Animal Adaptations

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Time: 1 one-hour class period
Description: This activity explores animal's adaptations to their environments. Students will look at animal adaptations and then design and build their own unique animal that could live in their backyard.
Grade Level:* 4-6

- K-3
  Lesson Objectives:* To teach students about animals and why they have certain adaptations for particular environments.
- To teach students to design and build a model based on particular constraints.
  Materials Needed:* pipe cleaners
- feathers
- cloth
- glue
- string
- tape
- popsicle sticks
- any available building materials
  Preparation and Setup:* Gather an assortment of building materials (can use LEGOs or not)
- Collect some research on animals and their adaptations.
- Pictures of an environment that the animals need to adapt to.
- If desired, break students into groups of 2 - 4.
- Distribute materials to students.
  Teacher Background: Animals adapt to their environment in many different ways. The most evident adaptation is color and texture. Camouflage is used by many animals to protect themselves from predators. Some examples include tree frogs, polar bears, and iguanas. Animals may also be colored to make them appear to be something they are not. Moths and butterflies often have coloration that makes their wings look like eyes. Animals also adapt to their environment. Giraffes developed long necks to allow them to reach food at the tops of trees. Arctic foxes have snow white coats during the winter which they shed to reveal a light brown coat for the summer months
  Vocabulary:* Adaptation
- Design
- Modeling
  Procedure:# Introduce animal adaptations to students, giving examples of familiar and unfamiliar animals that have different adaptations that help them live in a particular environment.
    1. The attached document labeled AnimalAdaptPres.pdf can be used to present info on animal adaptations to students

1. Tell students that their backyards have a certain environment.
    a. Have students brainstorm some aspects of their backyard environments including:
        i. Space.
        ii. Available foods.
        iii. Places to make a home.
        iv. Year round temperature.
        v. Dangers (pets/cars/people)
    b. If time, let students draw a picture of their backyard.
2. Distribute building materials and tell students to build a model of an animal that might live in their backyard. Tell the students to build the animal with adaptations for the environment in their backyard.
3. At the end of class, have students or student groups present their animal to the class.
    a. Students should mention the adaptations that the animal has.
    b. Students should explain how their animal moves, behaves, what it eats, where it lives, etc.
    Curriculum Standards:
    This activity meets the Massachusetts Frameworks Learning Standards for Life Science:

Grades K - 2

1. Recognize that animals and plants are living things that grow, reproduce, and need food air, and water.

6. Recognize that people and other animals interact with the environment through their sense of sight, hearing, touch, smell, and taste.

8. Identify the ways in which an organism's habitat provides for its basic needs.

Grades 3 - 5

6. Give examples of how inherited characteristics may change over time as adaptations to changes in the environment that enable organisms to survive, e.g., shape of beak or feet, placement of eyes on head, length of neck, shape of teeth, color.

10. Give examples of how organisms can cause changes in their environment to ensure survival. Explain how some of these changes may affect the ecosystem.

This activity meets the Massachusetts Frameworks Learning Standards for Technology and Engineering:

Grades K - 2

1.2 identify and explain some possible uses for natural materials (e.g., wood, cotton, fur, wool) and human-made materials

2.2 Describe how human beings use parts of the body as tools, and compare their use with the ways in which animals use those parts of their bodies.

Grades 3 - 5

2.1 Identify a problem that reflects the need for shelter, storage, or convenience.

2.4 Compare natural systems with mechanical systems that are designed to serve similar purposes, e.g., a bird's wings as compared to an airplane's wings.

Extensions:

Modifications:

References:

Assessment:* Student presentations

Presentation:AnimalAdaptPres.pdf

- Teacher observations during the class period