SCIENCE TOPIC

PLANTS AND ANIMALS

We share the Earth with millions of other living things, from the smallest bacteria to the huge blue whale. Many of these creatures affect our lives directly. All of them have some of the same needs as human beings: to find food, to escape enemies, and to reproduce. When we learn about other living things, we also learn something about ourselves.

CELLS: Life Comes in Small Packages

Did you know that you are made up of millions of tiny units called ***cells***? You are! In fact, every living thing is made up of cells. Cells are so small that you can see them only through a microscope; there are thousands of cells in just your little finger. Some cells, like the ones in you, are part of larger, many-celled beings. Other cells live on their own as one-celled creatures.

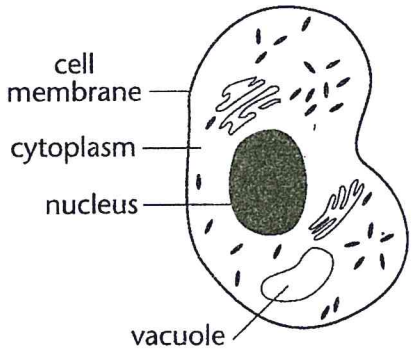
There are lots of different types of cells. A nerve cell in your brain is very different from a muscle cell in your arm and even more different from a cell in the trunk of an oak tree. Still, there are some things that are alike in all cells.

Animal Cells

Look at the diagram of an animal cell to see the major cell parts. Every cell has a ***nucleus***, which is a dark spot, usually near the center of the cell. The nucleus is like the "brain" of the cell. It controls most of what happens inside the cell. The ***chromosomes*** inside the nucleus carry the directions (similar to blueprints) for making new cells.

The ***cell membrane*** is a thin wrapping around the outside that holds the cell together. It keeps out many things that could harm the cell, while letting in things the cell needs, like oxygen and food. The inside of the cell is filled with ***cytoplasm***, a clear, jellylike liquid. The space you see in the cytoplasm is called a ***vacuole***. Vacuoles store water and food for the cell.

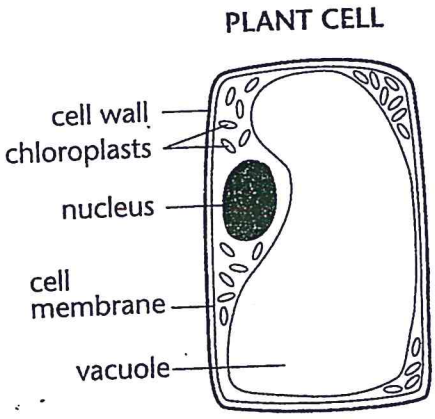
ANIMAL CELL



Plant Cells

Now look at the diagram of a plant cell. It is mostly the same as an animal cell, but there are some differences. In plant cells, a large vacuole often takes up much of the space inside the cell. All plant cells have a ***cell wall*** around the outside of the membrane. This wall is made of a stiff material called ***cellulose***.

In most plant cells there are also small oval objects called ***chloroplasts***. These chloroplasts contain a green chemical called ***chlorophyll***. Chlorophyll is the chemical that helps green plants make their own food. No animal cells have cell walls or chloroplasts, and no animal can make its own food.



EXERCISE 5: CELLS

Directions: Match the word with its definition.

_____ 1. Cell membrane
_____ 2. Cell wall
_____ 3. Cellulose
_____ 4. Chloroplasts
_____ 5. Chlorophyll
_____ 6. Chromosomes
_____ 7. Cytoplasm
_____ 8. Nucleus
_____ 9. Vacuole

a. Contain chlorophyll
b. Jellylike liquid inside cells
c. Carry "blueprints" for new cells
d. Directs most cell activities
e. Stores food and water for the cell
f. Holds animal cells together
g. Stiff material in cell walls
h. Chemical that helps plants make food
i. Stiff structure around plant cells

Directions: Circle the number of the best answer.

10. What is the main topic of this passage?
    (1) what is inside an animal cell
    (2) what a cell wall is made of
    (3) which is the most important part of a cell
    (4) what cells are and what is inside them
    (5) how a cell makes new cells