

THE CELL

The cell is the basic structural and functional unit of life and performs the same functions as all living beings: nutrition, reproduction and interaction. All living beings are made of cells.

The basic elements in a cell's structure are:

- A protective cell membrane surrounding the cell.
- Cytoplasm, a liquid inside the cell. It contains chemicals necessary for most metabolic reactions.
- Genetic material (DNA and RNA) with genetic information. It determines how the cell will develop. Without this, a cell cannot reproduce and will die.

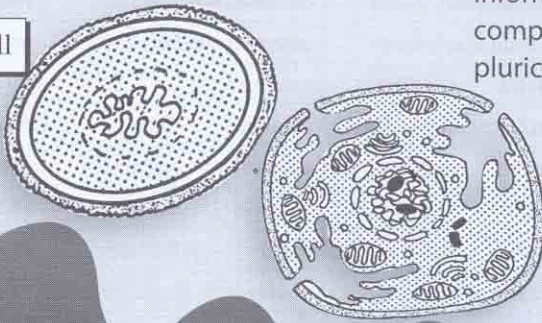
Organelles are separate structures found in the cytoplasm of eucaryotic cells.

There are two types of cells:

Prokaryotic cells are simple and form single-celled organisms and are only found in some blue-green algae and bacteria. DNA is found in the cytoplasm inside the cell membrane. Prokaryotic cells haven't got a nucleus and do not contain separate cytoplasmic organelles.

Eucaryotic cells have got an outer cell membrane to hold the cytoplasm. In the cytoplasm, there are individual structures called organelles. Organelles perform the functions needed for the body to live, grow, and change. At the centre of eucaryotic cells is a nucleus in a protective membrane. This holds the chromosomes with the cell's genetic information. Eucaryotic cells are bigger and more complex than prokaryotic cells. They can form pluricellular or single-celled organisms.

Prokaryotic cell



Eucaryotic cell

1 Answer the questions.

1. What processes do cells have in common with other living beings?
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2. Name the principal parts of a cell.
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3. Give an example of single-celled organisms.
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4. What do you find inside the nucleus of a eucaryotic cell?
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5. Why is your DNA important?
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2 What are the differences between a prokaryotic cell and a eucaryotic cell?

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Let's Investigate



Use an encyclopedia or the Internet. Write a few sentences explaining the connection between chromatin, DNA and chromosomes.

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