Utah Science

Grade 3

Adopted 2020

Weather And Climate Patterns 3.1

1. Analyze and interpret data to reveal patterns that indicate typical weather conditions expected during a particular season. Emphasize students gathering data in a variety of ways and representing data in tables and graphs. Examples of data could include temperature, precipitation, or wind speed. 3.1.1
2. Obtain and communicate information to describe climate patterns in different regions of the world. Emphasize how climate patterns can be used to predict typical weather conditions. Examples of climate patterns could be average seasonal temperature and average seasonal precipitation. 3.1.2
3. Design a solution that reduces the effects of a weather-related hazard. Examples could include barriers to prevent flooding or wind-resistant roofs. 3.1.3

Effects Of Traits On Survival 3.2

1. Develop and use models to describe changes that organisms go through during their life cycles. Emphasize that organisms have unique and diverse life cycles but follow a pattern of birth, growth, reproduction, and death. Examples of changes in life cycles could include how some plants and animals look different at different stages of life or how other plants and animals only appear to change size in their life. 3.2.1
2. Analyze and interpret data to identify patterns of traits that plants and animals have inherited from parents. Emphasize the similarities and differences in traits between parent organisms and offspring and variation of traits in groups of similar organisms. 3.2.2
3. Construct an explanation that the environment can affect the traits of an organism. Examples could include that the growth of normally tall plants is stunted with insufficient water or that pets given too much food and little exercise may become overweight. 3.2.3
4. Construct an explanation showing how variations in traits and behaviors can affect the ability of an individual to survive and reproduce. Examples of traits could include large thorns protecting a plant from being eaten or strong smelling flowers to attracting certain pollinators. Examples of behaviors could include animals living in groups for protection or migrating to find more food. 3.2.4

5. **Engage in argument from evidence that in a particular habitat (system) some organisms can survive well, some survive less well, and some cannot survive at all. Emphasize that organisms and habitats form systems in which the parts depend upon each other. Examples of evidence could include needs and characteristics of the organisms and habitats involved such as cacti growing in dry, sandy soil but not surviving in wet, saturated soil.** 3.2.5

6. **Design a solution to a problem caused by a change in the environment that impacts the types of plants and animals living in that environment. Examples of environmental changes could include changes in land use, water availability, temperature, food, or changes caused by other organisms.** 3.2.6

Force Affects Motion 3.3

1. **Plan and carry out investigations that provide evidence of the effects of balanced and unbalanced forces on the motion of an object. Emphasize investigations where only one variable is tested at a time. Examples could include an unbalanced force on one side of a ball causing it to move and balanced forces pushing on a box from both sides producing no movement.** 3.3.1

2. **Analyze and interpret data from observations and measurements of an object's motion to identify patterns in its motion that can be used to predict future motion. Examples of motion with a predictable pattern could include a child swinging on a swing or a ball rolling down a ramp.** 3.3.2

3. **Construct an explanation that the gravitational force exerted by Earth causes objects to be directed downward, toward the center of the spherical Earth. Emphasize that "downward" is a local description depending on one's position on Earth.** 3.3.3

4. **Ask questions to plan and carry out an investigation to determine cause and effect relationships of electric or magnetic interactions between two objects not in contact with each other. Emphasize how static electricity and magnets can cause objects to move without touching. Examples could include the force an electrically charged balloon has on hair, how magnet orientation affects the direction of a force, or how distance between objects affects the strength of a force.** 3.3.4

5. **Design a solution to a problem in which a device functions by using scientific ideas about magnets. Examples could include a latch or lock used to keep a door shut or a device to keep two moving objects from touching each other.** 3.3.5