

Name: _____

Date: _____

ADAPTATIONS

Have you ever wondered why plants and animals have some of the special features that they do?

Plants and animals live in many places and have different needs. Their habitat provides them with what they need to live.

Most living things have special features that help them survive in their habitat. These special features are called adaptations. Structural adaptations involve an animal's body parts or the parts of plants. Behavioural adaptations involve the way living things act or respond to their surroundings. These kinds of adaptations help plants and animals to meet their needs and to survive.

Structural Adaptations

Structural adaptations can help living things to live in certain conditions. The polar bear lives in one of the coldest habitats in the world. It has many adaptations that help it survive. The big furry paws of a polar bear act as a snowshoe when the bear is walking on snow. The fur stops the bear from sliding on ice and also keeps the paws warm in the cold. The hairs of the polar bear's fur are hollow. They act as a tube to allow the warmth of the sun to go right down to the bear's skin and keep it warm in the coldest weather. The white colour of the bear's fur helps it to blend into its habitat, since it is hard to see in the snow and ice. The polar bear also has an excellent sense of smell, which helps when it is hunting seals to eat. Sharp claws and teeth make it easier for the polar bear to catch and eat its prey.



Some structural adaptations are difficult to see, but scientists who study living things have discovered some very special features that help the plants and animals to survive. The electric eel, for example, has a shocking feature. It is able



to produce electrical currents within its body. Most electric eels are found along the Amazon River. This river is very murky and it is difficult for the animals that live there to see underwater. The eel uses its electrical current to sense the things around it. Electric eels also use the current to stun prey while hunting and for self-defence.

Animals such as zebras on the plains of Africa have structural adaptations that help them survive by making it harder for other animals to hunt and kill them. The special colour and designs of the zebra's stripes make it very difficult for a predator to single out one animal from the rest of the herd. This makes it harder for a predator to catch and kill a single zebra.



Plants have structural adaptations too. Several types of cactus survive in the hot, dry desert because of their adaptations. Cactus plants can store water inside their stems. They also have a thick waxy skin that stores water inside the plant. Spines, instead of leaves, prevent the loss of important moisture. A single rainfall can provide enough water for a cactus to survive on for years.

Other plants have adapted to their climates in different ways. Trees, like oaks and maples, lose their leaves in autumn. This helps them to survive the long winter. They then produce new leaves in the following spring. Plants such as tulips have bulbs that store energy underground. Their flower stalks above ground die through the winter, then when warm weather returns the bulbs send up new shoots and form new flowers.



Behavioural Adaptations

Adaptations can also be behavioural. These kinds of adaptations involve the way animals act within their habitat. The pack behaviour of predators, such as wolves and lions, gives all the members of the group a better chance of surviving than if they were each living alone. Lions hunt in groups and can catch animals that are much larger than themselves.



If a lion was hunting on its own, it would stand very little chance of chasing and killing a large or fast animal such as a zebra.

Prey, or animals being hunted, also have behavioural adaptations that help them survive. These adaptations may help them to escape from or fight off their predators. For example, living in a group can also help animals that are being hunted. Travelling in a herd helps the musk-ox survive attacks from wolves and



other predators. When the musk-ox senses an attack, a signal is sent out and the entire herd forms a tight circle. In the middle of the circle are the young musk-ox and the females. Forming the outer ring of the circle are the male musk-ox who are large and have horns. Any predator will have to fight through the strongest members of the musk-ox herd to get a meal.

ADAPTATIONS ASSIGNMENT

Now that you have read all about structural and behavioural adaptations you will do a project that focuses on one specific organism. Answer the questions below, then follow the instructions to complete your assignment.

Choose an animal or plant that you know has a special feature that helps it survive.

What is the special feature(s) of your organism?

How does this adaptation help the organism survive?

Use the information you have recorded about your organism and its adaptations to create a poster about the organism. On the poster you should include:

- The name of the organism.
- A picture of the organism (either drawn or printed from the computer)
- Information about the organism's adaptation
 - What it is
 - How it helps the organism

You will have today's period and one more period to complete this task.