

**Next Generation Science Standards**  
**GRADE 3**  
**by Quarter**

**First Quarter**

**Animals**

- SC.3.L.15.1 Classify animals into major groups (mammals, birds, reptiles, amphibians, fish, arthropods, vertebrates and invertebrates, those having live births and those which lay eggs) according to their physical characteristics and behaviors.
- SC.3.L.17.1 Describe how animals and plants respond to changing seasons.

**Plants**

- SC.3.L.14.1 Describe structures in plants and their roles in food production, support, water and nutrient transport, and reproduction.
- SC.3.L.14.2 Investigate and describe how plants respond to stimuli (heat, light, gravity), such as the way plant stems grow toward light and their roots grow downward in response to gravity.
- SC.3.L.15.2 Classify flowering and nonflowering plants into major groups such as those that produce seeds, or those like ferns and mosses that produce spores, according to their physical characteristics.
- SC.3.L.17.1 Describe how animals and plants respond to changing seasons.
- SC.3.L.17.2 Recognize that plants use energy from the Sun, air, and water to make their own food.

**The Practice of Science** (continuous and ongoing throughout the year)

- SC.3.N.1.1 Raise questions about the natural world, investigate them individually and in teams through free exploration and systematic investigations, and generate appropriate explanations based on those explorations.
- SC.3.N.1.2 Compare the observations made by different groups using the same tools and seek reasons to explain the differences across groups.
- SC.3.N.1.3 Keep records as appropriate, such as pictorial, written, or simple charts and graphs, of investigations conducted.
- SC.3.N.1.4 Recognize the importance of communication among scientists.
- SC.3.N.1.5 Recognize that scientists question, discuss, and check each others' evidence and explanations.
- SC.3.N.1.6 Infer based on observation.
- SC.3.N.1.7 Explain that empirical evidence is information, such as observations or measurements, that is used to help validate explanations of natural phenomena.
- SC.3.N.3.1 Recognize that words in science can have different or more specific meanings than their use in everyday language; for example, energy, cell, heat/cold, and evidence.
- SC.3.N.3.2 Recognize that scientists use models to help understand and explain how things work.
- SC.3.N.3.3 Recognize that all models are approximations of natural phenomena; as such, they do not perfectly account for all observations.

**Second Quarter**

### **The Sun and the Stars**

- SC.3.E.5.1 Explain that stars can be different; some are smaller, some are larger, and some appear brighter than others; all except the Sun are so far away that they look like points of light.
- SC.3.E.5.2 Identify the Sun as a star that emits energy; some of it in the form of light.
- SC.3.E.5.3 Recognize that the Sun appears large and bright because it is the closest star to Earth.
- SC.3.E.5.5 Investigate that the number of stars that can be seen through telescopes is dramatically greater than those seen by the unaided eye.
- SC.3.E.6.1 Demonstrate that radiant energy from the Sun can heat objects and when the Sun is not present, heat may be lost.

### **Properties of Matter**

- SC.3.P.8.1 Measure and compare temperatures of various samples of solids and liquids.
- SC.3.P.8.2 Measure and compare the mass and volume of solids and liquids.
- SC.3.P.8.3 Compare materials and objects according to properties such as size, shape, color, texture, and hardness.

## **Third Quarter**

### **Water Cycle**

- SC.3.P.9.1 Describe the changes water undergoes when it changes state through heating and cooling by using familiar scientific terms such as melting, freezing, boiling, evaporation, and condensation.

### **Energy: Light, Heat, Gravity**

- SC.3.P.10.1 Identify some basic forms of energy such as light, heat, sound, electrical, and mechanical.
- SC.3.P.10.2 Recognize that energy has the ability to cause motion or create change.
- SC.3.P.10.3 Demonstrate that light travels in a straight line until it strikes an object or travels from one medium to another.
- SC.3.P.10.4 Demonstrate that light can be reflected, refracted, and absorbed.
- SC.3.E.5.4 Explore the Law of Gravity by demonstrating that gravity is a force that can be overcome.
- SC.3.P.11.1 Investigate, observe, and explain that things that give off light often also give off heat.
- SC.3.P.11.2 Investigate, observe, and explain that heat is produced when one object rubs against another, such as rubbing one's hands together.

## **Fourth Quarter**

### **Energy: Light, Heat, Gravity**

- SC.3.P.10.1 Identify some basic forms of energy such as light, heat, sound, electrical, and mechanical.
- SC.3.P.10.2 Recognize that energy has the ability to cause motion or create change.
- SC.3.P.10.3 Demonstrate that light travels in a straight line until it strikes an object or travels from one medium to another.
- SC.3.P.10.4 Demonstrate that light can be reflected, refracted, and absorbed.

- SC.3.E.5.4 Explore the Law of Gravity by demonstrating that gravity is a force that can be overcome.
- SC.3.P.11.1 Investigate, observe, and explain that things that give off light often also give off heat.
- SC.3.P.11.2 Investigate, observe, and explain that heat is produced when one object rubs against another, such as rubbing one's hands together.