Surrounding the nucleus are two membranes that form a structure called the nuclear envelope. Proteins are made in small structures called ribosomes.

Ribosomes can be found in a cell's cytoplasm or attached to a weblike organelle called the endoplasmic reticulum.

Energy is released during chemical reaction that occur in the mitochondria.

ATP is the furl for cellular processes such as growth, cell division, and material transport. Chloroplasts are membrane-bound organelles that use light energy and make glucose from water and carbon dioxide. The energy drives a process known a photosynthesis.

The Golgi apparatus prepares proteins and packages them into ball-like structures called vesicles.

Lysosomes are organelles that help recycle cellular components.

Vacuoles are organelles that stores food, water, and waste material.

The Development of Microscopes

The invention of microscopes allowed people to see details of living things that cannot be seen with the unaided eye.

Two inventors of early microscopes were Anton van Leeuwenhoek and Robert Hooke.

Before microscopes, people did not know that living things are made of cells.

Types of Microscopes

One characteristic of all microscopes is that they magnify images. Magnification makes an image appear larger than it really is.

Another characteristic of microscopes is resolution-how clearly the magnities image can be seen.

Light microscopes use light and lenses to enlarge a charge of an object.

A light microscope that uses more using the lens to magnify an image is called a compound microscope.

Light microscores can be used to view livit of nonliving things.

Light the oscopes can only a nages up to 1500 times their original size.

El ceren recroscopes use a mignete celd to focus a beam of electrons through an object or onto an object's surface.

Because objects must be mounted in plastic and then slices very thin, only dead organisms can be viewed with an electron microscope.

TEMs microscopes usually are used to study extremely small things, such as the structures inside a cell.

SEMs microscopes usually are used to study the surface of an object.