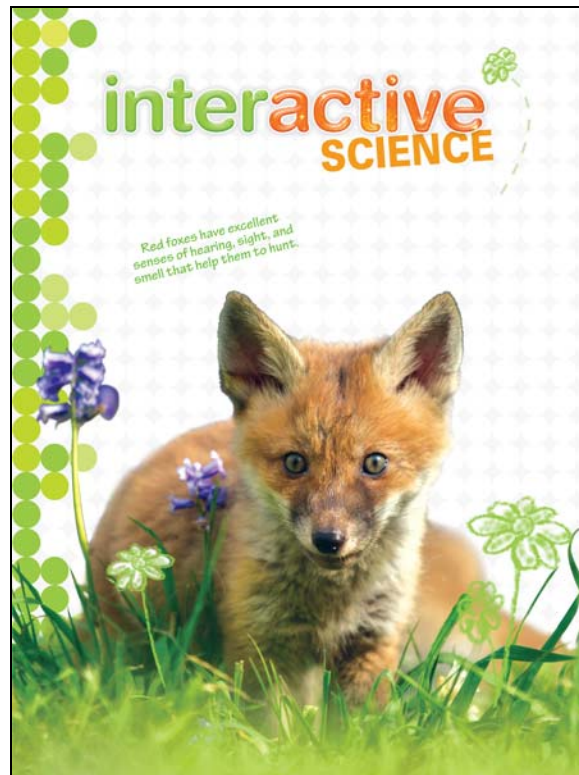


A Correlation of
Interactive Science
Grade 2, ©2016



To the
**2018 Mississippi
College-and-Career Readiness
Standards for Science**

A Correlation of Interactive Science ©2016, Grade 2 to the 2018 Mississippi College-and-Career Readiness Standards for Science

Introduction

The following document demonstrates how the *Interactive Science, ©2016* program aligns to the 2018 Mississippi College-and-Career Readiness Standards for Science, 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 Grade 2
GRADE TWO: Life Science	
2.1 Hierarchical Organization	
Conceptual Understanding: Animals have unique physical and behavioral characteristics that enable them to survive in their environment. Animals can be classified based on physical characteristics.	
2.1 Students will demonstrate an understanding of the classification of animals based on physical characteristics.	
2.1.1 Compare and sort groups of animals with backbones (vertebrates} from groups of animals without backbones (invertebrates}.	SE/TE: 83 Animal Groups 84 Animals with Backbones 85 Animals Without Backbones TE Only: 83 ELL Support Comprehensible Input
2.1.2 Classify vertebrates (mammals, fish, birds, amphibians, and reptiles} based on their physical characteristics.	SE/TE: 82 My Planet Diary 84-85 Animals with Backbones 87 At Home Lab TE Only: 82 Explore 82 Content Refresher 85 21 st Century Learning
2.1.3 Compare and contrast physical characteristics that distinguish classes of vertebrates (i.e., reptiles compared to amphibians}.	SE/TE: 84-85 Animals with Backbones TE Only: 85 21 st Century Learning 87b Explain
2.1.4 Construct a scientific argument for classifying animals using structural characteristics of bats, penguins, snakes, salamanders, dolphins, and duck-billed platypuses.	SE/TE: 82 My Planet Diary TE Only: 82 Content Refresher 83 Categorize 83 Explain 84 Distinguish 84 Elaborate 85 Elaborate

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2.2 Reproduction and Heredity	
Conceptual Understanding: Plants and animals experience different life cycles as they grow and develop. Plants and animals exhibit predictable characteristics at each developmental stage throughout the life cycle.	
2.2 Students will demonstrate an understanding of how living things change in form as they go through the general stages of a life cycle.	
<p>2.2.1 <i>Use observations and measurements of trees (i.e. pecan, oak, pine) in different stages of the life cycle to construct explanations of how trees change over time. Communicate findings.</i></p>	<p>Gr 1 SE/TE: 69 Seeds to Trees</p> <p>G1 TE Only: 69 Compare and Contrast 69 ELL Support 71b Explain</p>
<p>2.2.2 <i>Construct explanations using first-hand observations or other media to describe the life cycle of a frog (birth, growth/development, reproduction, and death). Communicate findings.</i></p>	<p>Gr 3 SE/TE: 180-181 Life Cycle of a Frog</p> <p>Gr 3 TE Only: 180 Science Notebook 181 Sequence 183b Explain 245a Performance Expectation Activity</p>

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2.3 Ecology and Interdependence	
Conceptual Understanding: Animals thrive in environments where their needs (air, water, food, and shelter) are met. The environment where plants and animals live sometimes changes slowly and sometimes changes rapidly. If living things are unable to adapt to changes in the environment, they may not survive.	
2.3A Students will demonstrate an understanding of the interdependence of living things and the environment in which they live.	
2.3A.1 Evaluate and communicate findings from informational text or other media to describe how animals change and respond to rapid or slow changes in their environment (fire, pollution, changes in tide, availability of food/water).	Gr 3 SE/TE: xxii STEMQuest, Where have all the organisms gone? Check in 4, Environmental Changes 219 Do the math! Read a Graph 220 Natural Events Cause Changes 222-223 Living Things Return Gr 3 TE Only: 218 Explain 219 21 st Century Learning 223 Differentiated Instruction
2.3A.2 Construct scientific arguments to explain how animals can make major changes (e.g., beaver dams obstruct streams, or large deer populations destroying crops) and minor changes to their environments (e.g., ant hills, crawfish burrows, mole tunnels). Communicate findings.	Gr 3 SE/TE: 218 Living Things Cause Change Gr 3 TE Only: 218 Differentiated Instruction 218 Explain 223b Explain 245h Performance Expectation Activity
Conceptual Understanding: All animals and plants need food to provide energy for activity and raw materials for growth. Animals and plants have physical features and behaviors that help them survive in their environment. All living things in an environment interact with each other in different ways and for different reasons.	
2.3B Students will demonstrate an understanding of the interdependence of living things.	
2.3B.1 Evaluate and communicate findings from informational text or other media to describe and to compare how animals interact with other animals and plants in the environment (i.e., predator-prey relationships, herbivore, carnivore, omnivore).	SE/TE: 102 Food Chains 103 Predator and Prey TE Only: 102 Content Refresher 102 Lightning Lab 103 Science Notebook 103b Explain

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<p>2.3B.2 <i>Conduct an investigation to find evidence where plants and animals compete or cooperate with other plants and animals for food or space. Present findings (i.e., using technology or models).</i></p>	<p>Gr 4 SE/TE: 152 Parents, Offspring, and Advantages 189 Changes to the Environment</p> <p>Gr 4 TE Only: 152 Common Misconception 174D Tough Competition 191 Common Misconception</p>
<p>2.4 Adaptations and Diversity</p>	
<p>Conceptual Understanding: Living things need air, food, water, and space to survive. Different environments support different types of plants and animals. Animals have adaptations allowing them to grow and survive in the climate of their specific environment.</p>	
<p>2.4 Students will demonstrate an understanding of the ways animals adapt to their environment in order to survive.</p>	
<p>2.4.1 <i>Evaluate and communicate findings from informational text or other media to describe adaptations that help living things (e.g., ducks use webbed feet to swim in lakes and ponds, cacti have waxy coatings and spines to grow in the desert) survive in distinct environments (e.g., polar lands, saltwater and freshwater, desert, rainforest, woodlands).</i></p>	<p>SE/TE: 221 Seasonal Change</p> <p>TE Only: 221 Explain</p> <p>See also Gr 4 SE/TE 143 Adaptations 144-145 Animal Adaptations 146-147 Plant Adaptations</p> <p>Gr 4 TE Only: 112E At-Home Lab 146 At-Home Lab 146 Elaborate 147b Explain 147b Apply Concepts</p>
<p>2.4.2 <i>Create a device based on an animal adaptation that would help a human survive in a specific environment (e.g., shoes like a snowshoe hare's or a helmet like a turtle's shell). Use an engineering design process to define the problem, design, construct, evaluate, and improve the device.*</i></p>	<p>SE/TE: 222-227, Skills Handbook, How do people design new things? guides students in the design process.</p>

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GRADE TWO: Physical Science	
2.5 Organization of Matter and Chemical Interactions	
<p>Conceptual Understanding: Matter exists in different states, including solid, liquid, and gas forms. Solids have a definite shape and volume and can be measured by length, and weight. Liquids have a definite volume but not a definite shape (Boundary: Volume is introduced for liquid measure only.) A gas has neither definite shape nor volume. Changes to matter can result from changes in temperature. Some changes may or may not be reversible (i.e., melting or freezing versus burning a cake).</p>	
2.5 Students will demonstrate an understanding of the properties of matter.	
<p>2.5.1 <i>Conduct a structured investigation to collect, represent, and analyze categorical data to classify matter as solid, liquid, or gas. Report findings and describe a variety of materials according to observable physical properties (e.g., size, color, texture, opacity, solubility).</i></p>	<p>SE/TE: 16 Inquiry Explore It How can you classify matter? 18 Properties of Matter 19 Color and Texture 20-21 Shape and Size 25 Solids 26-27 Liquids 28-29 Gases 35 Water Mixtures 51 Vocabulary Smart Cards</p> <p>TE Only: 2C Reading 2D Writing 18 Differentiated Instruction 20 Explain 21 Elaborate Science Notebook 23a Inquiry Explore It How can you classify matter? 23b Apply Concepts 26 Explain 28 Elaborate Science Notebook 29b Explain 35 Lightning Lab 52 Differentiated Instruction 61a Performance Expectation Activity</p>

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<p><i>2.5.2 Compare the length and weight of solid objects and the volume of liquid objects using technology and mathematical representations. Measure, analyze and communicate findings.</i></p>	<p>SE/TE: 17 Matter 36 Inquiry Explore It! How much water is in each cup? 37 Changing Shape 53 Vocabulary Smart Card</p> <p>TE Only: 36 Lab Support 39a Inquiry Explore It! How much water is in each cup?</p>
<p><i>2.5.3 Construct scientific arguments to support claims that some changes to matter caused by heating can be reversed, and some changes cannot be reversed.</i></p>	<p>SE/TE: 38 Cooling Matter 39 Heating Matter</p> <p>TE Only: 39b Explain 61d Performance Expectation Activity</p>

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2.6 Motions, Fortes, and Energy	
Conceptual Understanding: An object at rest will stay at rest unless it is pushed or pulled by an unbalanced force. Pushes and pulls can have different strengths, directions, or speeds. Friction occurs when two objects make contact. Friction can change the motion of an object, the speed of an object, and can also create heat. Friction can be increased or decreased.	
2.6 Students will demonstrate an understanding of how the motion of objects is affected by pushes, pulls, and friction on an object.	
<p>2.6.1 <i>Conduct a structured investigation to collect, represent, and analyze data from observations and measurements to demonstrate the effects of pushes and pulls with different strengths and directions. Communicate findings (e.g., models or technology).</i></p>	<p>Gr K SE/TE: 15 What Makes Objects Move? 16 What Are Some Ways Objects Move? 17 How do moving objects affect each other? 18 Inquiry Investigate It How can you move the car?</p> <p>Gr K TE Only: 18-19 What Makes Objects Move? 20-21 What Are Some Ways Objects Move? 22-23 How do moving objects affect each other?</p>
<p>2.6.2 <i>Generate and answer questions about the relationship between (1) friction and the motion of objects and (2) friction and the production of heat.</i></p>	<p>Gr 3 SE/TE: 16-17 Effects of Mass and Friction 29 Vocabulary Smart Cards</p> <p>Gr 3 TE Only: 1D Friction 16 Differentiated Instruction 17 Elaborate Science Notebook 21b Apply Concepts</p> <p>Gr 4 SE/TE: 33 Friction to Heat 68-69 Investigate It! How does friction affect motion?</p> <p>Gr 4 TE Only 69a-d Investigate It! How does friction affect motion?</p>

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<p>2.6.3 <i>Develop a plan to reduce friction to solve a human problem (e.g., improve the ride on a playground slide or make a toy car or truck go faster). Use an engineering design process to define the problem, design, construct, evaluate, and improve the plan.*</i></p>	<p>Gr K SE/TE: 19 STEM Slide Engineer</p> <p>Gr K TE Only: 25 STEM Slide Engineer</p> <p>Gr 5 SE/TE STEM Activity Watch It Fly!</p>
<p>GRADE TWO: Earth and Space Science</p>	
<p>2.8 Earth and the Universe</p>	
<p>Conceptual Understanding: Patterns of the Sun, Moon, and stars can be observed, described, and predicted. The sun is the source of heat and light for the solar system. Seasonal changes occur as the Earth orbits the Sun because of the tilt of the Earth on its axis. At night, one can see light from stars and sunlight being reflected from the moon. Telescopes make it possible to observe the Moon and the planets in greater detail. Space exploration continues to help humans understand more about the universe.</p>	
<p>2.8 Students will demonstrate an understanding of the appearance, movements, and patterns of the sun, moon, and stars.</p>	
<p>2.8.1 <i>Recognize that there are many stars that can be observed in the night sky and the Sun is the Earth's closest star.</i></p>	<p>Gr 1 SE/TE: 25 What Makes Light 115 The Nearest Star 120 Night Sky</p> <p>Gr 1 TE Only: 100D Teacher Background 122 Content Refresher</p>
<p>2.8.2 <i>With teacher guidance, observe, describe, and predict the seasonal patterns of sunrise and sunset. Collect, represent, and interpret data from internet sources to communicate findings.</i></p>	<p>Gr 1 SE/TE: 122 Sunrise and Sunset 125 Spring 126 Summer and Fall 127 Winter 139 Sunrise, Sunset</p> <p>Gr 1 TE Only: 122 At Home Lab 139b Performance Expectation Activity</p>

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<p>2.8.3 <i>Observe and compare the details in images of the moon and planets using the naked eye, telescopes, and data from space exploration.</i></p>	<p>Gr 1 SE/TE: 114 My Planet Diary Invention 118 Inquiry Explore It! How does the shape of the moon appear to change? 120 Night Sky 121 Moon</p> <p>Gr 1 TE Only 114 Explore 120 Explain 121 Elaborate Science Notebook 123a Inquiry Explore It! How does the shape of the moon appear to change?</p>
<p>2.8.4 <i>With teacher support, gain an understanding that scientists are humans who use observations and experiments to learn about space. Obtain information from informational text or other media about scientists who have made important discoveries about objects in space (e.g., Galileo Galilei, Johannes Kepler, George Ellery Hale, Jill Tarter) or the development of technologies (e.g., various telescopes and detection devices, computer modeling, and space exploration).</i></p>	<p>SE/TE: 174-175, What questions do scientists ask?</p> <p>TE Only: 177a, My Planet Discovery</p>
<p>2.8.5 <i>Use informational text and other media to observe, describe and predict the visual patterns of motion of the Sun (sunrise, sunset) and Moon (phases).</i></p>	<p>Gr 1 SE/TE: 118 Inquiry Explore It! How does the shape of the moon appear to change? 120 Night Sky 121 Moon 122 Sunrise and Sunset</p> <p>Gr 1 TE Only: 100C Reading 123a Inquiry Explore It! How does the shape of the moon appear to change? 139a Performance Expectation Activity</p>

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<p>2.8.6 <i>Create a product that will demonstrate the observable pattern of motion of the Sun or Moon. Use an engineering design process to define the problem, design, construct, evaluate, and improve the product.*</i></p>	<p>Gr 3 SE/TE: 42-45 STEM Activity Sun, Light, Energy</p>
<p>2.10 Earth's Resources</p>	
<p>Conceptual Understanding: Earth is made of different materials, including rocks, sand, soil_ and water. An Earth material is a resource that comes from Earth. Earth materials can be classified by their observable properties. Human life and health are heavily dependent on these materials. Understanding how to best conserve these resources will continue to be a major challenge for humans.</p>	
<p>2.10 Students will demonstrate an understanding of how humans use Earth's resources.</p>	
<p>2.10.1 <i>Analyze and interpret data from observations and measurements to compare the properties of Earth materials (including rocks, soils, sand, and water).</i></p>	<p>SE/TE: 133 Land and Water 136 Lakes and Ponds 194 Record Data 195 Show Data</p> <p>TE Only: 118C Math 194 Content Refresher</p>
<p>2.10.2 <i>Conduct an investigation to identify and classify everyday objects that are resources from the Earth (e.g., drinking water, granite countertops, clay dishes, wood furniture, or gas grill).</i></p>	<p>SE/TE 45 Materials in Bridges 46 Building Materials 47 Materials in Towers 136 Lakes and Ponds</p> <p>TE Only: 45 Science Social Studies 46 Elaborate Science Notebook</p>

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<p>2.10.3 <i>Obtain and communicate information to summarize how earth materials are used in different ways (e.g., soil and water to grow plants; rocks to make roads, walls or buildings; or sand to make glass).</i></p>	<p>SE/TE: 45 Materials in Bridges 46 Building Materials 47 Materials in Towers</p> <p>TE Only: 45 Science Social Studies 46 Explain</p>
<p>2.10.4 <i>Obtain and communicate information to explain the process and consequences of soil erosion.</i></p>	<p>SE/TE: 139 Changes on Earth 141 Weathering and Erosion 142 Water Changes the Land 143 Other Causes of Erosion 153 What Changes Land?</p> <p>TE Only: 141 Lightning Lab 142 Explain</p>
<p>2.10.5 <i>With teacher guidance, investigate possible solutions to prevent or repair soil erosion.</i></p>	<p>TE Only: 159b Performance Expectation Activity</p>