



COMMON CORE STATE STANDARDS FOR MATHEMATICS ALIGNED TO CASTLES, CATAPULTS, AND COAT OF ARMS™ K-6

COUNTING AND CARDINALITY

- K.CC3. Write numbers from 0 to 20. Represent a number of objects with a written numeral 0-20 (with 0 representing a count of no objects).
- K.CC4. Understand the relationship between numbers and quantities; connect counting to cardinality.
- K.CC6. Identify whether the number of objects in one group is greater than, less than, or equal to the number of objects in another group, e.g., by using matching and counting strategies.
- K.CC7. Compare two numbers between 1 and 10 presented as written numbers.

OPERATIONS AND ALGEBRAIC THINKING

- 1.OA5. Relate counting to addition and subtraction (e.g., by counting on 2 to add 2).

NUMBERS & OPERATIONS IN BASE TEN

- 1.NBT1. Count to 120 starting at any number less than 120. In this range, read and write numerals and represent a number of objects with a written numeral.
- 2.NBT3. Read and write numbers to 1000 using base-ten numerals, number names, and expanded form. Use place value understanding and properties of operations to add and subtract.
- 2.NBT5. Fluently add and subtract within 100 using strategies based on place value, properties of operations, and/or relationship between addition and subtraction.
- 3.NBT2. Fluently add and subtract within 1000 using strategies and algorithms based on place value, properties of operations, and/or the relationship between addition and subtraction.
- 4.NBT4. Fluently add and subtract multi-digit whole numbers using the standard algorithm.

MEASUREMENT & DATA

- 1.MD1. Order three objects by length; compare the lengths of two objects indirectly by using a third object.
- 4.MD5. Recognize angles as geometric shapes that are formed whenever two rays share a common end point, and understand concepts of angle measurement.

GEOMETRY

- K.G1. Describe objects in the environment using names of shapes and describe the relative positions of these objects using terms such as above, below, beside, in front of, behind, and next to.
- K.G5. Model shapes in the world by building shapes from components (e.g., sticks and clay balls) and drawing shapes.
- 1.G1. Distinguish between defining attributes (e.g., triangles are closed and three-sided) versus non-defining attributes (e.g., color, orientation, overall size); build and draw shapes to possess defining attributes.
- 1.G2. Compose two-dimensional shapes (rectangles, squares, trapezoids, triangles, half-circles, and quarter-circles) or three-dimensional shapes (cubes, right rectangular prisms, right circular cones, and right circular cylinders) to create a composite shape, and compose new shapes from the composite shape.
- 2.G1. Recognize and draw shapes having specified attributes such as a given number of angles or a given number of equal faces. Identify triangles, quadrilaterals, pentagons, hexagons, and cubes.
- 3.G1. Understand that shapes in different categories (e.g., rhombuses, rectangles, and others) may share attributes (e.g., having four sides), and that the shared attributes can define a larger category (e.g., quadrilaterals). Recognize rhombuses, rectangles, and squares as examples of quadrilaterals, and draw examples of quadrilaterals that do not belong to any of these subcategories.
- 5.G4. Classify two-dimensional figures in a hierarchy based on properties.

COMMON CORE STATE STANDARDS FOR ENGLISH LANGUAGE ARTS & LITERACY IN HISTORY/SOCIAL STUDIES, SCIENCE, AND TECHNICAL SUBJECTS ALIGNED TO CASTLES, CATAPULTS, AND COAT OF ARMS™ K-6

WRITING STANDARDS

GRADE ONE

- W.8. With guidance and support from adults, recall information from experiences or gather information from provided sources to answer a question.

GRADE TWO

- W.8. Recall information from experiences or gather information from provided sources to answer a question.

GRADE THREE

- W.8. Recall information from experiences or gather information from print and digital sources; take brief notes on sources and sort evidence into provided categories.

GRADE FOUR

- W.8. 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.

GRADE FIVE

- W8. Recall relevant information from experiences or gather relevant information from print and digital sources; summarize or paraphrase information in notes and finished work, and provide a list of sources.

SPEAKING AND LISTENING STANDARDS SL

KINDERGARTEN

- SL1. Participate in collaborative conversations with diverse partners about kindergarten topics and texts with peers and adults in small and larger groups.
 - a. Follow agreed-upon rules for discussions (e.g., listening to others and taking turns speaking about topics and texts under discussion).
 - b. Continue a conversation through multiple exchanges.
- SL2. Confirm understanding of a text read aloud or information presented orally or through other media by asking and answering questions about key details and requesting clarification if something is not understood.
- SL3. Ask and answer questions in order to seek help, get information, or clarify something that is not understood.
- SL4. Describe familiar people, places, things, and events, and, with prompting and support, provide additional detail.
- SL5. Add drawings and other visual displays to descriptions as desired to provide additional detail.
- SL6. Speak audibly and express thoughts, feeling, and ideas clearly.

GRADE ONE

- SL1. Participate in collaborative conversations with diverse partners about grade 1 topics and texts with peers and adults in small and larger groups.
 - a. Follow agreed-upon rules for discussions (e.g., listening to others with care, speaking one at a time about the topics and texts under discussion).
 - b. Build on others' talk in conversations by responding to the comments of others through multiple exchanges.
 - c. Ask questions to clear up any confusion about the topics and texts under discussion.
- SL2. Ask and answer questions about key details in a text read aloud or information presented orally or through other media.
- SL3. Ask and answer questions about what a speaker says in order to gather additional information or clarify something that is not understood.
- SL4. Describe people, places, things, and events with relevant details, expressing ideas and feelings clearly.
- SL5. Add drawings or other visual displays to descriptions when appropriate to clarify ideas, thoughts, and feelings.
- SL6. Produce complete sentences when appropriate to task and situation. (See grade 1 Language standards 1 and 3 on page 26 for specific expectations.)

GRADE TWO

- SL1. Participate in collaborative conversations with diverse partners about grade 2 topics and texts with peers and adults in small and larger groups.
 - a. Follow agreed-upon rules for discussions (e.g., gaining the floor in respectful ways, listening to others with care, speaking one at a time about the topics and texts under discussion).
 - b. Build on others' talk in conversations by linking their comments to the remarks of others.
 - c. Ask for clarification and further explanation as needed about the topics and texts under discussion.
- SL2. Recount and describe key ideas or details from a text read aloud or information presented orally or through other media.
- SL3. Ask and answer questions about what a speaker says in order to clarify comprehension, gather additional information, or deepen understanding of a topic or issue.
- SL4. Tell a story or recount an experience with appropriate facts and relevant, descriptive details, speaking audibly in coherent sentences.
- SL5. Create audio recordings of stories or poems; add drawings or other visual displays to stories or recounts of experiences when appropriate to clarify ideas, thoughts, and feelings.
- SL6. Produce complete sentences when appropriate to task and situation in order to provide requested detail or clarification. (See grade 2 Language standards 1 and 3 on page 26 for specific expectations.)

GRADE THREE

- SL1. Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grade 3 topics and texts, building on others' ideas and expressing their own clearly.
 - b. Follow agreed-upon rules for discussions (e.g., gaining the floor in respectful ways, listening to others with care, speaking one at a time about the topics and texts under discussion).
 - c. Ask questions to check understanding of information presented, stay on topic, and link their comments to the remarks of others.
 - d. Explain their own ideas and understanding in light of the discussion.
- SL2. Determine the main ideas and supporting details of a text read aloud or information presented in diverse media and formats, including visually, quantitatively, and orally.
- SL3. Ask and answer questions about information from a speaker, offering appropriate elaboration and detail.
- SL4. Report on a topic or text, tell a story, or recount an experience with appropriate facts and relevant descriptive details, speaking clearly at an understandable pace.
- SL6. Speak in complete sentences when appropriate to task and situation in order to provide requested detail and clarification. (See grade 3 Language standards 1 and 3 on page 28 for specific expectations.)

GRADE FOUR

- SL1. 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.

- b. Follow agreed-upon rules for discussions and carry out assigned roles.
- c. Pose and respond to specific questions to clarify or follow up on information, and make comments that contribute to the discussion and link to the remarks of others.
- d. Review key ideas expressed and explain their own ideas and understanding in light of the discussion.
- SL2. Paraphrase portions of a text read aloud or information presented in diverse media and formats, including visually, quantitatively, and orally.
- SL4. 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.

GRADE FIVE

- SL1. Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grade 5 topics and texts, building on others' ideas and expressing their own clearly.
 - b. Follow agreed-upon rules for discussions and carry out assigned roles.
 - c. Pose and respond to specific questions by making comments that contribute to the discussion and elaborate on the remarks of others.
 - d. Review the key ideas expressed and draw conclusions in light of information and knowledge gained from the discussions.
- SL2. Summarize a written text read aloud or information presented in diverse media and formats, including visually, quantitatively, and orally.
- SL4. Report on a topic or text or present an opinion, sequencing ideas logically and using appropriate facts and relevant, descriptive details to support main ideas or themes; speak clearly at an understandable pace.

GRADE SIX

- SL1. Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grade 6 topics, texts, and issues, building on others' ideas and expressing their own clearly.
 - b. Follow rules for collegial discussions, set specific goals and deadlines, and define individual roles as needed.
 - c. Pose and respond to specific questions with elaboration and detail by making comments that contribute to the topic, text, or issue under discussion.
 - d. Review the key ideas expressed and demonstrate understanding of multiple perspectives through reflection and paraphrasing.
- SL2. Interpret information presented in diverse media and formats (e.g., visually, quantitatively, orally) and explain how it contributes to a topic, text, or issue under study.

LANGUAGE STANDARDS L

KINDERGARTEN

- L1. Demonstrate command of the conversations of standard English grammar and usage when writing and speaking.

- L4. Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on kindergarten reading and content.

GRADE ONE

- L1. Demonstrate command of the conventions of standard English grammar and usage when writing or speaking.
- L4. Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on grade 1 reading and content, choosing flexibly from an array of strategies.

GRADE TWO

- L1. Demonstrate command of the conventions of standard English grammar and usage when writing or speaking.
- L4. Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on grade 2 reading and content, choosing flexibly from an array of strategies.

GRADE THREE

- L1. Demonstrate command of the conventions of standard English grammar and usage when writing or speaking.
- L4. Determine or clarify the meaning of unknown and multiple-meaning word and phrases based on grade 3 reading and content, choosing flexibly from a range of strategies.

GRADE FOUR

- L1. Demonstrate command of the conventions of standard English grammar and usage when writing or speaking.
- L4. 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.

GRADE FIVE

- L1. Demonstrate command of the conventions of standard English grammar and usage when writing or speaking.
- L4. Determine or clarify the meaning of unknown multiple-meaning words and phrases based on grade 5 reading and content, choosing flexibly from a range of strategies.

GRADE SIX

- L1. Demonstrate command of conventions of standard English grammar and usage when writing or speaking.
- L4. Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on grade 6 reading and content, choosing flexibly from a range of strategies.

NEXT GENERATION SCIENCE STANDARDS ALIGNED TO CASTLES, CATAPULTS, AND COAT OF ARMS™ K-6

PHYSICAL SCIENCE

K-PS2 Motion and Stability: Forces and Interactions

- K-PS2-1: Plan and conduct an investigation to compare the effects of different strengths or different directions of pushes and pulls on the motion of an object.
- K-PS2-2: Analyze data to determine if a design solution works as intended to change the speed or direction of an object with a push or a pull.

1-PS4 WAVES AND THEIR APPLICATION IN TECHNOLOGIES FOR INFORMATION TRANSFER

- 1-PS4-2: Make observations to construct an evidence-based account that objects can be seen only when illuminated.

2-PS1 MATTER AND ITS INTERACTIONS

- 2-PS1-1: Plan and conduct an investigation to describe and classify different kinds of materials by their observable properties.

3-PS2 MOTION AND STABILITY: FORCES AND INTERACTIONS

- 3-PS2-1: Plan and conduct an investigation to provide evidence of the effects of balanced and unbalanced forces on the motion of an object.
- 3-PS2-2: Make observations and/or measurements of an object's motion to provide evidence that a pattern can be used to predict future motion.
- 3-PS2-3: Ask questions to determine cause and effect relationships of electric or magnetic interactions between two objects not in contact with each other.

4-PS3 ENERGY

- 4-PS3-1: Use evidence to construct an explanation relating the speed of an object to the energy of that object.
- 4-PS3-2: Make observations to provide evidence that energy can be transferred from place to place by sound, light, heat, and electric currents.
- 4-PS3-3: Ask questions and predict outcomes about the changes in energy that occur when objects collide.

5-PS2 MOTION AND STABILITY: FORCES AND INTERACTIONS

- 5-PS2-1: Support an argument that the gravitational force exerted by Earth on objects is directed down.

MS-PS2 Motion and Stability: Forces and Interactions

- MS-PS2-1: Apply Newton's Third Law to design a solution to a problem involving the motion of two colliding objects.
- MS-PS2-2: Plan an investigation to provide evidence that the change in an object's motion depends on the sum of the forces on the object and the mass of the object.
- MS-PS2-4: Construct and present arguments using evidence to support the claim that gravitational interactions are attractive and depend on the masses of interacting objects.
- MS-PS2-5: Conduct an investigation and evaluate the experimental design to provide evidence that fields exist between objects exerting forces on each other even though the objects are not in contact.

ENGINEERING DESIGN

K-2-EST1 Engineering Design

- K-2-EST1-1: Ask questions, make observations, and gather information about a situation people want to change to define a simple problem that can be solved through the development of a new or improved object or tool.
- K-2-EST1-2: Develop a simple sketch, drawing, or physical model to illustrate how the shape of an object helps it function as needed to solve a given problem.

3-5-ETS1 ENGINEERING DESIGN

- 3-5-ETS1-1: Define a simple design problem reflecting a need or a want that includes specified criteria for success and constraints on materials, time, or cost.
- 3-5-ETS1-2: Generate and compare multiple possible solutions to a problem based on how well each is likely to meet the criteria and constraints of the problem.
- 3-5-ETS1-3: Plan and carry out fair tests in which variables are controlled and failure points are considered to identify aspects of a model or prototype that can be improved.

MS-ETS1 ENGINEERING DESIGN

- MS-ETS1-1: Define the criteria and constraints of a design problem with sufficient precision to ensure a successful solution, taking into account relevant scientific principles and potential impacts on people and the natural environment that may limit possible solutions.
- MS-ETS1-2: Evaluate competing design solutions using a systematic process to determine how well they meet the criteria and constraints of the problem.