WEEKDAY WONDERS

Content developed by the Tennessee Aquarium Education Department

TENNESSEE AQUARIUM

Adaptations: Day 3

This week, Weekday Wonders will help young scientists go deeper into exploring and understanding different characteristics seen in animals. This week will help young scientists learn about adaptations and how they allow an animal to obtain food, protect themselves, and help them survive. We will discuss how and why different animals have different types of adaptations, as well as touch on the differences between physical and behavioral adaptations. Young scientists will also have a chance to consider why animals have similar or different adaptations in certain habitats.

These curated activities are listed in a suggested sequence but may be done in the order that works best for you and your young scientists. Learn more about this series in the Introduction to Weekday Wonders.

Question of the Day

What characteristics help an animal to survive where it lives?

Daily Nature Journal

Have your young scientist go outside to make observations for a daily nature journal entry. The Guide to Nature Journaling offers more information about this process if you need it.

Adaptation Exchange

In Monday's Weekday Wonders, your young scientist had a chance to explore the adaptations animals have that allow them to live in different biomes. Today, your scientist will see what he or she can learn about where an animal lives based on its adaptations. Cut apart the adaptation descriptions on page 3 and put them into a container. You scientist will also need paper and crayons or markers.

Tell your young scientist to imagine that he or she has found a new animal that no one has seen before. S/he will need to be able to learn about it and share with other scientists. Have your scientist choose 3 of the adaptations from the container. If you have very young scientists, you may wish to start with just 1 or 2. The adaptations that your scientist chooses describe the new animal.

Ask your scientist to draw a picture of the animal and label the adaptations. Then have him or her describe what they know about the animal from the adaptations. For example, if one adaptation is very thick fur, your scientist might say that the animal lives in a very cold place. If it has armored plates on its back, it might have a predator with very sharp teeth.

Once your scientist has described the biome where the animal lives, s/he should add that to the drawing. Keep in mind that some combinations of adaptations may require a lot of creativity to put together. If your scientist has trouble describing an environment that fits all of the adaptations, allow him or her to trade one of the adaptations for another one.

Repeat this process as many times as your scientist would like, drawing the animals and describing them so others can learn more about the new animals.

Humming Along

Print the cards on pages 4 and 5 then cut them apart. You can also write the descriptions on slips of paper if you do not have access to a printer. Place the "Costa Rica" slip at one end of a play area and "Vermont" at the other end, ideally 75 to 100 feet away. Spread the other slips throughout the play area, placing them on the floor or ground. The slips do not have to be evenly spaced or in a line, but try to place them so that your scientist can move to at least one other station in 5 steps or fewer.

Tell your young scientist that Ruby-throated Hummingbirds are an animal that has adapted to migrate long distances to make sure it has enough food in different seasons. They eat insects and drink nectar from flowers, so the hummingbirds must stay in warmer temperatures.

Have your scientist start on the Costa Rica station. Tell him or her that it is February and that, as a hummingbird, s/he is going to have to try to migrate to Vermont in 12 "days."

- S/he can go no more than 5 steps in a day and must stop on another slip of paper (at a station) to spend the night.
- If s/he does not make it to another station, s/he must start over.
- Your scientist must also do what the paper says, so s/he may be directed to keep flying or to spend more than one day at a station. The number of days each card take is listed on the bottom to make it easier to add the number of days the migration takes.

Have your scientist keep trying until he or she makes it to Vermont in 12 days.

Nature Journal

Have your young scientist choose one of the adaptations from the Adaptation Exchange activity. Ask him or her to list as many animals as s/he can think of that have that adaptation.

Then have your young scientist choose one of the animals and write a story about that animal if it were placed in a different biome. For example, ask your scientist to imagine a polar bear with very thick fur suddenly finding itself in the desert. What happens next? The story can be as realistic or creative as your scientist would like it to be.

Adaptation Exchange Descriptions

Very thick fur	12-inch tongue	Webbed feet
Sticky toes	Armored plates on the back	Oily, waterproof feathers
A tail that can snap off	Ability to change colors	Colors similar to another animal that lives nearby
Very bad tasting	Can spray a dark chemical	Sharp teeth
Sticky tongue that can move fast	Sharp claws to dig	Ability to store water
Sleep all winter	Have small eyes and big ears	Teeth that grow constantly

Humming Along Stations

A cat is waiting nearby in the garden. Spend an extra day waiting for it to move away. 2 days	A great day! Rest and keep flying tomorrow. 1 day	You do not stop as you fly across the Gulf of Mexico. Keep flying to another station on this day! 0 days
The sugar water in one of the feeders where you usually stop has gone bad. Stay at the station looking for another feeder for an extra day. 2 days	Someone placed bird decals on windows near a feeder, so you do not crash into the windows. Enjoy your night and fly on tomorrow. 1 day	You just flew across the Gulf of Mexico. You are tired and must stay at this station eating insects for an extra day to get your energy back. 2 days
A strong storm is making it hard to fly. Wait it out by spending an extra day at the station. 2 days	You found a pollinator garden with lots of flowers. Enjoy the nectar and insects overnight then fly on tomorrow. 1 day	You made it to the next station. Eat some food, rest, and continue migrating tomorrow. 1 day

You found an area with lots of spider webs in the bushes that had not been cleared. Enjoy the spider snack and fly to a new station today. 0 days	An owl is in a tree near where you wanted to stop. Spend an extra day hiding from it. 2 days	"Just keep flying," was your motto today. Stop and rest overnight then keep flying tomorrow. 1 day
You stopped on a lawn that was treated with pesticide. You do not feel well, so wait an extra day before you fly. 2 days	Someone planted a hummingbird garden! Enjoy the food and nectar then fly on tomorrow. 1 day	People have cut down many trees where you used to spend the night. Wait an extra day as you look for another place to rest. 2 days
Costa Rica Winter Home		
Vermont Summer Home		