Grade 5 Proficiency Statements

Proficiency statements clarify what students should know and be able to do by the end of the year. They are used in combination with standards and indicators to analyze student understanding of grade level concepts.

Mathematics

Operations and Algebraic Thinking

Students demonstrate proficiency of Grade 5 standards for this measurement topic by:

- ***Understanding:*** Understanding numerical expressions using parentheses, brackets, or braces.
- ***Computing:*** Graphing ordered pairs on a coordinate plane. Evaluating numerical expressions.
- ***Applying:*** Applying understanding of operations and mathematical notation to interpret numerical expressions.
- ***Reasoning:*** Analyzing relationships between terms in numerical patterns.
- ***Engaging:*** Seeing mathematics as sensible, useful, and doable-if you work at it-and being willing to do the work.

Number and Operations in Base Ten

Students demonstrate proficiency of Grade 5 standards for this measurement topic by:

- ***Understanding:*** Understanding patterns in the structure of the place value system.
- ***Computing:*** Fluently multiplying multi-digit whole numbers.
- ***Applying:*** Using place value understanding to round decimals (to thousandths) to any place. Applying strategies based on place value and properties of operations to find quotients of whole numbers and perform operations with decimals to hundredths.
- ***Reasoning:*** Explaining patterns in the number of zeros of the product when multiplying a number by powers of 10.
- ***Engaging:*** Seeing mathematics as sensible, useful, and doable-if you work at it-and being willing to do the work.

Number and Operations—Fractions

Students demonstrate proficiency of Grade 5 standards for this measurement topic by:

- ***Understanding:*** Interpreting a fraction as division of the numerator by the denominator. Interpreting multiplication as scaling (resizing).
- ***Computing:*** Adding and subtracting fractions.
- ***Applying:*** Applying understandings of multiplication and division with whole numbers to multiply and divide fractions. Applying understandings of equivalent fractions to add and subtract fractions. Applying understandings of operations and visual fraction models to represent and solve word problems involving fractions.
- ***Reasoning:*** Reasoning about the size of a product in relation to the size of its factors. Reasoning about fractions as numbers when estimating answers or solving problems. Using benchmark fractions to estimate and assess reasonableness of answers.
- ***Engaging:*** Seeing mathematics as sensible, useful, and doable-if you work at it-and being willing to do the work.

Measurement and Data

Students demonstrate proficiency of Grade 5 standards for this measurement topic by:

- ***Understanding:*** Understanding volume as 3–dimensional measure. Understanding the relationships among linear, area, and volume measurements of a solid figure.
- ***Computing:*** Finding the volume of right rectangular prisms.
- ***Applying:*** Converting among different-sized measurement units within a given system.
- ***Reasoning:*** Extending understandings about addition, multiplication, division to solve problems involving volume.
- ***Engaging:*** Seeing mathematics as sensible, useful, and doable-if you work at it-and being willing to do the work.

Geometry

Students demonstrate proficiency of Grade 5 standards for this measurement topic by:

- ***Understanding:*** Understanding the order and distance relationships of ordered pairs on the coordinate plane.
- ***Computing:*** Graphing points in the first quadrant of the coordinate plane.
- ***Applying:*** Classifying two-dimensional figures in a hierarchy based on their properties.
- ***Reasoning:*** Explaining and justifying categories and subcategories of two-dimensional figures. Extending understanding about graphs on the coordinate plane to solve problems.
- ***Engaging:*** Seeing mathematics as sensible, useful, and doable-if you work at it-and being willing to do the work.

Reading

Foundational Skills

Students demonstrate proficiency of Grade 5 standards for this measurement topic by:

- Applying grade-level appropriate phonics, word analysis skills, and fluency when reading.

Reading: Literature

Students demonstrate proficiency of Grade 5 standards for this measurement topic by:

- **Using Key Ideas and Details** to strategically read grade level literary texts with purpose and comprehension by quoting accurately from a text to explain and draw inferences, determining a theme, and comparing and contrasting story elements.
- **Analyzing Craft and Structure** by interpreting words and phrases, analyzing text structure, and describing how points of view influence text.
- **Building Knowledge and Ideas** by analyzing visual and multimedia elements of text and comparing and contrasting similar themes and topics within a genre
- **Reading** and comprehending a **range** of literary texts at the high end of the grades 4-5 **text complexity** band independently and proficiently.

Reading: Informational Text

Students demonstrate proficiency of Grade 5 standards for this measurement topic by:

- **Using Key Ideas and Details** to strategically read grade level informational texts with purpose and comprehension by quoting accurately from a text to explain and draw inferences, determining main idea, summarizing, and explaining relationships in text
- **Analyzing Craft and Structure** by interpreting words and phrases, comparing and contrasting text structure, and analyzing points of view
- **Building Knowledge and Ideas** to draw on information from multiple sources, explain author's use of reasons and evidence, and integrate information from multiple texts on the same topic.
- **Reading** and comprehending a **range** of informational texts at the high end of the grades 4-5 **text complexity** band independently and proficiently.

Language: Vocabulary

Students demonstrate proficiency of Grade 5 standards for this measurement topic by:

- Engaging in a variety of collaborative discussions to build on the ideas of others and express their own ideas clearly.
- Summarize portions of a text presented in multiple formats
- Summarize a speaker's points and explain how reasons and evidence support claims
- Determining meaning of unknown and multiple meaning words and phrases in grade 5 content in order to comprehend more fully.
- Demonstrating understanding of word relationships and nuances with guidance and support.
- Acquiring and using grade-appropriate conversational, general academic and domain-specific vocabulary.

Writing

Writing: Opinion

Students demonstrate proficiency of Grade 5 standards for this measurement topic by composing, over shorter and extended time frames, opinion texts with evidence of:

- An introduction that elaborates on an opinion statement.
- An organizational structure in which logical ideas are grouped to support the opinion.
- Logically ordered reasons supported by researched facts and details.
- Linking opinion and reasons using words, phrases, and clauses (e.g., consequently, specifically).
- An influential concluding statement or section.

Writing: Informative/Explanatory

Students demonstrate proficiency of Grade 5 standards for this measurement topic by composing, over shorter and extended time frames, informative/explanatory texts with evidence of:

- An introduction to a topic.
- Writing organized using a text structure.
- Researched facts, definitions, concrete details, quotations, or other information and examples related to the topic.
- Linking ideas within and across categories of information using words and phrases (e.g., in contrast, especially).
- Precise language and domain-specific vocabulary
- A concluding statement or section related to the information or explanation presented.

Writing: Narrative

Students demonstrate proficiency of Grade 5 standards for this measurement topic by composing, over shorter and extended time frames, narrative texts with evidence of:

- A well-established situation that introduces a narrator and/or characters.
- An organized event sequence that unfolds naturally.
- Narrative techniques (e.g., dialogue, description, pacing) to develop experiences, events, or show the characters response to situations.
- A variety of transitional words, phrases, and clauses to sequence events.
- Concrete words, phrases, and sensory details to precisely communicate experiences.
- A concluding section related to the experiences and events.

Writing: Process, Production, and Research

Students demonstrate proficiency of Grade 5 standards for this measurement topic by composing, over shorter and extended time frames, writing with evidence of:

- Clear and coherent writing.
- Developing and organizing writing appropriate to task, purpose and audience.
- Planning, revising, editing, rewriting, or trying a new approach based on feedback from adults and peers.
- Producing and publishing writing using technology to facilitate interaction and collaboration with others.
- Summarizing or paraphrasing notes and citing sources.
- Recalling information from experiences or gathering and evaluating relevant information from print and digital literary or informational texts.

Writing: Use of Language

Students demonstrate proficiency of Grade 5 standards for this measurement topic by:

- Creating multimedia components and visual displays to sequence ideas logically, and use facts and details to develop and enhance main ideas or themes.
- Demonstrating command of grade-level grammar, usage, spelling, capitalization, and punctuation.
- Adapting speech to a variety of tasks, contexts, or situations.
- Using formal English and knowledge of language conventions when writing, speaking, or reading.

Science

Proficiency statements clarify what students should know and be able to do by the end of the year. They are used in combination with standards and indicators to analyze student understanding of grade level concepts. In science & engineering, proficiency involves using the four strands of science learning.

Life Sciences

Students demonstrate proficiency of Grade 5 standards for this measurement topic by:

- ***Understanding Explanations-*** Explaining relationships among the forms and functions of plant and animal cells, as well as the relationship between traits and heredity. Appling these concepts to real-world situations.
- ***Generating Evidence-*** Planning and conducting research through observation, investigation, field study, or reading about the forms and functions of plant and animal cells, as well as traits and heredity.
- ***Reflecting on Knowledge-*** Using and interpreting scientific and technological knowledge to analyze and revise generalizations about the forms and functions of plant and animal cells, as well as generalizations about traits and heredity.
- ***Participating Productively-*** Assessing and presenting solutions to practical or real-world situations using scientific and technological knowledge about the forms and functions of plant and animal cells, as well as traits and heredity.

Earth and Space Sciences

Students demonstrate proficiency of Grade 5 standards for this measurement topic by:

- ***Understanding Explanations-*** Explaining relationships among the movement, location, and position of objects in the universe. Explaining the observable effects of Earth's rotation and revolution. Applying these concepts to real-world situations.
- ***Generating Evidence-*** Planning and conducting research through observation, investigation, field study, or reading about the movement, location, and position of objects in the universe, as well as the observable effects of Earth's rotation and revolution.
- ***Reflecting on Knowledge-*** Using and interpreting scientific and technological knowledge to analyze and revise generalizations about the movement, location, and position of objects in the universe, as well as the observable effects of Earth's rotation and revolution.
- ***Participating Productively-*** Assessing and presenting solutions to practical or real-world situations using scientific as well as technological knowledge about the movement, location, and position of objects in the universe, as well as the observable effects of Earth's rotation and revolution.

Physical Sciences

Students demonstrate proficiency of Grade 5 standards for this measurement topic by:

- ***Understanding Explanations-*** Explaining relationships among measurable changes in motion, forces that affect motion, forms and conversion of energy, electricity, and magnetism. Applying these concepts to real-world situations.
- ***Generating Evidence-*** Planning and conducting research through observation, investigation, field study, or reading about measurable changes in motion, forces that affect motion, forms and conversion of energy, electricity, and magnetism.
- ***Reflecting on Knowledge-*** Using and interpreting scientific and technological knowledge to analyze and revise generalizations about measurable changes in motion, forces that affect motion, forms and conversion of energy, electricity, and magnetism.
- ***Participating Productively-*** Assessing and presenting solutions to practical or real-world situations using scientific and technological knowledge about measurable changes in motion, forces that affect motion, forms and conversion of energy, electricity, and magnetism.

Engineering and Technology

Students demonstrate proficiency of Grade 5 standards for this measurement topic by:

- ***Understanding Explanations-*** Explaining relationships among technology, humans, and the natural world. Understanding the engineering design process and its application to real-world situations.
- ***Generating Evidence-*** Deciding what evidence is needed to investigate a scientific question or address a technological problem. Applying the engineering design process to address a technological problem.
- ***Reflecting on Knowledge-*** Using and interpreting scientific and technological knowledge to revise thinking based on new evidence or ideas about products or systems.
- ***Participating Productively-*** Representing information and ideas clearly and convincingly based on scientific evidence and technological concepts or designs.

Social Studies

Civics

Students demonstrate proficiency of Grade 5 standards for this measurement topic by:

- demonstrating and applying knowledge of the historical development and current status of the fundamental concepts and processes of authority, power, and influence in the United States and Maryland today and during the American Revolution and early constitutional period.

Culture

Students demonstrate proficiency of Grade 5 standards for this measurement topic by:

- demonstrating and applying knowledge of the diversity, commonality, and interdependence of people in the United States today and during the time of the development of the United States Constitution through the lens of conflict and compromise.

Geography

Students demonstrate proficiency of Grade 5 standards for this measurement topic by:

- using geographic concepts and processes to examine the role of culture, technology, and the environment in the location and distribution of human activities in the United States today and during the territorial expansion of the United States including the impact of changes in transportation.

Economics

Students demonstrate proficiency of Grade 5 standards for this measurement topic by:

- using economic reasoning to understand the historical development and current status of economic principles, institutions, and processes needed to be effective citizens, consumers, and workers today and during the American Revolutionary Period.

History

Students demonstrate proficiency of Grade 5 standards for this measurement topic by:

- using historical thinking skills to identify, examine, describe, and compare how individuals and societies changed during the early constitutional period and the time of territorial expansion of the United States.

Art

Creating Art

Students demonstrate proficiency of Grade 5 standards for this measurement topic by:

- creating artwork that demonstrates: skillful use of art materials, knowledge of art elements and design principles, a response to art, creative thinking skills, and an expression of ideas.

Analyzing and Responding to Art

Students demonstrate proficiency of Grade 5 standards for this measurement topic by:

- using appropriate art vocabulary and critical thinking skills to respond and make connections to artwork.

General Music

Performing Music

Students demonstrate proficiency of Grade 5 standards for this measurement topic by:

- performing alone and in an ensemble with the voice and on musical instruments.

Creating Music

Students demonstrate proficiency of Grade 5 standards for this measurement topic by:

- organizing musical ideas and sounds creatively through composing, improvising, and arranging.

Reading and Notating Music

Students demonstrate proficiency of Grade 5 standards for this measurement topic by:

- reading music using solfege and standard notation.
- notating music using standard notation, including examples from dictation.

Analyzing and Responding to Music

Students demonstrate proficiency of Grade 5 standards for this measurement topic by:

- analyzing and describing musical form, meter, modes, and expressive qualities using music vocabulary.
- responding to music through movement.
- making aesthetic judgments about music and musical performances.
- demonstrating an understanding of music as an essential aspect of history, culture, and human experience.

Physical Education

Movement Skills and Concepts

Students demonstrate proficiency of Grade 5 standards for this measurement topic by:

- demonstrating skills necessary to perform a variety of physical activities.
- applying movement concepts, biomechanical principles, strategies and tactics to learning and performance of physical activity.

Health-Enhancing Physical Fitness and Activity

Students demonstrate proficiency of Grade 5 standards for this measurement topic by:

- describing the effects of physical activity on the body systems.
- selecting and performing appropriate physical activities that lead to a healthier lifestyle.

Personal and Social Responsibility

Students demonstrate proficiency of Grade 5 standards for this measurement topic by:

- setting and monitoring goals to improve performance.
- describing the value of physical activity for health, enjoyment, challenge, self-expression, and respectful social interaction.

Health Education

Lifelong Wellness

Students demonstrate proficiency of Grade 5 standards for this measurement topic when they:

- demonstrate healthful attitudes, behaviors, and skills
- use skills and strategies to improve and maintain personal wellness
- practice strategies to avoid tobacco products, alcohol, marijuana, and illegal drug use
- explain the importance of healthy food choices, physical activity, and weight management

Personal Safety

Students demonstrate proficiency of Grade 5 standards for this measurement topic when they:

- practice strategies to effectively deal with peer pressure
- practice health-enhancing behaviors to reduce health risks for safer, healthier lives
- demonstrate strategies to overcome and avoid sexual harassment
- explain the effects of inappropriate use of household products on the body
- practice personal daily living habits that reduce the risk of developing disease