

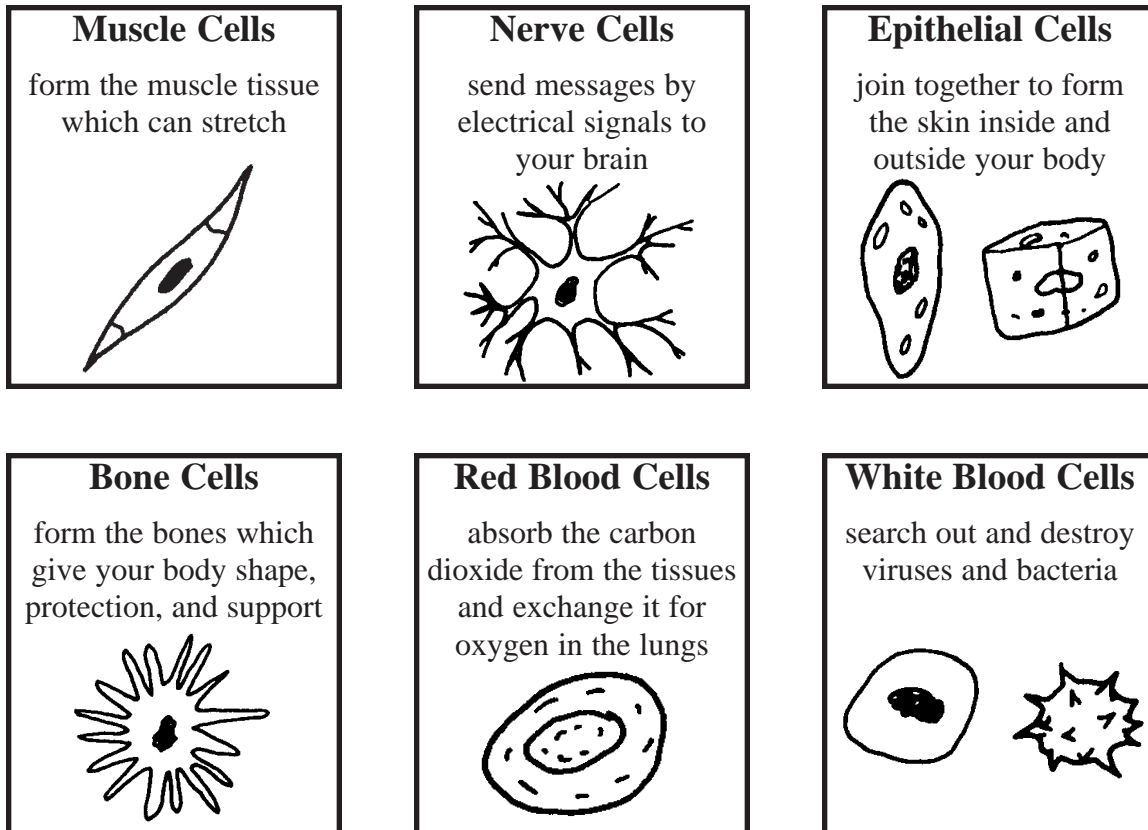
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Your Body is Made of Cells

The first thing Ms. Frizzle has her students do is to look through a microscope at their own cells, tiny pieces of themselves. These are dead epithelial cells scraped from the inside of the cheek.

All plants and animals are made up of cells. There are even one-celled organisms. The human body consists of trillions of cells! Cells are usually so tiny a microscope is needed to see them. The cells in your body come in different sizes and shapes. Look at the drawings below to see the different shapes of your cells:



Looking at Cells

Just as the students in Ms. Frizzle's classroom did, you can look at a sample of your cells, too. Your cells are animal cells. You can compare them to plant cells, using cells from an onion.

Materials: microscope and two blank slides, iodine, flat toothpick, tweezers, slice of onion

Procedure: Put a small drop of iodine on the slide and add a drop of water. Carefully scrape the cheek inside your mouth with the flat end of the toothpick to collect dead epithelial cells. Stir iodine and water with the toothpick, then spread it out across the slide. Look at it with the microscope and draw what you see on the data sheet on the next page.

Next, collect the onion cell sample by pulling away a thin strip of the skin with the tweezers. Spread the skin on the other clean slide and add a drop of iodine to it.

Results: You should see the cell membrane and nucleus of both these cells.

Cell Drawings

Make drawings of your cheek cells and onion cells below. Then compare them with the drawings of typical plant and animal cells. You may not see all the details shown in the drawings below since this requires very high magnification. Use the highly magnified drawing to help find the parts of your cell drawings; then draw lines from the names to these parts. To find the total magnification of the cells, multiply the power of the objective lens times the power of the eyepiece lens (e.g., if the objective lens = 10X and the eyepiece = 10X, the total magnification is 100 times actual size).

My Cheek Cells

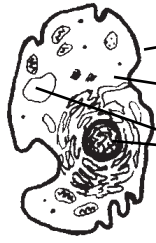
Total magnification = _____

Onion Skin Cells

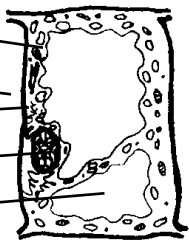
Total magnification = _____

- Cell Membrane
- Cell Wall
- Cytoplasm
- Nucleus

Typical Animal Cell
(shown several thousand times actual size)



Typical Plant Cell
(shown several thousand times actual size)



- Cell Membrane
- Cell Wall
- Cytoplasm
- Nucleus
- Vacuole

Plants have a cell wall around the cell membrane which can thicken and become the stem to support the plant. Animal cells do not have a cell wall.