

AMSTI COURSE OF STUDY CORRELATION
Third Grade

| | STANDARD | MODULE |
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| Motion and Stability: Forces and Interactions | | |
| 1 | Plan and carry out an experiment to determine the effects of balanced and unbalanced forces on the motion of an object using one variable at a time, including number, size, direction, speed, position, friction, or air resistance (e.g., balanced forces pushing from both sides on an object, such as a box, producing no motion; unbalanced force on one side of an object, such as a ball, producing motion), and communicate these findings graphically. | Forces and Interactions To include: <ul style="list-style-type: none"> • Motion and Design, <i>STC</i> • The Attraction is Obvious: Designing Maglev Systems, <i>EiE</i> |
| 2 | Investigate, measure, and communicate in a graphical format how an observed pattern of motion (e.g., a child swinging in a swing, a ball rolling back and forth in a bowl, two children teetering on a see-saw, a model vehicle rolling down a ramp of varying heights, a pendulum swinging) can be used to predict the future motion of an object. | |
| 3 | Explore objects that can be manipulated in order to determine cause-and-effect relationships (e.g., distance between objects affecting strength of a force, orientation of magnets affecting direction of a magnetic force) of electric interactions between two objects not in contact with one another (e.g., force on hair from an electrically charged balloon, electrical forces between a charged rod and pieces of paper) or magnetic interactions between two objects not in contact with one another (e.g., force between two permanent magnets or between an electromagnet and steel paperclips, force exerted by one magnet versus the force exerted by two magnets). | |
| 4 | Apply scientific ideas about magnets to solve a problem through an engineering design project (e.g., constructing a latch to keep a door shut, creating a device to keep two moving objects from touching each other such as a maglev system).* | |
| From Molecules to Organisms: Structures and Processes | | |
| 5 | Obtain and combine information to describe that organisms are classified as living things, rather than nonliving things, based on their ability to obtain and use resources, grow, reproduce, and maintain stable internal conditions while living in a constantly changing external environment. | Heredity and Diversity To include: <ul style="list-style-type: none"> • Structures of Life, <i>FOSS</i> |
| 6 | Create representations to explain the unique and diverse life cycles of organisms other than humans (e.g., flowering plants, frogs, butterflies), including commonalities such as birth, growth, reproduction, and death. | |

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| Heredity: Inheritance and Variation of Traits | | |
| 7 | Examine data to provide evidence that plants and animals, excluding humans, have traits inherited from parents and that variations of these traits exist in groups of similar organisms (e.g., flower colors in pea plants, fur color and pattern in animal offspring). | Heredity and Diversity To include: • Structures of Life, FOSS |
| 8 | Engage in argument from evidence to justify that traits can be influenced by the environment (e.g., stunted growth in normally tall plants due to insufficient water, change in an arctic fox's fur color due to light and/or temperature, stunted growth of a normally large animal due to malnourishment). | |
| Unity and Diversity | | |
| 9 | Analyze and interpret data from fossils (e.g., type, size, distribution) to provide evidence of organisms and the environments in which they lived long ago (e.g., marine fossils on dry land, tropical plant fossils in arctic areas, fossils of extinct organisms in any environment). | Heredity and Diversity To include: • Structures of Life, FOSS |
| 10 | Investigate how variations in characteristics among individuals of the same species may provide advantages in surviving, finding mates, and reproducing (e.g., plants having larger thorns being less likely to be eaten by predators, animals having better camouflage coloration being more likely to survive and bear offspring). | |
| 11 | Construct an argument from evidence to explain the likelihood of an organism's ability to survive when compared to the resources in a certain habitat (e.g., freshwater organisms survive well, less well, or not at all in saltwater; desert organisms survive well, less well, or not at all in woodlands. a. Construct explanations that forming groups helps some organisms survive. b. Create models that illustrate how organisms and their habitats make up a system in which the parts depend on each other. c. Categorize resources in various habitats as basic materials (e.g., sunlight, air, freshwater, soil), produced materials (e.g., food, fuel, shelter), or as nonmaterial (e.g., safety, instinct, nature-learned behaviors.) | |

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| 12 | Evaluate engineered solutions to a problem created by environmental changes and any resulting impacts on the types and density of plant and animal populations living in the environment (e.g., replanting of sea oats in coastal areas due to destruction by hurricanes, creating property development restrictions in vacation areas to reduce displacement and loss of native animal populations).* | <p>Heredity and Diversity</p> <p>To include:</p> <ul style="list-style-type: none"> • Structures of Life, FOSS |
| Earth's Systems | | |
| 13 | Display data graphically and in tables to describe typical weather conditions expected during a particular season (e.g., average temperature, precipitation, wind direction). | <p>Weather and Climate</p> <p>To include:</p> <ul style="list-style-type: none"> • Water and Climate, FOSS • Max/Min Temperature, GLOBE • Precipitation, GLOBE • Wind Direction, GLOBE |
| 14 | Collect information from a variety of sources to describe climates in different regions of the world. | |
| Earth and Human Activity | | |
| 15 | Evaluate a design solution (e.g., flood barriers, wind resistant roofs, lightning rods) that reduces the impact of a weather-related hazard.* | <p>Weather and Climate</p> <p>To include:</p> <ul style="list-style-type: none"> • Water and Climate, FOSS • Max/Min Temperature, GLOBE • Precipitation, GLOBE • Wind Direction, GLOBE |