BOT ANN-E™ KIT ALIGNED TO COMMON CORE AND NEXT GENERATION SCIENCE STANDARDS

NEXT GENERATION SCIENCE STANDARDS K-6

KINDERGARTEN–GRADE TWO

K-2-ETS1 ENGINEERING DESIGN

- K-2-ETS1-1. 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-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.

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.

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 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.

KINDERGARTEN

K-LS1 FROM MOLECULES TO ORGANISMS: STRUCTURES AND PROCESSES

- K-LS1-1. Use observations to describe patterns of what plants and animals (including humans) need to survive.

K-ESS2 EARTH'S SYSTEMS

- K-ESS2-2. Construct an argument supported by evidence for how plants and animals (including humans) can change the environment to meet their needs.

GRADE ONE

1-LS1 FROM MOLECULES TO ORGANISMS: STRUCTURES AND ORGANISMS

- 1-LS1-1. Use materials to design a solution to a human problem by mimicking how plants and/or animals use their external parts to help them survive, grow, and meet their needs.

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-LS2 ECOSYSTEMS: INTERACTIONS, ENERGY, AND DYNAMICS

- 2-LS2-2. Develop a simple model that mimics the function of an animal in dispersing seeds or pollinating plants.

GRADE THREE

3-PS2 MOTION AND STABILITY: FORCES AND INTERACTIONS

- 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.

GRADE FOUR

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.

GRADE FIVE

5-ESS3 EARTH AND HUMAN ACTIVITY

- 5-ESS3-1. Obtain and combine information about ways individual communities use science ideas to protect the Earth's resources and environment.

GRADE SIX-EIGHT

MS-PS4 WAVES AND THEIR APPLICATIONS IN TECHNOLOGIES FOR INFORMATION TRANSFER

- MS-PS4-3. Integrate qualitative scientific and technical information to support the claim that digitized signals are a more reliable way to encode and transmit information than analog signals.

MS-LS2 ECOSYSTEMS: INTERACTIONS, ENERGY, AND DYNAMICS

- MS-LS2-2. Construct an explanation that predicts patterns of interactions among organisms across multiple ecosystems.

- MS-LS2-5. Evaluate competing design solutions for maintaining biodiversity and ecosystem services.

MS-ESS3 EARTH AND HUMAN ACTIVITY

- MS-ESS3-3. Apply scientific principles to design a method for monitoring and minimizing a human impact on the environment.

COMMON CORE STATE STANDARDS FOR MATHEMATICS K-6

KINDERGARTEN

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

GEOMETRY 1.G

Reason with shapes and their attributes.

- 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.

GRADE TWO

GEOMETRY 2.G

Reason with shapes and their attributes.

- 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.

GRADE FOUR

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.

READING STANDARDS FOR INFORMATIONAL TEXT RI

KINDERGARTEN

- RI3. With prompting and support, describe the connection between two individuals, events, ideas, or pieces of information in a text.

- RI4. With prompting and support, ask and answer questions about unknown words in a text.

GRADE ONE

- RI3. Describe the connection between two individuals, events, ideas, or pieces of information in a text.

- 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.

GRADE TWO

- RI3. Describe the connection between a series of historical events, scientific ideas or concepts, or steps in technical procedures in a text.

- 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.

GRADE THREE

- RI3. Describe the relationship between a series of historical events, scientific ideas or concepts, or steps in technical procedures in a text, using language that pertains to time, sequence, and cause/effect.

- RI4. Determine the meaning of general academic and domain-specific words and phrases in a text relevant to a *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.

GRADE FOUR

- RI3. 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.

- 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*.

GRADE FIVE

- RI3. Explain the relationships or interactions between two or more individuals, events, ideas, or concepts in a historical, scientific, or technical text based on specific information in the text.

- 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.

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

GRADE ONE

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GRADE TWO

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

GRADE THREE

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

GRADE FOUR

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

GRADE FIVE

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

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 preforming 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*.