Grade 6 Earth and Space Science Checklist

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Related Schoolwide Learner Outcomes

Earth's Place in the Universe

- ☐ MS-ESS1-1: I can use the Earth-sun-moon system to describe lunar phases, eclipses of the sun and moon, and seasons.
- ☐ MS-ESS1-2: I can describe the role of gravity in the motions within galaxies and the solar system.
- ☐ MS-ESS1-3: I can use data to compare the properties of objects in the solar system.
- ☐ MS-ESS1-4: I can explain how the geologic time scale is used to organize Earth's 4.6-billion-year-old-history.

Earth's Systems

- ☐ MS-ESS2-1: I can describe the process of weathering and erosion on the Earth's surface.
- ☐ MS-ESS2-2: I can discuss how plate motions and natural disasters have contributed to changes in Earth's surface.
- ☐ MS-ESS2-3: I can use data from fossils and rocks, continental shapes, and seafloor structures to provide evidence of past plate motions.
- ☐ MS-ESS2-4: I can describe the water cycle. I can explain the role of the energy from the sun and the force of gravity in the water cycle.
- ☐ MS-ESS2-5: I can describe how the movement of air masses from region to region causes weather. I can describe how sudden weather can occur when different air masses collide.
- ☐ MS-ESS2-6: I can use a model to demonstrate how the heating and rotation of Earth contribute to patterns that determine climates in different areas. I can describe the Coriolis effect.

Earth and Human Activity

- ☐ MS-ESS3-1: I can discuss the events that have led to uneven distributions of Earth's mineral, energy, and groundwater resources.
- ☐ MS-ESS3-2: I can use information that I have learned about natural disasters in the past to come up with ideas for limiting the potential destruction that they can cause in the future.

- [ ] MS-ESS3-3: I can describe the impact that humans have on the environment. I can brainstorm ways that humans can limit water usage, land usage, and pollution. I can determine if these solutions are reasonable.
- [ ] MS-ESS3-4: I can talk about the ways that the increases in the human population and the use of natural resources impact Earth's systems.
- [ ] MS-ESS3-5: I can discuss the different factors that have caused a rise in global temperatures over the past century.

Engineering Design

- [ ] MS-ETS1-1: I can develop a successful solution to a design problem using scientific principles. I can compare the pros and cons of my solution in order to determine if it is reasonable.
- [ ] MS-ETS1-2: I can test my design solutions to determine whether or not they will solve the problem.
- [ ] MS-ETS1-3: I can use the data gathered from tests to determine which design solution will best solve the problem.
- [ ] MS-ETS1-4: I can develop a model of the design that can be tested and modified to create a successful prototype.

Grade 6 Integrated Science Checklist

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Related Schoolwide Learner Outcomes

Life Science: From Molecules to Organisms: Structures and Processes

- ☐ MS-LS1-1: I can provide evidence that living things are made of cells. I can show that some things are made of one cell while others are made of many different numbers and types of cells.
- ☐ MS-LS1-2: I can construct a model of a cell that shows how all of the parts work together to help the cell function.
- ☐ MS-LS1-3: I can describe the body as a system. I can explain the subsystems that work together so that the body can function. I can discuss the relationships between cells, tissues, and organs.
- ☐ MS-LS1-4: I can explain how some animal behaviors help them to successfully reproduce. I can explain how some plant structures allow plants to successfully reproduce. I can back up my explanations with facts.
- ☐ MS-LS1-5: I can explain how environmental factors affect the growth of organisms. I can explain how genetic factors affect the growth of organisms. I can back up my explanations with facts.
- ☐ MS-LS1-8: I can demonstrate how our senses answer to stimuli by sending messages to the brain causing quick reactions or storage as memories.

Life Science: Heredity: Inheritance and Variation of Traits

- ☐ MS-LS3-2: I can explain why asexual reproduction results in offspring with identical genetic information. I can explain why sexual reproduction results in offspring with genetic variation. I can support my explanations with models.

Earth and Space Science: Earth's Systems

- ☐ MS-ESS2-4: I can describe the water cycle. I can explain the role of the energy from the sun and the force of gravity in the water cycle.
- ☐ MS-ESS2-5: I can describe how the movement of air masses from region to region causes weather. I can describe how sudden weather can occur when different air masses collide.
- ☐ MS-ESS2-6: I can use a model to demonstrate how the heating and rotation of Earth contribute to patterns that determine climates in different areas. I can describe the Coriolis effect.

Earth and Space Science: Earth and Human Activity

- ☐ MS-ESS3-3: I can describe the impact that humans have on the environment. I can brainstorm ways that humans can limit water usage, land usage, and pollution. I can determine if these solutions are reasonable.
- ☐ MS-ESS3-5: I can discuss the different factors that have caused a rise in global temperatures over the past century.

Physical Science: Energy

- ☐ MS-PS3-3: I can design, construct, and test a device that will either minimize or maximize thermal energy transfer.
- ☐ MS-PS3-4: I can conduct experiments to find out more about the relationships among energy transfer, matter, mass, and kinetic energy of the particles as measured by the temperature of the sample.
- ☐ MS-PS3-5: I can develop and present arguments to demonstrate that when the kinetic energy of an object changes, energy is transferred to or from the object.

Engineering Design

- ☐ MS-ETS1-1: I can develop a successful solution to a design problem using scientific principles. I can compare the pros and cons of my solution in order to determine if it is reasonable.
- ☐ MS-ETS1-2: I can test my design solutions to determine whether or not they will solve the problem.
- ☐ MS-ETS1-3: I can use the data gathered from tests to determine which design solution will best solve the problem.
- ☐ MS-ETS1-4: I can develop a model of the design that can be tested and modified to create a successful prototype.