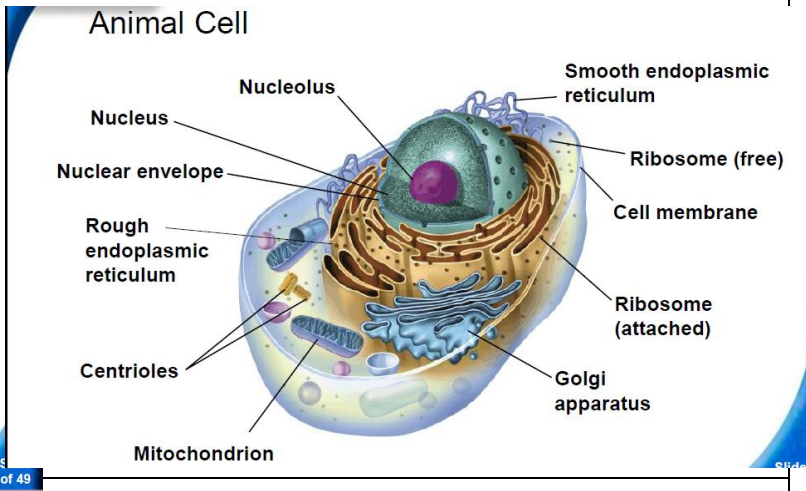
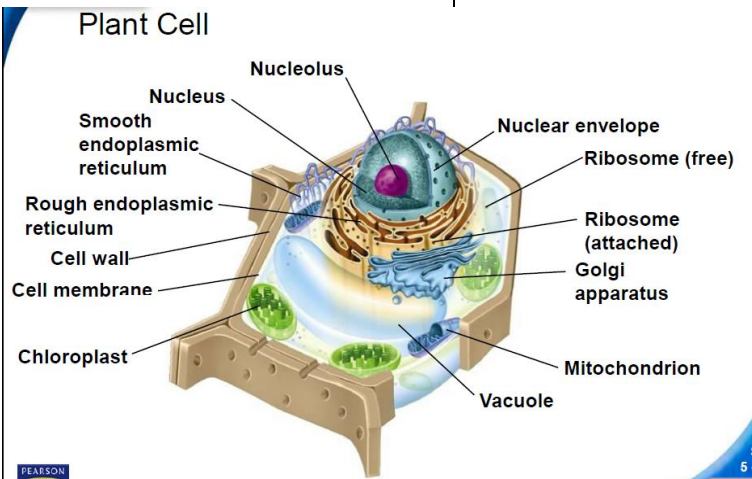


## Chap 8.2 –Cell Structure

**Essential Question:**

**Questions:**

- Structures within a eukaryotic cell that perform important cellular \_\_\_\_\_ are known as **organelles**.
- Cell biologists divide the eukaryotic cell into \_\_\_\_\_ major parts: the \_\_\_\_\_ and the \_\_\_\_\_.
- The **cytoplasm** is the portion of the cell \_\_\_\_\_ the nucleus.



**Nucleus:** - Is the \_\_\_\_\_ center of the cells.

- Contains nearly \_\_\_\_\_ the cell's DNA and with it the coded instructions for making \_\_\_\_\_ and other important molecules.

- Is surrounded by a **nuclear** \_\_\_\_\_ composed of \_\_\_\_\_ membranes, which are dotted with \_\_\_\_\_ of **nuclear pores** that allow material to move into and out of the \_\_\_\_\_

- **Chromatin** is the granular material you can see inside the nucleus, which is DNA bound to \_\_\_\_\_.

+ When the cell \_\_\_\_\_ chromatin condenses to form **chromosomes**.

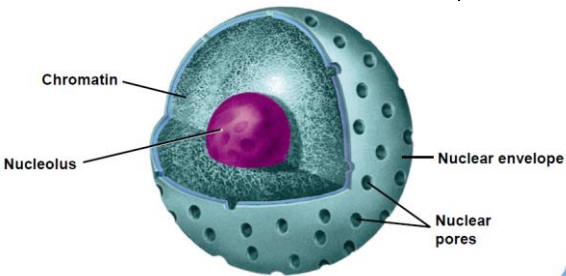
o **Nucleolus** is a \_\_\_\_\_, dense region where the assembly of \_\_\_\_\_ begins.

**Ribosomes:** - Assembles \_\_\_\_\_ : one of the most important jobs carried out in the cell.

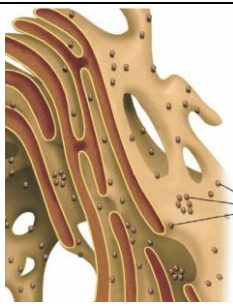
- Ribosomes are \_\_\_\_\_ particles of RNA and protein found throughout the \_\_\_\_\_.

**Endoplasmic Reticulum:** - there are two types: \_\_\_\_\_ and \_\_\_\_\_

- Is the site were \_\_\_\_\_ components of the cell membrane are assembled, along with \_\_\_\_\_ and other materials exported from the cell



**Questions:**



- **Rough ER** – involved in the synthesis of \_\_\_\_\_. Called rough because it has ribosomes on the \_\_\_\_\_ which insert newly made proteins into the rough ER.
- **Smooth ER** – does not have ribosomes and contains collections of \_\_\_\_\_ that perform specialized tasks including synthesis of \_\_\_\_\_ lipids and the detoxification of drugs.

**Golgi Apparatus:** - appears as a stack of closely apposed \_\_\_\_\_.  
 - the function is to modify, \_\_\_\_\_, and package proteins and other materials from the ER for \_\_\_\_\_ in the cell or secretion outside the cell.

**Lysosome:** - are \_\_\_\_\_ organelles filled with \_\_\_\_\_.  
 - Digest, or breakdown, \_\_\_\_\_, carbohydrates, and proteins into small molecules that can be \_\_\_\_\_ by the rest of the cell.  
 - They are also involved in breaking down \_\_\_\_\_ that have outlived their usefulness.

**Vacuoles:** - Saclike structures that store materials such as \_\_\_\_\_, salts, proteins and carbohydrates in \_\_\_\_\_ cells.  
 - In many plant cells there is a single, large **central vacuole** filled with liquid that helps \_\_\_\_\_ the plant's structure.  
 - Are also found in some \_\_\_\_\_ organisms and in some animals  
 - The paramecium contains a **contractile vacuole** that pumps excess water out of the cell.

**Mitochondria:** - Nearly \_\_\_\_\_ eukaryotic cells contain mitochondria.  
 - Convert the \_\_\_\_\_ energy stored in food into compounds that are more convenient for cell \_\_\_\_\_.

**Chloroplasts:** - Plants and some other organisms contain chloroplasts.  
 - Capture \_\_\_\_\_ from sunlight and convert it into chemical energy in a process called \_\_\_\_\_.

**Cytoskeleton:** - A network of \_\_\_\_\_ filaments that helps the cell maintain its \_\_\_\_\_. It is also involved in \_\_\_\_\_.

- Made up of: microfilaments and microtubules
- **Centrioles** are located near the \_\_\_\_\_ and help organize cell division.

