



# LESSON PLAN

## ADAPTATIONS AND THE ENVIRONMENT GRADES 3-5

### SUMMARY

Animals, including humans, have adaptations or characteristics that help them to obtain food, protect themselves and reproduce so that they survive within the environments where they live. Different animals have different types of adaptations that serve different purposes.



**3-LS4-3.** Construct an argument with evidence that in a particular habitat some organisms can survive well, some survive less well, and some cannot survive at all.

Science & Engineering Practices	Connections to Classroom Activity
Engaging in Argument from Evidence	<ul style="list-style-type: none"> <li>Students observe characteristics of various animals and their habitats and use observations as evidence that adaptations help the animals survive.</li> </ul>
Disciplinary Core Ideas	Connections to Classroom Activity
<p><b>LS4.C: Adaptation</b></p> <p>For any particular environment, some kinds of organisms survive well, some survive less well, and some cannot survive at all.</p>	<ul style="list-style-type: none"> <li>Students study different types of animals from different environments and recognized characteristics that help them survive.</li> <li>Students think about why certain animals cannot survive in certain environments.</li> </ul>



## Crosscutting Concepts

## Connections to Classroom Activity

### Cause and Effect

- Students reason about the cause and effect relationships between different physical characteristics and animal needs for survival (cause and effect not explicitly addressed).

## DURATION

One to two 45 minute classroom periods

## PRE-ASSESSMENT QUESTIONS

Please see discussion questions located under the video. These can be discussed as a group or answered individually in student science notebooks.

## MATERIALS

- Science notebooks
- Pencils
- Access to local live animal (and possibly animal expert)—such as classroom pet, vet, farm, etc.
- Research materials (books, Internet)
- Slips of paper
- Jar



## ENGAGE

Choose a local, relevant type of animal to kick off the lesson. This should ideally be something students can see live in the classroom (a classroom pet) or you could arrange a visit to a local farm, vet, etc. Ask students what type of habitat this animal lives in. Have them list (or draw) characteristics of that type of habitat in their science notebooks or on the board.



## EXPLORE

Now ask students to think about the characteristics of the animal that allow it or help it to survive in its habitat (environment). Facilitate by asking them the following probing questions:

- How does this animal survive in its environment?
- Are any parts of its body particularly useful for living where it does? For building its home? For escaping?
- How does this animal obtain food?
- Are any part of its body particularly useful for it to find, catch or eat its food?
- How does this animal protect itself?
- Are any parts of its body particularly useful for it to know if danger is coming? To defend itself against attack? To fight back?

Students should observe the animal and think about what they might know about it. They should be able to come up with some good ideas as to how various characteristics help it survive in its habitat. They should be able to explain what they think in the form of an argument from evidence. For example, a fish can survive underwater because it breathes through its gills.



## EXPLAIN

Explain that the characteristics students have been studying that help an animal survive in its environment are called adaptations. If the class has the opportunity to visit with an expert (farm, vet, zoo, etc.) they can ask questions of the expert to better understand how this particular type of animal is adapted to survive in its habitat, obtain food and defend itself. If no expert is available the class can conduct research to see if the ideas they came up with in the Explore portion of the activity are correct.

Explain to students that they will now get a chance to see some adaptations of a wide variety of animals.



**WATCH AS A GROUP THE GENERATION GENIUS ADAPTATIONS AND THE ENVIRONMENT VIDEO.**

Then, facilitate a conversation using the Discussion Questions.



## ELABORATE

Ask students to choose another animal they like. Ask them to research that animal and determine if they think it could survive well in the environment where they (the student) lives. Why or why not? For example, could an elephant live in Montana? Could a humpback whale live in your classroom? What adaptations would be useful? What different adaptations might make it possible for that animal to survive?



## EVALUATE

Write common animal types (can be limited to those that have been discussed in class and from the video—ideally provide photos of the animals) on slips of paper. Have students draw an animal from a jar. Ask them to list 1-2 adaptations that help that animal survive in its environment, help it obtain food and/or defend itself. They should explain what the characteristic of the animal is and why it makes them think it could be used to help the animal survive (provide an argument from evidence).

