**Cell Structure & Function**

Organelles in Prokaryotes and

 Eukaryotes (Plants & Animals)

**Common Features of all Cells – Prokaryotes & Eukaryotes**

1. ***\_\_\_\_\_\_\_\_\_\_\_\_\_\_***, the ***\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_*** contained in one or more chromosomes.

 \*Located in the ***\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_*** cells.

 \****\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_*** cells have ***\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.***

 DNA has the instructions for the cell

 2. ***\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_***, a phospholipid bilayer with proteins that ***\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ from the surrounding environment***

\* Cell membrane ***\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.***

3. ***\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_*** - basically the ***\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.***

It is a jelly-like material that is eighty percent water and usually clear in color.

* Cell organelles are suspended and move about in the cytoplasm.

4. **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**, the organelles on which protein synthesis takes place

**Features of Eukaryotic Cells** – **Both Animal and Plant Cells**

1. ***\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_*** – Phospholipid bylayer.
* ***Controls entry and exit of materials – \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_***
* Contains proteins
* Responsible for communication between cells
* Also known as the “***\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_***”
1. ***\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_*** - The large, membrane-bounded organelle that contains the genetic material, in the form of ***\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_*** organized into structures called ***\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_***.
* ***\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_*** and passes on hereditary information.
* This is the ***\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_* of the Cell**
1. ***\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_***- clear, thick, jellylike material and organelles found inside cell membrane.
* **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_** cell organelles.
* This is the ***\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_***
1. ***\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_*** - network of tubes or membranes.
* Functions in the ***\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (fats),*** breaks down drugs and harmful substances, and ***\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_*** for the Golgi apparatus.
* The ***\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_*** of the Factory
* ***Two types***:

 1. (RER) ***\_\_\_\_\_\_\_\_\_\_\_\_\_\_*** endoplasmic reticulum – Dotted with ribosomes.

 2. (SER) ***\_\_\_\_\_\_\_\_\_\_\_\_\_\_*** endoplasmic reticulum – not covered with ribosomes.

1. ***\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_*** – Free floating or attached to ER.
* Site of ***\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_***
* These are the ***\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_*** of the Factory
1. **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_** - Makes and transports proteins and other materials out of the cell
* **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_** of the Factory - where products are processed and shipped out
1. ***\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_***– “Powerhouse” of the cell.
* Site of ***\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_*** which ***\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (ATP)*** that can be used by the organism for life functions.
* Cell’s ***\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_***
1. ***\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_*** – One large central vacuole in plant cells, many smaller vacuoles in animal cells.
* ***\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_*** of food, water, waste.
* Cell’s ***\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_***

**Structures Found in Animal Cells** ***ONLY***

* ***\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_***- small, round, with a membrane.
* Breaks down larger food molecules into smaller molecules
* ***\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_*** - “Garbage Truck” of the cell
* The ***\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_***

**Structures Found in Plant Cells *ONLY***

1. ***\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_*** - outer layer
* Rigid, strong, stiff
* Made of cellulose
* ***\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_* and *\_\_\_\_\_\_\_\_\_\_\_\_\_*** the plant cell.
* This is what Robert Hooke saw when he first looked at dead cork cells.
1. ***\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_*** - green, oval usually containing ***\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_*** (green pigment).
* Uses energy from sun to make food for the plant (***\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_)***.