



What Your Child Will Learn in Grade 4

HOWARD COUNTY
PUBLIC SCHOOL SYSTEM

2012-2013

Includes *How to Help Your Child at Home*

COMMON CORE STANDARDS

The Common Core State Standards Initiative is a state-led effort coordinated by the National Governors Association Center for Best Practices (NGA Center) and the Council of Chief State School Officers (CCSSO). The standards were developed in collaboration with teachers, school administrators, and experts to provide a clear and consistent framework to prepare our children for college and the workforce.

These standards define the knowledge and skills students should have within their K-12 education experience so that they will graduate from high school able to succeed in entry-level, credit-bearing academic college courses and in workforce training programs. The standards are informed by the highest, most effective models from states across the country and countries around the world. They provide teachers and parents with a common understanding of what students are expected to learn and provide appropriate benchmarks for all students, regardless of where they live.

Source: <http://www.corestandards.org/about-the-standards>

MARYLAND COMMON CORE STATE CURRICULUM

Following the adoption of the Common Core Standards, the Maryland Department of Education launched a broad-based, year-long process to analyze the new Standards and compare the alignment of the existing State Curriculum to the Common Core State Standards. As a result, the Maryland Department of Education developed the Maryland Common Core Curriculum Frameworks. These Frameworks in English/Language Arts and Mathematics define the essential skills and knowledge that students need to know and be able to do in order to achieve the academic goals of the Common Core State Standards. The Frameworks are the foundation of Maryland's new Curriculum and have guided the development of curriculum resources.

The Common Core State Standards:

- Are evidence-based.
- Are aligned with college and work expectations.
- Are clear, understandable, and consistent.
- Include rigorous content and application of knowledge through high-order skills.
- Build upon strengths and lessons of current state standards.
- Are informed by other top performing countries, so that all students are prepared to succeed in our global economy and society.

What Your Child Will Learn

Language Arts

Demonstrate Phonics and Word Recognition

- Use combined knowledge of all letter-sound correspondences, syllabication patterns (e.g., when two consonants come between two vowels in a word, divide syllables between the consonants, like *bor-der*) and morphology (e.g., roots, prefixes, and suffixes) to read unfamiliar words with multiple syllables.

Demonstrate Fluency

- Read with sufficient accuracy and fluency to support comprehension.

Demonstrate Comprehension of Literature

- Refer to details and examples in a text explaining what is directly stated in the text and making inferences.
- Determine a theme of a story, drama, or poem and summarize the text.
- Describe in depth a character, setting, or event in a text.
- Compare and contrast the point of view from which different stories are narrated.
- Compare and contrast texts that have similar themes and topics, including stories, myths, and traditional literature (e.g., folktales, legends) from different cultures.

Demonstrate Comprehension of Informational Text

- Refer to details and examples in a text when making inferences and explaining what is directly stated in the text.
- Determine the main idea of a text and explain how key details support the idea. Summarize the text.
- Describe the overall structure (e.g., sequential, cause/effect, problem/solution) of a text or part of a text.
- Explain how an author uses reasons and evidence to support particular points in a text.
- Combine information from two texts on the same topic in order to write or speak about the subject.

Respond to Text in Writing in a Variety of Ways

- Write opinion pieces on topics or texts supporting a point of view with reasons and information. Introduce the topic or text clearly, state an opinion, and organize the ideas to support the purpose for writing. Provide reasons that are supported by facts and details and provide a concluding statement or section.
- Write informative texts to examine a topic. Introduce the topic clearly and group related information. Develop the topic with facts, definitions, concrete details, quotations, and other information, and provide a concluding statement or section.
- Write narratives to develop real or imagined experiences or events using effective technique, descriptive details, and clear event sequences. Introduce a narrator or characters and organize events naturally. Use dialogue and description, as well as concrete words, phrases, and sensory images to develop experiences. Provide a conclusion that follows from the narrated experiences and events.

Demonstrate Comprehension and Collaboration When Listening

- Engage effectively in a range of collaborative discussions.
- Paraphrase portions of a text read aloud or information presented in diverse media and formats.
- Identify the reasons and evidence a speaker provides to support particular points.

Present Knowledge and Ideas Through Speaking

- Report on a topic or text, tell a story, or recount an experience in an organized manner using appropriate facts and relevant and descriptive details.

Demonstrate Conventions of Standard English When Writing or Speaking

- Use correct capitalization.
- Use commas and quotation marks to mark direct speech and quotations from a text.
- Use a comma before a coordinating conjunction in a compound sentence.
- Spell grade-appropriate words correctly, consulting references as needed.

Acquire and Use Vocabulary

- Determine the meaning of unknown and multiple meaning words using context clues, common grade-appropriate Greek and Latin prefixes, suffixes and roots, and reference materials (e.g., dictionaries, glossaries, thesauruses).
- Demonstrate an understanding of figurative language, word relationships, and nuances in word meanings, including similes, metaphors, common idioms (e.g., *raining like cats and dogs*), adages, and proverbs (e.g., *The early bird gets the worm*).

What Your Child Will Learn

Mathematics

Standards for Mathematical Practice

- Make sense of problems and persevere in solving them.
- Reason abstractly and quantitatively.
- Construct viable arguments and critique the reasoning of others.
- Model with mathematics.
- Use appropriate tools strategically.
- Attend to precision.
- Look for and make use of structure.
- Look for and express regularity in repeated reasoning.

Algebra, Patterns, and Functions

- Identify, describe, extend, and create a variety of non-numeric and numeric patterns.
- State the rule for a given pattern.
- Express numeric relationships using $<$, $>$, and $=$.
- Complete a function table when given the rule.
- Identify the ordered pair for a point and locate the point for an ordered pair in the first quadrant of a coordinate plane.

Number Relationships and Operations

- Develop an understanding of numbers using real-world situations and physical materials.
- Name and write numbers to 1,000,000.
- Apply memorized addition, subtraction, and multiplication facts.
- Determine common factors for numbers.
- Add and subtract decimals through hundredths.
- Demonstrate an understanding of various meanings of addition and subtraction.
- Add and subtract four-digit numbers with regrouping.
- Multiply four-digit by one-digit numbers.
- Divide four-digit numbers by one-digit with remainders.
- Find averages.
- Add and subtract like fractions.

Geometry

- Compare two- and three-dimensional figures.
- Describe characteristics of shapes including congruency, similarity, and symmetry.
- Label angles.
- Distinguish between similar and congruent figures.
- Apply flips, slides, and rotations to two- and three-dimensional figures.
- Identify radius, diameter, and chord of a circle.

Measurement

- Use a variety of measurements to solve real-world problems.
- Choose the appropriate unit of measurement, estimate, and then measure.
- Compare temperatures.
- Tell time to one minute.
- Tell time from a digital and analog clock.
- Determine elapsed time.

- Solve real-life problems involving area, perimeter, and volume.
- Investigate the relationship between area and perimeter.

Data Analysis and Probability

- Collect, organize, and display data.
- Interpret information from a display, observe patterns, and make predictions.
- Collect and interpret data in line graphs and circle graphs.
- Conduct and interpret surveys.
- Determine a method of collecting and analyzing data.
- Observe patterns, make predictions, and apply basic probability concepts to problem-solving situations.
- Determine outcomes using tree diagrams.
- State probability as a fraction.

Science

Life Science: Impact of the Environment

- Observe that organisms have different structures that perform specific functions in growth and survival.
- Explain that organisms have characteristics that help them survive in specific environments.
- Explain how the food chain illustrates the interdependence of plants and animals.

Earth and Space Science: Changing Earth

- Observe, classify, and collect evidence about the Earth's composition.
- Describe effects of weathering, erosion, volcanic activity, earthquakes, and sedimentation on the Earth's surface.
- Describe the effects of gravity on objects on or near the Earth.
- Observe models of the solar system to compare the location, properties, movements of the Earth, and other planets.

Physical Science: Electricity

- Create series circuits using wires, bulbs, bulb holders, and dry cells (batteries).
- Observe and describe the flow of energy through simple and series circuits.
- Observe and explain energy conduction through liquid solutions, magnetic force fields, and electromagnets.
- Observe and describe the effects of static electric charges.

Social Studies

Unit 1: Maryland: The First People

Students will:

- Describe the natural features of Maryland's three geographic regions.
- Learn about various aspects of Native American culture.
- Describe the motives and consequences of European exploration and interactions with native peoples.

Unit 2: Maryland: From Settlement to State (1630-1800)

- Identify the motives of different groups who migrated to the Maryland colony.
- Describe the contributions of past Maryland leaders and the structure of early government.
- Describe the establishment of slavery and how it shaped life in Maryland.

What Your Child Will Learn

- Identify the locations of settlements in Colonial Maryland.
- Describe the Maryland colonists' reaction to events that led to the American Revolutionary War.

Unit 3: Maryland: Growth and Change (1800-1875)

- Explain Maryland's role in the War of 1812 and the contribution of individuals and groups, such as Francis Scott Key, Benjamin Banneker, Mary Pickersgill, Frederick Douglass, Harriett Tubman, Freedmen's Bureau, and Clara Barton.
- Describe the changes in industry, transportation, education, rights, and freedoms in Maryland, such as roads and canals, slavery, B&O railroad, the National Road, immigration, public schools, and religious freedoms.
- Explain how changes in transportation and communication led to growth and development of towns and cities in Maryland.
- Describe the abolitionist movement in Maryland and the conditions that promoted the growth of the Underground Railroad in Maryland.

Unit 4: Maryland: Modern Maryland (1870-Present)

- Identify reasons for the movement of people to, from, and within Maryland and how geographic characteristics affect how people live and work.
- Explain how the growth of communities and suburbanization have changed the environment.
- Describe technological changes in transportation and communication over time.
- Analyze the powers, functions, and organization of the Maryland General Assembly.
- Identify the role of local and state governments in Maryland's economy.
- Describe the ways people can participate in the political process including voting, petitioning elected officials, and volunteering.
- Apply financial literacy reasoning in order to make informed, financially responsible decisions.
- Relate choices regarding education and career paths to earning potential.
- Develop skills to plan and manage money effectively by identifying financial goals and developing spending plans.
- Develop skills to make informed decisions about incurring debt and maintaining credit worthiness.
- Develop skills to plan and achieve long-term goals related to saving and investing in order to build financial security and wealth.
- Develop financial planning skills to minimize financial setbacks.

Health

Disease Prevention and Control

- Differentiate between communicable and noncommunicable diseases including HIV/AIDS.
- Discuss causes and transmission of diseases.
- Identify proper handling of blood.
- Discuss the immune system, disease control, and prevention.
- Analyze personal daily habits that increase the risk of developing a disease.
- Locate resources that provide valid health information and services.

Nutrition and Fitness

- Utilize nutritional information contained on labels to make healthy decisions.

- Recognize the impact of physical activity, rest, and diet on efficient body functioning.
- Identify essential nutrients and their contributions to a healthy body.
- Explain the relationship among caloric intake, exercise, and weight.
- Using dietary guidelines, develop a plan for improving two personal eating habits.

Safety, First Aid, and Injury Prevention

- Develop a plan to respond safely to potentially dangerous situations.
- Demonstrate healthy ways to communicate needs, wants, emotions, information, and opinions.
- Explore and apply conflict resolution strategies for name-calling, bullying, and harassment.
- Identify and define the four types of child abuse.
- Explain the effects of abuse and assault on personal well being.
- Identify prevention and intervention strategies against molestation.
- Use appropriate verbal and nonverbal responses to prevent child abuse.

Educational Technology

Technology Operations and Concepts

- Identify and describe the basic functions and parts of a computer system such as a monitor, keyboard, mouse, and CD-ROM or DVD drive.
- Store and save data on electronic devices with assistance.

Digital Citizenship

- When researching, list appropriate copyrighted electronic sources.
- Respect information privacy, using and altering information only when authorized.
- Abide by copyright laws involving software use.

Communication and Collaboration

- Become familiar with keyboarding functions.
- Use word processing software to create and print documents.
- Use a graphics program to create an original picture.
- Create a document that includes words and pictures.
- Use a graphing program, with assistance, to construct tables and graphs.
- Create a multimedia presentation using various features (such as text and images).
- Recognize technology's role in telecommunication.
- Communicate ideas or information using technology.
- Use various media and formats for multiple purposes.

Research and Information Fluency

- Identify, obtain, and use information from electronic data sources such as CD-ROMs, databases, and the Internet.

Critical Thinking, Problem Solving, and Decision Making

- Solve real world problems using technology as a tool.
- Make informed decisions using technology as a tool.

Creativity and Innovation

- Demonstrate creative thinking, construct knowledge, and develop innovative products and processes using technology.

What Your Child Will Learn

Art

Drawing

- Use lines and drawing techniques to represent forms in the environment.
- Apply drawing techniques to show a center of interest.
- Use drawing tools and techniques to unify a composition.

Painting

- Identify and organize colors into groups or schemes.
- Select and use a color scheme to represent a mood or meaning in a painting.
- Use painting techniques and color theory to show a center of interest in a composition.

Printmaking

- Repeat art elements to achieve unity in printmaking.
- Select and apply ways to show a center of interest within a composition using a relief or stencil method.

Sculpture

- Identify and apply sculptural techniques and design principles that have been used in three-dimensional forms.
- Describe and use additive and subtractive approaches to make three-dimensional forms.
- Identify and use techniques to achieve repetition in the design and construction of a sculpture that moves.

Crafts

- Use tools and techniques to emphasize surface texture in a craft object.
- Identify and use several approaches in making a single craft object.

Music

Melody

- Perform simple pitch notation on the treble staff in the Key of C major using solfeggio or a comparable system.
- Sing and play a variety of music with accurate intonation and timbre.
- Perform singing games from different cultures.
- Notate simple improvised melodies on the treble staff using standard notation.

Harmony and Texture

- Sing partner songs with descants.
- Perform melodically correct ostinati or chordal accompaniment pattern while other students sing or play contrasting parts.
- Read standard chordal symbols and play on classroom instruments (I and V chords).

Tone Color

- Identify various world instruments.
- Listen to and identify soprano, alto, tenor, and bass voices.

Tempo

- Listen to, perform, and describe music that includes *presto*, *moderato*, and *largo*.
- Sing and play a variety of music at a given tempi.

Rhythm

- Describe sounds heard with attention to rhythm.
- Perform accurately simple rhythm at sight from standard notation: tied notes (whole, half and quarter combination).
- Perform rhythmically correct ostinati while other students sing or play contrasting patterns.

- Write simple rhythm patterns from dictation using whole, half quarter, two connected eighth notes, and corresponding rest in 2/4 and 3/4 time.

Movement

- Perform singing games and traditional dances from a variety of world cultures.
- Conduct music in meter in four.

Dynamics

- Sing and/or play in groups matching dynamics levels responding to the conducting cues from the teacher.

Form

- Identify sonata, suite, and overture when presented aurally and visually.

Physical Education

Movement

- Perform throwing, catching, and kicking with correct form.
- Perform balancing using a variety of equipment (balance beam, balance board, pogo ball).
- Transfer weight from feet to hands (cartwheel, handstand, mule kick).
- Strike an object with a bat, stick, paddle, or body part.

Attitudes

- Maintain control (strategies and skills) while in a challenging situation (teamwork).
- Accept the skills and abilities of others.
- Assess performance problems fairly.

Fitness

- Participate regularly in physical activity.
- Describe the benefits of regular exercise.
- Lift, support, and control body weight through gymnastic activities.
- Participate in a health-related personal fitness test to work toward achieving fitness scores at an acceptable level (muscular strength, flexibility, endurance, body composition, and aerobic capacity).
- Assess physical activity by using pedometers to count steps and measure activity times.



Gifted and Talented (G/T)

The G/T Program provides a continuum of services that include the G/T Mathematics Program, Curriculum Extension Units, Research Investigations, and Instructional Seminars. G/T resource teachers provide instruction for participating students.

What Your Child Will Learn

HOW TO HELP YOUR CHILD

Library Media

Inquiry Process

- Identify information needs.
- Create, refine, and use criteria to guide the research process.
- Follow systematic problem-solving steps using the Big6 process.

Locate and Evaluate Resources and Sources

- Identify the sections of the library media center and the attributes of the resources in each section.
- Identify and use a wide variety of resources.
- Use the library media center's catalog to locate sources to meet the information need.
- Evaluate potential sources for the information need.
- Use text features to select appropriate sources.
- Identify and follow the district's Acceptable Use Policy and school-based computer use rules.
- Learn to use safe practices online.

Find, Generate, Record, and Organize Data/Information

- Use keywords for finding answers to questions.
- Utilize effective search strategies for collecting relevant information from sources.
- Use technology tools to find, record, and organize data/information within sources.
- Learn to recognize information being sought in resources.
- Differentiate between fact and opinion.
- Avoid plagiarism by correctly recording relevant information and keeping track of sources used.
- Use a variety of formats for recording and organizing data/information.
- Create a source list using an accepted citation style.
- Match appropriate format with content to be organized.

Interpret Recorded Data/Information

- Identify the main ideas of recorded information.
- Apply critical thinking and problem-solving strategies.
- Create new understanding and knowledge related to the information need.

Share Findings/Conclusions

- Use a variety of formats to share information learned.
- Discuss and apply fair use, copyright laws, and Creative Commons attributions.
- Reflect on and provide feedback about the research process and the information product.

Literature Appreciation and Life-long Learning

- Read, listen to, view, and discuss stories that reflect human experiences.
- Make literature connections to self, other literature, multimedia, and the world.
- Use libraries for personal or assigned needs.
- Utilize library circulation procedures and policies to access reading materials.
- Locate and select literature and/or multimedia in a variety of genres.
- Recognize the connection between reading and being a lifelong learner.

ART

- Set aside an area for artwork to be done.
- Provide a variety of tools and materials for your child to use, such as colored pencils, yarn, crayons, water-based markers, fabric scraps, tissue paper, weaving and stitchery supplies, blunt-tipped scissors, paper, and glue. Encourage your child to experiment with new art forms such as fabric dyeing, papermaking, and sculptures that move.
- Praise and display your child's work in special places.
- Work with your child to make drawings from observation, imagination, and memory.
- Encourage your child to make artwork often that can be shared with family and friends.
- Visit galleries and museums and discuss with your child the similarities and differences between other cultures and your own.
- Visit the library and take a look at books that picture master artworks with objects that are familiar in the child's world. Encourage your child to use similar compositions and themes as he/she develops his/her own works of art.

EDUCATIONAL TECHNOLOGY

- Help your child identify the uses of technology in everyday life such as bar code readers at the grocery store, automatic teller machines, smart phones, and computerized gas pumps.
- Help your child use software programs appropriate for Grade 4, such as *Microsoft Office*, *Pixie*, *Type to Learn*, and *Kidspiration*.
- Practice computer skills with your child at home or at the library.
- Visit appropriate websites to help support the classroom instruction. The school system provides online resources to assist students (*SIRS Discoverer*, *Culture Grams*, and *World Book Online*). Check with the library media specialist at your school for access information.

HEALTH

- Help your child make healthy food choices by reading food labels together.
- Develop a plan for what to do in medical emergencies and for minor injuries.
- Practice ways to safely resolve conflicts with others.
- Discuss ways to prevent all types of child abuse.
- Assist your child in managing physical activity, diet, and rest to maintain a healthy lifestyle.
- Discuss behaviors that put children at risk of contracting and spreading diseases.
- Show compassion for people affected by disease.

**Make mistakes
a part of learning!**

HOW TO HELP YOUR CHILD at Home

LANGUAGE ARTS/LIBRARY MEDIA

- Read as often as possible with your child. Help your child use different ways to read unfamiliar words. When your child comes to an unfamiliar word say:
 - What would make sense in the sentence?
 - What parts of the word do you recognize?
 - Read to the end of the sentence and come back.
 - Think about what word would fit.
- Talk about books *before*, *during*, and *after* reading. Predict what might happen. Think about the characters and events. Have your child discuss what the author did to make the book interesting to read.
- Encourage your child to independently read at least 25 books annually.
- Have spelling resources for your child to use at home (personal spelling journal, children's dictionary).
- Encourage your child to apply spelling strategies and patterns he or she has learned.
- Provide an area for writing with materials and resources (pencils, pens, different kinds of paper, eraser).
- Assist your child in planning and organizing ideas before beginning to write. Then help your child refer to the plan when writing. Offer suggestions about the ideas, details, and organization of the writing before correcting punctuation, spelling, and capitalization.
- Assist your child when writing to include relevant information, details, and descriptive words.
- Establish a routine at home for reading.
- Read an action story or tale of adventure to replace an evening TV program.
- Be a role model. Let your child see you read for pleasure.
- Practice using the Big6 model for problem solving everyday life situations.
- Obtain a library card for your child, and schedule regular family visits to the library.
- Encourage your child to participate in age-appropriate activities sponsored by the public library.
- Encourage your child to utilize online homework help provided by Howard County Library.
- Look for computer programs that encourage reading.

MATHEMATICS

- Listen to your child explain how he or she solves math problems.
- Help your child name and write numbers up to 1,000,000.
- Practice addition and subtraction facts with your child.
- Help your child memorize multiplication and division facts.
- Help your child learn to multiply a four-digit by a one-digit number (2349 x 4).
- Help your child learn elapsed time. (How much time has passed between 8:45 a.m. and 11:23 a.m.?)
- Help your child learn to find the average of a set of numbers.
- Find opportunities to do math every day.
- Work on puzzles.
- Explore mathematics in books that you read together.
- Discuss the math that can be found in the media (new reports, newspaper articles, magazines).
- Make mistakes a part of learning.

MUSIC

- Listen with your child to recordings of music by well-known composers. Discuss the times and life of the composer.
- Encourage your child to participate in school chorus.
- If your child expresses particular interest, allow him or her to take private lessons on an instrument and to elect instrumental music at school.
- If your child expresses particular interest, provide opportunities for him or her to participate in outside musical groups, orchestras, community theater, and summer camps.
- Encourage your child to create movements that illustrate recognition of the elements of music in familiar songs and recorded examples.
- Ask your child to explain and demonstrate the music symbols used in the school music class.
- Attend concerts by a local high school band, symphony orchestra, or other instrumental ensemble and discuss the grouping of instruments based on how sound is produced (brass, woodwind, strings, percussion).

PHYSICAL EDUCATION

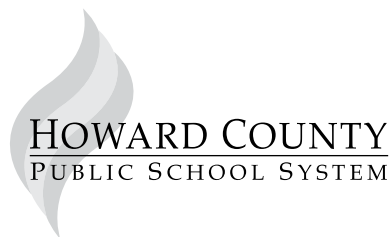
- Ask your child to perform a successful dribble using a basketball and soccer ball.
- If possible, provide opportunities for your child to skate and ride a bike.
- Have your child participate regularly in a physical activity to develop a healthy lifestyle.
- Walk or jog with your child, if possible.

SCIENCE

- Encourage your child to observe and describe the environment and discuss locations where humans have had a positive or negative effect on the environment. Work with your child to find ways they can have a positive effect on the environment.
- Discuss ways to save energy in the home.
- Have your child discuss ways to design an experiment to answer a question.
- Read articles and books about space, planets, and stars with your child.
- Read books about native plants in our area and plant a garden with native plants.
- Encourage your child to observe organisms outdoors and discuss examples of producers (plants), consumers (animals and insects), and decomposers (bacteria, fungi).

SOCIAL STUDIES

- Provide opportunities for your child to use maps to locate continents, oceans, and lines of latitude and longitude. Help your child read map symbols, use a compass rose, scale, and map key. Encourage your child to use maps, globes, and atlases to get information about the location and features of continents and countries.
- Read books about the founding and settlement of Maryland.
- Discuss with your child how the lifestyle, responsibilities, and rights of people living today compare with people living in other times.
- Identify taxes paid by your family (sales tax, income taxes, property taxes).
- Discuss the services in your community financed by taxes.
- Discuss the importance of the Chesapeake Bay to the economy of Maryland (a way to trade with cities and countries, jobs, fishing, boating, source of food).
- Visit Maryland historical sites, such as St. Mary's City and Fort McHenry, to learn more about Maryland's past.



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