

Characteristics of Living Things

There are seven life processes that tell us that animals are alive. To help us remember them we have found a friend to remind you - Mrs Gren. Although her name sounds a bit strange, the letters in it stand for the life processes - movement, reproduction, sensitivity, growth, reproduction, excretion and nutrition.

Movement

It's a simple fact, most animals move. Humans (like you) can move because your body is supported by an internal skeleton. All vertebrate animals (fish, amphibians, reptiles, birds and mammals) have internal skeletons. Although they look quite different at first glance, they share some basic characteristics.



Reproduction

All animals reproduce. Human babies develop within their mother for nine months before they are born. They grow into children, adolescents, and eventually, adults. But not all animals reproduce in this way. Birds lay hard-shelled eggs that hatch and produce helpless chicks. Marsupial mammals, like kangaroos give birth to tiny babies (about the size of jelly babies) that spend a long time in their mother's pouch before they are able to face the big wide world.

Sensitivity

Your senses let you know what is going on in the world around you. Humans have five senses: hearing, sight, smell, touch and taste. They are controlled by five sense organs: the ears, eyes, nose, skin and tongue. Plants are also sensitive to amounts of light, water and chemicals in the soil.

Growth

Like other mammals, humans grow at a fairly steady pace until they reach adulthood. Every day as they get older their bodies are changing. Their skeleton grows with them, each bone getting bigger over time. But this steady, constant growth does not happen in all animals. Arthropods - insects, spiders, crabs and other animals with external skeletons - grow in a very different way. The problem with having a hard outer skeleton means that you will grow out of it - just like you grow out of clothes. To get any bigger, animals like crabs and spiders have to shed their skeleton and grow a new one!

Respiration

All animals respire. A lot of people think respiration means breathing - this is not true. Respiration is a chemical reaction. It occurs in every cell in your body. So what is respiration? During normal human respiration, glucose (a type of sugar that you get from food) reacts with oxygen to produce energy. The energy is needed for growth, repair and movement. Water and carbon dioxide are bi-products of respiration - they need to be excreted.

Excretion

Excretion cleans up after respiration. Respiration is a chemical reaction that takes glucose (sugar) and oxygen to produce energy. But it also produces water and carbon dioxide as bi-products. Excretion gets rid of carbon dioxide, water, and other, possibly harmful, substances from your body. Your lungs excrete carbon dioxide as you breathe out, your kidneys filter out nasties to produce urine, removing nitrogen waste from your body, and your skin sheds excess salt through sweat.

Nutrition

All animals, including humans, eat to live. They take in food at their mouths, munch it with their teeth, and the teeth break it down so it can be taken into the stomach. All the nutritious bits of the food are absorbed into the body through the intestine, and the rest comes out the other end!