CONCEPT: PLANT VACUOLE

● Plant vacuoles are large, _____ enclosed vacuoles with many functions

□ Functions for the plant vacuole include:

- The membranes are acidified and can act similarly to lysosomes

- Maintain turgor pressure to prevent cellular collapse

- Regulate cytosolic pH through ATP dependent proton pumps

- Stores nutrients and other solutes

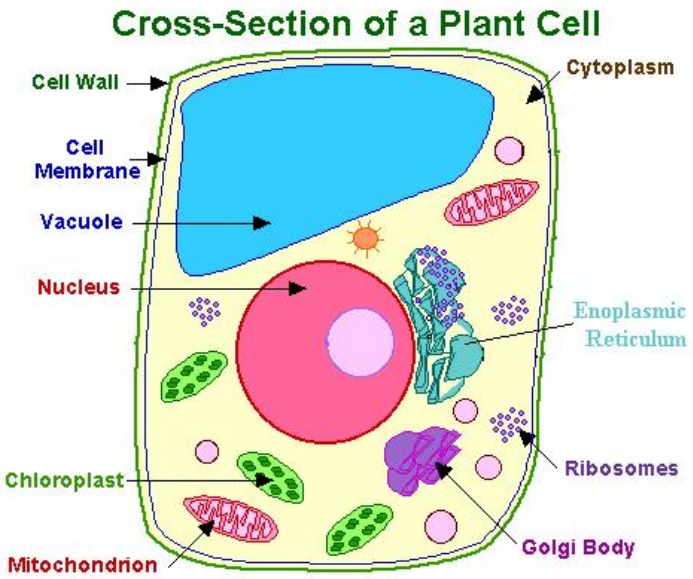
□ The plant vacuole is _____ from a **pro-vacuole** (similar to an endosome) which matures to a vacuole

- All vacuole components are produced in the ER, and transferred to the Golgi for processing

- After processing, vesicles are released that eventually fuse to form the pro-vacuole

- **Tonoplast** is the membrane that bounds the vacuole

EXAMPLE: Overview of a plant cell



PRACTICE:

1. Which of the following is not a function of the plant vacuole?
    a. Maintain turgor pressure
    b. Regulate cytosolic pH
    c. Support protein transfer in the plant cell
    d. Store nutrients and solutes