# FOSS® Next Generation, FOSS Pathways™, Delta Explore Primary Readers, Delta Science Content Readers and Delta ScienceFLEX® Readers
## Alignment to Arizona 2018 Science Standards

| Grade Kindergarten | |
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| **Arizona 2018 Science Standard** | **Program Aligned** |
| **K.P2U1.1**<br>Investigate how senses can detect light, sound, and vibrations even when they come from far away; use the collected evidence to develop and support an explanation. | **Delta Explore Primary Readers**<br>My Five Senses |
| **K.P2U2.2**<br>Design and evaluate a tool that helps people extend their senses. | **FOSS Pathways Trees and Weather**<br>Investigation 3; Part 3<br>**FOSS Pathways Animals Two by Two**<br>Investigation 2; Parts 1-3 |
| **K.E1U1.3**<br>Observe, record, and ask questions about temperature, precipitation, and other weather data to identify patterns or changes in local weather. | **FOSS Pathways Trees and Weather**<br>Investigation 3; Parts 1-3 |
| **K.E1U1.4**<br>Observe, describe, ask questions, and predict seasonal weather patterns; and how those patterns impact plants and animals (including humans). | **FOSS Pathways Trees and Weather**<br>Investigation 1; Part 1<br>Investigation 4; Parts 1-3 |
| **K.E2U1.5**<br>Observe and ask questions about patterns of the motion of the sun, moon, and stars in the sky. | **FOSS Pathways Trees and Weather**<br>Investigation 2; Part 2 |
| **K.L1U1.6**<br>Obtain, evaluate, and communicate information about how organisms use different body parts for survival. | **FOSS Pathways Animals Two by Two**<br>Investigations 1-4; All Parts |
| **K.L1U1.7**<br>Observe, ask questions, and explain how specialized structures found on a variety of plants and animals (including humans) help them sense and respond to their environment. | **FOSS Pathways Animals Two by Two**<br>Investigations 1-4; All Parts |
| **K.L2U1.8**<br>Observe, ask questions, and explain the differences between the characteristics of living and non-living things. | **FOSS Pathways Animals Two by Two**<br>Investigation 3; Part 1 |
| **Core Idea U2**<br>The knowledge produced by science is used in engineering and technologies to solve problems and/or create products. | **FOSS Pathways Materials and Forces**<br>Investigation 2; Side Trip 1<br>Investigation 2; Part 1<br>**FOSS Pathways Trees and Weather**<br>Investigation 2; Part 3 |

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## Alignment to Arizona 2018 Science Standards

| Grade 1 | |
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| **Arizona Science Standard** | **Program Aligned** |
| **1.P2U1.1**<br>Plan and carry out investigations demonstrating the effect of placing objects made with different materials in the path of a beam of light and **predict** how objects with similar properties will affect the beam of light. | **FOSS Pathways Sound and Light**<br>Investigation 3; Part 1<br>Investigation 1; Side Trip 2<br>Investigation 4; Parts 1-3 |
| **1.P2U1.2**<br>Use models to provide evidence that vibrating matter creates sound and sound can make matter vibrate. | **FOSS Pathways Sound and Light**<br>Investigation 1; Parts 1-2, Side Trip 1<br>Investigation 2; Parts 1-2 |
| **1.P3U1.3**<br>Plan and carry out investigations which demonstrate how equal forces can balance objects and how unequal forces can push, pull, twist objects, making them change their speed, direction, or shape. | **FOSS Next Generation STEM Forces in Action**<br>Investigation 1; All Parts<br>Investigation 2; All Parts<br>Investigation 4: All Parts |
| **1.P4U2.4**<br>Design and evaluate ways to increase or reduce heat from friction between two objects. | **FOSS Next Generation STEM Forces in Action**<br>Investigation 1; Part 1 |
| **1.E1U1.5**<br>Obtain, evaluate, and communicate information about the properties of Earth materials and investigate the properties of earth materials and how humans use resources in everyday life. | **FOSS Science Resource Book: *Pebbles, Sand and Silt***<br>**This standard is also addressed in Water and Landforms.* |
| **1.L1U1.6**<br>Observe, describe, and predict life cycles of animals and plants. | **FOSS Pathways Insects and Plants**<br>Investigations 1-3; All Parts |
| **1.L2U2.7**<br>Develop and use models about how living things use resources to grow and survive; design and evaluate habitats for organisms using earth materials**.** | **FOSS Pathways Insects and Plants**<br>Investigation 1; Part 2<br>Investigation 2; Part 2 |
| **1.L2U1.8**<br>Construct an explanation describing how organisms obtain resources from the environment including materials that are used again by other organisms. | **FOSS Pathways Insects and Plants**<br>Investigation 1; Part 1 and Side Trip 1<br>Investigation 2; Side Trip 2<br>Investigation 3; Part 2 |

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| **1.L3U1.9**<br>Obtain, evaluate, and communicate information to support an evidence-based explanation that plants and animals produce offspring of the same kind, but offspring are generally not identical to each other or their parents. | **FOSS Pathways Insects and Plants**<br>Investigation 3; Part 1 |
| **1.L4U1.10**<br>Develop a model to describe how animals and plants are classified into groups and subgroups according to their similarities. | **FOSS Pathways Insects and Plants**<br>Investigation 1; Side Trip 1<br>Investigation 3; Part 1 |
| **1.L4U3.11**<br>Ask questions and explain how factors can cause species to go extinct. | **Delta Science Reader**<br>Plant and Animal Populations |
| **Core Idea U2:**<br>The knowledge produced by science is used in engineering and technologies to solve problems and/or create products. | **FOSS Pathways Sound and Light**<br>Investigation 2; Part 2<br>Investigation 3; Part 3 |

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## Alignment to Arizona 2018 Science Standards

| Grade 2 | |
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| **Arizona Science Standard** | **Program Aligned** |
| **2.P1U1.1**<br>Plan and carry out an investigation to determine that matter has mass, takes up space, and is recognized by its observable properties; use the collected evidence to develop and support an explanation. | **FOSS Pathways Solids and Liquids**<br>Investigation 1; Parts 1-3<br>Investigation 2; Parts 1-3<br>Investigation 3; Parts 1-3<br>**FOSS Pathways Changes in the Sky**<br>Investigation 1; Side Trip 1 |
| **2.P1U1.2**<br>Plan and carry out investigations to gather evidence to support an explanation on how heating or cooling can cause a phase change in matter. | **FOSS Pathways Solids and Liquids**<br>Investigation 3; Part 2-3, Side Trip 1 |
| **2.P4U1.3**<br>Obtain, evaluate and communicate information about ways heat energy can cause change in objects or materials. | **FOSS Pathways Solids and Liquids**<br>Investigation 3; Part 2-3, Side Trip 1 |
| **2.E1U1.4**<br>Observe and investigate how wind and water change the shape of the land resulting in a variety of landforms. | **FOSS Pathways Water and Landforms**<br>Investigation 1; Parts 1-2<br>Investigation 2; Parts 1-2<br>Investigation 3; Parts 1-2<br>Investigation 4; Part 2 |
| **2.E1U1.5**<br>Develop and use models to represent that water can exist in different states and is found in oceans, glaciers, lakes, rivers, ponds, and the atmosphere. | **FOSS Pathways Water and Landforms**<br>Investigation 4; Parts 1-2 |
| **2.E1U2.6**<br>Analyze patterns in weather conditions of various regions of the world and design, test, and refine solutions to protect humans from severe weather conditions. | **FOSS Next Generation Air and Weather**<br>Investigation 3; Parts 2 and 4<br><br>**FOSS Pathways Water and Landforms**<br>Investigation 3; Parts 1 and 3 |
| **2.E1U3.7**<br>Construct an argument from evidence regarding positive and negative changes in water and land systems that impact humans and the environment. | **FOSS Pathways Water and Landforms**<br>Investigation 4; Parts 1-2 |
| **2.E2U1.8**<br>Observe and explain the Sun's position at different times during a twenty-four-hour period and changes in the apparent shape of the Moon from one night to another. | **FOSS Next Generation Air and Weather**<br>Investigation 2; Part 4<br>Investigation 4; Parts 1 and 2 |

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| **2.L2U1.9**<br>Obtain, analyze, and communicate evidence that organisms need a source of energy, air, water, and certain temperature conditions to survive. | **FOSS Pathways Plants and Animals**<br>Investigations 1-4; All Parts |
| **2.L2U1.10**<br>Develop a model representing how life on Earth depends on energy from the Sun and energy from other organisms. | **FOSS Pathways Plants and Animals**<br>Investigation 1; Parts 1 and 2 |
| **Core Idea U2:**<br>The knowledge produced by science is used in engineering and technologies to solve problems and/or create products. | **FOSS Pathways Solids and Liquids**<br>Investigation 1; Part 3 |

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## Alignment to Arizona 2018 Science Standards

| Grade 3 | |
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| **Arizona Science Standard** | **Program Aligned** |
| **3.P2U1.1**<br>Ask questions and investigate the relationship between light, objects, and the human eye. | **Delta Science Content Reader**<br>Heat and Light Energy |
| **3.P1U1.2**<br>Plan and carry out an investigation to explore how sound waves affect objects at varying distances. | **FOSS Next Generation STEM Sound Design**<br>Investigation 3; Parts 1, 2, and 3 |
| **3.P4U1.3**<br>Develop and use models to describe how light and sound waves transfer energy. | **FOSS Next Generation STEM Sound Design**<br>Investigation 2; Part 1<br>Investigation 3; Part 3 |
| **3.E1U1.4**<br>Construct an explanation describing how the Sun is the primary source of energy impacting Earth systems. | **FOSS Pathways Water and Climate**<br>Investigation 3; Parts 2 and 3<br>**FOSS Pathways Structures of Life**<br>Side Trip 3<br>**Science Flex Readers**<br>Energy in the Web |
| **3.L1U1.5**<br>Develop and use models to explain that plants and animals (including humans) have internal and external structures that serve various functions that aid in growth, survival, behavior, and reproduction. | **FOSS Pathways Structures of Life**<br>Investigations 1-3; All Parts |
| **3.L2U1.6**<br>Plan and carry out investigations to demonstrate ways plants and animals react to stimuli. | **FOSS Pathways Structures of Life**<br>Investigation 3; Parts 2 and 3 |
| **3.L2U1.7**<br>Develop and use system models to describe the flow of energy from the sun to and among living organisms. | **FOSS Pathways Structures of Life**<br>Side Trip 3 |
| **3.L2U1.8**<br>Construct an argument from evidence that organisms are interdependent. | **FOSS Pathways Structures of Life**<br>Investigation 3; Part 3 |
| **Core Idea U2:**<br>The knowledge produced by science is used in engineering and technologies to solve problems and/or create products. | **FOSS Next Generation STEM Sound Design**<br>Investigation 2; Part 3 |

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## Alignment to Arizona 2018 Science Standards

| Grade 4 | |
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| **Arizona Science Standard** | **Program Aligned** |
| **4.P4U1.1**<br>Develop and use a model to demonstrate how a system transfers energy from one object to another even when the objects are not touching. | **FOSS Pathways Energy**<br>Investigations 1-4; All parts |
| **4.P4U1.2**<br>Develop and use a model that explains how energy is moved from place to place through electric currents. | **FOSS Pathways Energy**<br>Investigation 1; Parts 1-3 |
| **4.P2U1.3**<br>Develop and use a model to demonstrate magnetic forces. | **FOSS Pathways Energy**<br>Investigation 2; Parts 1-3 |
| **4P4U3.4**<br>Engage in argument from evidence on the use and impact of renewable and nonrenewable resources to generate electricity. | **FOSS Pathways Energy**<br>Investigation 1; Part 2 |
| **4.E1U1.5**<br>Use models to explain seismic waves and their effect on the Earth. | **FOSS Pathways Soils, Rocks, and Landforms**<br>Investigation 4; Part 1 |
| **4.E1U1.6**<br>Plan and carry out an investigation to explore and explain the interactions between Earth's major systems and the impact on Earth's surface materials and processes. | **FOSS Pathways Soils, Rocks, and Landforms**<br>Investigations 1-2; All Parts |
| **4.E1U1.7**<br>Develop and/or revise a model using various rock types, fossil location, and landforms to show evidence that Earth's surface has changed over time. | **FOSS Pathways Soils, Rocks, and Landforms**<br>Investigation 2; All Parts<br>Investigation 4; Part 2 |
| **4.E1U1.8**<br>Collect, analyze, and interpret data to explain weather and climate patterns. | **Science Flex Readers**<br>*Our Active Earth* |
| **4.E1U3.9**<br>Construct and support an evidence-based argument about the availability of water and its impact on life. | **FOSS Next Generation Environments**<br>Investigation 1; Parts 1 and 2 |
| **4.E1U2.10**<br>Define problem(s) and design solution(s) to minimize the effects of natural hazards. | **FOSS Pathways Soils, Rocks, and Landforms**<br>Investigation 2; Part 3 |

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| **4.L4U1.11**<br>Analyze and interpret environmental data to demonstrate that species either adapt and survive or go extinct over time. | **FOSS Next Generation Environments**<br>Investigation 3; Parts 2 and 3<br>Investigation 4; Parts 1 and 2<br>**FOSS Pathways Soils, Rocks, and Landforms**<br>Investigation 4; Part 2 |
| **Core Idea U2:**<br>The knowledge produced by science is used in engineering and technologies to solve problems and/or create products. | **FOSS Pathways Soils, Rocks and Landforms**<br>Investigation 2; Part 3 |

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## Alignment to Arizona 2018 Science Standards

| Grade 5 | |
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| **Arizona Science Standard** | **Program Aligned** |
| **5.P1U11.1**<br>Analyze and interpret data to explain that matter of any type can be subdivided into particles too small to see and, in a closed system, if properties change or chemical reactions occur, the amount of matter stays the same. | **FOSS Pathways Mixtures and Solutions**<br>Investigation 1; All Parts<br>Investigation 2; Part 3 |
| **5.P1U11.2**<br>Plan and carry out investigations to demonstrate that some substances combine to form new substances with different properties and others can be mixed without taking on new properties. | **FOSS Pathways Mixtures and Solutions**<br>Investigation 1; All Parts<br>Investigation 4; All Parts |
| **5.P2U1.3**<br>Construct an explanation using evidence to demonstrate that objects can affect other objects even when they are not touching. | **FOSS Pathways Earth and Sun**<br>Investigation 4; Part 1<br>**FOSS Pathways Motion**<br>Investigation 1; Parts 1 and 2 |
| **5.P3U1.4**<br>Obtain, analyze, and communicate evidence of the effects that balanced and unbalanced forces have on the motion of objects. | **FOSS Pathways Motion**<br>Investigation 1; Part 3<br>Investigation 2; All Parts |
| **5.P3U2.5**<br>Define problems and design solutions pertaining to force and motion. | **FOSS Pathways Motion**<br>Investigation 3; All Parts |
| **5.P4U1.6**<br>Analyze and interpret data to determine how and where energy is transferred when objects move. | **FOSS Pathways Motion**<br>Investigation 1; Part 3 |
| **5.E2U1.7**<br>Develop, revise, and use models based on evidence to construct explanations about the movement of the Earth and Moon within our solar system. | **FOSS Pathways Earth and Sun**<br>Investigation 4; Parts 1 and 2 |
| **5.E2U1.8**<br>Obtain, analyze, and communicate evidence to support an explanation that the gravitational force of Earth on objects is directed toward the planet's center. | **FOSS Pathways Earth and Sun**<br>Investigation 4; Part 1 |
| **5.L3U1.9**<br>Obtain, evaluate, and communicate information about patterns between the offspring of plants, and the offspring of animals (including humans); construct an explanation of how genetic information is passed from one generation to the next. | **Delta Science Content Reader**<br>*Heredity* |

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| **5.L3U1.10**<br>Construct an explanation based on evidence that the changes in an environment can affect the development of the traits in a population of organisms. | **FOSS Pathways Living Systems**<br>Investigation 4; Part 1 |
| **5.L4U3.11**<br>Obtain, evaluate, and communicate evidence about how natural and human-caused changes to habitats or climate can impact populations. | **FOSS Pathways Living Systems**<br>Investigation 3; Part 2<br>Investigation 4; Part 1 |
| **5.L4U3.12**<br>Construct an argument based on evidence that inherited characteristics can be affected by behavior and/or environmental conditions. | **FOSS Pathways Living Systems**<br>Investigation 4; Part 1 |
| **Core Idea U2:**<br>The knowledge produced by science is used in engineering and technologies to solve problems and/or create products | **FOSS Pathways Mixtures and Solutions**<br>Investigation 1; Part 3<br>Investigation 4; Part 2<br>**FOSS Pathways Motion**<br>Investigation 3; Parts 1 and 2 |