

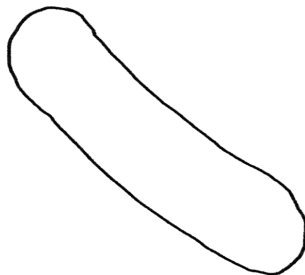
## 2.1: Cells The Building Blocks of Organisms Reading

**Purpose for Reading:** As you read this text, work to make sense of why cells are considered the “building blocks” of organisms.

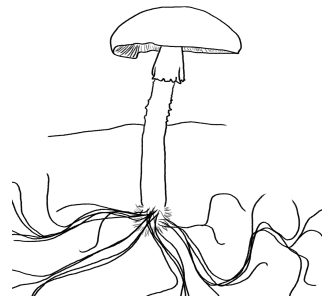
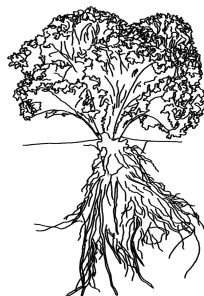
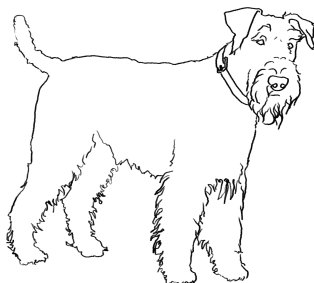
### Cells

All living things are made up of cells that are alive. Cells are often referred to as the building blocks of living things. Animals, plants, and decomposers are made up of cells.

Some organisms consist of a single cell, like bacteria.



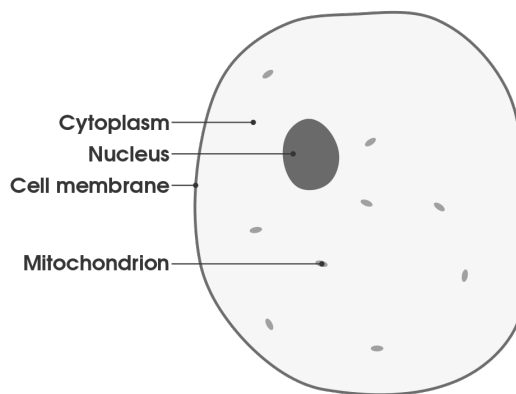
More complex organisms are made up of many different kinds of cells, like dogs, lettuce plants, and mushrooms.



### Basic Cell Parts and Functions

Most cells have at least the three main parts: the nucleus, cell membrane, and cytoplasm.

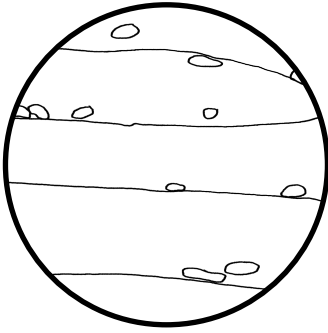
The nucleus of the cell contains genetic material (DNA) with instructions that cells follow when they grow, function, and reproduce. The cell membrane allows some materials (mostly small molecules) into the cell and keeps other materials out. Waste also leaves a cell through the cell membrane. Cytoplasm is where most of the work of a cell is carried out as the cell grows and functions. It includes mitochondria, where cellular respiration (which you will study in Lesson 4) takes place.



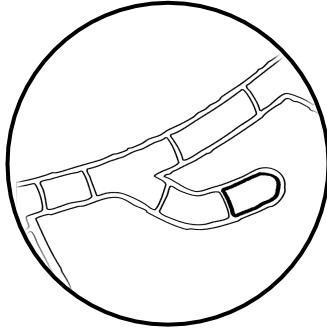
*Cell by domdomegg is  
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## ***Types of Cells***

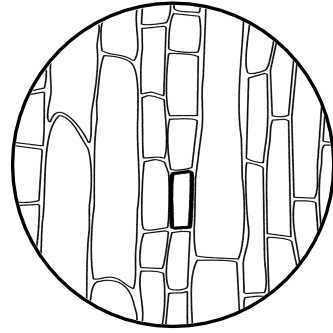
A complex animal, like a dog, has bone cells, muscle cells, nerve cells, and blood cells; just to name a few! Plants and decomposers also have many different types of cells. Different kinds of cells carry out different kinds of work as an organism grows and moves. *What do you think is the function of each of the cells below?*



*Muscle Cell in Animal*



*Hyphal Cell in Decomposer*



*Stem Cell in Plant*

Cells can connect to build tissues, organs, and body systems.

Every cell needs matter and energy to live and grow. Now be a questioner. *What do you know about how cells get the matter and energy that they need to grow and move? What do you wonder about how cells get the matter and energy they need to grow and move?*