

Wizards of Wright

Lesson: Animal Adaptations

Use WOW! Lesson Intro to begin.

<p>Background Info for Wizards:</p>	<p>This lesson will introduce students to the idea of animals adapting to suit their environments. They will examine the specific traits the animals have that make them special. The activities will help them understand how these traits help them survive.</p> <p>You will need to set up the stations before the lesson begins. The teacher will be notified of the necessary layout of the room so that you can set these up quickly.</p> <p>Set up for K-1st grade classes: Set up each station with a picture of the bird, the sample “food”, and the sample “tool”.</p> <ol style="list-style-type: none"> 1) Station #1: Eagle card - tray with sponges - pliers 2) Station #2: Robin card - tray with a bowl of beads and rice - clothespin 3) Station #3: Duck card - tray with strips of cloth/paper towels - salad tongs 4) Station #4: Hummingbird card - tray with a narrow water vase (filled with water) - pipette 5) Station #5: Heron card – tray with a bowl of water with floating fish and sunken coins - chopsticks 6) Station #6: Warbler card - tray with a bowl of rice - tweezers <p>Set up for 2nd -3rd grade classes: Set up each station with a picture of the bird, the sample “food”, and the sample “tools”.</p> <ol style="list-style-type: none"> 1) Station #1: Eagle card - tray with sponges - pliers and tweezers 2) Robin card - tray with a bowl of beads and rice - clothespin and pliers 3) Station #3: Duck card - tray with strips of cloth/paper towels - salad tongs and pipette 4) Station #4: Hummingbird card - tray with a narrow water vase (filled with water) - pipette and fork and spoon 5) Station #5: Heron card – tray with a bowl of water with floating fish and sunken coins - chopsticks and pipette 6) Station #6: Warbler card - tray with a bowl of rice - tweezers and pliers
<p>Materials:</p>	<ul style="list-style-type: none"> - large pictures of giraffe and 2 elephants (1 African, 1 Asian) - environment pictures - sheets with pictures of polar bears, brown bears, and panda bears - tape

	<ul style="list-style-type: none"> - clipboards for 2nd and 3rd grade only (if the teacher doesn't have any) <p><u>Bird "Beaks":</u> pipettes (3) Tweezers (2) clothespins (3) chopsticks (4) salad tongs (2) pliers (bent nose) (3)</p> <p><u>For Food:</u> trays (6) sponges bowls (4) beads and rice strips of cloth/paper towels small plastic fish and coins a narrow vase for water rice</p>
<p><i>Lesson Time: 45-60 minutes</i></p>	<p>Introduction: 2-3 minutes Guided Lesson #1: 5 minutes Student Activity #1: 10-15 minutes Guided Lesson #2: 5 minutes Student Activity #2: 20-25 minutes Conclusion: 5 minutes</p>
<p><i>Learning Targets:</i></p>	<p>Students will talk about environment, characteristics, and adaptations.</p> <p>Students will learn that an animals' adaptations are connected to its' environment.</p>
<p><i>Introduction for Students:</i> 2-3 minutes</p>	<p>Let's talk about the word environment. What does it mean?</p> <ul style="list-style-type: none"> - The environment is everything that surrounds us, and helps us live. - It's the air, the earth, water, plants, and even the animals. <p>All living things have characteristics that help them survive in their environment.</p> <ul style="list-style-type: none"> - Fish have gills, birds have wings, and mammals have fur to keep them warm. - We call these characteristics adaptations! - These adaptations make the animal kingdom incredibly diverse!

	<p>Let's look at a few adaptations see if we can guess why the animal has adapted in this way, making it better suited to its environment.</p>
<p>Guided Lesson #1: 5 minutes</p>	<p><i>Show a picture of a giraffe.</i> Ask students: What animal is this?</p> <p>Point out its long neck. Ask students: Why do you think giraffes have long necks? What about their environment makes a long neck useful? To reach the leaves on the trees - this is what they eat.</p> <p><i>Show a picture of an elephant.</i> Ask students: What animal is this? Ask students: Why do you think their ears are so large? Elephants use their ears to stay cool! The heat in their bodies is released when they flap their ears.</p> <p>Let's look at two different types of elephants. <i>Show picture of African and Asian elephants.</i> Ask students: Do you notice the difference? The African elephant lives in a hotter environment, so he needs to have bigger ears. The Asian elephants tend to live in the jungle where it is cooler, so they have smaller ears.</p> <p>The giraffe's neck and the elephant's ears are adaptations that help that specific animal exist in its' environment. This different size ears on different elephants, really show us adaptations based on where an animal lives. It also shows us that similar types of animals can have totally different adaptations. Let's look at another example.</p>
<p>Student Activity #1: 10-15 minutes</p>	<p>Show students the pictures of different kinds of environments, and ask them which ones they can identify. Explain that this is also called a habitat or a biome. Discuss them briefly as you display the pictures. (Tape them to the board as you discuss them.)</p> <p>You can also ask students what kind of animal they think might live in each area. (show habitat pics)</p> <ul style="list-style-type: none"> - grasslands - polar habitat

- deserts
- mountains
- tundra
- temperate forests and deciduous forests
- rainforests
- freshwater and ocean habitats

Hand out a bear picture to each student. (There are 3 different bears, randomly distribute them so that there are roughly an equal amount of bear types in the room.)

Each student should tape their picture to the environment they think it belongs in. As a few of them tape theirs, ask them why they've chosen that picture. (Especially if they put the bear in the desert or ocean.) 😊

If any pictures need to be moved to the correct habitat, do that as you talk about each one.

Ask students:

Do you notice how large the panda's head is? This is because their food source (bamboo) is very tough! They need large heads with LOTS of muscle to chew that food! That's why the best environment for Panda Bears are bamboo forests.

Ask students:

What do you notice about the brown bear?

Their fuzzy coat earned them the nickname "grizzly" bear. Brown bears are fast and strong, helping them tackle the terrain of their environment. They can climb and swim! Their long claws and big paws help them dig holes for dens. They love to eat fish, but brown bears eat a variety of foods, including plants and berries. That's why the best habitat for Brown Bears is in forests and mountains.

Ask students:

What do you notice that makes the polar bear different?

A polar bear's coat helps them blend into their surroundings and catch their prey. Did you know their coat is not white? The hairs are clear! Their skin is black. The clear hair and dark skin helps them absorb more sunlight and stay warm in their cold environment. This adaptation helps the Polar Bear live in Polar habitats.

Their adaptations make each bear special!

Guided Lesson #2:
5 minutes

As each generation lives and grow, the species adapts, or changes, a little more to make it even better suited for its environment, this is called evolution. Evolution happens slowly, over hundreds of years.

	<p>A great example of this is birds! Many birds today look very different from their ancestors. A long time ago a man named Charles Darwin traveled to a string of islands (the Galapagos Islands) and noticed that the finches (a type of bird) on each island had totally different beaks! Each bird had a beak specifically suited to the type of food available on the island where it lived!</p> <p>Ask students: Have you ever watched a bird eat? What does a bird do? Without hands to feed themselves, birds rely on their specialized beaks to be able to eat certain kinds of food. This means that the kind of beak a bird has will determine what kind of food it eats. Birds that eat seeds have beaks that look quite different than birds that eat meat or drink nectar.</p>
<p>Student Activity #2: 20-25 minutes</p>	<p>We will do an activity now to explore what “beaks” work best for which foods. This will help us understand why the shape and size of a bird’s beak so important!</p> <p><u>Directions for K-1st grade classes:</u> Have students visit each station so they can see the picture of the bird, the picture of the bird’s beak and our example of what that bird might eat and how.</p> <p>They are welcome to try and pick up the food with our tools. (Explain that these are just examples.)</p> <p>Send up small groups of students at a time. Help them form a line, so they can move through the stations easily.</p> <p>There are bird sheets they can be coloring while they are waiting their turn.</p> <ol style="list-style-type: none"> 1) Station #1: Eagle card - tray with sponges - pliers 2) Station #2: Robin card - tray with a bowl of beads and rice - clothespin 3) Station #3: Duck card - tray with strips of cloth/paper towels - salad tongs 4) Station #4: Hummingbird card - tray with a narrow water vase (filled with water) - pipette 5) Station #5: Heron card – tray with a bowl of water with floating fish and sunken coins – chopsticks 6) Station #6: Warbler card - tray with a bowl of rice – tweezers

	<p>When students return to their desks give them one of the worksheets (with answers) and lead a discussion about why the tool was used at each station and how that is similar to the real-life situation.</p> <p><u>Directions for 2nd -3rd grade classes:</u> Hand out the worksheets and have the students put their name at the top, and then clip it to their clipboard.</p> <p>Explain to students that they will be visiting each station so they can see the picture of the bird, the picture of the bird’s beak and our example of what that bird might eat and how. They should try both tools that are there, and decide which one works best, and mark that on their worksheet.</p> <p>Send up small groups of students at a time. Help them form a line, so they can move through the stations easily.</p> <p>There are bird sheets they can be coloring while they are waiting their turn.</p> <ol style="list-style-type: none"> 1) Station #1: Eagle card - tray with sponges - pliers and tweezers 2) Robin card - tray with a bowl of beads and rice - clothespin and pliers 3) Station #3: Duck card - tray with strips of cloth/paper towels - salad tongs and pipette 4) Station #4: Hummingbird card - tray with a narrow water vase (filled with water) - pipette and fork and spoon 5) Station #5: Heron card – tray with a bowl of water with floating fish and sunken coins - chopsticks and pipette 6) Station #6: Warbler card - tray with a bowl of rice - tweezers and pliers <p>When students return to their desks lead a discussion about why the tool was used at each station and how that is similar to the real-life situation. Discuss their observations. What can you tell about a bird from just looking at its beak now?</p>
<p>Conclusion: 5 minutes</p>	<p>Every animal has its own unique adaptations that have evolved to help it survive in its environment! These differences make for a fabulous and diverse world! What are some adaptations people have? Our big smart brains that help us solve problems and our opposable thumbs that make our hands able to do a variety of tasks! We are amazing creatures too!</p>