



The Characteristics of Life

The oldest fossils on Earth are from 3.4 billion years ago.

They come from an organism, like simple bacteria, called Archaea.

All life has evolved from these simple cells.



Metabolism - is the sum of all the chemical reactions in the body.



If you have a fast metabolism, you generally move more **quickly**. If you have a slow metabolism, you move **slowly**.

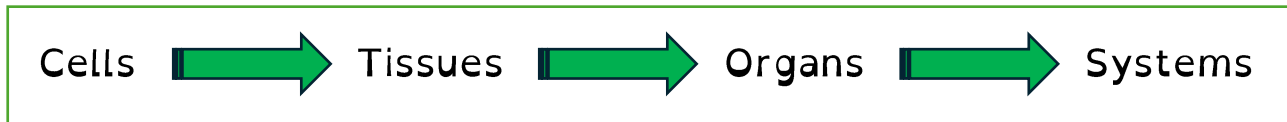




5 Characteristics of Living Things

1. Organisation

All living things are made of cells.



2. Nutrition

Is the way organisms get and use their food.

Food is needed for energy, growth and repair.



Autotrophs and Heterotrophs

Plants use sunlight to make their food by **photosynthesis**.

Animals get food from plants or other animals.





3. Excretion

Is the removal of waste products made in the body. e.g. breathing, sweating and urinating.

All living things excrete wastes. Plants have less wastes than animals.

What do we breathe out?

What do we sweat?

4. Response



Response is the way living things react to changes in their environment.

These changes are called stimuli. Plants tend to have slower responses.



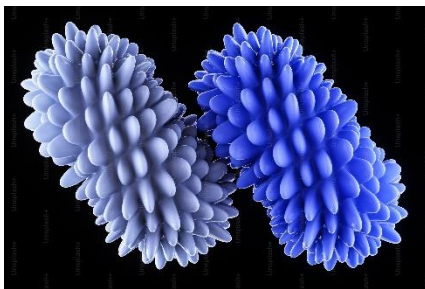


5. Reproduction

All living things need to reproduce.

Reproduction is how life began and continues.

Continuity of Life - means that **living things arise from other living things** of the same type.



Asexual Reproduction - does not involve sex cells and produces clones.

Clones are identical copies of an individual. e.g. like bacteria.

Sexual Reproduction - involves **gametes**, (sex cells) e.g. pollen

The offspring from **two parents** carries DNA from both parents.

This means the offspring is slightly different from both parents.





Questions on Characteristics of Life

Q.1 What do we call the sum of all the chemical reactions in the body?

Q.2 How would you define Excretion?

Q.3 Complete the following. Cells -> T_____ -> O_____ -> Systems.





SUMMARY

1. Organisation



2. **Nutrition** - Food is needed for **energy**, growth and repair.

3. **Excretion** - Is the removal of **waste products** made in the body.



4. **Response** - Response is the way living things **react to changes** in their environment.

5. **Reproduction** - All living things need to **make copies** of their genes.

