

**Identify and explain the basic needs of plants and animals, their roles in food webs, and the impact of environmental changes on plants and animals.**

- Determine needs of plants and animals.
- Construct food chains or food webs using various plants and animals.
- Explain how environmental changes can affect a food web.

**Identify characteristics of organisms and variations among individuals that influence their survival in their environments.**

- Identify individual differences (color, leg length, wing size, leaf shape) in organisms of the same kind.
- Identify variations in physical characteristics of individual organisms that give them an advantage for survival and reproduction.
- Explain how fossils provide evidence of Earth's past by comparing and contrasting life forms found in fossils and organisms that exist today.

**Describe the sun, Earth and moon and their motions.**

- Identify the sun and moon as common objects in the sky. Compare and contrast the characteristics of the sun, moon, and Earth, including relative distances and abilities to support life.
- Explain the apparent movement of the sun and moon across the sky.
- Describe the pattern of the changing appearance of the moon over time.
- Relate the motions of the moon and Earth to calendar divisions (day/night, month, year).

**Measure objects (size, weight, volume, temperature), compare and contrast characteristics of liquids and solids, and describe changes in state.**

- Show some ways that heat can be produced (through electricity, rubbing/friction and burning), demonstrate how temperature can be increased in a substance by heating it, and identify heat as a form of energy.
- Identify objects that are good or poor conductors of heat.
- Explain that heating or cooling are needed to change matter from one state to another.
- Measure the weight or mass of objects using appropriate units.
- Measure the temperature of solids and liquids.
- Measure the volumes of liquids in milliliters and liters.

**Create and describe simple electric circuits and electromagnets; demonstrate and describe interactions with magnets.**

- Identify objects that are good conductors or poor conductors of electricity.
- Demonstrate how electrical energy is transferred and changed through the use of a simple circuit.
- Demonstrate magnetic effects in a simple electric circuit.
- Demonstrate magnetic fields by observing the patterns formed with iron filings using a variety of magnets.
- Demonstrate that magnetic objects are affected by the strength of the magnet and the distance away from the magnet.