SECOND GRADE SCIENCE
Goal

Science education in second grade extends the foundation that began in kindergarten and first grade. Changes in rate, development, and properties will be the focus of student investigations. Since cycles happen over time, it is best to visit and revisit selected sites to notice change (e.g. different seasons, gardens, area fields).

At the second grade level, investigations include slightly more detailed procedures. For example, students may be asked to classify objects by two or more characteristics. Students should also be taking measurements and writing short descriptions of their findings.

Science Processes and Inquiry

1. **The student will engage in investigations that lead to the discovery of science concepts.**
   a. Make predictions based on patterns of observation rather than random guessing.
   b. Measure length, weight, temperature, and liquid volume with appropriate tools and express measurements in standard and non-standard units.
   c. Compare and sort common objects based on two or more physical attributes (including color, shape, texture, size, weight).
   d. Write, or draw, descriptions of a sequence of steps, events, and observations.
   e. Construct, and appropriately label, a bar graph to record data.
   f. Correctly use magnifiers or microscopes to extend the senses.
   g. Practice safety procedures in all scientific experiments.

Physical Science

1. **Motion – The student will observe and measure the motion of objects.**
   a. Describe the position of an object by locating it relative to another object (or the background).
   b. Identify the ways in which things move (e.g. straight, zigzag, round and round, back and forth, fast and slow).
   c. Describe the motion of objects by tracing and measuring movement over time.
   d. Explain the cause and effect of motion.
   e. Observe that objects can move steadily or change direction.
   f. Observe that tools and machines are used to apply pushes and pulls (forces) to make things move.
   g. Explore forces that move objects (e.g. gravitational, magnetic, and electrostatic).

Life Science

1. **Plants/Animals – The student will determine that plants and animals have predictable life cycles.**
   a. Analyze the life cycle of various types of plants.
   b. Determine that the germination, growth, and development of plants can be affected by light, gravity, touch, or environmental stress.
   c. Analyze the life cycle of different types of animals.

d. Observe that many characteristics of an animal are inherited from the parents, while some characteristics are caused by, or influenced by, the environment.

Earth Science

1. Earth – The student will observe that the Earth is made of materials that have distinct properties, which provide resources for human activities.

a. Classify rocks and other Earth materials according to their properties:
   *Size
   *Shape
   *Color
   *Texture
   *Magnetism
   *Buoyancy
b. Identify the properties of soil:
   *Composition
   *Capacity to retain water
   *Color
   *Texture
   *Ability to support life
c. Identify various types of soil:
   *Sand
   *Clay
   *Humus
d. Analyze the ability of soil to support the growth of many plants, including those in our food supply.
e. Evaluate composting to show how plant and animal material can be broken down to form soil.
f. Explain how fossils provide evidence about the plants and animals that lived long ago; and that scientists learn about the history of the Earth by studying fossils.

g. Interpret that rock, water, plants, and soil provide many resources including fuel, food, and building materials that humans use.

2. Water – The student will appreciate the value of water.

a. Give examples of different places water can be found on Earth.
b. Identify the elements of the water cycle.
c. Compare/contrast fresh and salt water.

<u>Experiential Location Suggestions</u>:
Playground
Neighborhood Park
Agricultural Field
Ponds
Lakes

Lumberyard
Hospital
Health Center
Construction Site

Other Theme Suggestions:
Change
Transition