RESEARCH EXPERIENCE FOR TEACHERS

Developed by:
Surinder Kaur, Science Leadership Academy

<u>**Cell Research Project**</u>

Group 1: Intestinal Epithelial Cell
When you eat and digest food, intestinal epithelial cell bring nutrients such as glucose into the bloodstream for distribution. Cells throughout the body need glucose for energy production.
Write the function of the cell on the whiteboard and label/define the following organelles via sticky notes: cytoplasm, membrane, microvilli, mitochondria.

Group 2: Root Hair Cell
Land plants need water and nutrients for growth and development. Root hair cells have a shape that fits between soil particles. The large surface area of this shape maximizes the entry of water by osmosis and the active transport of nutrients such as nitrates.
Write the function of the cell on the whiteboard and label/define the following organelles via sticky notes: cell membrane, central vacuole, mitochondria.

Group 3: Neuromuscular Junction
The brain sends impulses through motor neurons to contract skeletal muscle cells. When you pick up a pencil, only a few muscle cells are stimulated to contract. To lift a heavy backpack, many more muscle cells are stimulated.
Write the function of the cell on the whiteboard and label/define the following organelles via sticky notes: actin, axon, cell membrane, reticulum.

Group 4: Guard Cell
The lower side of a plant's leaf contains tiny pores called stomata where gases and water vapor can enter and exit. Guard cells keep the stomata open just enough so photosynthesis can take place, but not so much that too much water is lost.
Write the function of the cell on the whiteboard and label/define the following organelles via sticky notes: cell membrane, central vacuole, mitochondria.

Group 5: Plasma B-Cell
Plasma B cells produce proteins called antibodies that defend an organism against infection. Your immune system keeps millions of different antibodies circulating throughout your body, ready at a moment's notice to fight off invaders.
Write the function of the cell on the whiteboard and label/define the following organelles via sticky notes: cell membrane, ER, Golgi apparatus, vesicle

Group 6: Palisade Cell
The upper side of a plant's leaf contains many palisade cells, which are the main sites of photosynthesis for the plant. The central vacuole forces chloroplasts to the outside of the cell, where light can most easily reach them.
Write the function of the cell on the whiteboard and label/define the following organelles via sticky notes: cell membrane, chloroplast, cytoplasm, mitochondria.

Group 7: Amoeba
Amoebas are protists that move and feed by means of pseudopods. The giant amoeba <u>chaos chaos</u> is large enough to see without a microscope.
Write the function of the cell on the whiteboard and label/define the following organelles via sticky notes: cell membrane, food vacuole, lysosomes, pseudopods.

Group 8: Euglena
Euglena is a protist with a whip-like flagellum and a light-sensitive eyespot. These structures allow it to swim towards light and use chloroplasts to make its own food. If sunlight is not available. Euglena can consume food such as amoebas from its habitat.
Write the function of the cell on the whiteboard and label/define the following organelles via sticky notes: ER, Golgi apparatus, nucleus, ribosome

Cell Type Gallery Walk

Cell Type	What is the structure? (Sketch)	What is the function?	What questions do you have?	What is the average length of this cell?
1. Intestinal Epithelial Cell				
2. Root hair cell				
3. Neuromuscular Junction				
4. Guard Cell				
5. Plasma B- Cell				
6. Palisade Cell				
7. Amoeba				
8. Euglena				

Acknowledgements

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