



## FIELD TRIP

# Animal Adaptations

### Theme

High desert animals are adapted to their environment in many different ways.

### Utah State Science Core Curriculum Topic

**Standard Five:** Students will understand the physical characteristics of Utah's wetlands, forests, and deserts and identify common organisms for each environment.

**Objective Two:** Describe the common plants and animals found in Utah environments and how these organisms have adapted to the environment in which they live.

**Objective Three:** Use a simple scheme to classify Utah plants and animals.

### Field Trip Location

This field trip will work in any area where there is evidence of beavers. A wide open area for migration and a wooded area for deer's ears would be an asset. Areas along the Colorado River such as Big Bend Campground and Negro Bill Canyon are excellent.

### Science Language Students Should Use

wetland, forest, desert, adaptation, deciduous, coniferous, invertebrate, vertebrate, bird, amphibian, reptile, fish, mammal, insect, hibernation, migration

## Background

An adaptation is a characteristic that makes an organism more suited to its environment. This program introduces students to both behavioral adaptations (activities) and physical adaptations (parts) of several high desert dwellers.

Beavers, the largest North American rodents, are found along streams, ponds, and lakes throughout most of the United States and Canada. In southeastern Utah, beavers live in mountains and desert canyons. Their habitat ranges from small creeks to large rivers to wetlands. Beavers are herbivores. They eat the cambium layer of bark, especially of willows, cottonwoods, and aspens, as well as some green leafy vegetation. They are *crepuscular*, meaning that they forage most actively at dawn and dusk, when predation is less likely. They are rather clumsy on land, but they are excellent swimmers. When beavers dive, their heart and metabolic rates slow down, allowing them to stay underwater for up to 15 minutes.

In wetlands and along small streams, beavers build stick-and-mud dams and lodges, often significantly altering the environment in the process. On larger, swifter streams, such as the Colorado River, dam construction is impossible. Instead, they burrow out bank dens, holes several feet long and about 18 inches in diameter. The holes are underwater except when the river is low. The dens slant uphill to dry living ledges. Beavers have numerous physical adaptations to this unusual lifestyle; these are addressed in the "Amazing Beaver Adaptations" station description.

Mule deer have an array of adaptations that make them specifically suited to their environment. Their long necks and the location of their eyes (on the sides of their heads) allow them to see in every direction, except directly behind them. The camouflage coloring of their coats is another defensive adaptation. Speed and agility are good examples of adaptive strategies

as well; mule deer can move up to twenty feet in one bound. In addition, their large ears, which are roughly two-thirds the length of their head, allow for a keen sense of hearing. In comparison, a white-tailed deer's ears are only one-half its head length. Hollow hair gives deer greater insulation from cold during winter months. Mule deer have behavioral adaptations, too. Because movement attracts prey, mule deer freeze if danger is nearby. If a predator is in pursuit, a mule deer's zigzag bound increases its likelihood of escape.

In Utah, an average of 80 percent of a mountain lion's diet consists of mule deer. The physical adaptations that make mountain lions successful predators include powerful jaws that can crush a prey's neck in one bite, sharp, pointed teeth, retractable claws for tearing meat, skin and fur between toe pads to muffle sound as the cats stalk, excellent day *and* night vision, and excellent depth perception so that they can attack with accuracy. Mountain lion behavioral adaptations include lying in wait and stalking, followed by bursts of speed for short chases.

An eagle's eyesight, like that of most raptors, is extraordinary. Most raptors can see ten times farther than humans. An object that humans can see at 33 feet is visible to an eagle at 330 feet. A raptor's eyes do not magnify as much as provide incredible distance perception. They are able to see movement and bright colors more easily than still, camouflaged prey.

Each fall groups of birds migrate to the south for the winter. This is a useful adaptation for these animals because their bodies do not generate enough heat to survive cooler temperatures and/or because there are not sufficient food supplies at one location through all four seasons. Canada geese normally migrate by flying in a V or a J-shaped flock. The largest goose normally flies in front, blocking out a large proportion of the wind. The V-shape is supposed to be more efficient aerodynamically than flying alone. The Canada goose mates for life. If hunters shoot down a goose's mate, the goose may fly in a circle above the mate, honking. Eventually, a replacement mate will be found. Geese migrate as a family, often with the father, or eldest offspring, leading the group.

#### Mule Deer



## PRE-TRIP ACTIVITY

# Adapt and Survive

(adapted from Caduto & Bruchac, 1991, 170-172)

### Objectives

Students will be able to:

- a. Define animal adaptations.
- b. Name four animal adaptations.

### Materials

*Adapt and Survive: A Rabbit's Choice*; an *A* card and a *B* card for each student.

### PROCEDURE

- 1) Write *ADAPTS: Animals Depend on their Activities and Parts to Survive* on the board. Discuss what this means. Explain that animal activities, or behaviors, and body parts are called adaptations. Have students think of several examples of animal activities and parts, and discuss how each adaptation helps the animal to survive.
- 2) Hand out an *A* card and a *B* card to each student.
- 3) Read the first section of the story *Adapt and Survive: A Rabbit's Choice*. Have each student make the choice they think a rabbit might

make. Tell students to hold up their choice (*A* card or *B* card), all at the same time, when you say, "Ready, set, go!" Read the correct survival choice.

4) Continue reading all the sections of the story in a similar manner. Have students keep track of whether they made the right choice or not for each section. Even if a student makes the wrong survival choice at a certain point in the story, have him or her continue making choices until you reach the end of the story.

5) Discuss the students' choices. How many were able to make the necessary choices to survive each time? Which choices made it most difficult to make the right survival decisions? Which choices were the easiest?

6) Review the items that students need to bring to school on the day of their field trip.

### EXTENSION

Ask students to give at least two examples of animal adaptations and to tell how these adaptations enable the animals to survive.

# Adapt or Survive: A Rabbit's Choice

(adapted from Caduto & Bruchac, 1991, 170-172)

**1. You are a tiny baby rabbit living deep in your family den. One day your mother is out foraging and leaves you behind to sleep. You are awakened by a strange piece of thin wire on the end of a stick. It is being pushed toward you, down the hole from the surface. You see it coming and are afraid. You:**

- a. hop down another passage farther into the warren.
- b. get closer to investigate the wire.

*If you said (a), you survived. If you chose (b), you were snared and taken away by a hunter.*

**2. You think you should find your mom, but as you try to get out of the nest, you notice many of the holes have been filled in with dirt. Do you:**

- a. settle back into your nest and wait for your mom?
- b. leave through a back door hidden under a bush?

*If you said (a), a rancher filled in all the holes and you were trapped inside the nest. If you said (b), you escaped and survived.*

**3. It has not rained for a long time. You notice there are less and less green plants around your nest and no water to drink. You are feeling weak, yet you feel the need to explore for food and water. You start to hop away from your nest, but it is hard. Do you:**

- a. go ahead and search for food and water knowing you might die doing so?
- b. return to the nest and wait for the rain to fall?

*If you said (a), you hopped over two sandstone domes and found a pothole filled with water. If you said (b), you became too weak to leave your nest. You did not survive.*

**4. From your pothole, you see a green lawn dotted with many colored hills. There are many strange smells and two legged creatures walking around. It is evening, and the sun is beginning to set. You decide to:**

- a. sneak in and eat the green grass.
- b. hop away and look somewhere else for food.

*If you said (a), you snuck into the campground and ate the grass safely while the campers slept. If you said (b), you used all your energy searching for edible plants. You did not survive.*

**5. As daylight begins to break, you decide that you need to find a place to sleep. There is a strange above ground burrow ahead. It is large, and the morning sun reflects off the strange smooth skin into your eyes. You hop up into it and try walking through a place that looks like an entrance, but you bump into something you cannot see. You finally find an opening on the side and hop in. The area smells strange, but you are suddenly very tired. You decide to:**

- a. lay down and sleep here.
- b. move on and look for a safer place.

*If you chose (a), you slept in an old abandoned car that was parked near the campground. If you chose (b), you found a rock overhang under which to rest. You survived as well.*

**6. In the morning, you leave your temporary shelter to look around. You see some green trees far away down a dry wash. As you start to hop down the wash, a large black shadow envelops you and then goes away. Do you:**

- a. ignore it and keep hopping towards the far off green trees.
- b. hunker down under the branches of a rabbit-brush and rest for awhile.

*If you chose (a), you were caught by a golden eagle and eaten for lunch. If you chose (b), the eagle could not find you and ate a rock squirrel instead.*

**7. You hop down the wash for the rest of the day. You do not notice the wash getting deeper and narrower. All of a sudden the dry wash meets a very large, very long river. You notice green trees, like the ones you have been seeking, on the other side of the river. Do you:**

- a. jump in the river and try to swim to the other side.
- b. turn around and return the way you came.

*If you chose (a), you drowned in the Colorado River. If you chose (b), you hopped thirty feet up the wash before you spotted a side wash you had not noticed before. You hop up the side wash and it leads to a grassy bottomland filled with old cottonwood trees.*

You explore the bottomland for a while until you spy some movement in the distance. You go to explore and find a whole family of rabbits who welcome you into their community. You meet a mate and raise a family of your own.

## STATION #1

# Amazing Beaver Adaptations

(adapted from unpublished Aspen Center for Environmental Studies activity and other sources)

### Objectives

Students will be able to:

- a. Describe three physical adaptations of beavers.
- b. Describe the diet and one behavioral adaptation of beavers.

### Materials

Beaver-cut stick if none in the area; pictures of beavers and beaver tracks; pair of small swim fins; 2 rattail combs; small can of WD-40; small can of musk deodorant; kickstand or canoe paddle blade attached to a belt; pair of “sticky-dot” work gloves; ear plugs or protectors; goggles; paper beaver teeth; beaver skull (optional)

### Notes

Navajo students should not be asked to handle skulls or fur.

**Explore the area beforehand for beaver sign.**

### PROCEDURE

1) Show a picture or two of beaver and find out what students know about them. Briefly discuss beaver diet and lifestyle, clarifying that beavers are herbivores and do not eat fish. Explain that beavers on large rivers don't build dams and live in holes in the banks rather than lodges. Discuss the beaver signs that students may be able to

find along the river (i.e. fresh-cut trees with ridges left by beaver teeth, tracks and tail-drag marks, branch drag marks, slide marks where beaver entered the river, piles of cut branches and logs in shallow water, scat (usually in shallow water), and holes in the riverbank if the river is low).

2) Explore the riverbank for beaver sign. Examine beaver-cut branches, and have students feel the ridges. Show pictures of tracks if you don't see any.

3) Discuss a few activities (behavioral adaptations) of beavers. Then choose a student volunteer to model a beaver's special parts (physical adaptations). Dress the student from the feet up with objects representing its various adaptations, explaining the adaptations as you go:

- Feet: Swim fins represent webbed hind feet for swimming.
- Feet: Rattail combs represent split claw (second claw of each foot) for grooming.
- Tail: A canoe paddle (attached by belt) represents the use of the tail as a rudder in swimming. Alternatively, a kickstand can represent the tail function of holding the beaver upright while it is gnawing on a tree. Beavers do not use their tails for patting mud (except in cartoons), but they do slap them on the water surface to make a loud noise that serves as a warning device.
- Fur: Use a pelt tucked under the belt to represent the beaver's coat. A beaver's coat

Learning first-hand about a beaver's adaptations



consists of guard hair with a soft underfur. It provides insulation as well as a waterproof layer, thanks to the oil provided by an oil gland.

- Fat layer: Use a layer of foam tucked under the pelt to represent an insulating fat layer that keeps the beaver warm while swimming in cold water.
- Oil gland: Insert the WD-40 under the belt near the base of the tail. This represents the gland that produces oil for waterproofing the beaver's coat. Grooming with the split claw helps keep the coat oiled.
- Scent gland: Have students sniff the musk deodorant, and then insert it under the belt near the WD-40. The scent gland produces a smell for marking territory and attracting mates.
- Hands: Put on "sticky-dot" work gloves to represent the rough pads for gripping on a beaver's front feet. These feet also have long claws for digging.
- Eyes: Swim goggles represent a *nictitating membrane*, or clear inner eyelid, that allows beavers to protect their eyes, yet also see, while swimming. Beaver eyes are positioned near the top of their head, so they can see above water while most of their head is still underwater.

- Ears: Earplugs or protectors represent the special flaps inside beaver ears that close while they are swimming in order to keep water out.
- Mouth: Beavers have a flap at the back of their mouth that they can close to keep water out of their throat while swimming, even when they are carrying sticks in their mouth. If you have a beaver skull, show the gap between front incisors and back molars where sticks are carried. Finally, give the student model the paper front teeth, which represent the sharp front teeth beavers use for cutting trees and branches. These teeth grow continuously and are made up of hard brown enamel in front and softer dentin behind. Chewing on trees gives their teeth a chisel-like edge.

4) To review, ask students to briefly describe each adaptation as you remove the objects, or have each student choose one object and describe the beaver adaptation it represents. Review beaver diet and activities.

Looking for beaver tracks along the Colorado River



# Canada Geese Migration Station

## Objectives

The students will be able to:

- Cite three reasons why Canada Geese migrate.
- Describe two obstacles in geese migration.

## Materials

Signs labeled North, South, East and West (pieces of poster board, cut in the center so they intersect); sets of clue cards for migration course (see note below).

## Note

This station is set up as a 150-yard course with clue cards hidden along the way. The directional signpost should be set up in a prominent place that students can see.

## PROCEDURE

- 1) Talk with students about migration as an animal adaptation. Discuss Canada Geese in particular and how they migrate. Talk about some of the dangers of migration.
- 2) Tell the students that before birds migrate, they build up fat reserves. These fat reserves provide the birds with energy during their long migration. Tell the students that they need to help you do the following calculations. Using a white board, have the students help you answer the following questions.

(adapted from Migration Math, Growing Wild, p. 10).

1. In order to calculate how much birds need to eat before migration, we need to figure out how much weight they need to gain. Have students divide their weight (estimated) by 3. This is the number of pounds they need to gain, in order to survive the trip.
2. If all goes well on their trip they will 60 flaps a minute for 10 hours a day. Have the students figure out how many flaps a day they would make on their journey [ $60 \times 60$  (flaps per hour)  $\times 10$  (hours per day) = \_\_\_\_ number of flaps per day].
3. You can fly 40 miles an hour. If you are traveling 4,000 miles at how long would it take you to get there? How many total flaps would you make? [ $40 \times 10$  hours per day = miles per day.  $4000/\text{miles per day}$  = how many days].

4. The average person burns 60 calories if they run for an hour. Pretend you are a bird. How many calories would you use in your migration? [ $10(\text{hours per day}) \times 10(\text{days})$  = total hours flying.  $60(\text{cal}) \times \text{total number of hours}$  = the total calories.]

Ask the students if they think they stored enough body fat to cover the number of calories needed? If not where might they get more fuel?

- 3) Tell students they will be migrating together as a gaggle of geese and following a set of clue cards. Discuss direction with students by pointing to north and south and then asking them to point east and west. Tell the students that they are going to be flying in a V formation. Explain that the oldest goose flies at the point since the oldest is most likely the strongest, and the goose at the point works the hardest. Have the students figure out who is the oldest. Tell them that this person will read the clues and lead the group. This person is also the only one to pick up the next clue. When the oldest finds the clue, he/she hands the clue to someone else to read. The reader then leads the group. Give the eldest goose the map and first clue to read. Have the entire group count the flaps as they move through the course.

- 4) At the end, review the migration of Canada Geese.

## EXTENSION

Draw a picture of the Canada Geese migration. Show the events that a goose might encounter along the way.

# Geese Migration Cards

1. In order to fly south for the winter you must make a "V" formation. Daddy Honker you belong at the point of the "V." You will lead the group.

When flying, who uses the most energy?

Why?

Take 10 flaps SOUTH and 3 flaps WEST

2. You have run into a storm and must take shelter in a bunch of shrubs.

Why can't you fly in bad weather?

Take 8 flaps WEST

Count to 15 to wait out the storm.

3. The weather is much better today.

Take 15 flaps SOUTH.

4. Last year this was a corn field. A great place to rest. But now it is a housing development. You must keep flying.

Where do you get the energy to keep flying?

Take 15 flaps EAST and 3 flaps SOUTH.



5. You land next to a big sign that says "Wildlife Preserve." It is a large wooded area next to a wheat field. Wheat is left on the ground after the harvest. Eat well and rest here because you have a long way to go.

What can geese eat besides wheat?

Count to 10 to rest. When you have finished resting take 8 flaps SOUTH and look EAST.

6. This is a popular hunting area. Fly high so that hunters can not shoot you. Your next stop will be at another wildlife preserve. When landing, fly in tight circles so you remain in the preserve.

Why do people hunt geese?

Take 15 flaps WEST and 5 flaps SOUTH.

7. You are in luck. You have a tail wind. You can fly farther and use less energy.

How fast can geese fly with no wind?

Take 23 flaps SOUTH and 15 flaps EAST.

8. You have been flying for a long time now. You have been flying during the day and the night.

Why would it be helpful to fly at night?

Take 14 flaps SOUTH and 5 flaps WEST.

# Geese Migration Cards

9. You fly over a mountain range, cross a river and through a field and there is a beautiful marsh. The perfect place to rest and feed.

How do you find your way?

Take 6 flaps SOUTH and  
3 Flaps WEST.

10. Last year this pond was smelly and filthy. A storm had spilled pig and chicken sewage from farms into the ponds. The farmers decided to clean the pond so their livestock could drink from it. You decide to rest here.

How would sewage destroy a pond?

Take 10 flaps WEST and  
5 flaps SOUTH.

11. You feel the air getting warmer. You must be getting nearer to your winter home. You notice other flocks of geese flying in the same direction.

Different flocks are made up of different \_\_\_\_\_?

Take 10 flaps SOUTH and  
10 flaps WEST.

12. You made it! Have a great winter. Eat lots of food so you will have plenty of fat to give you energy to fly back north in the spring.

Why don't geese stay south all year long?

## STATION #3

# Deer's Ears

(Adapted from *Project Wild*, 1992, 112-3)

### Objectives

Students will be able to:

- State at least two physical and two behavioral adaptations of deer or their predators.
- Relate the adaptations to function and/or survival.

### Materials

Pictures of a deer and a mountain lion;  
blindfold.

### PROCEDURE

1) Review the definitions of *adaptation*, *predator*, and *prey*. Show the pictures of a mule deer and a mountain lion, and discuss some of the adaptations of each.

2) Introduce the game (adapted from Henley, 1989, 158-159). Designate one student as a deer, blindfold her, and put a cloth "tail" in her back pocket. Ask the student to stand or kneel like a grazing deer and not to move except to turn in one place. Ask the other students to pretend to be mountain lions, predators of deer. Instruct the mountain lions to start at least 20 feet away from the deer and slowly stalk the deer. Cue them to begin stalking when you say "go," but instruct them to stop immediately if you say "freeze" (until they hear "go" again). Instruct the deer to listen for the approaching predators and to point in the predator's general direction (within two to three degrees) and

shout "Starve!" if one is heard. If the deer is correct, that predator must quietly sit down until the round is over. (To make the event more realistic, limit the number of times the deer can say "Starve!" to the number of predators plus two. The instructor should stand near the deer and clarify if the deer caught anyone with their "Starve!") Tell the predators that if one of them gets close enough to the deer to snatch its cloth tail, then the deer is dead.

3) Let the predator that kills the deer be the next deer. Another option is to simply take turns being deer. Have the deer stand in different areas, and discuss how the deer uses its environment to protect itself. Review deer and mountain lion adaptations that helped the animals after each round.

### EXTENSIONS

Have students create a dramatization of a mule deer, acting out the adaptations that help it survive in the wild.

Have students think up objects to represent deer or mountain lion parts, as in the beaver activity.

A blindfolded student tests her "deer's ears."



## STATION #4 Eagle's Eyes

(adapted from Henley, 1989, 154-155)

### Objectives

Students will be able to:

- Name at least two bird of prey adaptations.
- Describe how an eagle or other bird of prey's eyesight aids in survival.

### Materials

laminated bird of prey pictures; small food items (Skittles)

### Note

If location and weather permits, hide candy in advance for the second activity.

### PROCEDURE

1) Build on prior student knowledge to talk about general raptor (bird of prey) characteristics and adaptations. Distribute pictures as students name species of raptors, giving each student a raptor identity. Have the students read the information about their bird on the back of the card and look at the picture. Ask them to find an activity and a part (adaptations) that help this bird survive. Have each student introduce their bird and share their adaptations. Show them the eagle skull replica and feathers. Discuss the adaptations. Pass them around for the students to touch and feel. (Note: Navajo students should not be asked to handle feathers or skulls.)

2) Activity #1: **Eagle's Eyes** - Ask each student to name one type of prey that her raptor might look for, and hand out one Skittle to represent that prey. Use a variety of Skittle colors. Have students place the Skittles on a line on the ground and then start backing away. When

individual students can no longer see their Skittles, they have reached the limits of their eyes' resolving power and should stop. Next, gather the students where the first student stopped. Measure the distance from there to the Skittles. Multiply that distance by ten, and you have the calculated distance from which an eagle could see a Skittle. Discuss how high on the cliffs that distance is, which colors were easiest to see, and if a moving Skittle (or mouse) would be easier to see.

3) Activity #2: **I Spy with My Eagle Eyes** - Have students pretend to be eagles or their chosen raptor and look for hidden Skittles. When a Skittle is seen, the raptor should say, "I spy with my eagle (or other raptor) eyes something green (or other color)," without giving away the prey location. Ask them to count how many prey items they see, but not to pick them up. Give the students several minutes, and ask each student how many he/she found. Discuss why some birds found more food than others. Review the types of prey that raptors look for and raptors' adaptations for hunting.

### EXTENSIONS

Have students create a story or skit based on a raptor. Have them include facts on eyesight adaptations. Ask students to choose a raptor, research more of its adaptations, and write a story about how it uses its keen eyesight and other adaptations to survive.

Have students research the effects of DDT on bald eagles or peregrine falcons as well as other animals in the food chain. In addition, they may research what other toxins affect wildlife.

Students test their "eagle eyes"



## POST-TRIP ACTIVITY

# Win, Lose or Adapt

(adapted from National Park Service and others, 1989, 8.12-8.18)

### Objectives

Students will be able to:

- a. Recognize that humans are animals with unique adaptations.
- b. Identify two animal adaptations and describe how they help the animals to survive.

### Materials

Draw the adaptation game cards; *animal adaptations* poster (labeled *Animal Adaptations*, with photographs of the animals from the game cards).

### PROCEDURE

1) With the students, generate a list of human adaptations. Ask students to describe each adaptation and its usefulness to humans. Examples include: upright posture (seeing distances, holding and throwing objects, carrying things); eyes facing forward (judging distance); movable neck (seeing in many directions); ear lobes (gathering sound); big brains (intelligence); thumbs (precise and delicate hand movements); touch (sensitivity in hands and fingers); living in groups (cooperation, safety in numbers); speech (communication, cooperation).

2) Show the *Animal Adaptations* poster and, with student input, name the animals. Instruct students in playing a game based on the adaptations of these animals. Divide the class into two teams. Have one person from the first team pick a *Draw the Adaptation* game card. While the student is drawing the animal and its adaptation on the blackboard (one-minute limit), the rest of the first team guesses the animal and its adaptation. (Team Two watches quietly; their turn may be coming soon!) If a guess includes part of the correct answer, write that part on the board. If Team One does not guess the animal and its adaptation within a minute, give Team Two a minute to draw and guess from the same card. When correctly guessed, have a student read the back of the card, which tells how the adaptation helps the animal to survive. Continue the game, with the two teams alternating picking a card, drawing,

and guessing.

3) Integrate the activity with the field trip lessons by discussing the following types of questions:

- What are some adaptations we learned about on the field trip, and why are they important to these animals?
- What sort of adaptations might lead animals to extinction? (Specialized adaptations to small, isolated habitats, to a specific food, or to habitats in which humans like to build are risky.)
- How are some animals in our area adapted to survive the upcoming winter season?

### EXTENSION

Have students describe three problems that an animal they learned about on the field trip would have if it were moved to the school grounds. Could these problems be solved? Why or why not?

# Draw the Adaptation Game Cards

Photocopy and cut apart along dotted lines.

## Adaptation:

Sharp-edged spade on each back foot

These help the animal burrow into the ground during dry times.

Spadefoot Toad

## Adaptation:

Feet for grasping

Strong feet and large, curved claws, or talons, are used to kill and hold prey.

Hawk

## Adaptation:

Paws with claws

Most meat-eaters use these to climb, dig for food, and hold their prey.

Fox

## Adaptation:

Long, hollow beaks

These are used to reach nectar deep inside blossoms.

Hummingbird

## Adaptation:

Short, cone-shaped beaks

These are strong enough to open seeds.

Sparrow

## Adaptation:

Hooked beaks

These are used to tear up animal food.

Hawk

## Adaptation:

Forked tongues

These are used to “smell.”

Snake

## Adaptation:

Webbed feet

These help with swimming and with walking on top of mud.

Duck

# Draw the Adaptation Game Cards

Photocopy and cut apart along dotted lines.

## Adaptation:

Whiskers

These act as feelers when going through brush or small places.

Bobcat

## Adaptation:

Long, pointed canine teeth

These are used to catch and kill prey.

Coyote

## Adaptation:

Large hind legs

These help the animal jump long distances to escape predators.

Kangaroo Rat

## Adaptation:

Stingers

These are used for protection.

Bee



**Adaptation:**  
Exoskeletons

These hard outer coverings provide protection from enemies, and keep the animal from drying out.

**Insect**

**Adaptation:**  
Eyespots

These are used to scare away predators.

**Butterfly**

**Adaptation:**  
Long tongues

These are used to zap food such as insects.

**Lizard**

**Adaptation:**  
Horns

These are permanent and slow growing. They are used for defense and finding mates.

**Desert Bighorn Sheep**

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