

Animal adaptation

Worksheet 1 - teacher's notes

1. All living organisms have to adapt to survive.

Why ? What is adaptation ? Try to write a short definition of adaptation:

An adaptation is a physical or behavioural characteristic that has developed to allow an organism to better survive in its environment.

2. Let's have a look at animal adaptation to their habitat first. Go to

<http://resources.woodlands-junior.kent.sch.uk/homework/adaptations/desert.htm>

http://www.bbc.co.uk/nature/adaptations/Desiccation_tolerance

<http://www.bbc.co.uk/nature/adaptations/Psychrophile>

<http://www.bbc.co.uk/nature/adaptations/Thermophile>

and find information and examples of animal adaptation to these three extreme habitats.

Habitat	Adaptation characteristics
Desert conditions	<p><i>The two main adaptations that desert animals must make are how to deal with lack of water and how to deal with extremes in temperature. Many desert animals avoid the heat of the desert by simply staying out of it as much as possible.</i></p> <p><i>Since water is so scarce, most desert animals get their water from the food they eat: succulent plants, seeds, or the blood and body tissues of their prey.</i></p> <p><i>Desert animals prevent water leaving their bodies in a number of different ways. Some, like kangaroo rats and lizards, live in burrows which do not get too hot or too cold and have more humid (damp) air inside. These animals stay in their burrows during the hot days and emerge at night to feed.</i></p> <p><i>Other animals have bodies designed to save water. Scorpions and wolf spiders have a thick outer covering which reduces moisture loss. The kidneys of desert animals concentrate urine, so that they excrete less water.</i></p>
Tropical conditions	<p><i>Heat tolerant animals have special adaptations for survival in hot places. Many animals try to avoid the heat by hiding away during the hottest parts of the day in burrows and dens. Others have physical adaptations that help body heat dissipate, such as large ears.</i></p>
Arctic conditions	<p><i>Cold tolerant organisms have evolved various methods for coping with very low temperatures. Some animals hibernate, take shelter, or even migrate to warmer areas. Others, such as Antarctic seals, have warm fur and a thick layer of blubber for insulation. Arctic plants tend to be small and grow low to the ground and can be coated with hair and wax to avoid wind chill. Some insects, amphibians and microbes can even withstand being frozen solid.</i></p>

students' answers may vary

3. Animals also adapted to different ways they move. Some are good at swimming, others at climbing or flying. Go to <http://www.bbc.co.uk/nature/adaptations> and in 6 groups prepare a short presentation about animal adaptation to different ways of locomotion.

- 1) <http://www.bbc.co.uk/nature/adaptations/Climbing>
- 2) <http://www.bbc.co.uk/nature/adaptations/Flight>
- 3) http://www.bbc.co.uk/nature/adaptations/Gliding_%28flight%29
- 4) <http://www.bbc.co.uk/nature/adaptations/Jumping>
- 5) <http://www.bbc.co.uk/nature/adaptations/Running>
- 6) http://www.bbc.co.uk/nature/adaptations/Aquatic_locomotion

students' own answers

4. At home think about camouflage as an example of adaptation. Can you think of any animals that use camouflage ? Find out what mimicry is.