Animal Features & Adaptations

Habitat lab Field Journal Activity Lesson Plans & Resources

Online Lesson Resources: https://www.alabamawildlife.org/oc-field-investigation-animal-features-and-adaptations/

Students will explore the habitat lab as they look for an animal to observe, and then they will use their observations to determine which of the animal's features or adaptations of its external body parts help it survive, grow, and reproduce.

Materials: Copies of the "Animal Features & Adaptions" Field Journal Activity Page, Clipboards, Pencils and Magnifying Glasses *Optional: Field identification guides to help identify the animals found & specimen containers (such as petri dishes, glass vials, or Ziploc bags) or cameras/iPads to photograph the animals*

Duration: Intro Discussion – 30 min. | Outdoor Exploration – 30 min. | Indoor Research & Review– 30 min.

STEP 1: Engage through Discussion

The background information and questions below can be used to help introduce the topic, engage the students, and build a foundation to discuss the topic:

Background Information (online as a PDF)

All animals on Earth have adapted features that help them survive. **Adaptations** are changes in the animals' physical bodies or in their behaviors, and these adaptations can vary greatly from species to species. Some animals have developed specific traits and adaptations that help them cope and meet their daily needs under the environmental conditions of their specific **habitat** (or home). More specifically, adaptations help animals stay safe from **predators** (animals that might eat them), help them get food, and help them successfully raise their young. These animal adaptations have evolved over millions of years, and can therefore be very specific. For instance, think of all of the different shapes that birds' beaks can have and how the shape of their beaks related to what food they eat. Seed-eating birds have short beaks, whereas nut-eating birds have thicker, more conical-shaped beaks to break the nuts open.

.Example Discussion Questions & Answers (online as a PowerPoint or PDF)

Q: How does a tiny ant stay alive when everything is so much bigger?

A: *It can hide & live in its anthill, but it has to come out to search for food.*

Q: How does the size of the ant help it survive?

A: *It can hide easily from predators (other animals that might want to eat it), and duck into small places.*

Q: How is an ant's body different than ours?

A: *We are humans. Our bodies have hair and soft skin, while they have a hard exoskeleton that provides support and protection.*

A: *An ant has 2 antennae on its head that reach out to touch, taste, and smell everything. Humans' bodies have 2 arms & 2 hands to reach out to touch, a mouth to taste & a nose to smell.*

A: *An ant's body has mandibles for holding and carrying things, biting, and digging. Humans' bodies have 2 arms and hands to hold and carry things, and we have teeth for biting.*

A: *An ant has 2 compound eyes that contain hundreds of camera-like lenses that help detect movement on both sides of the ant without it having to turn its head. Humans have 2 eyes that have 1 camera-like lens that allows us to see in great detail, but we cannot see things next to us without moving our heads left or right.*

Q: What is special about an ant's body that helps it survive?

A: *The neck joint of a common American field ant can withstand pressures up to 5,000 times greater than its own body weight, so it can carry food back to its colony in the anthill.*

Q: What other types of animals could we find in the habitat lab? How do their external parts (bodies, feet, skin/covering, eyes, ears, mouths, etc) help them survive and grow?

A: *Answers will vary such as birds' feathers help them fly away from predators, turtles' shells protect them from predators, and a bee's tongue (called proboscis) is long and shaped like a tube so that it can suck nectar from flowers.*

STEP 2: Explore with Literature

These books can be used to further explore the topic with your students:

- *Creature Features: Twenty-Five Animals Explain Why They Look the Way They Do* by Steve Jenkins *(ISBN:* 978-0544233515)
- *What Do You Do with a Tail Like This?* by Steve Jenkins (ISBN: 978-0618997138)
- *Animal Adaptations* by National Science Teachers Association (ISBN: 978-1-68140-596-4)
- *What If You Had Animal Feet?* By Sandra Markle (ISBN: 978-0545733120)
- *What If You Had Animal Eyes?* By Sandra Markle (ISBN: 978-1338101089)
- *What If You Had An Animal Nose?* By Sandra Markle (ISBN: 978-0545859226)
- *What If You Had Animal Ears?* By Sandra Markle (ISBN: 978-0545859264)

STEP 3: Explain using Technology

This videos can be used to further explain the topic to your students

- Animal Adaptations YouTube Video (2:21min) https://www.youtube.com/watch?v=fRX2JtKFUzk or use the link in the online lesson plans @ https://www.alabamawildlife.org/oc-activity-animal-adaptations/

STEP 4: Investigate through Journaling

Download the Free Activity Sheets @ https://www.alabamawildlife.org/oc-activity-animal-adaptations/

The Habitat lab Field Journal Activity Observation Sheet(s) allow students to apply what they have learned as they investigate and record their real-world observations in their field journals. Before you go outside, don't forget to review the activity tips and instructions and the Habitat lab Rules below.

Habitat lab Activity Tip

Before taking the students outdoors to explore the habitat lab, consider splitting them into groups of three and ask each group to look for a specific type of animal (bird, mammal/squirrel, amphibian/frog, reptile/turtle, fish, insect/butterfly/bee/ant, worm, etc.). This will help ensure that your students observe a wide variety of animals and not just insects (which will be the easiest type of animal to find). Also, by dividing your students in groups of three, one child can hold the clipboard and record the observations on

the Field Journal page, one child can hold the magnifying glass to view the details of the animal, and one child can collect and hold the specimen in the container (a petri dish, glass vial or Ziploc bag). Once the students have recorded their observations, they can then release the animal back into its original habitat. ***Optional:*** *Use an iPad, smartphone or camera to take photos of animal found in the habitat lab.*

Activity Instructions

(for Animal Features and Adaptations Activity Sheets)

Have students explore your habitat lab and look for an animal. Then they will draw a picture of it and record their observations about the animal. They will use their observations to identify the animal and determine which of the animal's features or adaptations help it survive and grow.

Wildlife Identification Tips

Use the *National Audubon Society Field Guide to the Southeast* or other similar field guides to help the students identify the animal(s) they found. Also, you can use the Alabama Department of Conservation and Natural Resources' Outdoor Alabama Watchable Wildlife website to assist you with the identification of local native wildlife.

Example Habitat lab Rules

The habitat lab is not a playground, so do not run and do not climb on anything. Remember that the habitat lab provides habitat (a home) for local wildlife, and you should not damage the local wildlife habitat. Therefore, do not pick up wildlife, plants, flowers or rocks. Also, do not feed wildlife.

STEP 5: Review and Assess

Review and assess the students' observations and answers on their observation pages. Another extension might be to have students select an animal from a field journal or assign them a specific animal, and then have them complete the observation page as an assessment for that species.

Alabama Course of Study Standards for First Grade
Language Arts (2016)
5) Explain major differences between books that tell stories and books that give information, drawing on a wide reading of a range of text types.
34) Describe people, places, things, and events with relevant details, expressing ideas and feelings clearly.
35) Add drawings or other visual displays to descriptions when appropriate to clarify ideas, thoughts, and feelings.
37) Demonstrate command of the conventions of Standard English grammar and usage when writing or speaking.
38) Demonstrate command of the conventions of Standard English capitalization, punctuation, and spelling when writing.
41) Use words and phrases acquired through conversations, reading and being read to, and responding to texts, including using frequently occurring conjunctions to signal simple relationships.
Mathematics (2016)
5) Relate counting to addition and subtraction (e.g., by counting on 2 to add 2).
Science (2015)
5) Design a solution to a human problem by using materials to imitate how plants and/or animals use their external parts to help them survive, grow, and meet their needs (e.g., outerwear imitating animal furs for insulation, gear mimicking tree bark or shells for protection).