Kindergarten: Life Science

TIME TO EAT: Patterns in Survival

Background Information

Both plants and animals are dependent upon their environments for survival. However, in order to get the sustenance they need, organisms often must alter their environment to meet their needs. Some animals gather and store food for a season due to times of extreme temperatures, ground conditions, and availability. Many bury food in the ground, while others store food in plants. Usually, the limbs or hollowed out sections of the trunks of trees are used, though some animals do store their food in densely populated areas of low plants.

http://www.discoverwildlife.com/british-wildlife/how-identify-animal- food-stores provides a detailed list of some animal actions, while images of and facts about animals may be found at http://www.nationalgeographic.com/animals/index/ and http://www.pbs.org/wnet/nature/the-animal-house-introduction/7194/ .

In addition to bodies of water such as streams, lakes, ponds, and precipitation collection areas, leaves are a source of water for animals. Plant roots grow toward a water source, such as a low lying area where water can pool. Roots are also capable of pushing through concrete and other obstacles to get nutrients and water.

Performance Expectation

K- LS1-1 From Molecules to Organisms: Structures and Processes

Use observations to describe patterns of what plants and animals (including humans) need to survive.

https://www.nextgenscience.org/pe/k-ls1-1-molecules-organisms-structures-and-processes

Disciplinary Core Idea

LS1.C: Organization for Matter and Energy Flow in Organisms

All animals need food in order to live and grow. They obtain their food from plants or from other animals. Plants need water and light to live and grow.

Science and Engineering Practices

Analyzing and Interpreting Data: Represent data in graphical displays (bar graphs)

Analyzing data in K–2 builds on prior experiences and progresses to collecting, recording, and sharing observations.

Use observations (firsthand or from media) to describe patterns in the natural world in order to answer scientific questions.

Scientific Knowledge is Based on Empirical Evidence: Scientists look for patterns and order when making observations about the world.

Crosscutting Concept

Patterns in the natural and human designed world can be observed and used as evidence.

Materials

- Sorting Cards
- Attribute Sorting Circles (optional)

Objectives

- Students will work cooperatively.
- Students will classify organisms as plant eaters or meat eaters.
- Students will all organisms need water.
- Students will justify groupings of cards.

Suggested Implementation

There are many strategies for this lesson based on the characteristics of your students. The object of the card sort is for students to group the cards according to the needs of the organism. For example, a bear needs meat, plants, and water for survival. Once the cards are grouped together, students would explain and justify the relationships among the cards to the rest of their student group.

Possible methods of "playing" the card sort game include the following ideas.

Deal the cards among the group members, such as in groups of four. A student places one of their cards in the middle of the table. Another student places a card related to the original card in the center of the table and explains their rationale. This continues until the grouping for this card sort are complete. Student groups would come to consensus on the grouping of cards and move the card set to the side. The process then begins again.

The cards may be used in a dominoes style playing method.
Placing all cards in the deck face up and using an alternate version of concentration may be appropriate.

Grouping strategies will vary among students. Some groups may put an animal, a water card, and the needed foods in one card set. Other groups may arrange cards as meat eaters, plant eaters, and both. They may add a water to this group. If needed, coach groups as to achieve the concept that all organism need water and food to live.

Once students have finished grouping the cards, host a type of sharing session.
A gallery walk, regrouping of students, and other methods may be used.

An additional strategy would be to use a Venn diagram with attribute sorting circles. http://www.readwritethink.org/classroom-resources/lesson- plans/introducing-venn-diagram-kindergarten-378.html contains strategies for teaching kindergarten students how to use Venn diagrams. Possible groups of attributes could be plant, meat, and plant and meat eaters or plants, animals, and water.

Debrief

☆ *How did your group decide what cards went together?*
☆ *What types of foods do different animals eat?*
☆ *What else do animals need to live?*
☆ *What do plants need to live?*
☆ *What do both plants and animals need to live*

Assessment

The following rubric can be used to assess student understanding. For each of the criteria listed below, either circle the proficient description or add notes to a box indicating why the student's performance was either lacking or exceptional.

Areas that need improvement. **Developing Performance**	Criteria for **Proficient Performance**	Evidence of exceeding standards. **Advanced Performance**
	Explain that animals need water to survive.	
	Can name several plant and meat eating animals and explain the difference between them.	