

DUCK CHUCK™ ALIGNED TO NEXT GENERATION SCIENCE STANDARDS

KINDERGARTEN–GRADE TWO

K-2-ETS1 ENGINEERING DESIGN

- K-2-ETS1-2. 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.
- K-2-ETS1-3. Analyze data from tests of two objects designed to solve the same problem to compare the strengths and weaknesses of how each performs.

GRADE THREE–FIVE

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.

GRADE SIX–EIGHT

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 the 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.
- MS-ETS1-3. Analyze data from tests to determine similarities and differences among several design solutions to identify the best characteristics of each that can be combined into a new solution to better meet the criteria for success.
- MS-ETS1-4. Develop a model to generate data for iterative testing and modification of a proposed object, tool, or process such that an optimal design can be achieved.

KINDERGARTEN

K-PS2 MOTION AND STABILITY: FORCE 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 pull.

GRADE TWO

2-PS1 MATTER AND ITS INTERACTIONS

- 2-PS1-2. Analyze data obtained from testing different materials to determine which materials have the properties that are best suited for an intended purpose.

2-LS4 BIOLOGICAL EVOLUTION: UNITY AND DIVERSITY

- 2-LS4-1. Make observations of plants and animals to compare the diversity of life in different habitats.

GRADE THREE

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-PS2-3. Ask questions to determine cause and effect relationships of electric and magnetic interactions between two objects not in contact with each other.

GRADE FOUR

4-PS3 ENERGY

- 4-PS3-3. Ask questions and predict outcomes about the changes in energy that occur when objects collide.

4-LS1 FROM MOLECULES TO ORGANISMS: STRUCTURES AND PROCESSES

- 4-LS1-1. Construct an argument that plants and animals have internal and external structures that function to support survival, growth, behavior, and reproduction.

4-ESS2 EARTH'S SYSTEMS

- 4-ESS2-2. Analyze and interpret data from maps to describe patterns of Earth's features.

GRADE FIVE

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.

GRADE SIX-EIGHT

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.

DUCK CHUCK™ ALIGNED TO COMMON CORE STATE STANDARDS FOR MATHEMATICS K-6

KINDERGARTEN

COUNTING AND CARDINALITY K.CC

Know number names and the count sequence.

- K.CC1. Count to 100 by ones and by tens.

Compare numbers.

- 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.

MEASUREMENT AND DATA K.MD

Describe and compare measurable attributes.

- K.MD1. Describe measurable attributes of objects, such as length or weight. Describe several measurable attributes of a single object.

GEOMETRY K.G

Analyze, compare, create, and compose shapes.

- K.G5. Model shapes in the world by building shapes from components (e.g., sticks and clay balls) and drawing shapes.

GRADE ONE

NUMBER AND OPERATIONS IN BASE TEN 1.NBT

Extend the counting sequence.

- 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.

MEASUREMENT AND DATA 1.MD

Measure lengths indirectly and by iterating length units.

- 1.MD2. Express the length of an object as a whole number of length units, by laying multiple copies of a shorter object (the length unit) end to end; understand that the length measurement of an object is the number of same-size length units that span it with no gaps or overlaps. *Limit to contexts where the object being measured is spanned by a whole number of length units with no gaps or overlaps.*

GEOMETRY 1.G

Reason with shapes and their 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.

GRADE TWO

NUMBER AND OPERATIONS IN BASE TEN 2.NBT

Understand place value.

- 2.NBT2. Count within 1000; skip-count by 5s, 10s, and 100s.
- 2.NBT3. Read and write numbers to 1000 using base-ten numerals, number names, and expanded form.

MEASUREMENT AND DATA 2.MD

Measure and estimate lengths in standard units.

- 2.MD1. Measure the length of an object by selecting and using appropriate tools such as rulers, yardsticks, meter sticks, and measuring tapes.
- 2.MD2. Measure the length of an object twice, using length units of different lengths for the two measurements; describe how the two measurements relate to the size of the unit chosen.
- 2.MD3. Estimate lengths using units of inches, feet, centimeters, and meters.

GRADE THREE

MEASUREMENT AND DATA 3.MD

Represent and interpret data.

- 3.MD4. Generate measurement data by measuring lengths using rulers marked with halves and fourths of an inch. Show the data by making a line plot, where the horizontal scale is marked off in appropriate units— whole numbers, halves, or quarters.

GRADE FOUR

MEASUREMENT AND DATA 4.MD

Geometric measurement: understand concepts of angle and measure angles.

- 4.MD5. Recognize angles as geometric shapes that are formed whenever two rays share a common end point, and understand concepts of angle measurement.
 - a. 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.
- 4.MD6. Measure angles in whole-number degrees using a protractor. Sketch angles of specified measure.

GEOMETRY 4.G

Draw and identify lines and angles, and classify shapes by properties of their lines and angles.

- 4.G1. Draw points, lines, line segments, rays, angles (right, acute, obtuse), and perpendicular and parallel lines. Identify these in two-dimensional figures.

DUCK CHUCK™ ALIGNED TO COMMON CORE STATE STANDARDS FOR ENGLISH LANGUAGE ARTS K-6

READING STANDARDS FOR INFORMATIONAL TEXT RI

KINDERGARTEN

- RI4. With prompting and support, ask and answer questions about unknown words in a text.
- RI7. With prompting and support, describe the relationship between illustrations and the text in which they appear (e.g., what person, place, thing, or idea in the text an illustration depicts).
- RI10. Actively engage in group reading activities with purpose and understanding.

GRADE ONE

- RI4. Ask and answer questions to help determine or clarify the meaning of words and phrases in a text.
- RI5. Know and use various text features (e.g., headings, tables of contents, glossaries, electronic menus, icons) to locate key facts or information in a text.
- RI6. Distinguish information provided by pictures or other illustrations and information provided by the words in a text.

GRADE TWO

- RI4. Determine the meaning of words and phrases in text relevant to a *grade 2 topic or subject area*.
- RI5. Know and use various text features (e.g., captions, bold print, subheadings, glossaries, indexes, electronic menus, icons) to locate key facts or information in a text efficiently.
- RI7. Explain how specific images (e.g., a diagram showing how a machine works) contribute to and clarify a text.

GRADE THREE

- RI4. Determine the meaning of general academic and domain-specific words and phrases in a text relevant to *grade 3 topic or subject area*.
- RI5. Use text features and search tools (e.g., key words, sidebars, hyperlinks) to locate information relevant to a given topic efficiently.
- RI7. Use information gained from illustrations (e.g., maps, photographs) and the words in a text to demonstrate understanding of the text (e.g., where, when, why, and how key events occur).

GRADE FOUR

- RI4. Determine the meaning of general academic and domain-specific words or phrases in a text relevant to a *grade 4 topic or subject area*.

- RI7. Interpret information presented visually, orally, or quantitatively (e.g., 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.

GRADE FIVE

- RI4. Determine the meaning of general academic and domain-specific words and phrases in a text relevant to a *grade 5 topic or subject area*.

GRADE SIX

- RI4. Determine the meaning of words and phrases as they are used in a text, including figurative, connotative, and technical meanings.

READING STANDARDS: FOUNDATIONAL SKILLS RF

KINDERGARTEN

- RF1. Demonstrate understanding of the organization and basic features of print.
 - a. Follow words from left to right, top to bottom, and page by page.
- RF3. Know and apply grade-level phonics and word analysis skills in decoding words.

GRADE ONE

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GRADE TWO

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GRADE THREE

- RF3. Know and apply grade-level phonics and word analysis skills in decoding words.

GRADE FOUR

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GRADE FIVE

- RF3. Know and apply grade-level phonics and word analysis skills in decoding words.

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).
- 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.

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).
- SL2. Ask and answer questions about key details in a text read aloud or information presented orally or through other media.

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).
- SL2. Recount and describe key ideas or details from a text read aloud or information presented orally or through other media.

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).
- 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.

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. .
- SL2. Paraphrase portions of a text read aloud or information presented in diverse media and formats, including visually, quantitatively, and orally.

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.
- SL2. Summarize a written text read aloud or information presented in diverse media and formats, including visually, quantitatively, and orally.

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.
- 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 conventions of standard English grammar and usage when writing and speaking.
 - a. Print many upper- and lowercase letters.
- L4. Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on *kindergarten reading and content*.
- L6. Use words and phrases acquired through conversations, reading and being read to, and responding to texts.

GRADE ONE

- L1. Demonstrate command of the conventions of standard English grammar and usage when writing or speaking.
 - a. Print all upper- and lowercase letters.
- 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.
- L6. Use words and phrases acquired through conversations, reading and being read to, and responding to texts, including using frequently occurring conjunctions to signal simple relationships (e.g., *because*).

GRADE TWO

- L1. Demonstrate command of the conventions of standard English grammar and usage when writing or speaking.
- L3. Use knowledge of language and its conventions when writing, speaking, reading, or listening.
- 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.

- L6. Use words and phrases acquired through conversations, reading and being read to, and responding to texts, including using adjectives and adverbs to describe (e.g., *When other kids are happy that makes me happy*).

GRADE THREE

- L1. Demonstrate command of the conventions of standard English grammar and usage when writing or speaking.
- L3. Use knowledge of language and its conventions when writing, speaking, reading, or listening.
- 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.
- L6. Acquire and use accurately grade-appropriate conversational, general academic, and domain-specific words and phrases, including those that signal spatial and temporal relationships (e.g., *After dinner that night we went looking for them*).

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.
- L6. 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*).

GRADE FIVE

- L1. Demonstrate command of the conventions of standard English grammar and usage when writing or speaking.
- L3. Use knowledge of language and its conventions when writing, speaking, reading, or listening.
- 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.
- L6. Acquire and use accurately grade-appropriate general academic and domain-specific words and phrases, including those that signal contrast, addition, and other logical relationships (e.g., *however, although, nevertheless, similarly, moreover, in addition*).

GRADE SIX

- L1. Demonstrate command of conventions of standard English grammar and usage when

writing or speaking.

- L3. Use knowledge of language and its conventions when writing, speaking, reading, or listening.
- 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.
- L6. Acquire and use accurately grade-appropriate general academic and domain-specific words and phrases; gather vocabulary knowledge when considering a word or phrase important to comprehension or expression.

READING STANDARDS FOR LITERACY IN HISTORY/SOCIAL STUDIES RH

GRADE SIX

- RH4. Determine the meaning of words and phrases as they are used in a text, including vocabulary specific to domains related to history/social studies.
- RH7. Integrate visual information (e.g., in charts, graphs, photographs, videos, or maps) with other information in print and digital texts.

READING STANDARDS FOR LITERACY IN SCIENCE AND TECHNICAL SUBJECTS RST

GRADE SIX

- RST3. Follow precisely a multistep procedure when carrying out experiments, taking measurements, or performing technical tasks.
- RST4. Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to *grades 6-8 texts and topics*.