

CURRICULUM

GUIDE

Science – Kindergarten

Providence
Schools

UNIT A

Content students have to learn

Processes students will learn and use

Unit A.1 – Living Things and Their Senses (10 days)

- Understand that all living things have basic needs.
- Identify the five senses.
- Describe how living things use their senses.
- Observe similarities and differences among the external features of living things.
- Recognize and describe external features of living things.

- » Investigate the role of each of the senses.
- » Compare features of living things.
- » Compare ourselves with other living things.
- » Observe and identify features of living things.
- » Demonstrate safe practices during classroom investigations.
- » Use scientific thinking processes to conduct investigations and build explanations.

Unit A.2 – Organisms in an Aquatic Environment (6 days)

- Understand that organisms in aquatic environments have identifiable structures.
- Understand how behaviors of organisms are influenced by conditions in the environment.
- Explain how all organisms have basic needs.
- Describe how all animals deserve respect and gentle care.

- » Identify structures of different organisms.
- » Observe organisms in their environment.
- » Sort organisms by their structures.
- » Demonstrate safe and ethical practices with live organisms.

Unit A.3 – Characteristics of Organisms (4 days)

- Understand that structures of certain organisms have identifiable functions.
- Explain how behaviors of organisms are influenced by conditions in the environment.
- Observe how all organisms have basic needs.
- Describe how all animals deserve respect and gentle care.

- » Observe organisms in their environment.
- » Identify the function of an organism's structure.
- » Compare organisms by their structures.
- » Demonstrate safe and ethical practices with live organisms.

Unit A.4 – Structures and Behaviors of an Organism (3 days)

- Understand how an organism's behavior is influenced by conditions in the environment.
- Observe how organisms have identifiable structures.
- Observe how each kind of organism has a unique structure and behavior.
- Compare how different kinds of organisms have similar structures and behaviors.
- Describe how all organisms deserve respect and gentle care.

- » Sort through an environment to discover an organism.
- » Observe the structure of an organism.
- » Record how organisms are alike and different.
- » Identify the structures and behavior of two like organisms.
- » Demonstrate safe and ethical practices with live organisms.

UNIT A

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Unit A.5 – Structures and Behaviors of Organisms (4 days)

- Compare how similar organisms can be alike and different.
- Understand that the structure and function of similar organisms can be similar and different.
- Observe that similar organisms can have different behaviors.
- Observe that different organisms can live in the same habitat.
- Explain how living organisms have basic needs.
- Describe how all animals deserve respect gentle care.

- » Observe two kinds of organisms.
- » Identify structures and function of organisms.
- » Sort organisms based on different structures.
- » Record behaviors of organisms.
- » Identify organisms living in the same habitat.
- » Demonstrate safe and ethical practices with live organisms.

Unit A.6 – Life Cycle and Development of an Organism (4 days)

- Describe life cycles of some organisms.
- Observe that some organisms require certain environmental conditions to survive.
- Understand that different types of young animals resemble their parents.
- Investigate how behaviors of most organisms can be identified and observed.
- Describe how all animals deserve respect and gentle care.

- » Set up an environment for organisms to develop and grow.
- » Observe young animals' habitat based in a classroom setting.
- » Observe the structure of young animals.
- » Compare body parts of organisms.
- » Observe behaviors of young animals to meet their basic needs.
- » Demonstrate safe and ethical practices with live organisms.

Unit A.7 – Living and Nonliving (4 days)

- Distinguish between living and nonliving things.
- Develop an understanding that living things have basic needs.

- » Identify characteristics of living things.
- » Identify characteristics of nonliving things.
- » Sort and classify things as living and nonliving.

UNIT B

Content students have to learn

Processes students will learn and use

Unit B.1 – Changing Weather (4 days)

- Observe how weather affects living things.
- Recognize that there are changes in the weather.
- Understand that there are four seasons, each with specific characteristics.
- Understand that weather can be predicted by studying weather patterns.
- Observe how the sun heats land and water.

- » Observe and record changes in weather.
- » Identify and record changes in weather.
- » Collect weather data over time.
- » Predict the weather based on information gathered.
- » Recognize patterns in the weather.
- » Observe how the sun's heat causes change.
- » Demonstrate safe practices during classroom investigations.
- » Use scientific thinking processes to conduct investigations and build explanations.

Unit B.2 – Physical Changes (6 days)

- Understand and describe how objects can change.
- Investigate how heat can be added or taken away to cause change.
- Recognize that water can be changed by heat.
- Recognize that heat is energy.
- Understand that the sun's heat causes change on the earth.

- » Explore and identify ways in which objects can be changed.
- » Describe physical changes in an object.
- » Describe changes in an object when heat is added or taken away.
- » Investigate changes in water when heat is added or taken away.
- » Demonstrate safe practices during classroom investigations.
- » Use scientific thinking processes to conduct investigations and build explanations.

Unit B.3 – Pushes and Pulls (4 days)

- Understand that a force can be a push or a pull on an object.
- Understand that the size or shape of a magnet can increase or decrease the force.
- Understand that a magnet can cause an object to be pulled toward it.
- Investigate what items or materials are attracted to a magnet.
- Investigate what items or materials are not attracted to a magnet.
- Classify objects according to whether they are attracted to a magnet.
- Understand that magnets can attract and repel each other.

- » Demonstrate how a magnet can cause a change in the position of an object.
- » Measure the change in the position of an object when a force (pull) is acted upon it.
- » Sort objects according to whether they are attracted to magnets.
- » Demonstrate safe practices during classroom investigations.
- » Use scientific thinking processes to conduct investigations and build explanations.

UNIT B

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Unit B.4 – Parts of a Plant

(6 days)

- Understand that plants have different parts.
 - Identify the functions of the parts of a plant.
 - Describe how the parts of a plant help it grow and survive.
 - Discover that plants look like their parents.
 - Understand plants have parts that help to identify them.
- » Observe and describe the parts of a plant.
 - » Group plants with similar parts.
 - » Demonstrate safe practices during classroom investigations.
 - » Use scientific thinking processes to conduct investigations and build explanations.

Unit B.5 – Basic Needs of Plants

(6 days)

- Understand that plants are living things.
 - Understand that plants have basic needs.
 - Recognize that there are different types of soil.
 - Understand that different soils serve different purposes.
 - Determine that some soils are better than others for growing plants.
 - Observe how plants need sunlight to grow.
 - Understand that sunlight is energy for plants.
 - Understand that animals depend on plants for food.
- » Observe and measure the growth of plants.
 - » Compare soils and their uses.
 - » Demonstrate safe practices during classroom investigations.
 - » Use scientific thinking processes to conduct investigations and build explanations.

Unit B.6 – Plant Life Cycles

(10 days)

- Understand that plants are living things with basic needs.
 - Understand that plants have life cycles.
 - Describe how plant life cycles follow a specific sequence.
 - Understand that plant life cycles can be predicted.
- » Sequence the life cycle of a plant.
 - » Observe and record the changes that occur in a plant over time.
 - » Demonstrate safe practices during classroom investigations.
 - » Use scientific thinking processes to conduct investigations and build explanations.

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