- **Cells:**

The Development of the Cell Theory

- **Robert Hooke**
  - While looking at _____ Robert Hooke observed that it had _____ contained by _____ (like little rooms). He called these spaces _____.

- **Anton van Leeuwenhoek**
  - First person to observe _____ (protists in pond water) under a microscope.

- **Matthias Schleiden**
  - German Botanist who stated that the

  _____**_____**

  _____

- **Theodor Schwann**
  - German biologist, reached the same conclusion as Schleiden but in to animal tissue:

  _____

regards

  - He summarized his observations into conclusions about cells
    1) All living things are made up of cells.
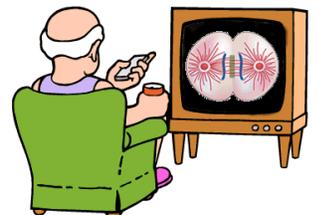   2) The cell exists as the building block in the construction of organisms.

- **Robert Brown**
  - English botanist. Discovered the _____

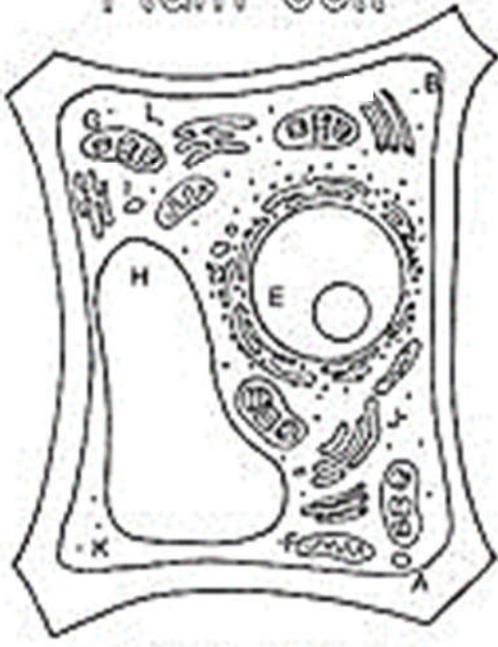- **Rudolph Virchow**
  - *"Omnis cellula e cellula"*:

  _____

Prokaryotic vs. Eukaryotic Cells

- Prokaryotes: _____

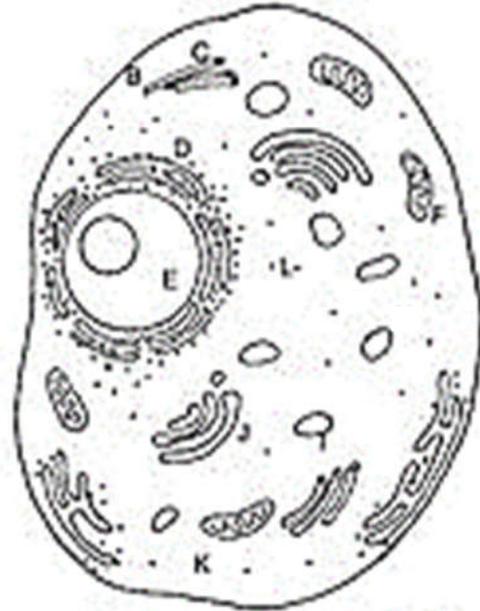- Eukaryotes: _____

Identifying Cell Parts

Plant Cell

Animal Cell

Word Bank:

Cell membrane	Endoplasmic reticulum	Microtubules
Cell wall	Golgi bodies	Nucleus
Chloroplasts	Lysosomes	Vacuole
Cytoplasm	Mitochondria	Ribosomes

Identify the cellular structures represented by each letter.

A.   G.

B.   H.

C.   I

D.   J.

E.   K.

F.   L

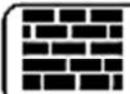**What are two structures the plant cell has that the animal cell doesn't?

Cell Parts and their Functions: Identify the organelle (cell part) described by each function below. Each description also includes a helpful way you can remember which structure goes with which organelle.

Organelle	Function/Description	How can I remember it?
	Controls what comes into and out of a cell; found in plant and animal cells	Members only can come and go.
	Ridged outer layer of a plant cell	I'm a brick wall.
	Gel-like fluid where the organelles are found	Sail through my plasma.
	Produces the energy a cell needs to carry out its functions	I am a "mighty" power house.
	Uses chemicals to break down food and worn out cell parts	I clean things up! (Hint: Lysol)
	Stores food, water, wastes, and other materials	I'll store anything, (Hint: Vacuum Bags)
	Receives proteins & materials from the ER, packages them, & distributes them	I'm a "GOLden" packer.
	Captures energy from the sunlight and uses it to produce food in a plant cells	Make me something sweet to eat
	Has passageways that carry proteins and other materials from one part of the cell to another	I'm a transportER.
	Assesembles amino acids to create proteins	I make "some" nice proteins.
	Contains DNA, which controls the functions of the cell and production of proteins	I'm the control center.

Cell City Analogy

In a far away city called Grant City, the main export and production product is the steel <u>widget</u>. Everyone in the town has something to do with steel widget making and the entire town is designed to build and export widgets. The <u>town hall</u> has the instructions for widget making. Widgets come in all shapes and sizes, and any citizen of Grant can get the instructions and begin making their own widgets. Widgets are generally produced in <u>small shops</u> around the city, these small shops can be built by the carpenter's union (whose headquarters are in town hall).

After the widget is constructed, they are placed on <u>special conveyer tracks</u> which can deliver the widget anywhere in the city. In order for a widget to be exported, the tracks take the widget to the <u>postal office</u>, where the widgets are packaged into <u>parcels</u> and labeled for export. Sometimes widgets don't turn out right, and the "rejects" are sent to the <u>scrap yard</u> where they are broken down for parts or destroyed altogether. The town powers the widget shops and carts from a <u>hydraulic dam </u>that is in the city. The entire city is enclosed by a large wooden <u>fence</u>; only the postal trucks (and citizens with proper passports) are allowed into and out of the city.

Match the parts of the city (underlined) with the parts of the cell

1. Mitochondria _____

2. Ribosomes _____

3. Nucleus _____

4. Endoplasmic reticulum_____

5. Golgi apparatus _____

6. Protein _____

7. Cell membrane _____

8. Lysosomes _____

9. Vacuoles _____