**1. Cells are too small to be seen without magnification.**
Cells range in size from 1 to 100 micrometers. The study of cells, also called [cell biology](http://biology.about.com/od/cellbiology/a/cellbiology.htm), would not have been possible without the invention of the microscope. With the advance microscopes of today such as the Scanning Electron Microscope and Transmission Electron Microscope, cell biologists are able to obtain detailed images of the smallest of cell structures.

**2. There are two primary types of cells.**
[Eukaryotic and prokaryotic cells](http://biology.about.com/od/cellanatomy/a/eukaryprokarycells.htm) are the two main types of cells. Eukaryotic cells are called so because they have a true [nucleus](http://biology.about.com/od/cellanatomy/p/nucleus.htm). Animals, plants, fungi and protists are examples of organisms that are composed of eukaryotic cells. [Prokaryotes](http://biology.about.com/od/cellanatomy/ss/prokaryotes.htm) include bacteria and [archaeans](http://biology.about.com/od/evolution/p/archaea.htm).

**3. Prokaryotic single-celled organisms were the earliest and most primitive forms of life on earth.**
Prokaryotes can live in environments that would be deadly to most other organisms. They are able to live and thrive in various extreme habitats. [Archaeans](http://biology.about.com/od/evolution/p/archaea.htm) for example, live in areas such as hydrothermal vents, hot springs, swamps, wetlands, and even animal intestines.

**4. There are more bacterial cells in the body than human cells.**
Scientists have estimated that about 95% of all the cells in the body are [bacteria](http://biology.about.com/cs/bacteriology/a/aa032504a.htm). The vast majority of these microbes can be found within the [digetive tract](http://biology.about.com/od/organsystems/a/aa032107a.htm).

**5. Cells contain genetic material.**
Cells contain [DNA](http://biology.about.com/od/geneticsglossary/g/DNA.htm) (deoxyribonucleic acid), the genetic information necessary for directing cellular activities. DNA is a type of molecule known as a [nucleic acid](http://biology.about.com/library/weekly/aa051701a.htm). In prokaryotic cells, the single bacterial DNA molecule is not separated from the rest of the cell but coiled up in a region of the [cytoplasm](http://biology.about.com/od/biologydictionary/g/cytoplasm.htm) called the nucleoid region. In eukaryotic cells, DNA molecules are located within the cell's nucleus. DNA and proteins are the major components of chromosomes. Human cells contain 23 pairs of chromosomes (for a total of 46). There are 22 pairs of autosomes (non-sex chromosomes) and one pair of sex chromosomes. The X and Y sex chromosomes [determine gender](http://biology.about.com/od/basicgenetics/p/chromosgender.htm).

**6. Cells contain structures called organelles which carry out specific functions.**
Organelles have a wide range of responsibilities within a cell that include everything from providing energy to producing hormones and enzymes. Eukaryotic cells contain several types of organelles, while prokaryotic cells contain a few organelles (ribosomes) and none that are bound by a membrane. There are also differences between the kinds of organelles found within different eukaryotic cell types. Plant cells for example, contain structures such as a cell wall and chloroplasts that are not found in [animal cells](http://biology.about.com/od/cellbiology/ss/animal_cells.htm). Other examples of organelles include:

* [Nucleus](http://biology.about.com/od/cellanatomy/p/nucleus.htm)
* [Mitochondria](http://biology.about.com/library/weekly/aa040600a.htm)
* [Endoplasmic Reticulum](http://biology.about.com/library/weekly/aa041300a.htm)
* [Golgi Complex](http://biology.about.com/library/weekly/aa042000a.htm)
* [Ribosomes](http://biology.about.com/od/cellanatomy/p/ribosomes.htm)