Unit 3 Lesson 5 How Are Living Things Adapted to Their Environment?
Let’s see different environments and how are animals adapted?

Engage Your Brain!

Find the answer to the following question in this lesson and record it here.

How do the characteristics of this fox help it survive in its environment?

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What is an environment?

Blue planet!
What is an environment?

• The **environment** is all of the living and nonliving things in an area.

• Earth has **many types of environments**. Because there are so many types of environments on Earth, there are also many types of living things.

• Each living thing, or organism, is able to survive in its own environment.

• Plants and animals depend on their environment to meet their needs.

• What do animals need to survive?
What helps animals to live in their environments?

If you were in a forest which bird would you expect to see up in the trees a blue jay or an ostrich?
What helps animals to live in their environments?

Ostriches live on grasslands. They have long, strong legs that enable them to run quickly in open spaces. Their brown color helps them blend in.

This blue jay's curved feet help it grip small branches. Its wings enable it to fly from branch to branch.
What helps animals to live in their environments?

- **An adaptation** is a characteristic that helps a living thing survive.

- **A physical adaptation** is an adaptation to a body part.

- Like the fur of polar bears and the long arms of monkeys.
What helps animals to live in their environments?

- A **behavioral adaptation** is something an animal does to help it survive.

- For example, most desert animals are active at night to avoid the heat of the day.

- An **instinct** is an inherited behavior an animal knows how to do without having to learn it.
What helps animals to live in their environments?

Why is it better for an animal to know how to hide from predators because of an instinct than to have to learn how to hide from them?
What helps animals to live in their environments? Warm up 2

What adaptations does a fish have for living in the water?
Let’s see different environments and how are animals adapted?
1-Grassland: Ostrich
1-Grassland: Prairie dogs

- Grassland animals have adaptations for blending with the grass. These animals may be able to run fast or have shovel-like paws for burrowing.
1- Grassland:
2-Forests: sloth
2-Forests:
2-Forests:

Compare the prairie dog’s grassland adaptations with the sloth’s forest adaptations.
2-Forests:

- Forest animals can grip branches by curved feet and claws.
- Monkeys have long arms, legs, and tails to swing between trees.
2-Forests:

This spider monkey lives in the forest. What physical adaptations does it have that help it survive in this type of environment?
Water plants have flexible stems that allow them to bend with the flow.
3-Flowing water stream:

Elodea are very flexible plants, so flowing water is less likely to break them. If a piece of elodea is pulled off, though, the piece can sprout roots and start to grow in a new part of the stream.
2-Forests:

Apply Concepts

Draw a circle around the plant that would most likely live in a forest environment. On the line below, write an adaptation the plant has that helps it live in a forest.
3-Flowing water stream:

- Many fish have smooth bodies and strong tails that help them swim against the current.
3-Flowing water stream:

- Many water insects are able to hold tightly to water plants. Others burrow into the soil at the bottom of the stream.
4-Ponds:

- Compare the elodea’s adaptations with the cattail’s adaptations.

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Water lilies have tall strong stems, and their leaves float on the surface.
Catfish have long whiskers that sense chemicals and help them find food.
Ducks have webbed feet to help them swim in ponds.
4-Ponds:

Cattails grow in relatively still, shallow water, such as the water of a pond. Their stems are strong and stiff. Cattails can grow to more than 3 m tall.

Pond turtles are strong swimmers. They are also able to hold their breath for long periods of time. Their dark color allows them to stay hidden in dark, muddy water.
Many desert plants have very long roots to reach water that is deep underground, others have wide roots to take the rain water and waxy leaves to conserve the water.
Many desert animals have short, thin fur or no fur at all.

Jackrabbits stay crouched in one position whenever they sense danger, which helps them hide from predators. (instinct)
5-Desert:

Jackrabbits have large ears. Their ears release body heat and help the rabbits stay cool.

Many reptiles live in deserts. This lizard’s scales help it keep water.
What are some behavioral adaptations in desert plants?

• Some seeds of desert plants stay dormant, or inactive, until it rains.

• When it rains enough, the seeds grow quickly into plants that flower and make more seeds.

• Cactus flowers open and release their fragrance at night and close during daytime. (WHY?)
What are some behavioral adaptations in desert plants?

Saguaro cactus flowers open and release their fragrance at night and close the next day. It is cooler at night in the desert. As a result, the flowers do not wilt as quickly as they would during the day.
What are some behavioral adaptations in desert plants?

Describe a living thing with adaptations that help it survive in the desert. Explain how each adaptation helps.

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In which habitat should an animal be able to keep water inside its body for a long time?
6-Antarctica:

- Arctic animals have thick fur and a layer of fat to keep in body heat.
- Some Arctic animals are often white in the winter, which helps them blend in with the snow.
Emperor penguins have a thick layer of fat—a physical adaptation that keeps them warm on land and in the water.

Male penguins huddle in large groups. This behavior is an instinct that helps penguins keep warm.
• Most Arctic plants have short roots, because the ground is frozen the majority of the year.

• Most Arctic plants grow close to the ground, which helps protect them from strong, cold Arctic winds.
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6-Antarctica:

This prairie crocus has fuzzy hairs that cover its flowers and seeds. The hairs protect the plant from wind and trap heat from the sun.

Arctic hares grow white fur in winter to blend in with the snow. They sit with their paws, tails, and ears tucked in to keep from losing body heat.
6-Antarctica : Exit slip 4

Compare the adaptations that help the desert jackrabbit and the Arctic hare survive in their environments.

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6-Antarctica:

[Image of a jackrabbit in a desert setting]

[Image of a snowshoe hare in a snowy setting]
Snakes and lizards are rarely found living near polar environments. Explain why.
6-Antarctica : classwork

Unit 3 Lesson 5 How Are Living Things Adapted to Their Environment?

Word Play

Complete the crossword puzzle.

Across
4. Desert animals are active at night to avoid the heat. Which type of adaptation is this?
5. Which type of behavior does an animal know how to do without having to learn it?

Down
1. What are all of the living and nonliving things in an area called?
2. A blue jay’s small, curved feet help it grip branches. Which type of adaptation is this?
3. What is a body part or behavior that helps a living thing survive called?