

Grade 4 Parent's Guide to Marking Period 3

During Marking Period 3, students in Grade 4 receive instruction on the concepts and skills described below.

PLEASE NOTE: Skills and Concepts in *Italics* Are Taught but Not Graded on the Report Card.

4/5 MATHEMATICS

Operations and Algebraic Thinking

- Use parentheses, brackets, or braces in numerical expressions, and evaluate expressions with these symbols.
- Write simple expressions that record calculations with numbers, and interpret numerical expressions without evaluating them. For example, express the calculation “add 8 and 7, then multiply by 2” as $2 \times (8 + 7)$. Recognize that $3 \times (18,932 + 921)$ is three times as large as $18,932 + 921$, without having to calculate the indicated sum or product.
- Solve multistep word problems posed with whole numbers and having whole-number answers using the four operations, including problems in which remainders must be interpreted. Represent these problems using equations with a letter standing for the unknown quantity. Assess the reasonableness of answers using mental computation and estimation strategies, including rounding.
- Generate a number or shape pattern that follows a given rule. Identify apparent features of the pattern that were not explicit in the rule itself. For example, given the rule “Add 3” and the starting number 1, generate terms in the resulting sequence and observe that the terms appear to alternate between odd and even numbers. Explain informally why the numbers will continue to alternate in this way.

Numbers and Operations in Base 10

- Recognize that in a multi-digit number, a digit in one place represents 10 times as much as it represents in the place to its right and $1/10$ of what it represents in the place to its left.
- Explain patterns in the number of zeros of the product when multiplying a number by powers of 10, and patterns in the placement of the decimal point when a decimal is multiplied or divided by a power of 10. Use whole-number exponents to denote powers of 10.
- Read, write, and compare decimals to thousandths. Read and write decimals to thousandths using base 10 numerals, number names, and expanded form.
 - Compare two decimals to thousandths, based on meanings of the digits in each place, using $>$, $=$, and $<$ symbols to record the results of comparisons.
- Use place value understanding to round decimals to any place.
- Perform operations with multi-digit whole numbers and with decimals to hundredths.
- Fluently multiply multi-digit whole numbers using the standard algorithm.
- Add, subtract, multiply, and divide decimals to hundredths, using concrete models or drawings and strategies, based on place value, properties of operations, and/or the relationship between addition

and subtraction; relate the strategy to a written method and explain the reasoning used.

- Fluently add and subtract multi-digit whole numbers using the standard algorithm.
- 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. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models.
- Find 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. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models.

Numbers and Operations-Fractions

- 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.
- Use decimal notation for fractions with denominators 10 or 100. For example, rewrite 0.62 as $62/100$; describe a length as 0.62 meters; locate 0.62 on a number-line diagram.
- Compare two decimals to hundredths by reasoning about their size. Recognize that comparisons are valid only when the two decimals refer to the same whole. Record the results of comparisons with the symbols $>$, $=$, or $<$ and justify the conclusions by using a visual model.

Measurement and Data

- Use the four operations to solve word problems involving distances, intervals of time, liquid volumes, masses of objects, and money, including problems involving simple fractions or decimals, and problems that require expressing measurements given in a larger unit in terms of a smaller unit.
 - Represent measurement quantities using diagrams such as number line diagrams that feature a measurement scale.
- Recognize volume as an attribute of solid figures and understand concepts of volume measurement.
 - A cube with side length 1 unit, called a “unit cube,” is said to have “one cubic unit” of volume, and can be used to measure volume.
- A solid figure that can be packed without gaps or overlaps using n unit cubes is said to have a volume of n -cubic units.
- Measure volumes by counting unit cubes, using cubic cm, cubic in., cubic ft., and improvised units.
- Relate volume to the operations of multiplication and addition and solve real-world and mathematical problems involving volume.

- Find the volume of a right rectangular prism with whole-number side lengths by packing it with unit cubes, and show that the volume is the same as would be found by multiplying the edge lengths, equivalently by multiplying the height by the area of the base. Represent threefold whole-number products as volumes, to represent the associative property of multiplication.
- Apply the formulas $V = l \times w \times h$ and $V = b \times h$ for rectangular prisms to find volumes of right rectangular prisms with whole-number edge lengths, in the context of solving real-world and mathematical problems.
- Recognize volume as additive. Find volumes of solid figures composed of two non-overlapping right rectangular prisms by adding the volumes of the non-overlapping parts, applying this technique to solve real-world problems.

READING

Reading Comprehension: Literature

- Refer to details and examples in a text when explaining what the text says explicitly and when drawing inferences from the text.
- Determine a theme of a story, drama, or poem from details in the text; summarize the text.
- 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).
- 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).
- 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.
- 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.
- Read and comprehend literature appropriately complex for Grade 4.

Reading Comprehension: Informational

- Determine the main idea of a text and explain how it is supported by key details; summarize the text.
- 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.
- Determine the meaning of general academic and domain-specific words or phrases in a text relevant to a Grade 4 topic or subject area.
- 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.
- Compare and contrast a firsthand and secondhand account of the same event or topic; describe the differences in focus and the information provided.

- Integrate information from two texts on the same topic in order to write or speak about the subject knowledgeably.
- Read and comprehend informational texts appropriately complex for Grade 4.

Language: Vocabulary Acquisition and Use

- Identify the reasons and evidence a speaker provides to support particular points.
- 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.
- Acquire and use accurately grade-appropriate general academic and domain-specific words and phrases, including those that signal precise actions, emotions, or states of being (e.g., quizzed, whined, stammered) and that are basic to a particular topic (e.g., wildlife, conservation, and endangered when discussing animal preservation).

WRITING

Informative/Explanatory

- Introduce a topic clearly and group related information in paragraphs and sections; include formatting (e.g., headings), illustrations, and multimedia when useful to aiding comprehension.
- Develop the topic with facts, definitions, concrete details, quotations, or other information and examples related to the topic.
- Provide a concluding statement or section related to the information or explanation presented.

Narrative

- Write narratives to develop real or imagined experiences or events using effective technique, descriptive details, and clear event sequences.
- Use a variety of transitional words and phrases to sequence events.

Opinion

- Write opinion pieces on topics or texts, supporting a point of view with reasons and information.
- Introduce a topic or text clearly, state an opinion, and create an organizational structure in which related ideas are grouped to support the writer's opinion.
- Link opinion and reasons using words and phrases (e.g., for instance, in order to, in addition).
- Provide a concluding statement or section related to the opinion presented.

Process, Production, and Research

- Produce clear and coherent writing in which the development and organization are appropriate to task, purpose, and audience.
- With guidance and support from peers and adults, develop and strengthen writing as needed by planning, revising, and editing.
- With some guidance and support from adults, 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.

- Conduct short research projects that build knowledge through investigation of different aspects of a topic.
- 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.
- Draw evidence from literary or informational texts to support analysis, reflection, and research.

Use of Language

- 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.
- Demonstrate command of the conventions of Standard English grammar and usage when writing or speaking.
- Demonstrate command of the conventions of Standard English capitalization, punctuation, and spelling when writing.
- Use knowledge of language and its conventions when writing, speaking, reading, or listening.

SCIENCE

Earth and Space Science

- Develop a model using an example to describe ways the geosphere, biosphere, hydrosphere, and/or atmosphere interact.
- Generate and compare multiple solutions to reduce the impacts of natural Earth processes on humans.
- Obtain and combine information to describe that energy and fuels are derived from natural resources and their uses affect the environment.

SOCIAL STUDIES

Culture

- Describe the various cultures of early societies of Maryland.
- Analyze how Maryland society was influenced by the contributions of people and groups.
- Describe cultural characteristics of various groups of people in Maryland.
- Describe the various cultures of colonial societies and how the environment influenced them.
- Analyze how native societies were influenced by the diverse cultures of the explorers and settlers.
- Analyze how increased diversity in the colonies resulted from immigration, settlement patterns, and economic development.
- Analyze factors that affected relationships in the colonial period.

History

- Analyze the chronology and significance of key historical events leading to early settlement in Maryland.
- Compare Native American societies in Maryland before and after European colonization.
- Analyze the chronology and the significance of key historical events leading to early settlements in colonial America.

INFORMATIONAL LITERACY

- *Follow an inquiry process and connect the process to real life.*
- *Formulate and refine questions to meet an information need.*
- *Evaluate sources to meet the information need.*
- *Use specific sources to find information.*
- *Record data/information in a variety of formats.*
- *Evaluate and analyze the quality of recorded data/information to meet the information need.*
- *Use an appropriate and accepted citation style to create a source list.*
- *Use a variety of formats to prepare the findings/conclusions of the information need for sharing.*
- *Use safe practices when online.*

ART

Creating and Connecting to Art

- Investigate diverse approaches to artmaking as inspiration to generate original ideas.
- Select and organize art elements and design principles to depict ideas about tradition.
- Select from traditional and innovative techniques and practices when using art tools, media, and workspace.
- Apply feedback to revise artwork in progress and refine craftsmanship.
- Create artwork in response to a cultural tradition.
- Infer information about the time, place, and culture in which an artwork is made.

Presenting and Responding to Art

- Select an artwork for display and justify the choice with an artist's statement.
- Choose an appropriate display method and prepare selected artwork for presentation.
- Curate a group exhibition of artworks that communicates a selected theme.
- Compare images to determine stylistic and expressive qualities.
- Support personal interpretation with visual evidence from the artwork.
- Apply criteria and justify the evaluation of personal artwork and art made by others.

MUSIC

Analyzing and Responding to Music

- Listen to and perform music with changes in expressive qualities.
- Create appropriate movement to demonstrate perception of musical characteristics.
- Describe how musical elements are used in aural examples from various North American cultures.
- Identify and describe roles of musicians in North America.
- Listen to and describe how selected works from standard music literature correspond to specific historical events.
- Listen to and describe examples of music that represent musical styles and traditions from various historical periods and world cultures.
- Compare in two or more arts how the characteristic materials of the art form (sound in music, movement in dance) can be used to transform similar events, emotions, or ideas into works of art.

Performing Music

- *Perform singing games and traditional dances from a variety of world cultures.*
- *Perform songs and dances from a variety of historical periods and world cultures, including some connected to general classroom studies.*

Reading and Notating Music

- Read and perform a simple melody on the treble staff using solfeggio or a comparable system.
- Notate a short rhythmic phrase from dictation using standard notation.

Creating Music

- *Use the voice to improvise simple rhythmic variations and melodic embellishments on familiar melodies.*

PHYSICAL EDUCATION

Personal and Social Responsibilities

- Work effectively with others in physical activity.
- Build and maintain relationships that develop a sense of community.

Movement Skills and Concepts

- Demonstrate static and dynamic movement patterns.
- Demonstrate proficiency in tumbling sequence (educational gymnastics).
- Perform locomotor and non-locomotor skills while varying movement conditions.

HEALTH EDUCATION

Nutrition and Fitness (NF)

- *Identify and define functions of nutrients.*
- *Demonstrate the relationship among food intake, physical activity, and weight management.*
- *Explain the relationship between nutrition and physical activity.*
- *Summarize the Dietary Guidelines for Americans.*
- *Analyze the Nutrition Facts Label.*
- *Analyze influences on body image.*

Family Life and Human Sexuality (FLHS):

- *Identify how your family helps you and you help your family.*