



KNOWLEDGE ORGANISER

SCIENCE: EVERYTHING CHANGES

YEAR SIX

KEY KNOWLEDGE:

QUESTION 1: How does the environment affect plants?

ANSWER

Plants need air, light, warmth, water and nutrients to be healthy. If they are healthy, they can continue making their own food through photosynthesis. The roots, leaves and the stem of a plant have different functions that help to keep it healthy. A healthy plant is upright with green leaves.

A seed will not produce a plant at all if it is kept too cold. The seed needs warmth to germinate (develop from a seed into a plant) and start to grow into a healthy plant. A plant that is kept in a dark place will grow tall and spindly in search of light and then become weak and die. A plant that is not watered will have a weak stem and dried up leaves and will eventually die.

- The roots of a plant take up water and nutrients from the soil. The roots also keep the plant steady and upright in the soil; they "anchor" the plant.
- The stem carries water and nutrients to different parts of the plant.
- The leaves use light from the sun, along with carbon dioxide from the air and water to make food for the plant. This process is called photosynthesis.

QUESTION 2: How do living things survive?

ANSWER

In order to stay alive, all animals need: water, air and food. Without these things, animals including humans, would not survive. All lifeforms need energy to survive. Energy is the resource that allows organisms to do things. Living things use energy to grow, to defend themselves, and to move around. Plants use sunlight to create their own food. Many animals then eat the plants, taking this energy into their own bodies. Other animals then eat these plant eaters, passing the Sun's energy from one organism to another.

QUESTION 3: Why do living things become extinct?

ANSWER

Living organisms are dependent on the environment and other species for their survival. When the environment changes, organisms are not as well adapted to it.

Individuals that are poorly adapted to their environment are less likely to survive and reproduce than those that are well adapted. Similarly, it is possible that a species that is poorly adapted to its environment will become extinct.

Here are some factors that can cause a species to become extinct:

- rapid changes to the environment, such as the climate
- new diseases
- new predators
- new competitors

Because we are all part of a giant food web, changes in one part of the web can have a big impact on other parts of the web. When one food source disappears, a predator will have to find another food source in order to survive.