

FOSS Next Generation 6-8 Integrated Scope and Sequence Correlation At-A-Glance

| Eighth Grade | | |
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| Heredity and Adaptation 3.1.6-8.M • 3.1.6-8.N • 3.1.6-8.O • 3.1.6-8.P • 3.1.6-8.Q • 3.1.6-8.S • 3.1.6-8.R • 3.1.6-8.T • 3.3.6-8.D | Electromagnetic Force 3.2.6-8.H • 3.2.6-8.I • 3.2.6-8.K • 3.2.6-8.P • 3.2.6-8.O • 3.3.6-8.N | Gravity and Kinetic Energy 3.2.6-8.G • 3.2.6-8.H • 3.2.6-8.J • 3.2.6-8.K • 3.2.6-8.L • 3.2.6-8.P • 3.2.6-8.O • 3.3.6-8.B |
| | Waves 3.2.6-8.Q • 3.2.6-8.R • 3.2.6-8.S | Planetary Science 3.2.6-8.J • 3.2.6-8.R • MS-ESS1-1 • 3.3.6-8.B • 3.3.6-8.C • 3.3.6-8.D • 3.3.6-8.E • 3.3.6-8.H • 3.3.6-8.K • 3.3.6-8.L • 3.3.6-8.M • 3.3.6-8.N |
| Seventh Grade | | |
| Chemical Interactions 3.2.6-8.A • 3.2.6-8.D • 3.2.6-8.C • 3.2.6-8.B • 3.2.6-8.E • 3.2.6-8.F • 3.2.6-8.M • 3.2.6-8.N • 3.2.6-8.O | Earth History 3.3.6-8.D • 3.3.6-8.F • 3.3.6-8.E • 3.3.6-8.G • 3.3.6-8.K • 3.3.6-8.L • 3.3.6-8.M • 3.3.6-8.N • 3.3.6-8.O • 3.1.6-8.O | Populations and Ecosystems 3.1.6-8.F • 3.1.6-8.G • 3.1.6-8.I • 3.1.6-8.J • 3.1.6- 8.K • 3.1.6-8.L • 3.1.6-8.U • 3.2.6-8.N • 3.3.6-8.M • 3.3.6-8.N |
| Sixth Grade | | |
| Weather and Water 3.2.6-8.B • 3.2.6-8.M • 3.2.6-8.N • 3.2.6-8.O • 3.3.6-8.A • 3.3.6-8.H • 3.3.6-8.J • 3.3.6-8.I • 3.3.6-8.L • 3.3.6-8.M • 3.3.6-8.N • 3.3.6-8.O | Diversity of Life 3.1.6-8.A • 3.1.6-8.B • 3.1.6-8.C • 3.1.6-8.D • 3.1.6-8.E • 3.1.6-8.F • 3.1.6-8.G • 3.1.6-8.N | Human Systems Interactions 3.1.6-8.A • 3.1.6-8.C 3.1.6-8.G • 3.1.6-8.H |

FOSS Next Generation MS Detail Correlation – 6th Grade Weather and Water

| Weather and Water | |
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| <p>3.3.6-8.H Develop a model to describe the cycling of water through Earth’s systems driven by energy from the sun and the force of gravity.</p> | <p>Disciplinary Core Ideas ESS2.C: The Roles of Water in Earth’s Surface Processes: Investigation 1 Part 1; Investigation 2 Parts 1 and 2; Investigation 3 Part 3; Investigation 6 Part 3; Investigation 7 Parts 2 and 3; Investigation 8 Parts 1-3; Investigation 10 Part 1</p> <p>Science and Engineering Practices Developing and Using Models: Investigation 1 Parts 2 and 3; Investigation 2 Parts 1 and 2; Investigation 3 Parts 1-3; Investigation 4 Parts 2 and 3; Investigation 5 Parts 1-3; Investigation 6 Parts 1-3; Investigation 7 Parts 2 and 3; Investigation 8 Parts 1 and 3; Investigation 9 Parts 2 and 3; Investigation 10 Part 1</p> <p>Crosscutting Concepts Energy and Matter: Investigation 3 Part 2; Investigation 4 Parts 2 and 3; Investigation 5 Parts 1-3; Investigation 6 Parts 2 and 3; Investigation 7 Parts 2 and 3; Investigation 8 Part 3; Investigation 9 Parts 2 and 3</p> |
| <p>3.3.6-8.O Collect data to provide evidence for how the motions and complex interactions of air masses result in changes in weather conditions.</p> | <p>Disciplinary Core Ideas ESS2.C: The Roles of Water in Earth’s Surface Processes: Investigation 1 Part 1; Investigation 2 Parts 1 and 2; Investigation 3 Part 3; Investigation 6 Part 3; Investigation 7 Parts 2 and 3; Investigation 8 Parts 1-3; Investigation 10 Part 1</p> <p>ESS2.D: Weather and Climate: Investigation 1 Part 3; Investigation 2 Part 2; Investigation 3 Part 3; Investigation 4 Parts 1 and 3; Investigation 6 Part 3; Investigation 8 Part 3; Investigation 9 Part 3; Investigation 10 Part 2</p> <p>Science and Engineering Practices Planning and Carrying Out Investigations: Investigation 1 Parts 2 and 3; Investigation 2 Parts 1 and 2; Investigation 3 Parts 1 and 2; Investigation 4 Part 3; Investigation 5 Parts 1-3; Investigation 7 Part 1; Investigation 9 Part 1</p> <p>Crosscutting Concepts Cause and Effect: Investigation 1 Parts 1-3; Investigation 2 Parts 1 and 2; Investigation 3 Parts 2 and 3; Investigation 4 Parts 2 and 3; Investigation 5 Parts 2 and 3; Investigation 6 Parts 2 and 3; Investigation 7 Parts 1-3; Investigation 8 Parts 2 and 3; Investigation 9 Parts 2 and 3; Investigation 10 Parts 1 and 2</p> |

| Weather and Water | |
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| <p>3.3.6-8.I Develop and use a model to describe how unequal heating and rotation of the Earth cause patterns of atmospheric and oceanic circulation that determine regional climates.</p> | <p>Disciplinary Core Ideas ESS2.C: The Roles of Water in Earth’s Surface Processes: Investigation 1 Part 1; Investigation 2 Parts 1 and 2; Investigation 3 Part 3; Investigation 6 Part 3; Investigation 7 Parts 2 and 3; Investigation 8 Parts 1-3; Investigation 10 Part 1</p> <p>ESS2.D: Weather and Climate: Investigation 1 Part 3; Investigation 2 Part 2; Investigation 3 Part 3; Investigation 4 Parts 1 and 3; Investigation 6 Part 3; Investigation 8 Part 3; Investigation 9 Part 3; Investigation 10 Part 2</p> <p>Science and Engineering Practices Developing and Using Models: Investigation 1 Parts 2 and 3; Investigation 2 Parts 1 and 2; Investigation 3 Parts 1-3; Investigation 4 Parts 2 and 3; Investigation 5 Parts 1-3; Investigation 6 Parts 1-3; Investigation 7 Parts 2 and 3; Investigation 8 Parts 1 and 3; Investigation 9 Parts 2 and 3; Investigation 10 Part 1</p> <p>Crosscutting Concepts Systems and System Models Investigation 1 Part 2; Investigation 3 Part 3; Investigation 4 Part 2; Investigation 5 Parts 1-3; Investigation 6 Parts 2 and 3; Investigation 7 Parts 1 and 3; Investigation 8 Parts 1 and 3; Investigation 9 Parts 2 and 3; Investigation 10 Part 1</p> |
| <p>3.3.6-8.L Analyze and interpret data on natural hazards to forecast future catastrophic events and inform the development of technologies to mitigate their effects.</p> | <p>Disciplinary Core Ideas ESS3.B: Natural Hazards: Investigation 9 Parts 1-3; Investigation 10 Part 1</p> <p>Science and Engineering Practices Analyzing and Interpreting Data: Investigation 1 Parts 2 and 3; Investigation 2 Parts 1 and 2; Investigation 3 Parts 1-3; Investigation 4 Parts 1-3; Investigation 5 Parts 1-3; Investigation 6 Part 3; Investigation 7 Parts 1-3; Investigation 8 Parts 2 and 3; Investigation 9 Parts 1-3; Investigation 10 Part 1</p> <p>Crosscutting Concepts Patterns: Investigation 1 Parts 1 and 3; Investigation 2 Part 2; Investigation 3 Parts 1 and 2; Investigation 5 Part 1; Investigation 6 Part 3; Investigation 8 Part 2; Investigation 9 Parts 1 and 3; Investigation 10 Parts 1 and 2</p> |

| Weather and Water | |
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| <p>3.3.6-8.M Apply scientific principles to design a method for monitoring and minimizing a human impact on the environment.</p> | <p>Disciplinary Core Ideas ESS3.C: Human Impacts on Earth Systems: Investigation 8 Part 3; Investigation 9 Parts 1-3; Investigation 10 Part 2</p> <p>Science and Engineering Practices Constructing Explanations and Designing Solutions: Investigation 5 Parts 1-3; Investigation 9 Parts 2 and 3</p> <p>Crosscutting Concepts Cause and Effect: Investigation 1 Parts 1-3; Investigation 2 Parts 1 and 2; Investigation 3 Parts 2 and 3; Investigation 4 Parts 2 and 3; Investigation 5 Parts 2 and 3; Investigation 6 Parts 2 and 3; Investigation 7 Parts 1-3; Investigation 8 Parts 2 and 3; Investigation 9 Parts 2 and 3; Investigation 10 Parts 1 and 2</p> |
| <p>3.3.6-8.N Construct an argument supported by evidence for how increases in human population and per-capita consumption of natural resources impact Earth’s systems.</p> | <p>Disciplinary Core Ideas ESS3.C: Human Impacts on Earth Systems: Investigation 8 Part 3; Investigation 9 Parts 1-3; Investigation 10 Part 2</p> <p>Science and Engineering Practices Engaging in Argument from Evidence: Investigation 1 Part 2; Investigation 5 Part 3; Investigation 7 Parts 1 and 2; Investigation 9 Part 3; Investigation 10 Part 1</p> <p>Crosscutting Concepts Cause and Effect: Investigation 1 Parts 1-3; Investigation 2 Parts 1 and 2; Investigation 3 Parts 2 and 3; Investigation 4 Parts 2 and 3; Investigation 5 Parts 2 and 3; Investigation 6 Parts 2 and 3; Investigation 7 Parts 1-3; Investigation 8 Parts 2 and 3; Investigation 9 Parts 2 and 3; Investigation 10 Parts 1 and 2</p> |

| Weather and Water | |
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| <p>3.3.6-8.O Ask questions to clarify evidence of the factors that have caused the rise in global temperatures over the past century.</p> | <p>Disciplinary Core Ideas</p> <p>ESS2.C: The Roles of Water in Earth’s Surface Processes: Investigation 1 Part 1; Investigation 2 Parts 1 and 2; Investigation 3 Part 3; Investigation 6 Part 3; Investigation 7 Parts 2 and 3; Investigation 8 Parts 1-3; Investigation 10 Part 1</p> <p>ESS2.D: Weather and Climate: Investigation 1 Part 3; Investigation 2 Part 2; Investigation 3 Part 3; Investigation 4 Parts 1 and 3; Investigation 6 Part 3; Investigation 8 Part 3; Investigation 9 Part 3; Investigation 10 Part 2</p> <p>Science and Engineering Practices</p> <p>Developing and Using Models: Investigation 1 Parts 2 and 3; Investigation 2 Parts 1 and 2; Investigation 3 Parts 1-3; Investigation 4 Parts 2 and 3; Investigation 5 Parts 1-3; Investigation 6 Parts 1-3; Investigation 7 Parts 2 and 3; Investigation 8 Parts 1 and 3; Investigation 9 Parts 2 and 3; Investigation 10 Part 1</p> <p>Crosscutting Concepts</p> <p>Systems and System Models Investigation 1 Part 2; Investigation 3 Part 3; Investigation 4 Part 2; Investigation 5 Parts 1-3; Investigation 6 Parts 2 and 3; Investigation 7 Parts 1 and 3; Investigation 8 Parts 1 and 3; Investigation 9 Parts 2 and 3; Investigation 10 Part 1</p> |

| Weather and Water | |
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| <p>3.2.6-8.B Develop a model that predicts and describes changes in particle motion, temperature, and state of a pure substance when thermal energy is added or removed.</p> | <p>Disciplinary Core Ideas</p> <p>PS1.A: Structure and Properties of Matter: Investigation 1 Parts 2 and 3; Investigation 2 Part 1; Investigation 3 Parts 2 and 3; Investigation 6 Part 3; Investigation 7 Part 1; Investigation 10 Part 2</p> <p>Science and Engineering Practices</p> <p>Developing and Using Models: Investigation 1 Parts 2 and 3; Investigation 2 Parts 1 and 2; Investigation 3 Parts 1-3; Investigation 4 Parts 2 and 3; Investigation 5 Parts 1-3; Investigation 6 Parts 1-3; Investigation 7 Parts 2 and 3; Investigation 8 Parts 1 and 3; Investigation 9 Parts 2 and 3; Investigation 10 Part 1</p> <p>Crosscutting Concepts</p> <p>Cause and Effect: Investigation 1 Parts 1-3; Investigation 2 Parts 1 and 2; Investigation 3 Parts 2 and 3; Investigation 4 Parts 2 and 3; Investigation 5 Parts 2 and 3; Investigation 6 Parts 2 and 3; Investigation 7 Parts 1-3; Investigation 8 Parts 2 and 3; Investigation 9 Parts 2 and 3; Investigation 10 Parts 1 and 2</p> |

| Weather and Water | |
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| <p>3.2.6-8.M Apply Scientific principles to design, construct, and test a device that either minimizes or maximizes thermal energy transfer.</p> | <p>Disciplinary Core Ideas</p> <p>PS3.A: Definitions of Energy: Investigation 4 Part 3; Investigation 5 Parts 1-3; Investigation 6 Part 3; Investigation 7 Part 3; Investigation 10 Part 2</p> <p>PS3.B: Conservation of Energy and Energy Transfer: Investigation 3 Part 3; Investigation 4 Part 3; Investigation 5 part 3; Investigation 6 Part 3; Investigation 7 Part 3; Investigation 10 Part 2</p> <p>Science and Engineering Practices</p> <p>Constructing Explanations and Designing Solutions: Investigation 5 Parts 1-3; Investigation 9 Parts 2 and 3</p> <p>Crosscutting Concepts</p> <p>Energy and Matter: Investigation 3 Part 2; Investigation 4 Parts 2 and 3; Investigation 5 Parts 1-3; Investigation 6 Parts 2 and 3; Investigation 7 Parts 2 and 3; Investigation 8 Part 3; Investigation 9 Parts 2 and 3</p> |
| <p>3.2.6-8.N Plan an investigation to determine the relationships among the energy transferred, the type of matter, the mass, and the change in the average kinetic energy of the particles as measured by the temperature of the sample.</p> | <p>Disciplinary Core Ideas</p> <p>PS3.A: Definitions of Energy: Investigation 4 Part 3; Investigation 5 Parts 1-3; Investigation 6 Part 3; Investigation 7 Part 3; Investigation 10 Part 2</p> <p>PS3.B: Conservation of Energy and Energy Transfer: Investigation 3 Part 3; Investigation 4 Part 3; Investigation 5 part 3; Investigation 6 Part 3; Investigation 7 Part 3; Investigation 10 Part 2</p> <p>Science and Engineering Practices</p> <p>Planning and Carrying Out Investigations: Investigation 1 Parts 2 and 3; Investigation 2 Parts 1 and 2; Investigation 3 Parts 1 and 2; Investigation 4 Part 3; Investigation 5 Parts 1-3; Investigation 7 Part 1; Investigation 9 Part 1</p> <p>Crosscutting Concepts</p> <p>Scale, Proportion, and Quantity: Investigation 2 Parts 1 and 2; Investigation 3 Part 3; Investigation 4 Part 2; Investigation 7 Part 3; Investigation 8 Part 1; Investigation 9 Part 1</p> |

| Weather and Water | |
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| <p>3.2.6-8.O Construct, use, and present arguments to support the claim that when the kinetic energy of an object changes, energy is transferred to or from the object.</p> | <p>Disciplinary Core Ideas PS3.B: Conservation of Energy and Energy Transfer: Investigation 3 Part 3; Investigation 4 Part 3; Investigation 5 part 3; Investigation 6 Part 3; Investigation 7 Part 3; Investigation 10 Part 2</p> <p>Science and Engineering Practices Engaging in Argument from Evidence: Investigation 1 Part 2; Investigation 5 Part 3; Investigation 7 Parts 1 and 2; Investigation 9 Part 3; Investigation 10 Part 1</p> <p>Crosscutting Concepts Energy and Matter: Investigation 3 Part 2; Investigation 4 Parts 2 and 3; Investigation 5 Parts 1-3; Investigation 6 Parts 2 and 3; Investigation 7 Parts 2 and 3; Investigation 8 Part 3; Investigation 9 Parts 2 and 3</p> |

FOSS Next Generation MS Detail Correlation – 6th Grade Diversity of Life

| Diversity of Life | |
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| <p>3.1.6-8.A Conduct an investigation to provide evidence that living things are made of cells; either one cell or many different numbers and types of cells.</p> | <p>Disciplinary Core Ideas LS1.A: Structure and Function: Investigation 1 Part 2; Investigation 2 Part 2; Investigation 3 Parts 1-4; Investigation 4 Parts 1-4; Investigation 5 Part 3; Investigation 8 Parts 1 and 2; Investigation 9 Parts 1 and 2</p> <p>Science and Engineering Practices Planning and Carrying Out Investigations: Investigation 1 Part 2; Investigation 2 Parts 1 and 3; Investigation 3 Parts 1-4; Investigation 4 Parts 1-3; Investigation 5 Parts 1-3; Investigation 6 Parts 1-3; Investigation 8 Part 1; Investigation 9 Part 1</p> <p>Crosscutting Concepts Scale, Proportion, and Quantity: Investigation 1 Part 2; Investigation 2 Parts 1-3; Investigation 3 Parts 1-4; Investigation 4 Parts 1, 2 and 4; Investigation 9 Part 1</p> |
| <p>3.1.6-8.B Develop and use a model to describe the function of a cell as a whole and ways the parts of cells contribute to the function.</p> | <p>Disciplinary Core Ideas LS1.A: Structure and Function: Investigation 1 Part 2; Investigation 2 Part 2; Investigation 3 Parts 1-4; Investigation 4 Parts 1-4; Investigation 5 Part 3; Investigation 8 Parts 1 and 2; Investigation 9 Parts 1 and 2</p> <p>Science and Engineering Practices Developing and Using Models: Investigation 3 Parts 1-2 and 4; Investigation 4 Parts 1 and 4; Investigation 5 Parts 1 and 2; Investigation 7 Part 2</p> <p>Crosscutting Concepts Structure and Function: Investigation 1 Part 2; Investigation 2 Part 3; Investigation 3 Parts 1-4; Investigation 4 Parts 2 and 4; Investigation 5 Parts 2 and 3; Investigation 6 parts 1 and 4; Investigation 8 Parts 1 and 2; Investigation 9 Part 2</p> |
| <p>3.1.6-8.C Use argument supported by evidence for how the body is a system of interacting systems composed of groups of cells.</p> | <p>Disciplinary Core Ideas LS1.A: Structure and Function: Investigation 1 Part 2; Investigation 2 Part 2; Investigation 3 Parts 1-4; Investigation 4 Parts 1-4; Investigation 5 Part 3; Investigation 8 Parts 1 and 2; Investigation 9 Parts 1 and 2</p> <p>Science and Engineering Practices Engaging in Argument from Evidence: Investigation 1 Parts 1 and 2; Investigation 2 Part 3; Investigation 3 Parts 2 and 3; Investigation 4 Parts 2-4; Investigation 6 Part 4; Investigation 8 Part 2; Investigation 9 Parts 1 and 2</p> <p>Crosscutting Concepts Systems and Systems Models: Investigation 3 Parts 2 and 4; Investigation 4 Parts 1 and 4; Investigation 5 Parts 2 and 3; Investigation 6 Part 3; Investigation 8 Part 2; Investigation 9 Parts 1 and 2</p> |

| Diversity of Life | |
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| <p>3.1.6-8.D Use argument based on empirical evidence and scientific reasoning to support an explanation for how characteristic animal behaviors and specialized plant structures affect the probability of successful reproduction of animals and plants respectively.</p> | <p>Disciplinary Core Ideas LS1.B Growth and Development of Organisms: Investigation 3 Parts 1-4; Investigation 4 Parts 1-4; Investigation 6 Parts –4; Investigation 7 Parts 1 and 2; Investigation 8 Parts 1 and 2</p> <p>Science and Engineering Practices Engaging in Argument from Evidence: Investigation 1 Parts 1 and 2; Investigation 2 Part 3; Investigation 3 Parts 2 and 3; Investigation 4 Parts 2-4; Investigation 6 Part 4; Investigation 8 Part 2; Investigation 9 Parts 1 and 2</p> <p>Crosscutting Concepts Cause and Effect: Investigation 1 Part 2; Investigation 2 Part 3; Investigation 5 Parts 1 and 3; Investigation 6 Parts 2 and 4; Investigation 7 Parts 1 and 2; Investigation 8 Part 1; Investigation 9 Parts 1 and 2</p> |
| <p>3.1.6-8.E Construct a scientific explanation based on evidence for how environmental and genetic factors influence the growth of organisms.</p> | <p>Disciplinary Core Ideas LS1.B Growth and Development of Organisms: Investigation 3 Parts 1-4; Investigation 4 Parts 1-4; Investigation 6 Parts –4; Investigation 7 Parts 1 and 2; Investigation 8 Parts 1 and 2</p> <p>Science and Engineering Practices Constructing Explanations and Designing Solutions: Investigation 1 Part 2; Investigation 3 Parts 1-4; Investigation 4 Parts 1-4; Investigation 5 Parts 1-3; Investigation 7 Parts 1 and 2; Investigation 8 Parts 1 and 2; Investigation 9 Part 2</p> <p>Crosscutting Concepts Cause and Effect: Investigation 1 Part 2; Investigation 2 Part 3; Investigation 5 Parts 1 and 3; Investigation 6 Parts 2 and 4; Investigation 7 Parts 1 and 2; Investigation 8 Part 1; Investigation 9 Parts 1 and 2</p> |

| Diversity of Life | |
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| <p>3.1.6-8.N Develop and use a model to describe why asexual reproduction results in offspring with identical genetic information and sexual reproduction results in offspring with genetic variation.</p> | <p>Disciplinary Core Ideas</p> <p>LS1.B: Growth and Development of Organisms: Investigation 3 Parts 1-4; Investigation 4 Parts 1-4; Investigation 6 Parts –4; Investigation 7 Parts 1 and 2; Investigation 8 Parts 1 and 2</p> <p>LS3.A: Inheritance of Traits: Investigation 7 Parts 1 and 2</p> <p>LS3.B Variation of Traits: Investigation 7 Parts 1 and 2</p> <p>Science and Engineering Practices</p> <p>Developing and Using Models: Investigation 3 Parts 1-2 and 4; Investigation 4 Parts 1 and 4; Investigation 5 Parts 1 and 2; Investigation 7 Part 2</p> <p>Crosscutting Concepts</p> <p>Cause and Effect: Investigation 1 Part 2; Investigation 2 Part 3; Investigation 5 Parts 1 and 3; Investigation 6 Parts 2 and 4; Investigation 7 Parts 1 and 2; Investigation 8 Part 1; Investigation 9 Parts 1 and 2</p> |

FOSS Next Generation MS Detail Correlation – 6th Grade Human Systems Interactions

| Human Systems Interactions | |
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| <p>3.1.6-8.C Use argument supported by evidence for how the body is a system of interacting systems composed of groups of cells.</p> | <p>Disciplinary Core Ideas</p> <p>LS1.A: Structure and Function: Investigation 1 Parts 1 and 2; Investigation 2 Parts 1 and 2; Investigation 3 Parts 1-4</p> <p>Science and Engineering Practices</p> <p>Engaging in Argument from Evidence: Investigation 1 Parts 1 and 2; Investigation 3 Parts 1 and 2</p> <p>Crosscutting Concepts</p> <p>Systems and Systems Models: Investigation 1 Parts 1 and 2; Investigaton 2 Parts 1 and 2; Investigation 3 Parts 1-4</p> |

| Diversity of Life | |
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| <p>3.1.6-8.G Develop a model to describe how food is rearranged through chemical reactions forming new molecules that support growth and/or release energy as this matter moves through an organism.</p> | <p>Disciplinary Core Ideas LS1.C Organization for Matter and Energy Flow in Organisms: Investigation 2 Parts 1 and 2</p> <p>Science and Engineering Practices Developing and Using Models: Investigation 2 Parts 1 and 2; Investigation 3 Parts 1 and 2</p> <p>Crosscutting Concepts Energy and Matter: Investigation 2 Parts 1 and 2</p> |
| <p>3.1.6-8.H Gather and synthesize information that sensory receptors respond to stimuli by sending messages to the brain for immediate behavior or storage as memories.</p> | <p>Disciplinary Core Ideas LS1.D Information Processing: Investigation 3 Parts 1-4</p> <p>Science and Engineering Practices Obtaining, Evaluating, and Communicating Information: Investigation 1 Parts 1 and 2; Investigation 2 Parts 1 and 2; Investigation 3 Parts 1-4</p> <p>Crosscutting Concepts Cause and Effect Investigation 1 Part 2; Investigation 3 Parts 1-4</p> |

FOSS 6th Grade Assessment Opportunities

Disciplinary Core Ideas Assessment Opportunities – 6th Grade

| Course | Inv. | Disciplinary Core Ideas | | | | | | | | | | | | | |
|----------------------------|------|-------------------------|-------|-------|-------|-------|-------|-------|--------|--------|--------|--------|--------|--------|--------|
| | | PS1.A | PS3.A | PS3.B | LS1.A | LS1.B | LS1.C | LS1.D | ESS2.C | ESS2.D | ESS3.B | ESS3.C | ETS1.A | ETS1.B | ETS1.C |
| Weather and Water | 1 | x | | | | | | | x | x | | | | | |
| | 2 | x | | | | | | | x | x | | | | | |
| | 3 | x | | x | | | | | x | x | | | | | |
| | 4 | | x | x | | | | | | x | | | | | |
| | 5 | | x | x | | | | | | | | | x | x | x |
| | 6 | x | x | x | | | | | x | x | | | | | |
| | 7 | x | x | x | | | | | x | | | | | | |
| | 8 | | | | | | | | x | x | | x | | | |
| | 9 | | | | | | | | | x | x | x | | | |
| | 10 | x | x | x | | | | | x | x | x | x | x | x | x |
| Diversity of Life | 1 | | | | x | | | | | | | | | | |
| | 2 | | | | x | | | | | | | | | | |
| | 3 | | | | x | x | | | | | | | | | |
| | 4 | | | | x | x | | | | | | | | | |
| | 5 | | | | x | | | | | | | | | | |
| | 6 | | | | | x | | | | | | | | | |
| | 7 | | | | | x | | | | | | | | | |
| | 8 | | | | x | x | | | | | | | | | |
| | 9 | | | | x | | | | | | | | | | |
| Human Systems Interactions | 1 | | | | | | | | | | | | | | |
| | 2 | | | | x | | x | | | | | | | | |
| | 3 | | | | x | | | x | | | | | | | |

Science and Engineering Practices Assessment Opportunities – 6th Grade

| Course | Inv. | Science and Engineering Practices | | | | | | |
|----------------------------|------|--|-----------------------------|--|---------------------------------|---|------------------------------------|--|
| | | Asking Questions and Defining Problems | Developing and Using Models | Planning and Carrying Out Investigations | Analyzing and Interpreting Data | Constructing Explanations and Designing Solutions | Engaging in Argument from Evidence | Obtaining, Evaluating, and Communicating Information |
| Weather and Water | 1 | x | x | x | x | | x | |
| | 2 | x | x | x | x | | | |
| | 3 | | x | x | x | | | |
| | 4 | x | x | x | x | | | |
| | 5 | x | x | x | x | x | x | |
| | 6 | | x | | x | | | |
| | 7 | x | x | x | x | | x | |
| | 8 | | x | | x | | | |
| | 9 | x | x | x | x | x | x | |
| | 10 | x | x | | x | | x | |
| Diversity of Life | 1 | | | x | | x | x | |
| | 2 | | | x | | | x | |
| | 3 | | x | x | | x | x | |
| | 4 | | x | x | | x | x | |
| | 5 | | x | x | | x | | |
| | 6 | | | x | | | x | |
| | 7 | | x | | | x | | |
| | 8 | | | x | | x | x | |
| | 9 | | | x | | x | x | |
| Human Systems Interactions | 1 | | | | | | x | x |
| | 2 | | x | | | | | x |
| | 3 | | x | | | | x | x |

Crosscutting Concept Assessment Opportunities – 6th Grade

| Course | Inv. | Crosscutting Concepts | | | | | |
|----------------------------|------|-----------------------|------------------|---------------------------------|---------------------------|------------------------------|------------------------|
| | | Patterns | Cause and Effect | Scale, Proportion, and Quantity | Systems and System Models | Energy and Matter in Systems | Structure and Function |
| Weather and Water | 1 | x | x | | x | | |
| | 2 | x | x | | | | |
| | 3 | x | x | x | x | x | |
| | 4 | | x | x | x | x | |
| | 5 | x | x | x | x | x | |
| | 6 | x | x | x | x | x | |
| | 7 | | x | x | x | x | |
| | 8 | x | x | x | x | x | |
| | 9 | x | x | x | x | x | |
| | 10 | x | x | | x | | |
| Diversity of Life | 1 | | x | x | | | x |
| | 2 | | x | x | | | x |
| | 3 | | | x | x | | x |
| | 4 | | | x | x | | x |
| | 5 | | x | | x | x | x |
| | 6 | | x | | x | | x |
| | 7 | | x | | | | |
| | 8 | | x | | x | | x |
| | 9 | | x | x | x | | x |
| Human Systems Interactions | 1 | | x | x | x | | |
| | 2 | | | x | x | x | |
| | 3 | | x | x | x | | |

FOSS Next Generation MS Detail Correlation – 7th Grade Chemical Interactions

| Chemical Interactions | |
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| <p>3.2.6-8.A Develop models to describe the atomic composition of simple molecules and extended structures.</p> | <p>Disciplinary Core Ideas PS1.A: Structure and Properties of Matter: Investigation 1 Parts 1 and 2; Investigation 2 Parts 1 and 2; Investigation 3 Parts 1-3; Investigation 4 Part 1; Investigation 7 Parts 1 and 2; Investigation 8 Parts 1-4; Investigation 9 Part 1; Investigation 10 Part 2</p> <p>Science and Engineering Practices Developing and Using Models: Investigation 2 Parts 1 and 2; Investigation 3 Parts 2 and 3; Investigation 4 Parts 1-3; Investigation 5 Parts 1-3; Investigation 6 Part 2; Investigation 7 Parts 1 and 2; Investigation 8 Parts 1, 2 and 4; Investigation 9 Parts 1-3; Investigation 10 Parts 1 and 2</p> <p>Crosscutting Concepts Scale, Proportion, and Quantity: Investigation 2 Part 2; Investigation 3 Parts 1-3; Investigation 4 Part 2; Investigation 5 Part 3; Investigation 7 Part 2; Investigation 9 Parts 2 and 3; Investigation 10 Part 1</p> |
| <p>3.2.6-8.D Analyze and interpret data on the properties of substances before and after the substances interact to determine if a chemical reaction has occurred.</p> | <p>Disciplinary Core Ideas PS1.A: Structure and Properties of Matter: Investigation 1 Parts 1 and 2; Investigation 2 Parts 1 and 2; Investigation 3 Parts 1-3; Investigation 4 Part 1; Investigation 7 Parts 1 and 2; Investigation 8 Parts 1-4; Investigation 9 Part 1; Investigation 10 Part 2</p> <p>PS1.B: Chemical Reactions: Investigation 1 Part 2; Investigation 3 Parts 1-3; Investigation 9 Parts 1-3; Investigation 10 Parts 1 and 2</p> <p>Science and Engineering Practices Analyzing and Interpreting Data: Investigation 1 Parts 1 and 2; Investigation 3 Parts 1-3; Investigation 4 Parts 1-3; Investigation 5 Parts 1 and 3; Investigation 6 Parts 1 and 2; Investigation 7 Parts 1 and 2; Investigation 8 Parts 1-3; Investigation 9 Parts 2 and 3; Investigation 10 Part 1</p> <p>Crosscutting Concepts Patterns: Investigation 1 Part 2; Investigation 2 Parts 1 and 2; Investigation 5 Part 1; Investigation 6 Part 1; Investigation 7 Part 2; Investigation 8 Parts 1 and 2</p> |

| Chemical Interactions | |
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| <p>3.2.6-8.C Gather and make sense of information to describe that synthetic materials come from natural resources and impact society.</p> | <p>Disciplinary Core Ideas</p> <p>PS1.A: Structure and Properties of Matter: Investigation 1 Parts 1 and 2; Investigation 2 Parts 1 and 2; Investigation 3 Parts 1-3; Investigation 4 Part 1; Investigation 7 Parts 1 and 2; Investigation 8 Parts 1-4; Investigation 9 Part 1; Investigation 10 Part 2</p> <p>PS1.B: Chemical Reactions: Investigation 1 Part 2; Investigation 3 Parts 1-3; Investigation 9 Parts 1-3; Investigation 10 Parts 1 and 2</p> <p>Science and Engineering Practices</p> <p>Obtaining, Evaluating, and Communicating Information: Investigation 1 Part 2; Investigation 2 Parts 1 and 2; Investigation 3 Parts 2 and 3; Investigation 4 Parts 2 and 3; Investigation 5 Part 2; Investigation 6 Part 2; Investigation 7 Part 2; Investigation 8 Parts 2 and 4; Investigation 9 Parts 1-3; Investigation 10 Parts 1 and 2</p> <p>Crosscutting Concepts</p> <p>Structure and Function: Investigation 2 Part 2; Investigation 5 Part 2; Investigation 6 Parts 1 and 2; Investigation 8 Part 3; Investigation 9 Part 1</p> |
| <p>3.2.6-8.B Develop a model that predicts and describes changes in particle motion, temperature, and state of a pure substance when thermal energy is added or removed.</p> | <p>Disciplinary Core Ideas</p> <p>PS1.A: Structure and Properties of Matter: Investigation 1 Parts 1 and 2; Investigation 2 Parts 1 and 2; Investigation 3 Parts 1-3; Investigation 4 Part 1; Investigation 7 Parts 1 and 2; Investigation 8 Parts 1-4; Investigation 9 Part 1; Investigation 10 Part 2</p> <p>Science and Engineering Practices</p> <p>Developing and Using Models: Investigation 2 Parts 1 and 2; Investigation 3 Parts 2 and 3; Investigation 4 Parts 1-3; Investigation 5 Parts 1-3; Investigation 6 Part 2; Investigation 7 Parts 1 and 2; Investigation 8 Parts 1, 2 and 4; Investigation 9 Parts 1-3; Investigation 10 Parts 1 and 2</p> <p>Crosscutting Concepts</p> <p>Cause and Effect: Investigation 1 Parts 1 and 2; Investigation 3 Parts 2 and 3; Investigation 4 Parts 1-3; Investigation 6 Part 1; Investigation 7 Parts 1 and 2; Investigation 8 Parts 1-4; Investigation 9 Parts 1-3; Investigation 10 Part 1</p> |

| Chemical Interactions | |
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| <p>3.2.6-8.E Develop and use a model to describe how the total number of atoms does not change in a chemical reaction and thus mass is conserved.</p> | <p>Disciplinary Core Ideas PS1.B: Chemical Reactions: Investigation 1 Part 2; Investigation 3 Parts 1-3; Investigation 9 Parts 1-3; Investigation 10 Parts 1 and 2</p> <p>Science and Engineering Practices Developing and Using Models: Investigation 2 Parts 1 and 2; Investigation 3 Parts 2 and 3; Investigation 4 Parts 1-3; Investigation 5 Parts 1-3; Investigation 6 Part 2; Investigation 7 Parts 1 and 2; Investigation 8 Parts 1, 2 and 4; Investigation 9 Parts 1-3; Investigation 10 Parts 1 and 2</p> <p>Crosscutting Concepts Energy and Matter: Investigation 3 Parts 2 and 3; Investigation 4 Parts 1-3; Investigation 5 Parts 1-3; Investigation 6 Parts 1 and 2; Investigation 8 Parts 1-4; Investigation 9 Parts 2 and 3</p> |
| <p>3.2.6-8.F Undertake a design project to construct, test, and module a device that either releases or absorbs thermal energy by chemical processes.</p> | <p>Disciplinary Core Ideas PS1.B: Chemical Reactions: Investigation 1 Part 2; Investigation 3 Parts 1-3; Investigation 9 Parts 1-3; Investigation 10 Parts 1 and 2</p> <p>Science and Engineering Practices Constructing Explanations and Designing Solutions: Investigation 1 Part 2; Investigation 2 Parts 1 and 2; Investigation 3 Parts 2 and 3; Investigation 4 Parts 1-3; Investigation 5 Parts 1-3 Investigation 7 Parts 1 and 2; Investigation 8 Parts 1-4; Investigation 9 Parts 1 and 3; Investigation 10 Parts 1 and 2</p> <p>Crosscutting Concepts Energy and Matter: Investigation 3 Parts 2 and 3; Investigation 4 Parts 1-3; Investigation 5 Parts 1-3; Investigation 6 Parts 1 and 2; Investigation 8 Parts 1-4; Investigation 9 Parts 2 and 3</p> |

| Chemical Interactions | |
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| <p>3.2.6-8.M Apply scientific principles to design, construct, and test a device that either minimizes or maximizes thermal energy transfer.</p> | <p>Disciplinary Core Ideas</p> <p>PS3.A: Definitions of Energy: Investigation 4 Parts 1-3; Investigation 5 Parts 1-3; Investigation 6 Parts 1 and 2; Investigation 7 Part 2; Investigation 10 Part 2</p> <p>PS3.B: Conservation of Energy and Energy Transfer: Investigation 4 Parts 1-3; Investigation 5 Parts 1-3; Investigation 6 Parts 1 and 2; Investigation 8 Part 1; Investigation 10 Parts 1 and 2</p> <p>Science and Engineering Practices</p> <p>Constructing Explanations and Designing Solutions: Investigation 1 Part 2; Investigation 2 Parts 1 and 2; Investigation 3 Parts 2 and 3; Investigation 4 Parts 1-3; Investigation 5 Parts 1-3 Investigation 7 Parts 1 and 2; Investigation 8 Parts 1-4; Investigation 9 Parts 1 and 3; Investigation 10 Parts 1 and 2</p> <p>Crosscutting Concepts</p> <p>Energy and Matter: Investigation 3 Parts 2 and 3; Investigation 4 Parts 1-3; Investigation 5 Parts 1-3; Investigation 6 Parts 1 and 2; Investigation 8 Parts 1-4; Investigation 9 Parts 2 and 3</p> |
| <p>3.2.6-8.N Plan an investigation to determine the relationships among the energy transferred, the type of matter, the mass, and the change in the average kinetic energy of the particles as measured by the temperature of the sample.</p> | <p>Disciplinary Core Ideas</p> <p>PS3.A: Definitions of Energy: Investigation 4 Parts 1-3; Investigation 5 Parts 1-3; Investigation 6 Parts 1 and 2; Investigation 7 Part 2; Investigation 10 Part 2</p> <p>PS3.B: Conservation of Energy and Energy Transfer: Investigation 4 Parts 1-3; Investigation 5 Parts 1-3; Investigation 6 Parts 1 and 2; Investigation 8 Part 1; Investigation 10 Parts 1 and 2</p> <p>Science and Engineering Practices</p> <p>Planning and Carrying Out Investigations: Investigation 1 Parts 1 and 2; Investigation 3 Parts 1 and 2; Investigation 4 Parts 1 and 2; Investigation 5 Parts 1 and 3; Investigation 6 Parts 1 and 2; Investigation 7 Parts 1 and 2; Investigation 8 Parts 1-3; Investigation 9 Parts 2 and 3; Investigation 10 Part 1</p> <p>Crosscutting Concepts</p> <p>Scale, Proportion, Quantity: Investigation 2 Part 2; Investigation 3 Parts 1-3; Investigation 4 Part 2; Investigation 5 Part 3; Investigation 7 Part 2; Investigation 9 Parts 2 and 3; Investigation 10 Part 1</p> |

| Chemical Interactions | |
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| <p>3.2.6-8.O Construct, use, and present arguments to support the claim that when the kinetic energy of an object changes, energy is transferred to or from the object.</p> | <p>Disciplinary Core Ideas PS3.B: Conservation of Energy and Energy Transfer: Investigation 4 Parts 1-3; Investigation 5 Parts 1-3; Investigation 6 Parts 1 and 2; Investigation 8 Part 1; Investigation 10 Parts 1 and 2</p> <p>Science and Engineering Practices Engaging in Argument from Evidence: Investigation 1 Part 2; Investigation 3 Parts 2 and 3; Investigation 6 Part 1; Investigation 8 Parts 1 and 3; Investigation 9 Part 3</p> <p>Crosscutting Concepts Energy and Matter: Investigation 3 Parts 2 and 3; Investigation 4 Parts 1-3; Investigation 5 Parts 1-3; Investigation 6 Parts 1 and 2; Investigation 8 Parts 1-4; Investigation 9 Parts 2 and 3</p> |

FOSS Next Generation MS Detail Correlation – 7th Grade Earth History

| Earth History | |
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| <p>3.3.6-8.D Construct a scientific explanation based on evidence from rock strata for how the geologic time scale is used to organize Earth’s 4.6-billion-year-old history.</p> | <p>Disciplinary Core Ideas ESS1.C: The History of Planet Earth: Investigation 1 Parts 1-3; Investigation 3 Parts 1-3; Investigation 4 Parts 1-3; Investigation 6 Parts 1-3; Investigation 7 Parts 1 and 2; Investigation 9 Parts 1 and 2</p> <p>Science and Engineering Practices Constructing Explanations and Designing Solutions: Investigation 1 Part 1; Investigation 2 Parts 1-3; Investigation 3 Parts 1-3; Investigation 4 Parts 1 and 3; Investigation 5 Part 1; Investigation 6 Parts 2 and 3; Investigation 7 Parts 1 and 2; Investigation 8 Parts 2 and 3; Investigation 9 Parts 1 and 2</p> <p>Crosscutting Concepts Scale, Proportion, and Quantity: Investigation 1 Parts 2 and 3; Investigation 2 Parts 1-3; Investigation 3 Parts 1-3; Investigation 4 Parts 2 and 3; Investigation 5 Parts 2 and 3; Investigation 6 Parts 1 and 3; Investigation 9 Part 1</p> |
| <p>3.3.6-8.F Develop a model to describe the cycling of earth’s materials and the flow of energy that drives this process.</p> | <p>Disciplinary Core Ideas ESS2.A: Earth’s Materials and Systems: Investigation 1 Parts 1-3; Investigation 2 Parts 1-3; Investigation 3 Parts 1-3; Investigation 5 Parts 1-3; Investigation 6 Parts 1-3; Investigation 7 Parts 1 and 2; Investigation 9 Parts 1 and 2</p> <p>Science and Engineering Practices Developing and Using Models: Investigation 1 Part 3; Investigation 2 Part 2; Investigation 3 Parts 1-3; Investigation 4 Part 2; Investigation 5 Part 2; Investigation 6 Part 3; Investigation 7 Parts 1 and 2; Investigation 9 Part 1</p> <p>Crosscutting Concepts Stability and Change: Investigation 4 Part 3; Investigation 6 Parts 2 and 3; Investigation 7 Parts 1 and 2; Investigation 8 Parts 2 and 3</p> |

| Earth History | |
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| <p>3.3.6-8.E Construct an explanation based on evidence for how geoscience processes have changed Earth’s surface at varying time and spatial scales.</p> | <p>Disciplinary Core Ideas</p> <p>ESS2.A: Earth's Materials and Systems: Investigation 1 Parts 1-3; Investigation 2 Parts 1-3; Investigation 3 Parts 1-3; Investigation 5 Parts 1-3; Investigation 6 Parts 1-3; Investigation 7 Parts 1 and 2; Investigation 9 Parts 1 and 2</p> <p>ESS2.C: The Roles of Water in earth’s Surface Processes: Investigation 1 Parts 1-3; Investigation 2 Parts 1-3; Investigation 3 Parts 1-3; Investigation 9 Parts 1 and 2</p> <p>Science and Engineering Practices</p> <p>Constructing Explanations and Designing Solutions: Investigation 1 Part 1; Investigation 2 Parts 1-3; Investigation 3 Parts 1-3; Investigation 4 Parts 1 and 3; Investigation 5 Part 1; Investigation 6 Parts 2 and 3; Investigation 7 Parts 1 and 2; Investigation 8 Parts 2 and 3; Investigation 9 Parts 1 and 2</p> <p>Crosscutting Concepts</p> <p>Scale, Proportion, and Quantity: Investigation 1 Parts 2 and 3; Investigation 2 Parts 1-3; Investigation 3 parts 1-3; Investigation 4 Parts 2 and 3; Investigation 5 Parts 2 and 3; Investigation 6 Parts 1 and 3; Investigation 9 Part 1</p> |
| <p>3.3.6-8.G Analyze and interpret data on the distribution of fossils and rocks, continental shapes, and seafloor structures to provide evidence of the past plate motions.</p> | <p>Disciplinary Core Ideas</p> <p>ESS1.C: The History of Planet Earth: Investigation 1 Parts 1-3; Investigation 3 Parts 1-3; Investigation 4 Parts 1-3; Investigation 6 Parts 1-3; Investigation 7 Parts 1 and 2; Investigation 9 Parts 1 and 2</p> <p>ESS2.B: Plate Tectonics and Large-Scale System Interactions: Investigation 6 Parts 1-3; Investigation 7 Parts 1 and 2</p> <p>Science and Engineering Practices</p> <p>Analyzing and Interpreting Data: Investigation 1 Parts 2 and 3; Investigation 2 Parts 1-3; Investigation 3 Parts 1-3; Investigation 4 Parts 1-3; Investigation 5 Parts 1-3; Investigation 6 Parts 1 and 2; Investigation 7 Part 2</p> <p>Crosscutting Concepts</p> <p>Patterns: Investigation 1 Parts 1-3; Investigation 2 Parts 2 and 3; Investigation 3 Parts 1-3; Investigation 4 Parts 1-3; Investigation 5 Parts 2 and 3; Investigation 6 Parts 1-3; Investigation 7 Part 2; Investigation 8 Part 2; Investigation 9 Part 1</p> |

| Earth History | |
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| <p>3.3.6-8.K Construct a scientific explanation based on evidence for how the uneven distribution of Earth’s mineral, energy, and groundwater resources are the result of past and current geoscience processes.</p> | <p>Disciplinary Core Ideas ESS3.A: Natural Resources: Investigation 8 Parts 1-3</p> <p>Science and Engineering Practices Constructing Explanations and Designing Solutions: Investigation 1 Part 1; Investigation 2 Parts 1-3; Investigation 3 Parts 1-3; Investigation 4 Parts 1 and 3; Investigation 5 Part 1; Investigation 6 Parts 2 and 3; Investigation 7 Parts 1 and 2; Investigation 8 Parts 2 and 3; Investigation 9 Parts 1 and 2</p> <p>Crosscutting Concepts Cause and Effect: Investigation 1 Part 3; Investigation 2 Parts 1-3; Investigation 3 Part 2; Investigation 4 Parts 1-3; Investigation 5 Parts 2 and 3; Investigation 6 Parts 1-3; Investigation 7 Parts 1 and 2; Investigation 8 Parts 1-3; Investigation 9 Parts 1 and 2</p> |
| <p>3.3.6-8.M Analyze and interpret data on natural hazards to forecast future catastrophic events and inform the development of technologies to mitigate their effects.</p> | <p>Disciplinary Core Ideas ESS3.B: Natural Hazards: Investigation 6 Parts 1-3; Investigation 8 Parts 1-3</p> <p>Science and Engineering Practices Analyzing and Interpreting Data: Investigation 1 Parts 2 and 3; Investigation 2 Parts 1-3; Investigation 3 Parts 1-3; Investigation 4 Parts 1-3; Investigation 5 Parts 1-3; Investigation 6 Parts 1 and 2; Investigation 7 Part 2</p> <p>Crosscutting Concepts Patterns: Investigation 1 Parts 1-3; Investigation 2 Parts 2 and 3; Investigation 3 Parts 1-3; Investigation 4 Parts 1-3; Investigation 5 Parts 2 and 3; Investigation 6 Parts 1-3; Investigation 7 Part 2; Investigation 8 Part 2; Investigation 9 Part 1</p> |
| <p>3.3.6-8.M Apply scientific principles to design a method for monitoring and minimizing a human impact on the environment.</p> | <p>Disciplinary Core Ideas ESS3.C: Human Impacts on Earth Systems: Investigation 8 Parts 1-3</p> <p>Science and Engineering Practices Constructing Explanations and Designing Solutions: Investigation 1 Part 1; Investigation 2 Parts 1-3; Investigation 3 Parts 1-3; Investigation 4 Parts 1 and 3; Investigation 5 Part 1; Investigation 6 Parts 2 and 3; Investigation 7 Parts 1 and 2; Investigation 8 Parts 2 and 3; Investigation 9 Parts 1 and 2</p> <p>Crosscutting Concepts Cause and Effect: Investigation 1 Part 3; Investigation 2 Parts 1-3; Investigation 3 Part 2; Investigation 4 Parts 1-3; Investigation 5 Parts 2 and 3; Investigation 6 Parts 1-3; Investigation 7 Parts 1 and 2; Investigation 8 Parts 1-3; Investigation 9 Parts 1 and 2</p> |

| Earth History | |
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| <p>3.3.6-8.N Construct an argument supported by evidence for how increases in human population and per-capita consumption of natural resources impact Earth's systems.</p> | <p>Disciplinary Core Ideas ESS3.C: Human Impacts on Earth Systems: Investigation 8 Parts 1-3</p> <p>Science and Engineering Practices Engaging in Argument from Evidence: Investigation 3 Part 3; Investigation 7 Part 2; Investigation 8 Part 3; Investigation 9 Part 2</p> <p>Crosscutting Concepts Cause and Effect: Investigation 1 Part 3; Investigation 2 Parts 1-3; Investigation 3 Part 2; Investigation 4 Parts 1-3; Investigation 5 Parts 2 and 3; Investigation 6 Parts 1-3; Investigation 7 Parts 1 and 2; Investigation 8 Parts 1-3; Investigation 9 Parts 1 and 2</p> |
| <p>3.3.6-8.O Ask questions to clarify evidence of the factors that have caused the rise in global temperatures over the past century.</p> | <p>Disciplinary Core Ideas ESS3.D: Global Climate Change: Investigation 8 Parts 1-3</p> <p>Science and Engineering Practices Asking Questions and Defining Problems: Investigation 1 Parts 1 and 2; Investigation 5 Part 1; Investigation 6 Parts 1 and 3; Investigation 8 Parts 1-3</p> <p>Crosscutting Concepts Stability and Change: Investigation 4 Part 3; Investigation 6 Parts 2 and 3; Investigation 7 Parts 1 and 2; Investigation 8 Parts 2 and 3</p> |

| Earth History | |
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| <p>3.1.6-8.O Analyze and interpret data for patterns in the fossil record that document the existence, diversity, extinction, and change of life forms throughout the history of life on Earth under the assumption that natural laws operate today as in the past.</p> | <p>Disciplinary Core Ideas LS4.A: Evidence of Common Ancestry and Diversity: Investigation 4 Parts 1-3</p> <p>Science and Engineering Practices Analyzing and Interpreting Data: Investigation 1 Parts 2 and 3; Investigation 2 Parts 1-3; Investigation 3 Parts 1-3; Investigation 4 Parts 1-3; Investigation 5 Parts 1-3; Investigation 6 Parts 1 and 2; Investigation 7 Part 2</p> <p>Crosscutting Concepts Cause and Effect: Investigation 1 Part 3; Investigation 2 Parts 1-3; Investigation 3 Part 2; Investigation 4 Parts 1-3; Investigation 5 Parts 2 and 3; Investigation 6 Parts 1-3; Investigation 7 Parts 1 and 2; Investigation 8 Parts 1-3; Investigation 9 Parts 1 and 2</p> |

FOSS Next Generation MS Detail Correlation – 7th Grade Populations and Ecosystems

| Populations and Ecosystems | |
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| <p>3.1.6-8.F Construct a scientific explanation based on evidence for the role of photosynthesis in the cycling of matter and flow of energy into and out of organisms.</p> | <p>Disciplinary Core Ideas LS1.C Organization for Matter and Energy Flow in Organisms: Investigation 5 Parts 1-4; Investigation 6 Parts 1-4</p> <p>Science and Engineering Practices Constructing Explanations and Designing Solutions: Investigation 2 Part 1; Investigation 5 Parts 1,2 and 4; Investigation 6 Parts 1-4; Investigation 7 Part 1; Investigation 8 Parts 1-3; Investigation 9 Parts 2 and 3</p> <p>Crosscutting Concepts Energy and Matter: Investigation 3 Parts 1 and 2; Investigation 5 Parts 1, 2 and 4; Investigation 6 Parts 1-4</p> |
| <p>3.1.6-8.G Develop a model to describe how food is rearranged through chemical reactions forming new molecules that support growth and/or release energy as this matter moves through an organism.</p> | <p>Disciplinary Core Ideas LS1.C Organization for Matter and Energy Flow in Organisms: Investigation 5 Parts 1-4; Investigation 6 Parts 1-4</p> <p>Science and Engineering Practices Developing and Using Models: Investigation 1 Part 2; Investigation 2 Part 1; Investigation 3 Parts 2 and 3; Investigation 4 Parts 2 and 3; Investigation 5 Part 4; Investigation 6 Parts 2 and 4; Investigation 7 Part 1</p> <p>Crosscutting Concepts Energy and Matter: Investigation 3 Parts 1 and 2; Investigation 5 Parts 1, 2 and 4; Investigation 6 Parts 1-4</p> |
| <p>3.1.6-8.I Analyze and interpret data to provide evidence for the effects of resource availability on organisms and populations of organisms in an ecosystem.</p> | <p>Disciplinary Core Ideas LS2.A: Interdependent Relationships in Ecosystems: Investigation 1 Parts 1-3; Investigation 2 Parts 1-3; Investigation 3 Parts 1-3; Investigation 4 Parts 1-3; Investigation 6 Parts 1-4; Investigation 7 Parts 1-3; Investigation 8 Parts 1-3</p> <p>Science and Engineering Practices Analyzing and Interpreting Data: Investigation 1 Part 3; Investigation 2 Parts 1 and 2; Investigation 3 Parts 1-3; Investigation 4 Parts 2 and 3; Investigation 5 Parts 1-4; Investigation 6 Parts 1 and 2; Investigation 7 Parts 1-3; Investigation 8 Parts 1-3; Investigation 9 Parts 1 and 2</p> <p>Crosscutting Concepts Cause and Effect: Investigation 2 Parts 1-3; Investigation 3 Parts 1-3; Investigation 4 Parts 2 and 3; investigation 5 Part 1; Investigation 6 Part 2; investigation 7 Parts 1-3; Investigation 8 Parts 1-3; Investigation 9 Parts 1-3</p> |

| Populations and Ecosystems | |
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| <p>3.1.6-8.J Construct an explanation that predicts patterns of interactions among organisms across multiple ecosystems.</p> | <p>Disciplinary Core Ideas LS2.A: Interdependent Relationships in Ecosystems: Investigation 1 Parts 1-3; Investigation 2 Parts 1-3; Investigation 3 Parts 1-3; Investigation 4 Parts 1-3; Investigation 6 Parts 1-4; Investigation 7 Parts 1-3; Investigation 8 Parts 1-3</p> <p>Science and Engineering Practices Constructing Explanations and Designing Solutions: Investigation 2 Part 1; Investigation 5 Parts 1,2 and 4; Investigation 6 Parts 1-4; Investigation 7 Part 1; Investigation 8 Parts 103; Investigation 9 Parts 2 and 3</p> <p>Crosscutting Concepts Patterns: Investigation 1 Parts 1 and 3; Investigation 3 Parts 2 and 3; Investigation 5 Parts 1 and 2; investigation 6 Parts 2 and 3; Investigation 7 Parts 1-3; Investigation 8 Part 1</p> |
| <p>3.1.6-8.K Develop a model to describe the cycling of matter and flow of energy among living and nonliving parts of an ecosystem.</p> | <p>Disciplinary Core Ideas LS2.B Cycle of Matter and Energy Transfer in Ecosystems: Investigation 3 Parts 1-3; Investigation 5 Parts 1-4; Investigation 6 Parts 1-4</p> <p>Science and Engineering Practices Developing and Using Models: Investigation 1 Part 2; Investigation 2 Part 1; Investigation 3 Parts 2 and 3; Investigation 4 Parts 2 and 3; Investigation 5 Part 4; Investigation 6 Parts 2 and 4; Investigation 7 Part 1</p> <p>Crosscutting Concepts Energy and Matter: Investigation 3 Parts 1 and 2; Investigation 5 Parts 1, 2 and 4; Investigation 6 Parts 1-4</p> |
| <p>3.1.6-8.L Construct an argument supported by empirical evidence that changes to physical or biological components of an ecosystem affect populations.</p> | <p>Disciplinary Core Ideas LS2.C Ecosystem Dynamics, Functioning, and Resilience: Investigation 4 Parts 1-3; Investigation 6 Parts 1-4; Investigation 7 Parts 1-3; investigation 8 Parts 1-3; Investigation 9 Parts 1-3</p> <p>Science and Engineering Practices Engaging in Argument from Evidence: Investigation 2 Part 1; Investigation 6 Part 1; Investigation 7 Part 2; Investigation 8 Part 2; Investigation 9 Parts 2 and 3</p> <p>Crosscutting Concepts Stability and Change: Investigation 1 Part 3; Investigation 3 Part 1; Investigation 6 Parts 2 and 4; Investigation 7 Parts 1-3; Investigation 8 Parts 1-3; Investigation 9 Parts 2 and 3</p> |

| Populations and Ecosystems | |
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| <p>3.1.6-8.U Evaluate competing design solutions for maintaining biodiversity and ecosystem services.</p> | <p>Disciplinary Core Ideas LS2.C Ecosystem Dynamics, Functioning, and Resilience: Investigation 4 Parts 1-3; Investigation 6 Parts 1-4; Investigation 7 Parts 1-3; investigation 8 Parts 1-3; Investigation 9 Parts 1-3</p> <p>Science and Engineering Practices Engaging in Argument from Evidence: Investigation 2 Part 1; Investigation 6 Part 1; Investigation 7 Part 2; Investigation 8 Part 2; Investigation 9 Parts 2 and 3</p> <p>Crosscutting Concepts Stability and Change: Investigation 1 Part 3; Investigation 3 Part 1; Investigation 6 Parts 2 and 4; Investigation 7 Parts 1-3; Investigation 8 Parts 1-3; Investigation 9 Parts 2 and 3</p> |

| Populations and Ecosystems | |
|---|---|
| <p>3.3.6-8.M Apply scientific principles to design a method for monitoring and minimizing a human impact on the environment.</p> | <p>Disciplinary Core Ideas ESS3.C: Human Impacts on Earth Systems: Investigation 8 Parts 1-3; Investigation 9 Parts 1-3</p> <p>Science and Engineering Practices Constructing Explanations and Designing Solutions: Investigation 2 Part 1; Investigation 5 Parts 1,2 and 4; Investigation 6 Parts 1-4; Investigation 7 Part 1; Investigation 8 Parts 1-3; Investigation 9 Parts 2 and 3</p> <p>Crosscutting Concepts Cause and Effect: Investigation 2 Parts 1-3; Investigation 3 Parts 1-3; Investigation 4 Parts 2 and 3; investigation 5 Part 1; Investigation 6 Part 2; investigation 7 Parts 1-3; Investigation 8 Parts 1-3; Investigation 9 Parts 1-3</p> |
| <p>3.3.6-8.N Construct an argument supported by evidence for how increases in human population and per-capita consumption of natural resources impact Earth's systems.</p> | <p>Disciplinary Core Ideas ESS3.C: Human Impacts on Earth Systems: Investigation 8 Parts 1-3; Investigation 9 Parts 1-3</p> <p>Science and Engineering Practices Engaging in Argument from Evidence: Investigation 2 Part 1; Investigation 6 Part 1; Investigation 7 Part 2; Investigation 8 Part 2; Investigation 9 Parts 2 and 3</p> <p>Crosscutting Concepts Cause and Effect: Investigation 2 Parts 1-3; Investigation 3 Parts 1-3; Investigation 4 Parts 2 and 3; investigation 5 Part 1; Investigation 6 Part 2; investigation 7 Parts 1-3; Investigation 8 Parts 1-3; Investigation 9 Parts 1-3</p> |



FOSS 7th Grade Assessment Opportunities

Disciplinary Core Ideas Assessment Opportunities – 7th Grade

| Course | Inv | Disciplinary Core Ideas | | | | | | | | | | | | | | | | | | | | |
|----------------------------|-----|-------------------------|-------|-------|-------|-------|-------|-------|-------|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|---|
| | | PS1.A | PS1.B | PS3.A | PS3.B | LS1.C | LS2.A | LS2.B | LS2.C | LS4.A | ESS1.C | ESS2.A | ESS2.B | ESS2.C | ESS3.A | ESS3.B | ESS3.C | ESS3.D | ETS1.A | ETS1.B | ETS1.C | |
| Chemical Interactions | 1 | x | x | | | | | | | | | | | | | | | | | | | |
| | 2 | x | | | | | | | | | | | | | | | | | | | | |
| | 3 | x | x | | | | | | | | | | | | | | | | | | | |
| | 4 | x | | x | x | | | | | | | | | | | | | | | | | |
| | 5 | | | x | x | | | | | | | | | | | | | | | | | |
| | 6 | | | x | x | | | | | | | | | | | | | | | x | x | x |
| | 7 | x | | x | | | | | | | | | | | | | | | | | | |
| | 8 | x | | | x | | | | | | | | | | | | | | | | x | x |
| | 9 | x | x | | | | | | | | | | | | | | | | | | | |
| | 10 | x | x | x | x | | | | | | | | | | | | | | | | x | x |
| Earth History | 1 | | | | | | | | | | x | x | | x | | | | | | | | |
| | 2 | | | | | | | | | | | x | | x | | | | | | | | |
| | 3 | | | | | | | | | | x | x | | x | | | | | | | | |
| | 4 | | | | | | | | | x | x | | | | | | | | | | | |
| | 5 | | | | | | | | | | | x | | | | | | | | | | |
| | 6 | | | | | | | | | | x | x | x | | | x | | | | | | |
| | 7 | | | | | | | | | | x | x | x | | | | | | | | | |
| | 8 | | | | | | | | | | | | | | x | x | x | x | | | | |
| | 9 | | | | | | | | | | x | x | | x | | | | | | | | |
| Populations and Ecosystems | 1 | | | | | | x | | | | | | | | | | | | | | | |
| | 2 | | | | | | x | | | | | | | | | | | | | | | |
| | 3 | | | | | | x | x | | | | | | | | | | | | | | |
| | 4 | | | | | | x | | x | | | | | | | | | | | | | |
| | 5 | | | | | x | | x | | | | | | | | | | | | | | |
| | 6 | | | | | x | x | x | x | | | | | | | | | | | | | |
| | 7 | | | | | | x | | x | | | | | | | | | | | | | |
| | 8 | | | | | | x | | x | | | | | | | | | x | | | | |
| | 9 | | | | | | | | x | | | | | | | | | x | | x | x | |

Science and Engineering Practices Assessment Opportunities – 7th Grade

| Course | Inv. | Asking Questions and Defining Problems | Developing and Using Models | Planning and Carrying Out Investigations | Analyzing and Interpreting Data | Constructing Explanations and Designing Solutions | Engaging in Argument from Evidence | Obtaining, Evaluating, and Communicating Information |
|----------------------------|------|--|-----------------------------|--|---------------------------------|---|------------------------------------|--|
| Chemical Interactions | 1 | | | x | x | x | x | x |
| | 2 | | x | | | x | | x |
| | 3 | x | x | x | x | x | x | x |
| | 4 | | x | x | x | x | | x |
| | 5 | | x | x | x | x | | x |
| | 6 | | x | x | x | | x | x |
| | 7 | | x | x | x | x | | x |
| | 8 | x | x | x | x | x | x | x |
| | 9 | | x | x | x | x | x | x |
| | 10 | | x | x | x | x | | x |
| Earth History | 1 | x | x | | x | x | | |
| | 2 | | x | | x | x | | |
| | 3 | | x | | x | x | x | |
| | 4 | | x | | x | x | | |
| | 5 | x | x | | x | x | | |
| | 6 | x | x | | x | x | | |
| | 7 | | x | | x | x | x | |
| | 8 | x | | | | x | x | |
| | 9 | | x | | | x | x | |
| Populations and Ecosystems | 1 | x | x | x | x | | | |
| | 2 | | x | x | x | x | x | |
| | 3 | x | x | | x | | | |
| | 4 | | x | x | x | | | |
| | 5 | | x | x | x | x | | |
| | 6 | x | x | x | x | x | x | |
| | 7 | x | x | x | x | x | x | |
| | 8 | | | x | x | x | x | |
| | 9 | x | | x | x | x | x | |

Crosscutting Concepts Assessment Opportunities – 7th Grade

| Course | Inv. | Patterns | Cause and Effect | Scale, Proportion, and Quantity | Energy and Matter in Systems | Structure and Function | Stability and Change of Systems |
|----------------------------|------|----------|------------------|---------------------------------|------------------------------|------------------------|---------------------------------|
| Chemical Interactions | 1 | x | x | | | | |
| | 2 | x | x | x | | x | |
| | 3 | | x | x | x | | |
| | 4 | | x | x | x | | |
| | 5 | x | | x | x | x | |
| | 6 | x | x | | x | x | |
| | 7 | x | x | x | | | |
| | 8 | x | x | | x | x | |
| | 9 | | x | x | x | x | |
| | 10 | | x | x | x | | |
| Earth History | 1 | x | x | x | | | |
| | 2 | x | x | x | | | |
| | 3 | x | x | x | | | |
| | 4 | x | x | x | | | x |
| | 5 | x | x | x | | | |
| | 6 | x | x | x | | | x |
| | 7 | x | x | | | | x |
| | 8 | x | x | | | | x |
| | 9 | x | x | x | | | |
| Populations and Ecosystems | 1 | x | | x | | | x |
| | 2 | | x | x | | | |
| | 3 | x | x | x | x | | x |
| | 4 | | x | | | | |
| | 5 | x | x | x | x | | |
| | 6 | x | x | x | x | | x |
| | 7 | x | x | x | | | x |
| | 8 | x | x | x | | | x |
| | 9 | | x | | | | x |

FOSS Next Generation MS Detail Correlation – 8th Grade Heredity and Adaption

| Heredity and Adaptation | |
|---|---|
| <p>3.1.6-8.M Develop and use a model to describe why structural changes to genes (mutations) located on chromosomes may affect proteins and may result in harmful, beneficial, or neutral effects to the structure and function of the organism.</p> | <p>Disciplinary Core Ideas LS3.A: Inheritance of Traits: Investigation 2 Parts 1-4; Investigation 3 Parts 1-3 LS3.B: Variation of Traits: Investigation 2 Parts 1-4; Investigation 3 Parts 1-3</p> <p>Science and Engineering Practices Developing and Using Models: Investigation 2 Parts 1, 3 and 4; Investigation 3 Parts 1 and 2</p> <p>Crosscutting Concepts Structure and Function: Investigation 1 Part 2; Investigation 3 Part 1</p> |
| <p>3.1.6-8.N Develop and use a model to describe why asexual reproduction results in offspring with identical genetic information and sexual reproduction results in offspring with genetic variation.</p> | <p>Disciplinary Core Ideas LS3.A: Inheritance of Traits: Investigation 2 Parts 1-4; Investigation 3 Parts 1-3 LS3.B: Variation of Traits: Investigation 2 Parts 1-4; Investigation 3 Parts 1-3</p> <p>Science and Engineering Practices Developing and Using Models: Investigation 2 Parts 1, 3 and 4; Investigation 3 Parts 1 and 2</p> <p>Crosscutting Concepts Cause and Effect: Investigation 2 Parts 2 and 4; Investigation 3 Parts 1-3</p> |

| Heredity and Adaptation | |
|--|---|
| <p>3.1.6-8.O Analyze and interpret data for patterns in the fossil record that document the existence, diversity, extinction, and change of life forms throughout the history of the Earth under the assumption that natural laws operate today as in the past.</p> | <p>Disciplinary Core Ideas LS4.A: Evidence of Common Ancestry and Diversity: Investigation 1 Parts 1 and 2; Investigation 2 Parts 1-4; Investigation 3 Part 2</p> <p>Science and Engineering Practices Analyzing and Interpreting Data: Investigation 1 Parts 1 and 2; Investigation 2 Parts 2-4</p> <p>Crosscutting Concepts Patterns: Investigation 1 Part 2; Investigation 2 Parts 1-4; Investigation 3 Parts 1-3</p> |
| <p>3.1.6-8.P Apply scientific ideas to construct an explanation for the anatomical similarities and differences among modern organisms and between modern and fossil organisms to infer evolutionary relationships.</p> | <p>Disciplinary Core Ideas LS4.A: Evidence of Common Ancestry and Diversity: Investigation 1 Parts 1 and 2; Investigation 2 Parts 1-4; Investigation 3 Part 2</p> <p>Science and Engineering Practices Constructing Explanations and Designing Solutions: Investigation 1 Part 2; Investigation 2 Parts 2 and 3; Investigation 3 Parts 2 and 3</p> <p>Crosscutting Concepts Patterns: Investigation 1 Part 2; Investigation 2 Parts 1-4; Investigation 3 Parts 1-3</p> |
| <p>3.1.6-8.Q Analyze displays of pictorial data to compare patterns of similarities in the embryological development across multiple species to identify relationships note evidence in the fully formed anatomy.</p> | <p>Disciplinary Core Ideas LS4.A: Evidence of Common Ancestry and Diversity: Investigation 1 Parts 1 and 2; Investigation 2 Parts 1-4; Investigation 3 Part 2</p> <p>Science and Engineering Practices Analyzing and Interpreting Data: Investigation 1 Parts 1 and 2; Investigation 2 Parts 2-4</p> <p>Crosscutting Concepts Patterns: Investigation 1 Part 2; Investigation 2 Parts 1-4; Investigation 3 Parts 1-3</p> |

| Heredity and Adaptation | |
|---|--|
| <p>3.1.6-8.S Construct an explanation based on evidence that describes how genetic variations of traits in a population increase some individuals' probability of surviving and reproducing in a specific environment.</p> | <p>Disciplinary Core Ideas LS4.B: Natural Selection: Investigation 3 Parts 1-3</p> <p>Science and Engineering Practices Constructing Explanations and Designing Solutions: Investigation 1 Part 2; Investigation 2 Parts 2 and 3; Investigation 3 Parts 2 and 3</p> <p>Crosscutting Concepts Cause and Effect: Investigation 2 Parts 2 and 4; Investigation 3 Parts 1-3</p> |
| <p>3.1.6-8.R Gather and synthesize information about technologies that have changed the way humans influence the inheritance of desired traits in organisms.</p> | <p>Disciplinary Core Ideas LS4.B: Natural Selection: Investigation 3 Parts 1-3</p> <p>Science and Engineering Practices Obtaining, Evaluating, and Communicating Information: Investigation 1 Parts 1 and 2; Investigation 2 Parts 2-4; Investigation 3 Parts 1-3</p> <p>Crosscutting Concepts Cause and Effect: Investigation 2 Parts 2 and 4; Investigation 3 Parts 1-3</p> |
| <p>3.1.6-8.T Use mathematical representations to support explanations of how natural selection may lead to increases and decreases of specific traits in populations over time.</p> | <p>Disciplinary Core Ideas LS4.C: Adaptation: Investigation 3 Parts 1-3</p> <p>Science and Engineering Practices Using Mathematical and Computational Thinking: Investigation 2 Parts 3 and 4; Investigation 3 Part 2</p> <p>Crosscutting Concepts Cause and Effect: Investigation 2 Parts 2 and 4; Investigation 3 Parts 1-3</p> |

FOSS Next Generation MS Detail Correlation – 8th Grade Electromagnetic Force

| Electromagnetic Force | |
|---|--|
| <p>3.2.6-8.H Plan an investigation to provide evidence that the change in an object’s motion depends on the sum of the forces on the object and the mass of the object.</p> | <p>Disciplinary Core Ideas PS2.A: Forces and Motion: Investigation 1 Parts 1-3; Investigation 2 Parts 1-3; Investigation 4 Parts 1-3</p> <p>Science and Engineering Practices Planning and Carrying Out Investigations: Investigation 1 Parts 1 and 2; investigation 2 Parts 1-3; investigation 3 Parts 1 and 3; investigation 4 Parts 1 and 2</p> <p>Crosscutting Concepts Stability and Change: Investigation 1 Part 3; Investigation 4 Parts 2 and 3</p> |
| <p>3.2.6-8.I Ask questions about data to determine the factors that affect the strength of electric and magnetic forces.</p> | <p>Disciplinary Core Ideas PS2.B: Types of Interactions: Investigation 1 Parts 1-3; Investigation 2 Parts 1-3; Investigation 3 Parts 1-3; Investigation 4 Parts 1-3</p> <p>Science and Engineering Practices Asking Questions and Defining Problems: Investigation 1 Part 2; Investigation 2 Part 2; Investigation 3 Parts 2 and 3; investigation 4 Part 1</p> <p>Crosscutting Concepts Cause and Effect: Investigation 1 Parts 1-3; Investigation 2 Parts 1-3; Investigation 3 Parts 1 and 3; Investigation 4 Parts 1-3</p> |
| <p>3.2.6-8.K Conduct an investigation and evaluate the experimental design to provide evidence that fields exist between objects exerting forces on each other even though the objects are not in contact.</p> | <p>Disciplinary Core Ideas PS2.B: Types of Interactions: Investigation 1 Parts 1-3; Investigation 2 Parts 1-3; Investigation 3 Parts 1-3; Investigation 4 Parts 1-3</p> <p>Science and Engineering Practices Planning and Carrying Out Investigations: Investigation 1 Parts 1 and 2; investigation 2 Parts 1-3; investigation 3 Parts 1 and 3; Investigation 4 Parts 1 and 2</p> <p>Crosscutting Concepts Cause and Effect: Investigation 1 Parts 1-3; Investigation 2 Parts 1-3; Investigation 3 Parts 1 and 3; Investigation 4 Parts 1-3</p> |

| Electromagnetic Force | |
|---|--|
| <p>3.2.6-8.P Develop a model to describe that when the arrangement of objects interacting at a distance changes, different amounts of potential energy are stored in the system.</p> | <p>Disciplinary Core Ideas PS3.A: Definitions of Energy: Investigation 2 Parts 1-3; Investigation 3 Parts 1-3; Investigation 4 Parts 1-3</p> <p>Science and Engineering Practices Developing and Using Models: Investigation 1 Part 3; Investigation 2 Parts 2 and 3; Investigation 3 Part 2; investigation 4 Parts 1 and 2</p> <p>Crosscutting Concepts System and System Models: Investigation 1 Parts 1 and 3; Investigation 2 Parts 2 and 3; Investigation 3 Parts 1-3; Investigation 4 Parts 2 and 3</p> |
| <p>3.2.6-8.O Construct, use, and present arguments to support the claim that when the kinetic energy of an object changes, energy is transferred to or from the object.</p> | <p>Disciplinary Core Ideas PS3.B: Conservation of Energy and Energy Transfer: Investigation 4 Parts 1-3</p> <p>Science and Engineering Practices Constructing Explanations and Designing Solutions: Investigation 1 Parts 1 and 3; Investigation 2 Parts 1 and 3; Investigation 3 Parts 1-3; Investigation 4 Parts 1-3</p> <p>Crosscutting Concepts Energy and Matter: Investigation 1 Parts 1 and 3; Investigation 2 Parts 1 and 3; Investigation 3 Parts 1 and 3; Investigation 4 Parts 1-3</p> |

| Electromagnetic Force | |
|---|--|
| <p>3.3.6-8.N Construct an argument supported by evidence for how increases in human population and per-capita consumption of natural resources impact Earth's systems.</p> | <p>Disciplinary Core Ideas ESS3.C: Human Impacts on Earth Systems: Investigation 4 Parts 1-3</p> <p>Science and Engineering Practices Engaging in Argument from Evidence: Investigation 1 Part 2; Investigation 2 Part 2; Investigation 4 Parts 1 and 2</p> <p>Crosscutting Concepts Cause and Effect: Investigation 1 Parts 1-3; Investigation 2 Parts 1-3; Investigation 3 Parts 1 and 3; Investigation 4 Parts 1-3</p> |

FOSS Next Generation MS Detail Correlation – 8th Grade Gravity and Kinetic Energy

| Gravity and Kinetic Energy | |
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| <p>3.2.6-8.G Apply Newton’s Third Law to design a solution to a problem involving the motion of two colliding objects.</p> | <p>Disciplinary Core Ideas PS2.A: Forces and Motion: Investigation 1 Parts 1-3; Investigation 2 Parts 1 and 2; investigation 3 Parts 1-3; Investigation 4 Parts 1 and 2</p> <p>Science and Engineering Practices Constructing Explanations and Designing Solutions: Investigation 1 Parts 1 and 3; Investigation 2 Part 1; Investigation 3 Parts 2 and 3; Investigation 4 Parts 1 and 2</p> <p>Crosscutting Concepts System and System Models: Investigation 1 Parts 2 and 3; Investigation 2 Parts 1 and 2; Investigation 3 Parts 1 and 3; Investigation 4 Parts 1 and 2</p> |
| <p>3.2.6-8.H Plan an investigation to provide evidence that the change in an object’s motion depends on the sum of the forces on the object and the mass of the object.</p> | <p>Disciplinary Core Ideas PS2.A: Forces and Motion: Investigation 1 Parts 1-3; Investigation 2 Parts 1 and 2; investigation 3 Parts 1-3; Investigation 4 Parts 1 and 2</p> <p>Science and Engineering Practices Planning and Carrying Out Investigations: Investigation 1 Part 3; Investigation 2 Parts 1 and 2; investigation 3 Parts 1 and 3; Investigation 4 Parts 1 and 2</p> <p>Crosscutting Concepts Stability and Change: Investigation 2 Part 2; Investigation 3 Part 3; Investigation 4 Part 2</p> |

| Gravity and Kinetic Energy | |
|---|---|
| <p>3.2.6-8.J Construct and present arguments using evidence to support the claim that gravitational interactions are attractive and depend on the masses of interacting objects.</p> | <p>Disciplinary Core Ideas PS2.B: Types of Interactions: Investigation 1 Parts 1-3; Investigation 2 Parts 1 and 2; Investigation 4 Parts 1 and 2</p> <p>Science and Engineering Practices Engaging in Argument from Evidence: Investigation 4 Part 1</p> <p>Crosscutting Concepts System and System Models: Investigation 1 Parts 2 and 3; Investigation 2 Parts 1 and 2; Investigation 3 Parts 1 and 3; Investigation 4 Parts 1 and 2</p> |

| Gravity and Kinetic Energy | |
|---|---|
| <p>3.2.6-8.K Conduct an investigation and evaluate the experimental design to provide evidence that fields exist between objects exerting forces on each other even though the objects are not in contact.</p> | <p>Disciplinary Core Ideas PS2.B: Types of Interactions: Investigation 1 Parts 1-3; Investigation 2 Parts 1 and 2; Investigation 4 Parts 1 and 2</p> <p>Science and Engineering Practices Planning and Carrying Out Investigations: Investigation 1 Part 3; Investigation 2 Parts 1 and 2; investigation 3 Parts 1 and 3; Investigation 4 Parts 1 and 2</p> <p>Crosscutting Concepts Cause and Effect: Investigation 2 Parts 1 and 2; Investigation 3 Parts 1-3; Investigation 4 Parts 1 and 2</p> |
| <p>3.2.6-8.L Construct and interpret graphical displays of data to describe the relationships of kinetic energy to the mass of an object and to the speed of an object.</p> | <p>Disciplinary Core Ideas PS3.A: Definitions of Energy: Investigation 3 Parts 1-3</p> <p>Science and Engineering Practices Analyzing and Interpreting Data: Investigation 1 Parts 1-3; Investigation 2 parts 1 and 2; Investigation 3 Parts 1 and 2; Investigation 4 Part 1</p> <p>Crosscutting Concepts Scale, Proportion, and Quantity: Investigation 1 Parts 1-3; Investigation 2 Parts 1 and 2; Investigation 3 Parts 1-3; Investigation 4 Part 2</p> |

| Gravity and Kinetic Energy | |
|---|---|
| <p>3.2.6-8.P Develop a model to describe that when the arrangement of objects interacting at a distance changes, different amounts of potential energy are stored in the system.</p> | <p>Disciplinary Core Ideas PS3.A: Definitions of Energy: Investigation 3 Parts 1-3</p> <p>Science and Engineering Practices Developing and Using Models: Investigation 1 Part 1; Investigation 2 Part 2; Investigation 3 Parts 1 and 2; Investigation 4 Part 1</p> <p>Crosscutting Concepts System and System Models: Investigation 1 Parts 2 and 3; Investigation 2 Parts 1 and 2; Investigation 3 Parts 1 and 3; Investigation 4 Parts 1 and 2</p> |

| Gravity and Kinetic Energy | |
|---|--|
| <p>3.2.6-8.O Construct, use, and present arguments to support the claim that when the kinetic energy of an object changes, energy is transferred to or from the object.</p> | <p>Disciplinary Core Ideas PS3.B: Conservation of Energy and Energy Transfer: Investigation 3 Parts 1-3; Investigation 4 Parts 1 and 2</p> <p>Science and Engineering Practices Constructing Explanations and Designing Solutions: Investigation 1 Parts 1 and 3; Investigation 2 Part 1; Investigation 3 Parts 2 and 3; Investigation 4 Parts 1 and 2</p> <p>Crosscutting Concepts Energy and Matter: Investigation 3 Parts 1-3; Investigation 4 Parts 1 and 2</p> |

| Gravity and Kinetic Energy | |
|--|--|
| <p>3.3.6-8.B Develop and use a model to describe the role of gravity in the motions within galaxies and the solar system.</p> | <p>Disciplinary Core Ideas ESS1.A: The Universe and Its Stars: Investigation 2 Parts 1 and 2</p> <p>ESS1.B: Earth and the Solar System: Investigation 2 Parts 1 and 2; Investigation 4 Parts 1 and 2</p> <p>Science and Engineering Practices Developing and Using Models: Investigation 1 Part 1; Investigation 2 Part 2; Investigation 3 Parts 1 and 2; Investigation 4 Part 1</p> <p>Crosscutting Concepts Systems and Systems Models: Investigation 1 Parts 2 and 3; Investigation 2 Parts 1 and 2; Investigation 3 Parts 1 and 3; Investigation 4 Parts 1 and 2</p> |

FOSS Next Generation MS Detail Correlation – 8th Grade Waves

| Waves | |
|---|--|
| <p>3.2.6-8.Q Use mathematical representations to describe a simple model for waves that includes how the amplitude of a wave is related to the energy in a wave.</p> | <p>Disciplinary Core Ideas PS4.A: Wave Properties: Investigation 1 Parts 1 and 2; Investigation 2 Parts 1-3; Investigation 3 Parts 1-4</p> <p>Science and Engineering Practices Using Mathematics and Computational Thinking: Investigation 1 Parts 1 and 2; Investigation 2 Parts 2 and 3; Investigation 4 Parts 2 and 3</p> <p>Crosscutting Concepts Patterns: Investigation 1 Parts 1 and 2; Investigation 2 Parts 1 and 3; Investigation 3 Parts 2-4; Investigation 4 Parts 1-3</p> |

| Waves | |
|---|--|
| <p>3.2.6-8.R Develop and use a model to describe that waves are reflected, absorbed, or transmitted through various materials.</p> | <p>Disciplinary Core Ideas PS4.A: Wave Properties: Investigation 1 Parts 1 and 2; Investigation 2 Parts 1-3; Investigation 3 Parts 1-4</p> <p>PS4.B: Electromagnetic Radiation: Investigation 3 Parts 1-4</p> <p>Science and Engineering Practices Developing and Using Models: Investigation 1 Part 2; Investigation 2 Parts 1 and 3; Investigation 3 Parts 2 and 3; Investigation 4 Part 1</p> <p>Crosscutting Concepts Structure and Function: Investigation 2 Part 3; Investigation 4 Part 3</p> |

| Waves | |
|--|---|
| <p>3.2.6-8.S Integrate qualitative scientific and technical information to support the claim that digitalized signals are a more reliable way to encode and transmit information than analog signals.</p> | <p>Disciplinary Core Ideas PS4.C: Information Technologies and Instrumentation: Investigation 4 Parts 1-3</p> <p>Science and Engineering Practices Obtaining, Evaluating, and Communicating Information: Investigation 2 Parts 1-3; Investigation 3 Parts 1, 2 and 4; Investigation 4 Part 3</p> <p>Crosscutting Concepts Structure and Function: Investigation 2 Part 3; Investigation 4 Part 3</p> |

FOSS Next Generation MS Detail Correlation – 8th Grade Planetary Science

| Planetary Science | |
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| <p>3.3.6-8.A Develop and use a model of the Earth-sun-moon system to describe the cyclic patterns of lunar phases, eclipses of the sun and moon, and the seasons.</p> | <p>Disciplinary Core Ideas ESS1.A: The Universe and Its Stars: Investigation 1 Part 3; Investigation 2 Parts 1-3; Investigation 3 Parts 1 and 2; Investigation 4 Parts 1-3; Investigation 5 Parts 1 and 2; Investigation 6 Parts 1 and 2; Investigation 9 Part 2</p> <p>Science and Engineering Practices Developing and Using Models: Investigation 1 Part 3; Investigation 2 Parts 1-3; Investigation 3 Part 1; Investigation 4 Parts 1-3; Investigation 5 Part 1;</p> |

| | |
|--|---|
| | <p>Investigation 6 Parts 1 and 2; Investigation 7 Parts 1, 2 and 4; Investigation 8 Part 1; Investigation 9 Parts 1 and 2</p> <p>Crosscutting Concepts Patterns: Investigation 1 Parts 1 and 3; Investigation 2 Parts 1 and 3; investigation 3 Parts 1 and 2; Investigation 4 Parts 1-3; Investigation 5 Parts 1 and 2; Investigation 7 Parts 1-4; Investigation 8 Parts 1 and 2; Investigation 9 Parts 1 and 2</p> |
| <p>3.3.6-8.B Develop and use a model to describe the role of gravity in the motions within galaxies and the solar system.</p> | <p>Disciplinary Core Ideas ESS1.A: The Universe and Its Stars: Investigation 1 Part 3; Investigation 2 Parts 1-3; Investigation 3 Parts 1 and 2; Investigation 4 Parts 1-3; Investigation 5 Parts 1 and 2; Investigation 6 Parts 1 and 2; Investigation 9 Part 2</p> <p>ESS1.B: Earth and the Solar System: Investigation 2 Parts 1-3; Investigation 3 Parts 1 and 2; Investigation 5 Parts 1 and 2; investigation 6 Parts 1 and 2; Investigation 7 Parts 1-4; Investigation 9 Part 2</p> <p>Science and Engineering Practices Developing and Using Models: Investigation 1 Part 3; Investigation 2 Parts 1-3; Investigation 3 Part 1; Investigation 4 Parts 1-3; Investigation 5 Part 1; Investigation 6 Parts 1 and 2; Investigation 7 Parts 1, 2 and 4; Investigation 8 Part 1; Investigation 9 Parts 1 and 2</p> <p>Crosscutting Concepts Systems and Systems Models: Investigation 1 Parts 1-3; Investigation 3 Part 2; Investigation 4 Parts 1-3; Investigation 5 Part 1; Investigation 6 Parts 1 and 2; Investigation 7 Parts 1 and 4; Investigation 9 Parts 1-3</p> |

| Planetary Science | |
|--|---|
| <p>3.3.6-8.C Analyze and interpret data to determine scale properties of objects in the solar system.</p> | <p>Disciplinary Core Ideas ESS1.B: Earth and the Solar System: Investigation 2 Parts 1-3; Investigation 3 Parts 1 and 2; Investigation 5 Parts 1 and 2; investigation 6 Parts 1 and 2; Investigation 7 Parts 1-4; Investigation 9 Part 2</p> <p>Science and Engineering Practices Analyzing and Interpreting Data: Investigation 1 Part 1; Investigation 2 Parts 1-3; Investigation 4 Part 2; Investigation 5 Parts 1 and 2; Investigation 6 Parts 1 and 2; Investigation 7 Parts 2-4; Investigation 8 Part 1; Investigation 9 Parts 1 and 2</p> <p>Crosscutting Concepts Scale, Proportion, and Quantity: Investigation 1 Parts 1 and 2; Investigation 2 Parts 1-3; Investigations 3 Part 2; Investigation 5 Parts 1 and 2; Investigation 6 Parts 1 and 2; Investigation 7 Parts 1-4; Investigation 8 Parts 1 and 2; Investigation 9 Part 2</p> |

| Planetary Science | |
|---|---|
| <p>3.3.6-8.E Construct an explanation based on evidence for how geoscience processes have changed Earth's surface at varying time and spatial scales.</p> | <p>Disciplinary Core Ideas ESS2.A: Earth's Materials and Systems: Investigation 5 Parts 1 and 2; Investigation 7 Parts 1-4</p> <p>ESS2.C: The Roles of Water in earth's Surface Processes: Investigation 7 Parts 1-4</p> <p>Science and Engineering Practices Constructing Explanations and Designing Solutions: Investigation 2 Parts 1-3; Investigation 4 Parts 1-3; Investigation 5 Part 1; Investigation 6 Part 2; Investigation 7 Part 4; Investigation 8 Part 2; Investigation 9 Part 3</p> <p>Crosscutting Concepts Scale, Proportion, and Quantity: Investigation 1 Parts 1 and 2; Investigation 2 Parts 1-3; Investigations 3 Part 2; Investigation 5 Parts 1 and 2; Investigation 6 Parts 1 and 2; Investigation 7 Parts 1-4; Investigation 8 Parts 1 and 2; Investigation 9 Part 2</p> |
| <p>3.3.6-8.M Apply scientific principles to design a method for monitoring and minimizing a human impact on the environment.</p> | <p>Disciplinary Core Ideas ESS3.C: Human Impacts on Earth Systems: Investigation 1 Parts 1 and 2; Investigation 7 Parts 1-4</p> <p>Science and Engineering Practices Constructing Explanations and Designing Solutions: Investigation 2 Parts 1-3; Investigation 4 Parts 1-3; Investigation 5 Part 1; Investigation 6 Part 2; Investigation 7 Part 4; Investigation 8 Part 2; Investigation 9 Part 3</p> <p>Crosscutting Concepts Cause and Effect: Investigation 2 Parts 1-3; Investigation 4 Parts 1 and 3; Investigation 5 Parts 1 and 2; Investigation 6 Part 2; Investigation 7 Part 2 and 4; Investigation 9 Part 2</p> |
| <p>3.3.6-8.N Construct an argument supported by evidence for how increases in human population and per-capita consumption of natural resources impact Earth's systems.</p> | <p>Disciplinary Core Ideas ESS3.C: Human Impacts on Earth Systems: Investigation 1 Parts 1 and 2; Investigation 7 Parts 1-4</p> <p>Science and Engineering Practices Engaging in Argument from Evidence: Investigation 2 Part 1; Investigation 5 Part 1; Investigation 6 Part 2; Investigation 7 Parts 2-4; Investigation 9 Part 2</p> <p>Crosscutting Concepts Cause and Effect: Investigation 2 Parts 1-3; Investigation 4 Parts 1 and 3; Investigation 5 Parts 1 and 2; Investigation 6 Part 2; Investigation 7 Part 2 and 4; Investigation 9 Part 2</p> |

FOSS 8th Grade Assessment Opportunities

Disciplinary Core Ideas Assessment Opportunities – 8th Grade

| Course | Inv. | Disciplinary Core Ideas | | | | | | | | | | | | | | | | | | | | | | | |
|----------------------------|------|-------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|---|
| | | PS2.A | PS2.B | PS3.A | PS3.B | PS4.A | PS4.B | PS4.C | LS3.A | LS3.B | LS4.A | LS4.B | LS4.C | ESS1.A | ESS1.B | ESS1.C | ESS2.A | ESS2.C | ESS3.A | ESS3.B | ESS3.C | ETS1.A | ETS1.B | ETS1.C | |
| Heredity and Adaptation | 1 | | | | | | | | | | X | | | | | | | | | | | | | | |
| | 2 | | | | | | | | X | X | X | | | | | | | | | | | | | | |
| | 3 | | | | | | | | X | X | X | X | X | | | | | | | | | | | | |
| Electromagnetic Force | 1 | X | X | | | | | | | | | | | | | | | | | | | | | | |
| | 2 | X | X | X | | | | | | | | | | | | | | | | | | | | | |
| | 3 | | X | X | | | | | | | | | | | | | | | | | | | X | X | X |
| | 4 | X | X | X | X | | | | | | | | | | | | | | | | | X | X | X | X |
| Gravity and Kinetic Energy | 1 | X | X | | | | | | | | | | | | | | | | | | | | | | |
| | 2 | X | X | | | | | | | | | | | X | X | | | | | | | | | | |
| | 3 | X | | X | X | | | | | | | | | | | | | | | | | | | | |
| | 4 | X | X | | X | | | | | | | | | | | X | | | | | | | X | X | X |
| Waves | 1 | | | | | X | | | | | | | | | | | | | | | | | | | |
| | 2 | | | | | X | | | | | | | | | | | | | | | | | X | X | X |
| | 3 | | | | | X | X | | | | | | | | | | | | | | | | | | |
| | 4 | | | | | | | X | | | | | | | | | | | | | | | | | |
| Planetary Science | 1 | | | | | | | | | | | | | | X | | | | | | | X | | | |
| | 2 | | | | | | | | | | | | | | X | X | | | | | | | | | |
| | 3 | | | | | | | | | | | | | | X | X | | | | | | | | | |
| | 4 | | | | | | | | | | | | | | X | | | | | | | | | | |
| | 5 | | | | | | | | | | | | | | X | X | X | X | | | | X | | | |
| | 6 | | X | | | | | X | | | | | | | X | X | | | | | X | | | | |
| | 7 | | | | | | | | | | | | | | | X | | X | X | | | X | | | |
| | 8 | | | | | | | X | | | | | | | | | | | | | | | X | | |
| | 9 | | X | | | | | | | | | | | | X | X | | | | | | | | | |

Science and Engineering Practices Assessment Opportunities – 8th Grade

| Course | Inv. | Science and Engineering Practices | | | | | | | |
|----------------------------|------|--|-----------------------------|--|---------------------------------|--|---|------------------------------------|--|
| | | Asking Questions and Defining Problems | Developing and Using Models | Planning and Carrying Out Investigations | Analyzing and Interpreting Data | Using Mathematics and Computational Thinking | Constructing Explanations and Designing Solutions | Engaging in Argument from Evidence | Obtaining, Evaluating, and Communicating Information |
| Heredity and Adaptation | 1 | | | | x | | x | | x |
| | 2 | | x | | x | x | x | | x |
| | 3 | | x | | | x | x | | x |
| Electro-magnetic Force | 1 | x | x | x | x | | x | x | |
| | 2 | x | x | x | x | | x | x | |
| | 3 | x | x | x | x | | x | | |
| | 4 | x | x | x | x | | x | x | |
| Gravity and Kinetic Energy | 1 | x | x | x | x | | x | | |
| | 2 | x | x | x | x | | x | | |
| | 3 | x | x | x | x | | x | | |
| | 4 | x | x | x | x | | x | x | |
| Waves | 1 | x | x | | x | x | | | |
| | 2 | x | x | | x | x | | x | x |
| | 3 | x | x | | x | | | | x |
| | 4 | x | x | | x | x | | | x |
| Planetary Science | 1 | x | x | | x | | | | |
| | 2 | x | x | | x | | x | x | |
| | 3 | x | x | | | | | | |
| | 4 | x | x | | x | | x | | |
| | 5 | x | x | | x | | x | x | |
| | 6 | x | x | | x | | x | x | |
| | 7 | x | x | | x | | x | x | |
| | 8 | x | x | | x | | x | | |
| | 9 | x | x | | x | | x | x | |

Crosscutting Concepts Assessment Opportunities – 8th Grade

| Course | Inv. | Crosscutting Concepts | | | | | | |
|----------------------------|------|-----------------------|------------------|---------------------------------|---------------------------|------------------------------|------------------------|---------------------------------|
| | | Patterns | Cause and Effect | Scale, Proportion, and Quantity | Systems and System Models | Energy and Matter in Systems | Structure and Function | Stability and Change of Systems |
| Heredity and Adaptation | 1 | x | | x | | | x | |
| | 2 | x | x | | | | | |
| | 3 | x | x | | | | x | |
| | 4 | | | | | | | |
| Electro-magnetic Force | 1 | | x | | x | x | | x |
| | 2 | | x | | x | x | | |
| | 3 | | x | | x | x | | |
| | 4 | | x | | x | x | | x |
| Gravity and Kinetic Energy | 1 | | | x | x | | | |
| | 2 | | x | x | x | | | x |
| | 3 | | x | x | x | x | | x |
| | 4 | | x | x | x | x | | x |
| Waves | 1 | x | | | | | | |
| | 2 | x | | | | | x | |
| | 3 | x | | | | | | |
| | 4 | x | | | | | x | |
| Planetary Science | 1 | x | | x | x | | | |
| | 2 | x | x | x | | x | x | |
| | 3 | x | | x | x | | | |
| | 4 | x | x | | x | | | |
| | 5 | x | x | x | x | | | |
| | 6 | | x | x | x | | | |
| | 7 | x | x | x | x | | | |
| | 8 | x | | x | | x | | |
| | 9 | x | x | x | x | | | |