

Animal Adaptations

Designed By: Andrea Britton

Grade Level: K-2

Ohio Benchmarks:

Science-Technology

Scientific Inquiry A, B

Scientific Ways of Knowing A, B

Materials Needed

- pictures of animals (could use animal magnets from the Imaginary Museum)
- chart paper
- straws
- bottle-nosed pliers
- a stick
- birds from the museum or pictures of birds
- golf ball
- newspaper
- crayons or markers
- play doh
- small cups
- cleats
- stuffed animal
- ping pong ball
- black paper
- pieces of cloth
- flipper shoe
- pan of water and soil
- orange paper
- pieces of cloth
- flipper shoe
- pan of water and soil
- plastic bag
- hair clip
- strips of paper
- drawing paper

Background Information

1. Animals have special adaptations that help them to survive in their environment. Animals may have physical characteristics that help them blend in with the environment either as protection from predators or to conceal them to catch their prey. This is known as camouflage. Some animals may mimic or look like other animals or plants to help them hide or scare off would be predators. This is known as mimicry. Other physical characteristics that help an animal survival are claws, teeth, feet,

etc... Animals also have adaptations that help them in their environment such as fur, blubber, large ears, scales, gills, fins, etc...

Students are fascinated by animals and it's usually very easy to get them going and exploring all the marvelous things that animals do. Most students understand the characteristics that animals have to help them survive. However, they often overlook them and take them for granted not really thinking that stripes on a tiger are adaptations. The word adaptation is new and long. That word and other vocabulary is the only difficulty in teaching about animals. The inquiry lessons help students to really understand and think about these adaptations that animals have.

Literature Connections

Animals Should Definitely Not Wear Clothes by Judi Barrett (1991, Live oak Media)

What Do You Do When Something Wants to Eat You? by Steve Jenkins (2001, Houghton Mifflin)

Feathers, Flippers, Feet by D. Lock (2004, DK Publishing)

Ostriches and Other Flightless Birds by Caroline Arnold (1990, Carolrhoda Books)

Activity Description

Lesson 1-Body Coverings

1. Read *Animals Should Definitely Not Wear Clothes* by Barrett.
2. Discuss why we wear clothes. Create a chart of responses.
3. Discuss what kind of coverings that animal wear. Add responses to the chart.
4. Give each child a chunk of play doh and have them roll it into a ball. This is our animal.
5. Ask, Does it have anything covering its body for protection?
6. Show students the materials, piece of cloth, section of fur, straws, plastic, and a cup.
7. Give scenarios for our animal. It's snowing outside. What could our animal use for protection? Have the students look at the materials on the table and decide which covering would be best and why.
8. We're diving into the ocean. Which covering? It's hot, we're on the Savannah. Which covering? A bird is soaring down to get me. What should I do? Have students use the straws to poke in the play doh to defend themselves. What else could I use to defend myself? Students will probably say the cup.
9. Discuss how our sample body coverings are like real animal body coverings.
10. Show animal pictures and have students sort the pictures by body coverings.

Lesson 2-Animal Defenses

1. Lay out a newspaper with cut-out fish on it (black, orange, and newspaper fish) and have the students count how many fish there are.
2. Discuss that some are hard to find and why.
3. Introduce the word camouflage. Most students already know this word. Ask what animals they know that use this defense. Point out that this is an adaptation just like the body coverings we discussed the day before.
4. Read the book, *What Do You Do When Something Wants to Eat You?* by Steve Jenkins.
5. Predict each defense the animal may have before reading the next page and finding out. Emphasis that these are adaptations the animal has to help it to survive.
6. Ask, What would you do if something wanted to eat you? Have the students draw themselves with

an adaptation they would use to defend themselves.

Lesson 3-Bird Feet

- 1.Students work in teams of 4 or 5. Use objects to represent bird feet. Flipper fin shoes for webbed feet, a hair clip for perching feet, pliers for grasping feet, and cleats for running feet like the roadrunner.
- 2.Have the students use the feet to move through the pan of water and the pan of soil, try to sit on the stick, and try to pick up the stuffed animal.
- 3.Students record their results in their notebooks.
- 4.Discuss results.
- 5.Show the bird collection from the Hefner Zoology Museum or use pictures of birds. Discuss what kind of feet each bird has and how those feet may be used.
- 6.Read, *Feathers, Flippers, Feet* by D. Lock.
- 7.Then have students match the feet to the correct animal. See worksheet.

Lesson 4-Bones and Feathers

- 1.Discuss how birds fly. Ask, Which birds don't fly? Why don't they?
- 2.Show a penguin from the Hefner Zoology Museum or use a picture of one. Discuss the characteristics of a penguin. Ask, What are they good at doing? And Why can't they fly?
- 3.Have students place a golf ball in a cup of water and push it under. Then place a ping-pong ball in a cup of water and push under.
- 4.Record which was easier to do and why.
- 5.Ask, How is this related to the bones of birds? Discuss.
- 6.Discuss the feathers and wings of a penguin. How are they different?
- 7.Have students take a strip of paper and use it to push through the pan of water.
- 8.Have students take a second strip of paper, fold it lengthwise and then in half, and use it to push through the water.
- 9.Record the difference in how the strips went through the water.
- 10.Ask, How are the strips of paper like the wings of birds? Discuss.
- 11.Read, *Ostriches and Other Flightless Birds* by Caroline Arnold.

Optional Activities

- *Inquiry on beaks used in the Museums Resources for Teachers workshop.
- *Inquiry on animal teeth using skulls from the Hefner Zoology Museum.
- *Play "Animal Walk" created at the Hefner Zoology Museum.

Wrap Up

Each activity offers opportunity for discussion and sharing of results. The pictures drawn for the defense adaptations would make a nice display in the hallway. I would also like to have the students draw and write about an animal adaptation they would like to have and why after reading the book, *I Wish That I had duck Feet*. I think that would be a fun way to wrap up the concept of how animal adaptations help the animal to survive in its environment. This will also help the students when we do animal reports as a conclusion to the unit on animals?

