**Learning Outcomes**

**1st Grade Science**

\*Outcomes categorized by Benjamin Bloom’s levels of taxonomy.

Physical Science

*Memory/Recall:*

* Students will correctly define the term properties.
* Students will define motion as when an object’s position is changing.

*Comprehension:*

* Students will list the physical properties of familiar objects.
* Students will observe and document the changes in materials that occur due to heating or cooling.
* Students will observe gravity and understand that objects that are near to Earth fall to the ground when not held up.

*Application:*

* Students will compare different ways of changing objects, including heating, cooling, mixing, taking apart, putting together, and tearing.
* Students will use directional words to describe the location and movement of objects.
* Students will demonstrate and explain the difference between push and pull.

*Analysis:*

* Students will explain that some objects do not change due to heating or cooling.
* Students will chart the differences between solids and liquids and provide examples of each.

*Synthesis:*

* Students will demonstrate the effects that occur when a toy or other machine is missing a part needed to operate effectively.

*Evaluation:*

* Students will experiment with speed and direction by designing ways to move an object faster, slower, or in different directions.

Earth and Space Science

*Memory/Recall:*

* Students will identify the sun as the principal source of energy.
* Students will be able to define weather.

*Comprehension:*

* Students will classify states of water as solid or liquid.
* Students will describe the processes of freezing and melting water.
* Students will discriminate among rain, sleet, hail, and snow.

*Application:*

* Students will trace four and five step food chains from carnivore to energy from the sun (fox-bird-caterpillar-leaves-sunlight).
* Students will correctly collect and graph temperature data.
* Students will diagram a number of places water can be found on Earth, including lakes, ponds, streams, wetlands, oceans, and weather events.

*Analysis:*

* Students will explain multiple important elements that the sun provides, including heat, light, weather, and food.
* Students will describe solid and liquid forms of water using temperature, weight, size, and texture.
* Students will explain the importance of water to living things as a food source and habitat.
* Students will document the similarities and differences between ocean and fresh water.

*Synthesis:*

* Students will create a model that uses solar energy (ex. greenhouse).

Life Science

*Memory/Recall:*

* Students will list the four basic needs of living things, including food (energy), water, air, and shelter.
* Students will define the term environment and list resources provided through the environments of living things.

*Comprehension:*

* Students will match living things with their appropriate environments.

*Application:*

* Students will complete food chains explaining the transfer and consumption of energy, including plant and animal food sources.
* Students will graph and chart data while observing plant growth.

*Analysis:*

* Students will explain the importance of temperature and climate to plant and animal survival.
* Students will observe what happens when a plant does not receive one or more of its basic needs.
* Students will diagram how a habitat changes throughout the seasons and explain the impact of seasons on living things there.

*Synthesis:*

* Students will design sustainable habitats for plants and animals.
* Students will provide an animal or plant with the things it needs for survival.