

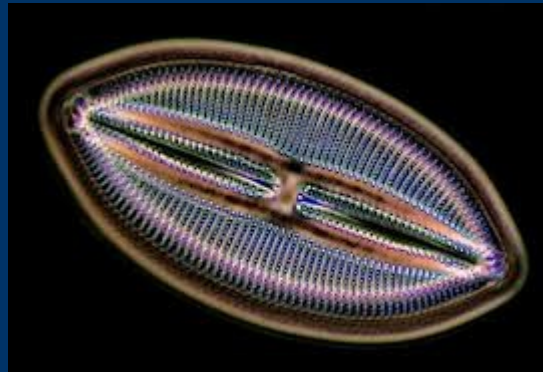
## ***“EARTH, AN INHABITED PLANET”***





# ***THE CELL***

- All living things are made up of cells.
- Single-celled organisms: Are made up by only one cell.



- Multicellular organisms: Are made up by two or more cells.



## *THE CELL*

A typical cell is made up of following parts:

- **Plasma membrane**: A thin layer that surrounds and protects the cell.
  - **Cytoplasm**: Jelly-like liquid inside a cell. It is made up of water.
  - **Nucleus**: It is inside the cytoplasm and contains the genetic material of the cell (DNA)
  - **Organelles**: Compartments that perform different functions.
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# THE CELL

There are two types of cells:

- **Prokariotes**: This type does not have nucleus, so the genetic material is in the cytoplasm. Example: The bacteria.



- **Eukariotes**: This type has a nucleus surrounded by a membrane. They are the rest of the living things.



## *CELL ORGANISATION IN A MULTICELLULAR ORGANISMS*

- **Tissues**: Are made up by the union of many cells. Example: The skin.
- **Organs**: Some tissues get together to do an specific function. Example: The heart.
- **Systems**: Some similar organs get together to do an specific function. Example: The muscular system.

All the system together form a multicellular organism.

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# ***FUNCTIONS OF LIVING THINGS***

- **1. NUTRITION**

It is the process used by the living things to obtain energy and the substances to maintain their structures.

- **There are two types of nutrition:**

**Autotrophic:** Make organic matter from organic compounds through the photosynthesis. Example: The plants.

**Heterotrophic:** They can not make their own organic matter. They can be:

**Herbivores:** Eat plants.

**Carnivores:** Eat the meat of the other animals.

**Omnivores:** Eat plants and animals.

**Saprophytes:** Eat decomposing organic matter.

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# ***FUNCTIONS OF LIVING THINGS***

- **2. REPRODUCTION**

It is the way the living things produce new organisms, and so they ensure the continuation the life on Earth.

**There are two types of reproduction.**

- **Asexual:** Only one organism produce the new organisms, which are indential.





# ***FUNCTIONS OF LIVING THINGS***

- **2. REPRODUCTION**

**Sexual:** Two organisms of different sexes (**male** and **female**) are involved, and the new organisms produced are mix of their progenitors, so they are not identical.





# ***FUNCTIONS OF LIVING THINGS***

## **3. INTERACTION**

To survive living things need to interact with their environment and with other living things.

- **Animals:** Develop sensory organs to collect information from the environment and a nervous system to process and respond to it.
  - **Plants:** Also respond to stimuli in the environment and can move their leaves in order to receive more light.
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