

A Correlation of

Interactive Science

Kindergarten, ©2016



To the

2018 Mississippi College-and-Career Readiness Standards for Science



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Introduction

The following document demonstrates how the ***Interactive Science, ©2016*** program aligns to the 2018 Mississippi College-and-Career Standards for Science 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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2018 Mississippi College-and-Career Readiness Standards for Science	Interactive Science ©2016 Kindergarten
KINDERGARTEN	
KINDERGARTEN: Life Science	
K.1 Hierarchical Organization	
Conceptual Understanding: Objects in the environment can be classified as living and nonliving. Living things include plants and animals. All living things reproduce, grow, develop, respond to stimuli, and die; and nonliving things do not. Living things require air, food, water, and an environment in which to live. Acting as scientists, students will observe the natural world and use investigations, charts, drawings, sketches, and models as a way to communicate ideas.	
K.1A Students will demonstrate an understanding of living and nonliving things.	
K.1A.1 <i>With teacher guidance, conduct an investigation of living organisms and nonliving objects in various real world environments (e.g., playground, garden, school grounds) to define characteristics of living organisms that distinguish them from nonliving things.</i>	SE/TE: 33 What are nonliving things? 33 Activity 34 What are living things? 34 Activity TE Only: 36 Math 37 Writing 38 At Home Lab 39a Leveled Reader Support: Living Things 48 Explore 49 Elaborate 50 Explore 51 Elaborate
K.1A.2 <i>With teacher support, gain an understanding that scientists are humans who use observations to learn about the natural world. Obtain information from informational text or other media about scientists who have made important observations about living things (e.g. Carl Linnaeus, John James Audubon, Jane Goodall).</i>	SE/TE: 40 Biography, John Gruener 40 Activity 100 Biography, Percy Julian 100 Activity TE Only: 61 Biography 167 Biography

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<p>Conceptual Understanding: 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. Animals (including humans) use their senses to learn about the world around them.</p>	
<p>K.1B Students will demonstrate an understanding of how animals (including humans) use their physical features and their senses to learn about their environment.</p>	
<p><i>K.1B.1 Develop and use models to exemplify how animals use their body parts to (a) obtain food and other resources, (b) protect themselves, and (c) move from place to place.</i></p>	<p>Grade 2 SE/TE: 90-91 Animal Body Parts 92-93 Staying Safe 232-233 Animal Body Parts as Tools 232 Lightning Lab</p> <p>Grade 2 TE Only: 90 Differentiated Instruction 93b Explain 232 Lightning Lab 232 Content Refresher</p>
<p><i>K.1B.2 Analyze and interpret data to describe how animals use their senses to learn about the world around them.</i></p>	<p>Grade 2 SE/TE: 86 Animals Without Backbones 88 Inquiry Explore It How do ears compare?</p> <p>Grade 2 TE Only: 93a Inquiry Explore It How do ears compare?</p>

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K.2 Reproduction and Heredity	
Conceptual Understanding: Plants and animals change in form as they go through stages in the life cycle. Young plants and animals are very much like their parents and other plants and animals of the same kind, but they can also vary in many ways.	
K.2 Students will demonstrate an understanding of how living things change in form as they go through the general stages of a life cycle.	
K.2.1 Use informational text or other media to make observations about plants as they change during the life cycle (e.g., germination, growth, reproduction, and death) and use models (e.g., drawing, writing, dramatization, or technology) to communicate findings.	Grade 1 SE/TE: 68 Inquiry Explore It How does a seed grow? 69 Seeds to Trees 70-71 Life Cycle of a Plant Grade 1 TE Only: 71a Inquiry Explore It How does a seed grow? 71b Explain
K.2.2 Construct explanations using observations to describe and model the life cycle (birth, growth, adulthood, death) of a familiar mammal (e.g., dog, squirrel, rabbit, deer).	Grade 1 SE/TE: 73 Animal Life Cycles 76-77, Life Cycle of a Grasshopper TE only: 44 G, Advanced, Living Things Grow and Change
K.2.3 With teacher guidance, conduct a structured investigation to observe and measure (comparison of lengths) the changes in various individuals of a single plant species from seed germination to adult plant. Record observations using drawing or writing.	Grade 1 SE/TE: 68 Inquiry Explore It How does a seed grow? Grade 1 TE Only: 71a Inquiry Explore It How does a seed grow?
K.2.4 Use observations to explain that young plants and animals are like but not exactly like their parents (i.e., puppies look similar, but not exactly like their parents).	Grade 1 SE/TE: 78 Inquiry Explore It How are babies and parents alike and different? 79 Plants and Their Parents 80 How Animals and Their Parents Are Alike 81 How Animals and Their Parents Are Different 81 At Home Lab Grade 1 TE Only: 81 21 st Century Learning 81a Inquiry Explore It How are babies and parents alike and different? 81b Explain 81b Apply Concepts

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K.3 Ecology and Interdependence	
Conceptual Understanding: The environment consists of many types of living things including plants and animals. Living things depend on the land, water, and air to live and grow.	
K.3A Students will demonstrate an understanding of what animals and plants need to live and grow.	
<p>K.3A.1 <i>With teacher guidance, conduct a structured investigation to determine what plants need to live and grow (water, light, and a place to grow). Use non-standard measurement to chart growth overtime.</i></p>	<p>SE/TE: 21 Inquiry Try It Do plants need water? 21 Activity Supporting: 35 What do plants need?</p> <p>TE Only 42 Inquiry Try It Do plants need water? Supporting 52 Explore 53 Elaborate 71a Performance Expectation Activity 71c Performance Expectation Activity</p>
<p>K.3A.2 <i>Construct explanations using observations to describe and report what animals need to live and grow (food, water, shelter, and space).</i></p>	<p>SE/TE: 36 What do animals need? 36 Activity</p> <p>TE Only: 54 Explore 55 Elaborate 71a Performance Expectation Activity 71c Performance Expectation Activity</p> <p>Grade 2 xx Quest: Describe a Habitat</p>

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Conceptual Understanding: Interdependence exists between plants and animals within an environment. Living things can only survive in areas where their needs for air, water, food, and shelter are met.	
K.3B Students will demonstrate an understanding of the interdependence of living things and the environment in which they live.	
K.3B.1 <i>Observe and communicate that animals get food from plants or other animals. Plants make their own food and need light to live and grow.</i>	SE/TE: 35 What do plants need? 35 Activity 36 What do animals need? 36 Activity TE Only: 53 Elaborate 55 Elaborate
K.3B.2 <i>Create a model habitat which demonstrates interdependence of plants and animals using an engineering design process to define the problem, design, construct, evaluate, and improve the habitat.*</i>	Grade 1 SE/TE: 104-113 STEM Activity How Does a Greenhouse Work?
K.4 Adaptations and Diversity	
Conceptual Understanding: When animals do not get what they need to survive, they will die. Some types of plants and animals are now extinct because they were unable to adapt when the environment changed. There are similarities between some present-day animals and extinct animals.	
K.4 Students will demonstrate an understanding that some groups of plants and animals are no longer living (extinct) because they were unable to meet their needs for survival.	
K.4.1 <i>Obtain information from informational text or other media to document and report examples of different plants or animals that are extinct.</i>	Grade 2 SE/TE: 147 What Fossils Show 151-152 Vocabulary Smart Cards
K.4.2 <i>Observe and report how some present-day animals resemble extinct animals (i.e., elephants resemble woolly mammoths).</i>	Grade 2 SE/TE: 145 Fossils

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KINDERGARTEN: Physical Science	
K.5 Organization of Matter and Chemical Interactions	
Conceptual Understanding: Matter exists in different states, including solid and liquid forms. Water can exist as a solid or a liquid. Solid objects can be described and sorted according to their attributes. Different properties are suited for different purposes.	
K.5A Students will demonstrate an understanding of the solid and liquid states of matter.	
<p>K.5A.1 <i>Generate questions and investigate the differences between liquids and solids and develop awareness that a liquid can become a solid and vice versa.</i></p>	<p>Grade 2 SE/TE: 25 Solids 26-27 Liquids 27 At-Home Lab Water and Ice 38 Cooling Matter 39 Heating Matter</p> <p>Grade 2 TE Only: 2C Reading 2E At-Home Labs Water and Ice 29b Explain 29b Apply Concepts 39b Explain</p>
<p>K.5A.2 <i>Describe and compare the properties of different materials (e.g., wood, plastic, metal, cloth, paper) and classify these materials by their observable characteristics (visual, aural, or natural textural) and by their physical properties (weight, volume, solid or liquid, and sink or float).</i></p>	<p>Grade 1 SE/TE: 161 Compare and Classify 161 At Home Lab 205 Different Materials 206 Natural Materials 207 Human-Made Materials 220 Sort</p> <p>Grade 1 TE Only: 161 Elaborate 161b Apply Concepts 186C Reading 186D Math 207 Content Refresher</p>

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<p>Conceptual Understanding: Many objects can be built from a smaller set of pieces (e.g., blocks, construction sets). Most objects can be broken down into various component pieces and any piece of uniform matter (e.g., a sheet of paper, a block of wood,) can be subdivided into smaller pieces of the same material. If pieces of the original object are damaged or removed, the object may not have the same properties or work the same.</p>	
<p>K.5B. Students will demonstrate an understanding of how solid objects can be constructed from a smaller set.</p>	
<p><i>K.5B.1 Use basic shapes and spatial reasoning to model large objects in the environment using a set of small objects (e.g., blocks, construction sets).</i></p>	<p>Grade 2 SE/TE: 40 Inquiry Explore It! How can you build a bridge? 45 Materials in Bridges 47 Lightning Lab</p> <p>Grade 2 TE Only 47a, 40 Inquiry Explore It! How can you build a bridge?</p>
<p><i>K.5B.2 Analyze a large composite structure to describe its smaller components using drawing and writing.</i></p>	<p>Grade 2 SE/TE: 46 Building Materials 47 Materials in Towers</p> <p>Grade 2 TE Only 47b Explain</p>
<p><i>K.5B.3 Explain why things may not work the same if some of the parts are missing.</i></p>	<p>Grade 2 SE/TE: 42-43 Combining Materials 44 Combined Materials</p> <p>Grade 2 TE Only 45 Activities Content</p>

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KINDERGARTEN: Earth and Space Science	
K.8 Earth and the Universe	
Conceptual Understanding: Seasonal changes occur as the Earth orbits the sun. These seasonal changes repeat in a pattern. Patterns of sunrise and sunset can be described and predicted.	
K.8A Students will demonstrate an understanding of the pattern of seasonal changes on the Earth.	
<i>K.8A.1 Construct an explanation of the pattern of the Earth's seasonal changes in the environment using evidence from observations.</i>	Grade 1 SE/TE: 125 Spring 126 Summer and Fall 127 Winter 138 Make a Concept Map TE Only: 100C Writing 126 Content Refresher 127 21 st Century Learning 127 Elaborate 127b Explain 127b Apply Concepts
Conceptual Understanding: The sun is the source of heat and light for the solar system. This heat can impact Earth's natural resources. Living things depend upon the effects of the sun (warms the land, air, water, and helps plants grow) in order to survive.	
K.8B Students will demonstrate an understanding that the Sun provides the Earth with heat and light.	
<i>K.8B.1 With teacher guidance, generate and answer questions to develop a simple model, which describes observable patterns of sunlight on the Earth's surface (day and night).</i>	SE/TE: 54 What can you see in the day sky? 54 Activity 55 How does the sun seem to move? 55 Activity TE Only: 74 Math
<i>K.8B.2 With teacher guidance, develop questions to conduct a structured investigation to determine how sunlight affects the temperature of the Earth's natural resources (e.g., sand, soil, rocks, and water).</i>	SE/TE: 60 Inquiry Investigate It; How can the sun make temperatures change? 60 Activity TE Only: 109c Mathematics

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<p>K.8B.3 <i>Develop a technology (i.e., umbrella, shade structure, or hat) which would reduce heat from the sun (temperature) using an engineering design process to define the problem, design, construct, evaluate, and improve the tool.*</i></p>	<p>SE/TE: 44-53 STEM Activity Cool Down!</p> <p>TE Only: 82-83 STEM Activity Cool Down! 109d Mathematics 109d Performance Expectation Activity</p>
<p>K.10 Earth's Resources</p>	
<p>Conceptual Understanding: Humans use Earth's resources for everything they do. Choices that humans make to live comfortably can affect the world around them. Recycling, reusing, and reducing consumption of natural resources is important in protecting our Earth's environment. Humans can make choices that reduce their impact on Earth's environment.</p>	
<p>K.10 Students will demonstrate an understanding of how humans use Earth's resources.</p>	
<p>K.10.1 <i>Participate in a teacher-led activity to gather, organize and record recyclable materials data on a chart or table using technology. Communicate results.</i></p>	<p>Supporting SE/TE: 59 What is recycling? 59 Activity</p> <p>TE Only: 96 Explore 97 Elaborate</p>
<p>K.10.2 <i>With teacher guidance, develop questions to conduct a structured investigation to determine ways to reduce, reuse and recycle Earth's resources and communicate results.</i></p>	<p>SE/TE: 59 What is recycling?</p> <p>TE Only: 97 Elaborate 109e Performance Expectation Activity</p>
<p>K.10.3 <i>Create a product from the reused materials that will meet a human need (e.g., pencil holder, musical instrument, bird feeder). Use an engineering design process to define the problem, design, construct, evaluate, and improve the product.*</i></p>	<p>Recycling may be incorporated SE/TE: 86-95 STEM Activity How Can You Make a Crayon Box?</p> <p>TE Only: 156 Inquiry STEM Activity</p>