

Important Cell Facts

1. Below is a chart describing different organelles. Put the correct number that corresponds to the diagram of the cell used in the "Pop" quiz. *labelled on new diagrams*

Organelle name	Drawing Number	Description of structure	Description of role	Plant or animal?
<u>Nucleus</u>		-diameter of 5µm (round) -large and easy to see -double membrane	-contains DNA -"command center"/controls cell functions <i>"BRAIN"</i>	BOTH
<u>nucleolus</u>		- inside nucleus - made of chromatin (genetic material) - looks like "a spot"	- produces chemical compounds used for making ribosomes	BOTH
<u>ribosome</u>		- tiny 2-part structure - found in cytoplasm - no membrane	- put together PROTEINS	BOTH
<u>ER</u>		- folded membranes - membranous sacs and tubes - Two Types: Smooth ER, Rough ER (rough ER has ribosomes on it)	- chemical reactions - makes molecules (eg lipids) and enzymes	BOTH
<u>Golgi apparatus</u>		- stack of flattened membrane-bound sacs	- Modifies proteins etc. - makes vesicles to carry things in and out of cell	BOTH
<u>mitochondria</u>		double membrane inner membrane has many folds bean-shaped	"powerhouse" - produces energy by "cellular respiration" (using food and O ₂)	BOTH
<u>lysosomes</u>		small round vesicle ("bubble") filled with digestive enzymes	- break down worn-out cell parts or materials.	ANIMAL
<u>cytoskeleton</u>	<i>Not on diagrams</i>	3 kinds of fibers	- maintains cell shape - allows movement for parts of cell - organizes organelles	BOTH
<u>cell wall</u>		- made of cellulose - outside layer of plant (and fungal) cells - found outside of cell membrane	- adds strength and rigidity (hardness) to the cell - helps the cell maintain shape - is NOT selectively permeable (like cell membrane is)	PLANT
<u>vacuole</u>		- large, fluid-filled sac - round - VERY LARGE in plant cell	- stores food, water, wastes	BOTH
<u>chloroplast</u>		- green - double membrane - contains stacked internal membrane sacs	- performs PHOTO-SYNTHESIS (captures light to make food) - also stores nutrients	PLANT
<u>cell membrane</u>		- surrounds the cell - is a double layer - is selectively permeable	- controls the movement of materials into and out of the cell	BOTH

2. How are plant cells different from animal cells?

- shape → plants are usually "boxy"
→ animal cells come in a variety of shapes
- organelles → no lysosomes in plants
→ no chloroplasts & cell walls in animals
→ vacuoles are larger in plant cells
- the cell functions

3. Cell Theory States:

- All living things are composed of one or more cell
- All cells come from pre-existing cells
- Cells provide the structure and the function of all organisms
- Activity of an entire organism depends on the total activity of all of its cells

4. Label the following on the diagram below:

- cell
- Organ
- Organ system
- Organism
- Tissue





