Stage 3												
age	came	crowd	fight	group	knew	mean	paint	room	show	stood	train	won't
air	can't	dance	filled	grow	know	meat	pair	root	shown	store	tree	wood
art	care	dark	find	hair	known	meet	park	rope	side	straight	truck	word
ask	case	day	fine	feel	lake	might	part	rose	sight	strange	true	work
back	catch	dead	first	hard	large	mind	pay	round	sign	stream	try	world
base	caught	deal	five	he	law	mine	per	row	since	street	tube	would
be	cause	death	floor	head	lay	moon	phrase	rule	sir	string	turn	wouldn't
bear	chance	deep	flow	heard	lead	more	picked	safe	size	strong	type	write
beat	change	didn't	fly	heart	learn	most	piece	sail	sky	sure	use	wrong
black	chart	died	food	heat	least	mouth	place	same	sleep	tail	verb	wrote
block	check	doesn't	foot	her	leave	my	plane	save	smiled	take	view	yard
blow	chief	door	for	high	let's	name	play	saw	snow	talk	voice	year
blue	child	down	force	hold	lie	need	please	say	so	team	wait	you're
board	choose	draw	form	hole	life	new	point	scale	soil	the	walk	face
boat	church	drive	found	home	lifted	night	pole	school	soon	these	wash	late
book	clean	dry	France	hope	light	no	poor	score	sound	thick	wasn't	
born	clear	each	free	horse	like	nor	printed	sea	south	third	watch	
boy	climbed	earth	French	house	line	north	pulled	seat	space	those	way	
bright	close	east	fruit	how	look	nose	pushed	see	speak	three	we	
brown	cloud	eat	game	huge	loud	note	quite	seem	speed	through	week	
by	coast	edge	gave	ice	low	noun	race	seen	spread	tied	weight	
both	cold	eight	girl	I'll	made	now	rain	serve	spring	time	we'll	
car	cook	fair	go	isn't	main	oil	read	real	square	told	white	
don't	cool	far	gold	it's	make	old	ride	shape	start	tone	whole	
fire	corn	farm	good	joined	march	or	right	sharp	state	too	why	
hear	could	fear	Greek	jumped	mark	our	rise	she	stay	took	wide	
mile	couldn't	feet	green	keep	match	out	road	short	steel	town	wife	
near	count	few	grew	killed	may	own	rock	should	stick	track	wild	
while	cried	field	ground	kind	me	page	rolled	shouted	stone	trade	wire	

Fry Words by Spelling Stage											
Stage 4											
above	anything	branches	cotton	entered	flowers	itself	morning	picture	seeds	symbols	weather
along	appear	British	country	entire	follow	Japanese	mother	plains	settled	system	western
another	apple	broken	course	equal	forest	lady	music	planets	several	table	wheels
carry	area	brother	covered	especially	forward	language	never	plural	shoes	teacher	whether
children	arms	building	cows	Europe	friends	later	northern	possible	shoulder	themselves	window
idea	army	burning	create	even	garden	legs	nothing	pounds	similar	thousands	wings
able	around	business	crops	evening	general	letter	notice	power	simple	tiny	winter
about	arrived	cannot	decided	ever	happened	doctor	number	practice	single	today	within
across	away	carefully	decimal	every	happy	level	object	prepared	sister	together	without
actually	baby	cattle	details	everyone	heavy	listen	observe	pretty	slowly	tools	woman
afraid	became	cells	developed	everything	himself	little	ocean	probably	soldiers	total	women
Africa	because	center	difficult	exactly	hours	machine	office	problem	someone	toward	wonder
after	become	cents	discovered	example	however	major	often	process	something	travel	workers
ago	before	circle	divided	except	human	material	only	quickly	sometimes	trouble	written
agreed	began	city	dollars	exciting	hundred	matter	open	radio	southern	uncle	yourself
ahead	begin	clothes	drawing	exercise	hunting	maybe	order	raised	special	under	
afternoon	behind	color	during	expect	inches	measure	other	rather	stars	underline	
almost	being	column	early	explain	increase	melody	outside	reached	story	until	
alone	believe	common	ears	yellow	Indian	members	over	ready	stretched	upon	
already	belong	company	easy	family	indicate	metal	oxygen		study	usually	
also	below	compare	eggs	famous	industry	method	paper	reason	subject	valley	
although	beside	complete	either	farmers	inside	middle	particular	received	suddenly	various	
always	better	compound	electric	father	instead	million	party	remain	suffix	village	
America	between	consider	energy	feeling	interest	modern	passed	repeated	sugar	visit	
among	birds	continued	engine	figure	interesting	molecules	pattern	return	summer	vowel	
amount	body	control	English	finally	into	moment	people	rhythm	surface	Washington	
angle	bones	copy	enjoy	fingers	iron	money	perhaps	river	surprise	water	
answer	bottom	corner	enough	finished	island	months	person	second	syllables	waves	

Fry Words by Spelling Stage			
Stage 5			
action	equation	produce	terms
addition	experience	products	triangle
adjective	experiment	property	understand
animal	express	provide	unit
beautiful	factories	question	value
capital	factors	quiet	
captain	fraction	record	
century	government	region	
certain	history	remember	
conditions	important	report	
consonant	include	represent	
contain	information	result	
correct	insects	science	
current	instruments	scientists	
describe	located	section	
desert	minutes	sense	
design	mountain	sentence	
determine	movement	separate	
dictionary	nation	silent	
difference	natural	solution	
different	necessary	solve	
direct	numeral	statement	
direction	opposite	students	
distance	paragraph	substances	
division	period	suggested	
effect	position	supply	
elements	present	suppose	
England	president	temperature	



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