

# MAKERSPACE CARDBOARD CHALLENGE!

## Lesson Plan

### Animal Adaptations

Lesson Plan for *Cardboard Creature Challenge!*

Grade 3

#### Objective

To help students understand the difference between physical and behavioral adaptations.

#### Things Needed

- *Cardboard Creature Challenge!* book
- Access to the “Cardboard Creature Challenge!” web page on the Pop! website:  
<https://popbooksonline.com/makerspace-cardboard-challenge/creature-challenge>
- Computer access for all students
- Paper and pencils

#### Before the Activity

Read *Cardboard Creature Challenge!* as a class. Pass out paper and pencils to students. Open the “Cardboard Creature Challenge!” web page in your internet browser. Pull up the “Explore Links” tab and click on the DK Findout! web page “Animal Adaptations.” This web page can also be found here: <https://www.dkfindout.com/us/video/animals-and-nature/animal-adaptation-video/>

#### Activity

Watch the “Animal Adaptations” video as a class. The video and the book mention several different animals. Students will do individual research on one of those animals and its adaptations. Students can choose one of the following animals to focus on:

- penguin
- camel
- great white shark
- leopard
- owl



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Students should write the names of their animals at the tops of their papers. Then, have students draw a line down the middle, dividing the paper into two columns. At the top of the left column, students should write “Physical Adaptations.” At the top of the right column, students should write “Behavioral Adaptations.”

Next, students should go to the DK Findout! website ([www.dkfindout.com](http://www.dkfindout.com)) and enter their animals’ names into the search box. Help students navigate to the specific articles on their animals. Students should read these articles. They should also click on the picture labels to read the captions. In the left column, students should write down any physical adaptations that help their animals survive in their environments. In the right column, students should write down any behavioral adaptations that help their animals survive in their environments. Students should list a minimum of five adaptations total, with at least one in each column.

### **Evaluation**

Collect the papers at the end of class. Use the attached answer key to award students up to 5 points for listing five adaptations.

### **Standards**

This lesson plan may be used to address the Common Core State Standards’ reading standards for informational texts, grade 3 (RI 3.7), and writing standards, grade 3 (W 3.8), and the National Science Education Standards’ Content Standard C, grades K–4.



# Answer Key

## Penguin

### Physical:

- Webbed feet for underwater steering
- Oil gland at the base of the tail to keep the feathers greasy, trap in body heat, and make the penguin waterproof
- Gray-white plumage that may disguise it from predators when it is swimming in the water
- Flattened bones in the wing to make it more like a flipper and thus good for swimming
- Stiff feathers on the short tail that make it useful as a rudder under water

### Behavioral:

- Sliding over the snow on its belly and pushing with its wings to help it move faster on land
- Living in large groups and caring for chicks as a pair

## Camel

### Physical:

- Cushioned feet to stop it from sinking into the desert sand
- Long eyelashes that keep the sand out of its eyes
- Nostrils that close during dust storms
- Hump(s) to store fat that it can use when there is nothing to eat
- Thick coat that protects it from heat during the day and keeps it warm during cold nights
- Groove in the top lip that allows any moisture from the nostrils to go back into the mouth, stopping the camel from losing valuable water

### Behavioral:

- Drinking up to a quarter of its weight in water at a time and storing the water for days
- Walking in a rocking motion, with the front and back legs on the same side moving forward at the same time

## Great White Shark

### Physical:

- Rows of sharp teeth to cut deep into prey and make escape difficult
- Organs in the snout that help the shark hunt by detecting the electrical signals produced by prey
- Large pectoral fins that help the shark change direction quickly and move up or down while swimming
- Gills that help it breathe large amounts of oxygen for quick bursts of speed
- Large tail with a streamlined shape to help the shark swim faster

### Behavioral:

- Injuring its prey so that the animal cannot swim too far, then returning later to feed undisturbed



## Leopard

### Physical:

- Spotted fur that acts as camouflage as it hides in a tree or in long, dry grass
- Long whiskers to help it find its way around when it is high up in a tree
- Long tail that helps it balance in trees

### Behavioral:

- Hiding in tall trees during the day, then coming down to hunt at night
- Storing food in tree branches to keep it away from other predators

## Owl

### Physical:

- Good eyesight and eyes facing forward to allow it to judge distances more accurately
- Strong hearing that allows it to catch prey even in complete darkness
- Fringes on the tips of its feathers that muffle the sounds of its flapping wing so that prey do not hear it coming
- Sharp claws for grabbing prey
- Sharp, hooked beak for biting into food
- Head that can swivel around to see in all directions

### Behavioral:

- Hunting at dusk or at night

