

PROJECT WILD

1st 2nd Grade

Busy Bees, Busy Blooms pg 111

Objectives

Students will (1) describe the process of pollination; (2) identify the role wildlife, particularly bees, play in pollination; (3) describe how physical adaptations of plants and wildlife support pollination.

Standard

2-LS2-2 Ecosystems: Interactions, Energy, and Dynamics: Develop a simple model that mimics the function of an animal in dispersing seeds or pollinating plants.

STEM

Challenge students to design and create their own flower using a variety of materials such as modeling clay, chenille stems, foam sheets, construction paper, fabric, pastels, etc. Bring in real examples of flowers for students to observe, touch, and smell as they create their designs. Since flowers and their pollinators are often adapted to suit each other, students may also design a pollinator. What related features do the flower and pollinator have that help the process of pollination? (For example, many flowers with tube-like shapes are pollinated exclusively by hummingbirds with their long, narrow beaks.)

Honey bees communicate the location of food to fellow bees by dancing. Certain movements indicate the distance and direction of a food source. Have students make their own "bee dance code" and communicate the location of a hidden flower (real, fake, photo, etc.) through a bee dance. Groups can take turns hiding the flower and dancing to communicate its location to other students.

Bird Beak Buffet pg 42 (Growing up WILD)

Objectives

Students will (1) explore the relationship between a bird's beak and its ability to find food;
(2) describe the relationship of a bird's beak and survival in the environment.

Standard

1-LS1-1 From Molecules to Organisms: Structure and Processes: Use materials to design a solution to a human problem by mimicking how plants and/or animals use their external parts to help them survive, grow, and meet their needs.

STEM

· Provide materials for children to make bird "arm puppets" to use in dramatic play or in Step 4 of **Ready, Set, Go**. Make a bird body to slide over children's arms either by cutting out the bottom of a large paper cup or by cutting open the toe end of an old white sock. Children May attach paper wings, feathers from a craft store, and feet made from chenille stems, paper or craft foam. Other features may be added using fabric markers or paint. If desired, draw two dot "eyes" on children's knuckles using a water-based marker.

· Challenge children to a bird "scavenger hunt." They might look outside for different birds like a brown bird, a black bird, a small bird, a large bird, a flying bird, a bird in a tree, a bird on the ground, and so on . How many birds did they find?

· Invite children to sort pictures of birds (from magazines, calendars, or bird field guides) by the shapes of their beaks or other characteristics. What might these characteristics tell about the bird? (With feet, for example, birds with webbed feet live in the water and those with sharp talons kill prey.)

· Start a bulletin board of different body parts that help animals get and eat food. Collect pictures of a wide variety of animals and have children help you arrange them on the bulletin board.

Learning to Look, Looking to See pg 334

Objectives

Students will (1) describe differences seen in the environment as the result of casual and detailed observation; (2) give reasons for the importance of looking closely at any environment.

Standards

2-LS2-2 Ecosystems: Interactions, Energy and Dynamics: Develop a simple model that mimics the function of an animal in dispersing seeds or pollinating plants.

STEM

- Have students draw two things they remember from being outside. Help students understand connections between the features they observed. For example, how might a squirrel use a puddle? A tree?
- Conduct an experiment in hearing. Set a timer to go off with a low volume audio signal in a distant or concealed location. Can you hear the tone? Now cup your hands behind your ears to make "deer ears". How does having deer ears affect your ability to hear the

Ants on a Twig pg 105

Objectives

Students will (1) identify similarities and differences between the basic needs of ants and humans; (2) investigate ant behaviors and their purpose in survival.

Standards

1-LS1-1 From Molecules to Organisms: Structures and Processes: Use materials to design a solution to a human problem by mimicking how plants and/or animals use their external parts to help them survive, grow, and meet their needs.

STEM

- Observe the same group of ants at one location for a semester. Have students identify their data table to include notes about the weather, time of day, and number and

behavior of ants observed. Compare data across groups of students or classes making observations at different locations or during different times of the year.

For older students: Design a flyer or brochure explaining how ants help plants, animals, and people. Research environmentally friendly ways in which ants can be kept out of homes, schools and other indoor spaces. What are some ways we keep ants from getting into our homes or schools? How do people get rid of ants when they don't want them close by? What ways do you think are best for keeping ants away or for getting rid of ants? Why? Display or otherwise share the finished products with parents and the community.

PROJECT WET

Blue Planet page 125

Objective

Students will: (1) estimate the percentage of Earth's surface that is covered by water, (2) predict what a probability sample will reveal about the relative coverage of land and water, (3) estimate how long water remains in locations such as rivers, lakes, ground water and the ocean.

Standards

2-ESS2-2 MI Develop a model to represent the state of Michigan and the Great Lakes, or a more local land area and water body.

STEM

Ask students why do some people call Earth the blue planet? How would they feel if Earth was called Water?

Research why our planet was named Earth instead of a name of a Greek or Roman god.

Have students come up with a different name for Earth and design a logo which stands for their name.

The Incredible Journey page 155

Objectives

Students will; (1) describe the movement of water within the water cycle. (2) identify the states of water as it moves through the water cycle.

Standards

2-ESS2-2MI Develop a model to represent the state of Michigan and the Great Lakes, or a more local land area and water body.

2-ESS2-3 Obtain information to identify where water is found on Earth and that it can be solid or liquid.

STEM

Have students compare the movement of water during different seasons and at different locations around the globe. (They can adapt the game e.g. change the faces of the cubes, add alternative stations to represent these different conditions or locations.

Have students investigate how water becomes polluted and is cleaned as it moves through the water cycle. For instance, as it travels through the soil water might pick up contaminants, which are then left behind as water evaporates at the surface. Challenge students to adapt "The Incredible Journey" to include these processes. For example, rolled-up pieces of masking tape can represent pollutants and be stuck to students as they travel to the soil station. Show this by having students rub their arms to slough off some tape. If they roll clouds, they remove all the tape: when water evaporates, it leaves pollutants behind.

Visit the local water authority to find out more about water authority to find out more about water in the community.

Create a photo or video documentary of the local watershed that represents each aspect of the water cycle to print in the local or school newspaper or to post online to a blog or video site.

Students will model the effects of heat energy on the state of water.

Standard

2-ESS2-3 Obtain information to identify where fresh water is found on Earth and that it can be solid or liquid.

STEM

- Have students in their own words or draw a picture or diagram to represent how water behaves in each state and what happens during the transition from one state to another.
- Provide students with a scenario, such as a glass of ice set on a sunny porch, and have them describe in molecular terms what will happen to the ice. Have students keep their descriptions of molecules in motion in a handy place (such as a Water Log), to be used as a reference when learning other water concepts.

