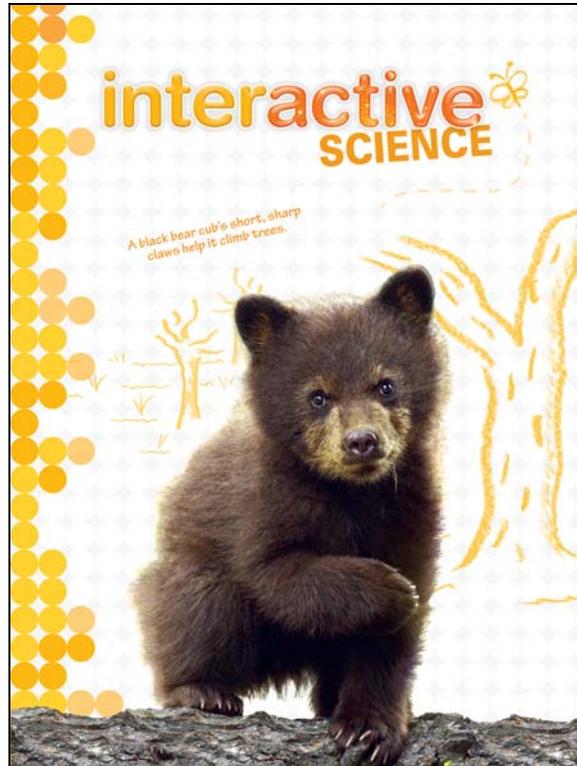


A Correlation of
Pearson
Interactive Science
©2016



To the
Iowa Core Science Standards
Foundation Boxes and
Evidence Statements
Grade 1

Introduction

The following document demonstrates how the ***Interactive Science, ©2016*** program aligns to the Iowa Core Science Standards for grades K-5. Correlation references are to the Student Edition and Teacher Edition. Please note that the Kindergarten Student Edition text pages are two-sided; each singular page contains a corresponding Activity Page on the reverse side.

Interactive Science is an elementary science program that makes learning personal, engaging, and relevant for today's student. The program features an innovative Write-in Student Edition that enables students to become active participants in their learning and truly connect the Big Ideas of science to their world.

The 2016 editions of ***Interactive Science*** were developed to support the Next Generation Science Standards (NGSS) for Grades K-5 in several ways. In the Student Edition, lessons provide interactive opportunities for students to acquire the Disciplinary Core Ideas that are the building blocks of the NGSS Performance Expectations at each grade level. STEM Activities, Apply It! activities, Design It! Activities, and Performance-Based Assessments enable students to research, investigate, and apply Science and Engineering Practices to real-world problems in a meaningful way. In the Teacher's Edition, the NGSS Cross-Cutting Concepts that link across grade levels and across disciplines within grade levels are noted at the chapter level, and a detailed and focused Performance Expectation Activity is provided for each NGSS standard.

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Iowa Core Science Standards, Foundation Boxes, Evidence Statements	Interactive Science, ©2016 Grade 1	
Grade 1		
1-PS4-1 Waves and Their Applications in Technologies for Information Transfer		
Students who demonstrate understanding can: 1-PS4-1. Plan and conduct investigations to provide evidence that vibrating materials can make sound and that sound can make materials vibrate. [Clarification Statement: Examples of vibrating materials that make sound could include tuning forks and plucking a stretched string. Examples of how sound can make matter vibrate could include holding a piece of paper near a speaker making sound and holding an object near a vibrating tuning fork.] Chapter 1 Performance Expectation Activity, 43a		
The performance expectations above were developed using the following elements from the NRC document <i>A Framework for K-12 Science Education</i> :		
Science and Engineering Practices	Disciplinary Core Ideas	Crosscutting Concepts
<p>Planning and Carrying Out Investigations Planning and carrying out investigations to answer questions or test solutions to problems in K–2 builds on prior experiences and progresses to simple investigations, based on fair tests, which provide data to support explanations or design solutions.</p> <ul style="list-style-type: none"> Plan and conduct investigations collaboratively to produce evidence to answer a question. (1-PS4-1),(1-PS4-3) <p>SE/TE: 4, Try It!; 27, Lightning Lab; 32-33, Investigate It!; 40-41, Apply It!; 128-129, Investigate It! TE Only: xlv-xlv, STEMQuest; 3, SEP: Planning and Carrying Our Investigations; 26, Lightning Lab; 33a-33d, Activity Card Support; 43c, Performance Expectation Activity; 171, Differentiated Instruction</p>	<p>PS4.A: Wave Properties</p> <ul style="list-style-type: none"> Sound can make matter vibrate, and vibrating matter can make sound. (1-PS4-1) <p>SE/TE: 6-15, STEM Activity; 28, Explore It!; 29, Sounds; 32-33, Investigate It!; TE Only: 31, Professional Development Note; 31a, Explore It!; 31b, Lesson 4 Check – Questions 1, 4; 33a-33d, Activity Card Support; 43a, Performance Expectation Activity</p>	<p>Cause and Effect</p> <ul style="list-style-type: none"> Simple tests can be designed to gather evidence to support or refute student ideas about causes. (1-PS4-1),(1-PS4-2),(1-PS4-3) <p>SE/TE: 28, Explore It!; 29, Cause and Effect; 31, At-Home Lab; 40, Apply It! TE Only: 30, At-Home Lab; 43a, Performance Expectation Activity</p>

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Iowa Core Science Standards, Foundation Boxes, Evidence Statements	Interactive Science, ©2016 Grade 1	
<p><i>Connections to Nature of Science</i></p> <p>Scientific Investigations Use a Variety of Methods</p> <ul style="list-style-type: none"> Science investigations begin with a question. (1-PS4-1) SE/TE: 40-41, Apply It!; 154-157, Lesson 1; 169, Picture Clues; 170, Scientific Method TE Only: 140G-104H, Leveled Content Reader Support; 141, SEP: Asking Questions and Defining Problems; 157b, Lesson 1 Check – Questions 4, 5 Scientists use different ways to study the world. (1-PS4-1) SE/TE: 154-157, Lesson 1; 158-161, Lesson 2; 162-167, Lesson 3; 168-171, Lesson 4; 172-175, Lesson 5; 178, Hubble Space Telescope; 184-185, Chapter Review – Lessons 1-5 TE Only: 43b, ELA/Literacy; 140G-140H, Leveled Content Reader Support; 157b, Lesson 1 Check – Questions 1-5; 161b, Lesson 2 Check – Questions 1-6; 167b, Lesson 3 Check – Questions 1-6; 171b, Lesson 4 Check – Questions 1-6; 175b, Lesson 5 Check – Questions 1-5 		

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Observable features of the student performance by the end of the grade:	
1	Identifying the phenomenon under investigation
a	Students identify and describe* the phenomenon and purpose of the investigation, which include providing evidence to answer questions about the relationship between vibrating materials and sound.
2	Identifying the evidence to address the purpose of the investigation
a	Students collaboratively develop an investigation plan and describe* the evidence that will result from the investigation, including: <ul style="list-style-type: none"> i. Observations that sounds can cause materials to vibrate. ii. Observations that vibrating materials can cause sounds. iii. How the data will provide evidence to support or refute ideas about the relationship between vibrating materials and sound.
b	Students individually describe* (with support) how the evidence will address the purpose of the investigation.
3	Planning the investigation
a	In the collaboratively developed investigation plan, students individually identify and describe*: <ul style="list-style-type: none"> i. The materials to be used. ii. How the materials will be made to vibrate to make sound. iii. How resulting sounds will be observed and described*. iv. What sounds will be used to make materials vibrate. v. How it will be determined that a material is vibrating.
4	Collecting the data
a	According to the investigation plan they develop, students collaboratively collect and record observations about: <ul style="list-style-type: none"> i. Sounds causing materials to vibrate. ii. Vibrating materials causing sounds.

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Iowa Science Standards, Foundation Boxes and Evidence Statements	Interactive Science, ©2016 Grade 1	
1-PS4-2 Waves and Their Applications in Technologies for Information Transfer		
<p>Students who demonstrate understanding can:</p> <p>1-PS4-2. Make observations to construct an evidence-based account that objects in darkness can be seen only when illuminated. [Clarification Statement: Examples of observations could include those made in a completely dark room, a pinhole box, and a video of a cave explorer with a flashlight. Illumination could be from an external light source or by an object giving off its own light.]</p> <p>Chapter 1 Performance Expectation Activity, 43b</p>		
<p>The performance expectations above were developed using the following elements from the NRC document <i>A Framework for K-12 Science Education</i>:</p>		
Science and Engineering Practices	Disciplinary Core Ideas	Crosscutting Concepts
<p>Constructing Explanations and Designing Solutions Constructing explanations and designing solutions in K–2 builds on prior experiences and progresses to the use of evidence and ideas in constructing evidence-based accounts of natural phenomena and designing solutions.</p> <ul style="list-style-type: none"> Make observations (firsthand or from media) to construct an evidence-based account for natural phenomena. (1-PS4-2) <p>SE/TE: 6-15, STEM Activity; 28, Explore It!; 40-41, Apply It!; 128-129, Investigate It! TE Only: 43b, Performance Expectation Activity; 43b, ELA/Literacy</p>	<p>PS4.B: Electromagnetic Radiation</p> <ul style="list-style-type: none"> Objects can be seen if light is available to illuminate them or if they give off their own light. (1-PS4-2) <p>SE/TE: 17, Energy; 24-25, Envision It!; 24-27, Lesson 3; 40-41, Apply It!; 128-129, Investigate It! TE Only: xliv-xlv, STEMQuest; 27, 21st Century Learning; 27b, Lesson 3 Check – Questions 1-4; 43b, Performance Expectation Activity; 43b, ELA/Literacy</p>	<p>Cause and Effect</p> <ul style="list-style-type: none"> Simple tests can be designed to gather evidence to support or refute student ideas about causes. (1-PS4-1),(1-PS4-2),(1-PS4-3) <p>SE/TE: 28, Explore It!; 29, Cause and Effect; 31, At-Home Lab; 40, Apply It! TE Only: 30, At-Home Lab; 43a, Performance Expectation Activity</p>

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Observable features of the student performance by the end of the grade:	
1	Articulating the explanation of phenomena
	a Students articulate a statement that relates the given phenomenon to a scientific idea, including that when an object in the dark is lit (e.g., turning on a light in the dark space or from light the object itself gives off), it can be seen.
	b Students use evidence and reasoning to construct an evidence-based account of the phenomenon.
2	Evidence
	a Students make observations (firsthand or from media) to serve as the basis for evidence, including: <ul style="list-style-type: none"> i. The appearance (e.g., visible, not visible, somewhat visible but difficult to see) of objects in a space with no light. ii. The appearance (e.g., visible, not visible, somewhat visible but difficult to see) of objects in a space with light. iii. The appearance (e.g., visible, not visible, somewhat visible but difficult to see) of objects (e.g., light bulbs, glow sticks) that give off light in a space with no other light.
	b Students describe* how their observations provide evidence to support their explanation.
3	Reasoning
	a Students logically connect the evidence to support the evidence-based account of the phenomenon. Students describe* lines of reasoning that include: <ul style="list-style-type: none"> i. The presence of light in a space causes objects to be able to be seen in that space. ii. Objects cannot be seen if there is no light to illuminate them, but the same object in the same space can be seen if a light source is introduced. iii. The ability of an object to give off its own light causes the object to be seen in a space where there is no other light.

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Iowa Science Standards, Foundation Boxes and Evidence Statements	Interactive Science, ©2016 Grade 1	
1-PS4-3 Waves and Their Applications in Technologies for Information Transfer		
<p>Students who demonstrate understanding can:</p> <p>1-PS4-3. Plan and conduct investigations to determine the effect of placing objects made with different materials in the path of a beam of light. [Clarification Statement: Examples of materials could include those that are transparent (such as clear plastic), translucent (such as wax paper), opaque (such as cardboard), and reflective (such as a mirror).] [Assessment Boundary: Assessment does not include the speed of light.]</p> <p>Chapter 1 Performance Expectation Activity, 43c</p>		
<p>The performance expectations above were developed using the following elements from the NRC document <i>A Framework for K-12 Science Education</i>:</p>		
Science and Engineering Practices	Disciplinary Core Ideas	Crosscutting Concepts
<p>Planning and Carrying Out Investigations Planning and carrying out investigations to answer questions or test solutions to problems in K–2 builds on prior experiences and progresses to simple investigations, based on fair tests, which provide data to support explanations or design solutions.</p> <ul style="list-style-type: none"> Plan and conduct investigations collaboratively to produce evidence to answer a question. (1-PS4-1),(1-PS4-3) <p>SE/TE: 4, Try It!; 27, Lightning Lab; 32-33, Investigate It!; 40-41, Apply It!; 128-129, Investigate It! TE Only: xlv-xlv, STEMQuest; 3, SEP: Planning and Carrying Our Investigations; 26, Lightning Lab; 33a-33d, Activity Card Support; 43c, Performance Expectation Activity; 171, Differentiated Instruction</p>	<p>PS4.B: Electromagnetic Radiation</p> <ul style="list-style-type: none"> Some materials allow light to pass through them, others allow only some light through and others block all the light and create a dark shadow on any surface beyond them, where the light cannot reach. Mirrors can be used to redirect a light beam. (Boundary: The idea that light travels from place to place is developed through experiences with light sources, mirrors, and shadows, but no attempt is made to discuss the speed of light.) (1-PS4-3) <p>SE/TE: 4, Try It!; 26, Light Shines Through; 27, What Light Can Do; 39, Chapter Review – Lesson 3; 40-41, Apply It!; 43, Make a Presentation TE Only: xlv-xlv, STEMQuest; 2C, Art; 27b, Lesson 3 Check – Questions 3, 4; 39b, Chapter 1 Test – Question 5; 43c, Performance Expectation Activity</p>	<p>Cause and Effect</p> <ul style="list-style-type: none"> Simple tests can be designed to gather evidence to support or refute student ideas about causes. (1-PS4-1),(1-PS4-2),(1-PS4-3) <p>SE/TE: 28, Explore It!; 29, Cause and Effect; 31, At-Home Lab; 40, Apply It! TE Only: 30, At-Home Lab; 43a, Performance Expectation Activity</p>

**A Correlation of Interactive Science, ©2016, to the
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Observable features of the student performance by the end of the grade:	
1	Identifying the phenomenon under investigation
a	Students identify and describe* the phenomenon and purpose of the investigation, which include: <ul style="list-style-type: none"> i. Answering a question about what happens when objects made of different materials (that allow light to pass through them in different ways) are placed in the path of a beam of light. ii. Designing and conducting an investigation to gather evidence to support or refute student ideas about putting objects made of different materials in the path of a beam of light.
2	Identifying evidence to address the purpose of the investigation
a	Students collaboratively develop an investigation plan and describe* the data that will result from the investigation, including: <ul style="list-style-type: none"> i. Observations of the effect of placing objects made of different materials in a beam of light, including: <ul style="list-style-type: none"> 1. A material that allows all light through results in the background lighting up. 2. A material that allows only some light through results in the background lighting up, but looking darker than when the material allows all light in. 3. A material that blocks all of the light will create a shadow. 4. A material that changes the direction of the light will light up the surrounding space in a different direction.
b	Students individually describe* how these observations provide evidence to answer the question under investigation.
3	Planning the investigation
a	In the collaboratively developed investigation plan, students individually describe* (with support): <ul style="list-style-type: none"> i. The materials to be placed in the beam of light, including: <ul style="list-style-type: none"> 1. A material that allows all light through (e.g., clear plastic, clear glass). 2. A material that allows only some light through (e.g., clouded plastic, wax paper). 3. A material that blocks all of the light (e.g., cardboard, wood). 4. A material that changes the direction of the light (e.g., mirror, aluminum foil). ii. How the effect of placing different materials in the beam of light will be observed and recorded. iii. The light source used to produce the beam of light.
4	Collecting the data
a	Students collaboratively collect and record observations about what happens when objects made of materials that allow light to pass through them in different ways are placed in the path of a beam of light, according to the developed investigation plan.

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Iowa Science Standards, Foundation Boxes and Evidence Statements	Interactive Science, ©2016 Grade 1	
1-PS4-4 Waves and Their Applications in Technologies for Information Transfer		
<p>Students who demonstrate understanding can:</p> <p>1-PS4-4. Use tools and materials to design and build a device that uses light or sound to solve the problem of communicating over a distance.* [Clarification Statement: Examples of devices could include a light source to send signals, paper cup and string “telephones,” and a pattern of drum beats.] [Assessment Boundary: Assessment does not include technological details for how communication devices work.]</p> <p>Chapter 1 Performance Expectation Activity, 43d</p>		
<p>The performance expectations above were developed using the following elements from the NRC document <i>A Framework for K-12 Science Education</i>:</p>		
Science and Engineering Practices	Disciplinary Core Ideas	Crosscutting Concepts
<p>Constructing Explanations and Designing Solutions Constructing explanations and designing solutions in K–2 builds on prior experiences and progresses to the use of evidence and ideas in constructing evidence-based accounts of natural phenomena and designing solutions.</p> <ul style="list-style-type: none"> Use tools and materials provided to design a device that solves a specific problem. (1-PS4-4) <p>SE/TE: 6-15, STEM Activity; 43, Send a Message with Sound; 128-129, Investigate It; 144-153, STEM Activity TE Only: xlv-xlv, STEMQuest; 3, SEP: Planning and Carrying Our Investigations; 43d, Performance Expectation Activity</p>	<p>PS4.C: Information Technologies and Instrumentation</p> <ul style="list-style-type: none"> People also use a variety of devices to communicate (send and receive information) over long distances. (1-PS4-4) <p>SE/TE: 6-15, STEM Activity; 29, Sounds; 43, Send a Message with Sound; 202, Solve Problems TE Only: 43a, Performance Expectation Activity; 43d, ELA/Literacy</p>	<p>Connections to Engineering, Technology, and Applications of Science</p> <p>Influence of Engineering, Technology, and Science, on Society and the Natural World</p> <ul style="list-style-type: none"> People depend on various technologies in their lives; human life would be very different without technology. (1-PS4-4) <p>SE/TE: 16, My Planet Diary; 17, Energy; 24, My Planet Diary; 34 TE Only: 2C, Social Studies; 2D, Writing; 2G-2H, Leveled Content Reader Support; 19a, My Planet Diary; 27a, My Planet Diary; 43d, ELA/Literacy; 186C, Social Studies; 186G-186H, Leveled Content Reader Support</p>

**A Correlation of Interactive Science, ©2016, to the
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Observable features of the student performance by the end of the grade:	
1	Using scientific knowledge to generate design solutions
	a Students describe* a given problem involving people communicating over long distances.
	b With guidance, students design and build a device that uses light or sound to solve the given problem.
	c With guidance, students describe* the scientific information they use to design the solution.
2	Describing* specific features of the design solution, including quantification when appropriate
	a Students describe* that specific expected or required features of the design solution should include: i. The device is able to send or receive information over a given distance. ii. The device must use light or sound to communicate.
	b Students use only the materials provided when building the device.
3	Evaluating potential solutions
	a Students describe* whether the device: i. Has the expected or required features of the design solution, ii. Provides a solution to the problem involving people communicating over a distance by using light or sound.
	b Students describe* how communicating over long distances helps people.

**A Correlation of Interactive Science, ©2016, to the
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Iowa Science Standards, Foundation Boxes and Evidence Statements	Interactive Science, ©2016 Grade 1	
1-LS1-1 From Molecules to Organisms: Structures and Processes		
<p>Students who demonstrate understanding can:</p> <p>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.* [Clarification Statement: Examples of human problems that can be solved by mimicking plant or animal solutions could include designing clothing or equipment to protect bicyclists by mimicking turtle shells, acorn shells, and animal scales; stabilizing structures by mimicking animal tails and roots on plants; keeping out intruders by mimicking thorns on branches and animal quills; and, detecting intruders by mimicking eyes and ears.]</p> <p>Chapter 2 Performance Expectation Activity, 99a</p>		
<p>The performance expectations above were developed using the following elements from the NRC document <i>A Framework for K-12 Science Education</i>:</p>		
Science and Engineering Practices	Disciplinary Core Ideas	Crosscutting Concepts
<p>Constructing Explanations and Designing Solutions Constructing explanations and designing solutions in K–2 builds on prior experiences and progresses to the use of evidence and ideas in constructing evidence-based accounts of natural phenomena and designing solutions.</p> <ul style="list-style-type: none"> Use materials to design a device that solves a specific problem or a solution to a specific problem. (1-LS1-1) <p>SE/TE: 48-57, STEM Activity; 99, Design a Helmet; 208, Explore It!; 208-213, Lesson 3; 222-227, Design It! TE Only: 99a, Performance Expectation Activity</p>	<p>LS1.A: Structure and Function</p> <ul style="list-style-type: none"> All organisms have external parts. Different animals use their body parts in different ways to see, hear, grasp objects, protect themselves, move from place to place, and seek, find, and take in food, water and air. Plants also have different parts (roots, stems, leaves, flowers, fruits) that help them survive and grow. (1-LS1-1) <p>SE/TE: 62-63, Animal Groups; 64-67, Lesson 2; 72-77, Lesson 3; 94, Chapter Review – Lessons 2, 3; 96-97, Apply It!; 98, Draw a Picture; 99, Design a Helmet</p>	<p>Structure and Function</p> <ul style="list-style-type: none"> The shape and stability of structures of natural and designed objects are related to their function(s). (1-LS1-1) <p>SE/TE: 66, Roots, Stems, and Leaves; 84, Kinds of Animals; 85, Different Animals of One Kind; 94, Chapter Review - Lesson 2 TE Only: 99a, Performance Expectation Activity; 99a, ELA/Literacy; 140, CCC: Structure and Function; 186, CCC: Structure and Function</p>

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Iowa Science Standards, Foundation Boxes and Evidence Statements	Interactive Science, ©2016 Grade 1	
	<p>TE Only: 44G-44H, Leveled Content Reader Support; 63b, Lesson 1 Check – Questions 1, 2; 67a, My Planet Diary; 67b, Lesson 2 Check – Questions 1-6; 77a, My Planet Diary; 77b, Lesson 3 Check – Questions 1-5; 95b, Chapter 2 Test – Question 6</p> <p>LS1.D: Information Processing</p> <ul style="list-style-type: none"> Animals have body parts that capture and convey different kinds of information needed for growth and survival. Animals respond to these inputs with behaviors that help them survive. Plants also respond to some external inputs. (1-LS1-1) <p>SE/TE: 72-77, Lesson 4; 84, Kinds of Animals; 95, Chapter Review – Lesson 4; 96-97, Apply It!; 99, Design a Helmet</p> <p>TE Only: 71b, Lesson 3 Check – Question 4; 99a, Performance Expectation Activity; 99b, Performance Expectation Activity</p>	<p>-----</p> <p><i>Connections to Engineering, Technology, and Applications of Science</i></p> <p>Influence of Science, Engineering and Technology on Society and the Natural World</p> <ul style="list-style-type: none"> Every human-made product is designed by applying some knowledge of the natural world and is built using materials derived from the natural world. (1-LS1-1) <p>SE/TE: 204-207, Lesson 2</p> <p>TE Only: 99a, Performance Expectation Activity; 186G-186H, Leveled Content Reader Support; 207b, Lesson 2 Check – Questions 1-6</p>

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Observable features of the student performance by the end of the grade:	
1	Using scientific knowledge to generate design solutions
	a Students describe* the given human problem to be solved by the design.
	b With guidance, students use given scientific information about plants and/or animals to design the solution, including:
	iii. How external structures are used to help the plant and/or animal grow and/or survive.
	iv. How animals use external structures to capture and convey different kinds of information they need.
	v. How plants and/or animals respond to information they receive from the environment.
	c Students design a device (using student-suggested materials) that provides a solution to the given human problem by mimicking how plants and/or animals use external structures to survive, grow, and/or meet their needs. This may include:
	i. Mimicking the way a plant and/or animal uses an external structure to help it survive, grow, and/or meet its needs.
	ii. Mimicking the way an external structure of an animal captures and conveys information.
	iii. Mimicking the way an animal and/or plant responds to information from the environment.
2	Describing* specific features of the design solution, including quantification when appropriate
	a Students describe* the specific expected or required features in their designs and devices, including:
	i. The device provides a solution to the given human problem.
	ii. The device mimic plant and/or animal external parts, and/or animal information-processing
iii. The device use the provided materials to develop solutions.	
3	Evaluating potential solutions
	a Students describe* how the design solution is expected to solve the human problem.
	b Students determine and describe* whether their device meets the specific required features.

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Iowa Science Standards, Foundation Boxes and Evidence Statements	Interactive Science, ©2016 Grade 1	
1-LS1-2 From Molecules to Organisms: Structures and Processes		
<p>Students who demonstrate understanding can:</p> <p>1-LS1-2. Read texts and use media to determine patterns in behavior of parents and offspring that help offspring survive. [Clarification Statement: Examples of patterns of behaviors could include the signals that offspring make (such as crying, cheeping, and other vocalizations) and the responses of the parents (such as feeding, comforting, and protecting the offspring).]</p> <p>Chapter 2 Performance Expectation Activity, 99b</p>		
<p>The performance expectations above were developed using the following elements from the NRC document <i>A Framework for K-12 Science Education</i>:</p>		
Science and Engineering Practices	Disciplinary Core Ideas	Crosscutting Concepts
<p>Obtaining, Evaluating, and Communicating Information</p> <p>Obtaining, evaluating, and communicating information in K–2 builds on prior experiences and uses observations and texts to communicate new information.</p> <ul style="list-style-type: none"> Read grade-appropriate texts and use media to obtain scientific information to determine patterns in the natural world. (1-LS1-2) <p>SE/TE: 47, Let’s Read Science; 96-97, Apply It! TE Only: 44C, Reading; 44G-44H, Leveled Content Reader Support; 45, SEP: Obtaining, Evaluating, and Communicating Information; 99a, ELA/Literacy; 99b, Performance Expectation Activity; 99b, ELA/Literacy; 99c, Performance Expectation Activity; 99c, ELA/Literacy</p>	<p>LS1.B: Growth and Development of Organisms</p> <ul style="list-style-type: none"> Adult plants and animals can have young. In many kinds of animals, parents and the offspring themselves engage in behaviors that help the offspring to survive. (1-LS1-2) <p>SE/TE: 69, Seeds to Trees; 70, Life Cycle of a Plant; 72-77, Lesson 4; TE Only: 71b, Lesson 3 Check – Question 3; 77b, Lesson 4 Check – Questions 1-5; 99b, Performance Expectation Activity</p>	<p>Patterns</p> <ul style="list-style-type: none"> Patterns in the natural and human designed world can be observed, used to describe phenomena, and used as evidence. (1-LS1-2),(1-LS3-1) <p>SE/TE: 46, Try It!; 68, Explore It!; 70-71, Life Cycle of a Plant; 73, Animal Life Cycles; 74-75, Life Cycle of a Sea Turtle; 76-77, Life Cycle of a Grasshopper; 82, Explore It!; 98, Draw a Picture TE Only: 44, CCC: Patterns; 71a, Explore It!; 95, Chapter Review – Lesson 4; 99b, Performance Expectation Activity</p>

**A Correlation of Interactive Science, ©2016, to the
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Iowa Science Standards, Foundation Boxes and Evidence Statements	Interactive Science, ©2016 Grade 1	
<p>----- Connections to Nature of Science</p> <p>Scientific Knowledge Is Based on Empirical Evidence</p> <ul style="list-style-type: none"> Scientists look for patterns and order when making observations about the world. (1-LS1-2) <p>SE/TE: 70-71, Life Cycle of a Plant; 73, Animal Life Cycles; 74-75, Life Cycle of a Sea Turtle; 76-77, Life Cycle of a Grasshopper; 98, Draw a Picture</p> <p>TE Only: 44, CCC: Patterns; 95, Chapter Review – Lesson 4; 99b, Performance Expectation Activity</p>		

Observable features of the student performance by the end of the grade:										
1	Obtaining information	<table border="1"> <tr> <td data-bbox="238 1152 295 1180">a</td> <td data-bbox="297 1152 1435 1213">Students use grade-appropriate books and other reliable media to obtain the following scientific information:</td> </tr> <tr> <td data-bbox="238 1215 295 1243"></td> <td data-bbox="297 1215 1435 1251">i. Information about the idea that both plants and animals can have offspring.</td> </tr> <tr> <td data-bbox="238 1253 295 1281"></td> <td data-bbox="297 1253 1435 1341">ii. Information about behaviors of animal parents that help offspring survive (e.g., keeping offspring safe from predators by circling the young, feeding offspring).</td> </tr> <tr> <td data-bbox="238 1344 295 1371"></td> <td data-bbox="297 1344 1435 1402">iii. Information about behaviors of animal offspring that help the offspring survive (e.g., crying, chirping, nuzzling for food).</td> </tr> </table>	a	Students use grade-appropriate books and other reliable media to obtain the following scientific information:		i. Information about the idea that both plants and animals can have offspring.		ii. Information about behaviors of animal parents that help offspring survive (e.g., keeping offspring safe from predators by circling the young, feeding offspring).		iii. Information about behaviors of animal offspring that help the offspring survive (e.g., crying, chirping, nuzzling for food).
a	Students use grade-appropriate books and other reliable media to obtain the following scientific information:									
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	ii. Information about behaviors of animal parents that help offspring survive (e.g., keeping offspring safe from predators by circling the young, feeding offspring).									
	iii. Information about behaviors of animal offspring that help the offspring survive (e.g., crying, chirping, nuzzling for food).									
2	Evaluating information	<table border="1"> <tr> <td data-bbox="238 1434 295 1461">a</td> <td data-bbox="297 1434 1435 1564">Students evaluate the information to determine and describe* the patterns of what animal parents and offspring do to help offspring survive (e.g., when a baby cries, the mother feeds it; when danger is present, parents protect offspring; some young animals become silent to avoid predators).</td> </tr> </table>	a	Students evaluate the information to determine and describe* the patterns of what animal parents and offspring do to help offspring survive (e.g., when a baby cries, the mother feeds it; when danger is present, parents protect offspring; some young animals become silent to avoid predators).						
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**A Correlation of Interactive Science, ©2016, to the
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Iowa Science Standards, Foundation Boxes and Evidence Statements	Interactive Science, ©2016 Grade 1	
1-LS3-1 Heredity: Inheritance and Variation of Traits		
<p>Students who demonstrate understanding can:</p> <p>1-LS3-1. Make observations to construct an evidence-based account that young plants and animals are like, but not exactly like, their parents. [Clarification Statement: Examples of patterns could include features plants or animals share. Examples of observations could include leaves from the same kind of plant are the same shape but can differ in size; and, a particular breed of dog looks like its parents but is not exactly the same.] [Assessment Boundary: Assessment does not include inheritance or animals that undergo metamorphosis or hybrids.]</p> <p>Chapter 2 Performance Expectation Activity, 99c</p>		
<p>The performance expectations above were developed using the following elements from the NRC document <i>A Framework for K-12 Science Education</i>:</p>		
Science and Engineering Practices	Disciplinary Core Ideas	Crosscutting Concepts
<p>Constructing Explanations and Designing Solutions Constructing explanations and designing solutions in K–2 builds on prior experiences and progresses to the use of evidence and ideas in constructing evidence-based accounts of natural phenomena and designing solutions.</p> <ul style="list-style-type: none"> Make observations (firsthand or from media) to construct an evidence-based account for natural phenomena. (1-LS3-1) <p>SE/TE: 46, Try It!; 54-55, Make and Test; 68, Explore It!; 82, Explore It!; 86-87, Investigate It! TE Only: 44G-44H, Leveled Content Reader Support; 85a, Explore It!; 87a-87d, Activity Card Support; 99c, Performance Expectation Activity;</p>	<p>LS3.A: Inheritance of Traits</p> <ul style="list-style-type: none"> Young animals are very much, but not exactly like, their parents. Plants also are very much, but not exactly, like their parents. (1-LS3-1) <p>SE/TE: 44-45, How is a young orangutan like its mother?; 72-73, Envision It!; 75, A baby sea turtle...; 76, Life Cycle of a Grasshopper; 78-81, Lesson 5; 95, Chapter Review – Lesson 5 TE Only: 44C, Critical Thinking; 44G-44H, Leveled Content Reader Support; 81a, Explore It!; 81b, Lesson 5 Check, Question 4; 95a, Chapter 2 Test – Question 3; 95b, Chapter 2 Test – Question 8; 99c, Performance Expectation Activity</p>	<p>Patterns</p> <ul style="list-style-type: none"> Patterns in the natural and human designed world can be observed, used to describe phenomena, and used as evidence. (1-LS1-2),(1-LS3-1) <p>SE/TE: 46, Try It!; 68, Explore It!; 70-71, Life Cycle of a Plant; 73, Animal Life Cycles; 74-75, Life Cycle of a Sea Turtle; 76-77, Life Cycle of a Grasshopper; 82, Explore It!; 98, Draw a Picture TE Only: 44, CCC: Patterns; 71a, Explore It!; 95, Chapter Review – Lesson 4; 99b, Performance Expectation Activity</p>

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Iowa Science Standards, Foundation Boxes and Evidence Statements	Interactive Science, ©2016 Grade 1
	<p>LS3.B: Variation of Traits</p> <ul style="list-style-type: none"> Individuals of the same kind of plant or animal are recognizable as similar but can also vary in many ways. (1-LS3-1) <p>SE/TE: 46, Try It!; 82-85, Lesson 6; TE Only: 44G-44H, Leveled Content Reader Support; 81, 21st Century Learning; 85a, Explore It!; 85b, Lesson 6 Check – Question 5; 94, ELL Support</p>

Observable features of the student performance by the end of the grade:	
1	Articulating the explanation of phenomena
a	Students articulate a statement that relates a given phenomenon to a scientific idea, including the idea that young plants and animals are like, but not exactly like, their parents (not to include animals that undergo complete metamorphoses, such as insects or frogs).
b	Students use evidence and reasoning to construct an evidence-based account of the phenomenon.
2	Evidence
a	<p>Students describe* evidence from observations (firsthand or from media) about patterns of features in plants and animals, including:</p> <ul style="list-style-type: none"> i. Key differences between different types of plants and animals (e.g., features that distinguish dogs versus those that distinguish fish, oak trees vs. bean plants). ii. Young plants and animals of the same type have similar, but not identical features (e.g., size and shape of body parts, color and/or type of any hair, leaf shape, stem rigidity). iii. Adult plants and animals (i.e., parents) of the same type have similar, but not identical features (e.g., size and shape of body parts, color and/or type of any hair, leaf shape, stem rigidity). iv. Patterns of similarities and differences in features between parents and offspring.
3	Reasoning
a	<p>Students logically connect the evidence of observed patterns in features to support the evidence-based account by describing* chains of reasoning that include:</p> <ul style="list-style-type: none"> i. Young plants and animals are very similar to their parents. ii. Young plants and animals are not exactly the same as their parents. iii. Similarities and differences in features are evidence that young plants and animals are very much, but not exactly, like their parents. iv. Similarities and differences in features are evidence that although individuals of the same type of animal or plant are recognizable as similar, they can also vary in many ways.

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Iowa Science Standards, Foundation Boxes and Evidence Statements	Interactive Science, ©2016 Grade 1	
1-ESS1-1 Earth's Place in the Universe		
<p>Students who demonstrate understanding can:</p> <p>1-ESS1-1. Use observations of the sun, moon, and stars to describe patterns that can be predicted. [Clarification Statement: Examples of patterns could include that the sun and moon appear to rise in one part of the sky, move across the sky, and set; and stars other than our sun are visible at night but not during the day.] [Assessment Boundary: Assessment of star patterns is limited to stars being seen at night and not during the day.]</p> <p>Chapter 3 Performance Expectation Activity, 139a</p>		
<p>The performance expectations above were developed using the following elements from the NRC document <i>A Framework for K-12 Science Education</i>:</p>		
Science and Engineering Practices	Disciplinary Core Ideas	Crosscutting Concepts
<p>Analyzing and Interpreting Data Analyzing data in K–2 builds on prior experiences and progresses to collecting, recording, and sharing observations.</p> <ul style="list-style-type: none"> Use observations (firsthand or from media) to describe patterns in the natural world in order to answer scientific questions. (1-ESS1-1) <p>SE/TE: 102, Try It!; 118, Explore It!; 119, Write; 121, Draw; 122, At-Home Lab; 125, Write; 126, Write; 127, Lightning Lab; 139, Day and Night; 139, Sunrise, Sunset</p> <p>TE Only: 101, SEP: Analyzing and Interpreting Data; 116, Science Notebook; 123a, Explore It!; 127a, My Planet Diary; 129c, Guided Inquiry; 139a, Performance Expectation Activity; 139a, ELA/Literacy; 139b, Performance Expectation Activity</p>	<p>ESS1.A: The Universe and its Stars</p> <ul style="list-style-type: none"> Patterns of the motion of the sun, moon, and stars in the sky can be observed, described, and predicted. (1-ESS1-1) <p>SE/TE: 118-123, Lesson 2; Chapter Review – Lesson 2; 139, Day and Night</p> <p>TE Only: 100C, Reading; 100C, Social Studies; 123a, Explore It!; 123b, Lesson 2 Check – Questions 1-5; 139a, Performance Expectation Activity</p>	<p>Patterns</p> <ul style="list-style-type: none"> Patterns in the natural world can be observed, used to describe phenomena, and used as evidence. (1-ESS1-1), (1-ESS1-2) <p>SE/TE: 102, Try It!; 118-123, Lesson 2; 125, Spring; 126, Summer and Fall; 127, Winter; 139, Day and Night; 139, Sunrise, Sunset</p> <p>TE Only: 100, CCC: Patterns; 116, Science Notebook; 123a, Explore It!; 127b, Lesson 3 Check – Question 2; 139a, Performance Expectation Activity; 139b, Performance Expectation Activity</p>

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Iowa Science Standards, Foundation Boxes and Evidence Statements	Interactive Science, ©2016 Grade 1	
		<p>-----</p> <p><i>Connections to Nature of Science</i></p> <p>Scientific Knowledge Assumes an Order and Consistency in Natural Systems</p> <ul style="list-style-type: none"> • Science assumes natural events happen today as they happened in the past. (1-ESS1-1) SE/TE: 121, Moon; 122, Sunrise and Sunset; 125, Spring; 126, Summer and Fall; 127, Winter TE Only: 139a, Performance Expectation Activity; 139b, Performance Expectation Activity • Many events are repeated. (1-ESS1-1) SE/TE: 122, Sunrise and Sunset; 123, Day and Night; 125, Spring; 126, Summer and Fall; 127, Winter; 139, Day and Night; 139, Sunrise, Sunset TE Only: 116, Science Notebook; 139a, Performance Expectation Activity; 139b, Performance Expectation Activity

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Observable features of the student performance by the end of the grade:	
1	Organizing data
a	With guidance, students use graphical displays (e.g., picture, chart) to organize data from given observations (firsthand or from media), including:
i.	Objects (i.e., sun, moon, stars) visible in the sky during the day.
ii.	Objects (i.e., sun, moon, stars) visible in the sky during the night.
iii.	The position of the sun in the sky at various times during the day.
iv.	The position of the moon in the sky at various times during the day or night.
2	Identifying relationships
a	Students identify and describe* patterns in the organized data, including:
i.	Stars are not seen in the sky during the day, but they are seen in the sky during the night.
ii.	The sun is at different positions in the sky at different times of the day, appearing to rise in one part of the sky in the morning and appearing to set in another part of the sky in the evening.
iii.	The moon can be seen during the day and at night, but the sun can only be seen during the day.
iv.	The moon is at different positions in the sky at different times of the day or night, appearing to rise in one part of the sky and appearing to set in another part of the sky.
3	Interpreting data
a	Students use the identified patterns of the motions of objects in the sky to provide evidence that future appearances of those objects can be predicted (e.g., if the moon is observed to rise in one part of the sky, a prediction can be made that the moon will move across the sky and appear to set in a different portion of the sky; if the sun is observed to rise in one part of the sky, a prediction can be made about approximately where the sun will be at different times of day).
b	Students use patterns related to the appearance of objects in the sky to provide evidence that future appearances of those objects can be predicted (e.g., when the sun sets and can no longer be seen, a prediction can be made that the sun will rise again in the morning; a prediction can be made that stars will only be seen at night).

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Iowa Science Standards, Foundation Boxes and Evidence Statements	Interactive Science, ©2016 Grade 1	
1-ESS1-2 Earth's Place in the Universe		
<p>Students who demonstrate understanding can:</p> <p>1-ESS1-2. Make observations at different times of year to relate the amount of daylight to the time of year. [Clarification Statement: Emphasis is on relative comparisons of the amount of daylight in the winter to the amount in the spring or fall.] [Assessment Boundary: Assessment is limited to relative amounts of daylight, not quantifying the hours or time of daylight.]</p> <p>Chapter 3 Performance Expectation Activity, 139b</p>		
<p>The performance expectations above were developed using the following elements from the NRC document <i>A Framework for K-12 Science Education</i>:</p>		
Science and Engineering Practices	Disciplinary Core Ideas	Crosscutting Concepts
<p>Planning and Carrying Out Investigations Planning and carrying out investigations to answer questions or test solutions to problems in K–2 builds on prior experiences and progresses to simple investigations, based on fair tests, which provide data to support explanations or design solutions.</p> <ul style="list-style-type: none"> Make observations (firsthand or from media) to collect data that can be used to make comparisons. (1-ESS1-2) <p>SE/TE: 102, Try It!; 118, Explore It!; 128-129, Investigate It!; 136-137, Apply It!; 142, Try It!; 168, Explore It! TE Only: 123a, Explore It!; 139b, Performance Expectation Activity; 139b, ELA/Literacy; 139b, Mathematics; 171a, Explore It!</p>	<p>ESS1.B: Earth and the Solar System</p> <ul style="list-style-type: none"> Seasonal patterns of sunrise and sunset can be observed, described, and predicted. (1-ESS1-2) <p>SE/TE: 122, Sunrise and Sunset; 125, Spring; 126, Summer and Fall; 127, Winter; 139, Sunrise, Sunset TE Only: 100C, Writing; 139b, Performance Expectation Activity</p>	<p>Patterns</p> <ul style="list-style-type: none"> Patterns in the natural world can be observed, used to describe phenomena, and used as evidence. (1-ESS1-1), (1-ESS1-2) <p>SE/TE: 102, Try It!; 118-123, Lesson 2; 125, Spring; 126, Summer and Fall; 127, Winter; 139, Day and Night; 139, Sunrise, Sunset TE Only: 100, CCC: Patterns; 116, Science Notebook; 123a, Explore It!; 127b, Lesson 3 Check – Question 2; 139a, Performance Expectation Activity; 139b, Performance Expectation Activity</p>

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Observable features of the student performance by the end of the grade:	
1	Identifying the phenomenon under investigation
a	Students identify and describe* the phenomenon and purpose of the investigation, which include the following idea: the relationship between the amount of daylight and the time of year.
2	Identifying evidence to address the purpose of the investigation
a	Based on the given plan for the investigation, students (with support) describe* the data and evidence that will result from the investigation, including observations (firsthand or from media) of relative length of the day (sunrise to sunset) throughout the year.
b	Students individually describe* how these observations could reveal the pattern between the amount of daylight and the time of year (i.e., relative lightness and darkness at different relative times of the day and throughout the year).
3	Planning the investigation
a	Based on the given investigation plan, students describe* (with support):
i.	How the relative length of the day will be determined (e.g., whether it will be light or dark when waking in the morning, at breakfast, when having dinner, or going to bed at night).
ii.	When observations will be made and how they will be recorded, both within a day and across the year.
4	Collecting the data
a	According to the given investigation plan, students collaboratively make and record observations about the relative length of the day in different seasons to make relative comparisons between the amount of daylight at different times of the year (e.g., summer, winter, fall, spring).

**A Correlation of Interactive Science, ©2016, to the
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Iowa Science Standards, Foundation Boxes and Evidence Statements	Interactive Science, ©2016 Grade 1	
K-2-ETS1-1 Engineering Design		
<p>Students who demonstrate understanding can:</p> <p>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.</p> <p>Grade 1: Chapter 1 Performance Expectation Activity, 43d</p>		
<p>The performance expectations above were developed using the following elements from the NRC document <i>A Framework for K-12 Science Education</i>:</p>		
Science and Engineering Practices	Disciplinary Core Ideas	Crosscutting Concepts
<p>Asking Questions and Defining Problems Asking questions and defining problems in K–2 builds on prior experiences and progresses to simple descriptive questions.</p> <ul style="list-style-type: none"> Ask questions based on observations to find more information about the natural and/or designed world(s). (K-2-ETS1-1) <p>Grade 1 SE/TE: 4, Try It!; 40-41, Apply It!; 46, Try It!; 68, Explore It!; 78, Explore It!; 82, Explore It!; 87, Investigate It!; 96, Apply It!; 102, Try It!; 118, Explore It!; 128-129, Investigate It!; 136-137, Apply It!; 142, Try It!; 156, Questions; 158, Explore It!; 168, Explore It!; 169, Science Inquiry; 208, Explore It!</p> <p>Grade 1 TE Only: 71a, Explore It!; 81a, Explore It!; 85a, Explore It!; 123a, Explore It!; 141, SEP: Asking Questions and Defining Problems; 161a, Explore It!; 171a, Explore It!; 213a, Explore It!</p>	<p>ETS1.A: Defining and Delimiting Engineering Problems</p> <ul style="list-style-type: none"> A situation that people want to change or create can be approached as a problem to be solved through engineering. (K-2-ETS1-1) <p>Grade 1 SE/TE: 6-15, STEM Activity; 48-57, STEM Activity; 104-113, STEM Activity; 144-153, STEM Activity; 190-199, STEM Activity; 202, Solve Problems; 203, Help People; 208, A Problem and a Goal; 222-227, Design It!</p> <p>Grade 1 TE Only: 186G-186H, Leveled Content Reader Support</p>	

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Iowa Science Standards, Foundation Boxes and Evidence Statements	Interactive Science, ©2016 Grade 1	
<ul style="list-style-type: none"> Define a simple problem that can be solved through the development of a new or improved object or tool. (K-2-ETS1-1) Grade 1 SE/TE: 7, Find a Problem; 145, Find a Problem; 202, Solve Problems; 208, Explore It!; 209, A Problem and a Goal; 222, Find a Problem Grade 1 TE Only: 186G-186H, Leveled Content Reader Support; 213a, Explore It! 	<ul style="list-style-type: none"> Asking questions, making observations, and gathering information are helpful in thinking about problems. (K-2-ETS1-1) Grade 1 SE/TE: 6, Let's Talk; 7, Find a Problem; 8-9, Plan and Draw; 10, Choose Materials; 48, Mix It Up!; 49, Find a Problem; 50-51, Plan and Draw; 52, Choose Materials; 104, How Does a Greenhouse Work?; 105, Find a Problem; 106-107, Plan and Draw; 108, Choose Materials; 144, What's Over the Wall?; 145, Find a Problem; 146-147, Plan and Draw; 148, Choose Materials; 190, Reach, Grab, Pull; 191, Find a Problem; 192-193, Plan and Draw; 194, Choose Materials; 222-227, Design It! Grade 1 TE Only: 186G-186H, Leveled Content Reader Support Before beginning to design a solution, it is important to clearly understand the problem. (K-2-ETS1-1) Elaborate; 161, Formative Assessment; 164, Differentiated Instruction Grade 1 SE/TE: 7, Find a Problem; 8-9, Plan and Draw; 10, Choose Materials; 49, Find a Problem; 50-51, Plan and Draw; 52, Choose Materials; 105, Find a Problem; 106-107, Plan and Draw; 108, Choose Materials; 145, Find a Problem; 146-147, Plan and Draw; 148, Choose Materials; 191, Find a Problem; 192-193, Plan and 	

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Iowa Science Standards, Foundation Boxes and Evidence Statements	Interactive Science, ©2016 Grade 1	
	Draw; 194, Choose Materials; 210, Plane and Draw; 211, Choose Materials; 222, Find a Problem; 223, Plan and Draw; 224, Choose Materials Grade 1 TE Only: 186G-186H, Leveled Content Reader Support	

Observable features of the student performance by the end of the grade:		
1	Addressing phenomena of the natural or designed world	
a	Students ask questions and make observations to gather information about a situation that people want to change. Students' questions, observations, and information gathering are focused on:	
	iv. A given situation that people wish to change.	
	v. Why people want the situation to change.	
	vi. The desired outcome of changing the situation.	
2	Identifying the scientific nature of the question	
a	Students' questions are based on observations and information gathered about scientific phenomena that are important to the situation.	
3	Identifying the problem to be solved	
a	Students use the information they have gathered, including the answers to their questions, observations they have made, and scientific information, to describe* the situation people want to change in terms of a simple problem that can be solved with the development of a new or improved object or tool.	
4	Defining the features of the solution	
a	With guidance, students describe* the desired features of the tool or object that would solve the problem, based on scientific information, materials available, and potential related benefits to people and other living things.	

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Iowa Science Standards, Foundation Boxes and Evidence Statements	Interactive Science, ©2016 Grade 1	
K-2-ETS1-2 Engineering Design		
Students who demonstrate understanding can: 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 1: Chapter 2 Performance Expectation Activity, 99a		
The performance expectations above were developed using the following elements from the NRC document <i>A Framework for K-12 Science Education</i> :		
Science and Engineering Practices	Disciplinary Core Ideas	Crosscutting Concepts
<p>Developing and Using Models Modeling in K–2 builds on prior experiences and progresses to include using and developing models (i.e., diagram, drawing, physical replica, diorama, dramatization, or storyboard) that represent concrete events or design solutions.</p> <ul style="list-style-type: none"> Develop a simple model based on evidence to represent a proposed object or tool. (K-2-ETS1-2) <p>Grade 1 SE/TE: 99, Design a Helmet; 128-129, Investigate It!; 139, Day and Night; 208, Explore it!; 214-215, Investigate It!; 222-227, Design It! Grade 1 TE Only: 187, SEP: Developing and Using Models; 213a, Explore It!; 215a-215c, Activity Card Support</p>	<p>ETS1.B: Developing Possible Solutions</p> <ul style="list-style-type: none"> Designs can be conveyed through sketches, drawings, or physical models. These representations are useful in communicating ideas for a problem’s solutions to other people. (K-2-ETS1-2) <p>Grade 1 SE/TE: 7, Question 2; 8, Question 4; 11, Question 10; 12, Question 12; 14, Question 15; 15, Question 18; 49, Question 2; 51, Question 7; 53, Question 10; 55, Question 12; 57, Question 16; 105, Question 2; 107, Question 5; 109, Question 9; 110, Question 11; 111, Question 12; 113, Question 16; 145, Question 2; 146, Questions 3, 4; 147, Question 5; 148, Question 6; 149, Question 9; 151, Question 12; 153, Question 16; 191, Question 2; 192, Question 4; 195, Question 9; 196, Question 11; 199, Question 18; 223, Question 3; 210, Lightning Lab; 225, Question 7</p> <p>Grade 1 TE Only: 186G-186H, Leveled Content Reader Support</p>	<p>Structure and Function</p> <ul style="list-style-type: none"> The shape and stability of structures of natural and designed objects are related to their function(s). (K-2-ETS1-2) <p>Grade 1 SE/TE: 6-15, STEM Activity; 48-57, STEM Activity; 66, Roots, Stems, and Leaves; 84, Kinds of Animals; 85, Different Animals of One Kind; 104-113, STEM Activity; 144-153, STEM Activity; 178, Hubble Space Telescope; 222-227, Design It!</p>

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Observable features of the student performance by the end of the grade:	
1	Components of the model
	a Students develop a representation of an object and the problem it is intended to solve. In their representation, students include the following components:
	iv. The object.
	v. The relevant shape(s) of the object.
	vi. The function of the object.
b	Students use sketches, drawings, or physical models to convey their representations.
2	Relationships
	a Students identify relationships between the components in their representation, including:
	iii. The shape(s) of the object and the object's function.
	iv. The object and the problem is it designed to solve.
3	Connections
	a Students use their representation (simple sketch, drawing, or physical model) to communicate the connections between the shape(s) of an object, and how the object could solve the problem.

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Iowa Science Standards, Foundation Boxes and Evidence Statements	Interactive Science, ©2016 Grade 1	
K-2-ETS1-3 Engineering Design		
Students who demonstrate understanding can: 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 1: Chapter 1 Performance Expectation Activity, 43d		
The performance expectations above were developed using the following elements from the NRC document <i>A Framework for K-12 Science Education</i> :		
Science and Engineering Practices	Disciplinary Core Ideas	Crosscutting Concepts
Analyzing and Interpreting Data Analyzing data in K–2 builds on prior experiences and progresses to collecting, recording, and sharing observations. <ul style="list-style-type: none"> Analyze data from tests of an object or tool to determine if it works as intended. (K-2-ETS1-3) Grade 1 SE/TE: 12-13, Make and Test; 33, Analyze and Conclude; 54-55, Make and Test; 110-111, Make and Test; 150-151, Make and Test; 196-197, Make and Test; 208, Explore It!; 215, Analyze and Conclude; 226-227, Record and Share 228, Test Materials Grade 1 TE Only: 213a, Explore It!	ETS1.C: Optimizing the Design Solution <ul style="list-style-type: none"> Because there is always more than one possible solution to a problem, it is useful to compare and test designs. (K-2-ETS1-3) Grade 1 SE/TE: 14-15, Record and Share; 56-57, Record and Share; 112-113, Record and Share; 152-153, Record and Share; 198-199, Record and Share; 226-227, Record and Share Grade 1 TE Only: 186G-186H, Leveled Content Reader Support	

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Observable features of the student performance by the end of the grade:	
1	Organizing data
a	With guidance, students use graphical displays (e.g., tables, pictographs, line plots) to organize given data from tests of two objects, including data about the features and relative performance of each solution.
2	Identifying relationships
a	Students use their organization of the data to find patterns in the data, including:
	iii. How each of the objects performed, relative to:
	3. The other object.
	4. The intended performance.
	iv. How various features (e.g., shape, thickness) of the objects relate to their performance (e.g., speed, strength).
3	Interpreting data
a	Students use the patterns they found in object performance to describe*:
	iv. The way (e.g., physical process, qualities of the solution) each object will solve the problem.
	v. The strengths and weaknesses of each design.
	vi. Which object is better suited to the desired function, if both solve the problem.