CELL PARTNER PROJECT

Part of Cell:

Cell membrane

a. structure/components/shape: phospholipids, intrinsic proteins, extrinsic proteins, protein channels, carbohydrate and lipid markers
b. function
c. unique properties: fluid mosaic model
d. located in which type of cell?
e. nickname
f. interesting fact

Cell wall

a. structure/components/shape
b. function
c. how structure aids in function
d. located in which type of cell?
e. nickname
f. interesting fact

Lysosome

a. structure/components/shape
b. function
c. how structure aids in function (strong or weak membrane?)
d. located in which type of cell?
e. nickname
f. interesting fact

Ribosome structure/components/shape

a. function
b. unique properties: relationship with endoplasmic reticulum
c. located in which type of cell?
d. nickname
e. interesting fact

Chloroplast

a. structure/components/shape: thalakoids, grana
b. function
c. how structure aids in function (surface area;:volume)
d. Unique properties: chloroplast dna as evidence to the endosymbiotic theory of eucaryotic cells.
e. located in which type of cells?
f. nickname
g. interesting fact

Mitochondria

a. structure/components/shape: inner membrane, outer membrane
b. function
c. how structure aids in function (surface area of inner membrane)
d. unique properties: mitochondrial dna as evidence to the endosymbiotic theory of eucaryotic cells.
e. Located in which type of cells?

f. nickname
g. interesting fact

Endoplasmic Reticulum

a. structure/components/shape
b. function
c. how structure aids in function (surface area)
d. unique properties: rough vs. smooth
e. located in which type of cells?
f. nickname
g. interesting fact

Golgi Apparatus

a. structure/components/shape
b. function
c. located in which type of cells?
d. nickname
e. interesting fact

Microtubules, cytoskeleton

a. structure/components/shape
b. function : overall and during meiosis and mitosis
c. located in which type of cells
d. nickname
e. interesting fact

Cytoplasm/Cytosol

a. structure/components/shape
b. function
c. how structure aids in function
d. located in which type of cells?
e. nickname
f. interesting fact

Nucleus: nucleolus, nuclear membrane

a. structure/components/shape
b. function
c. how structure aids in function (pore size?)
d. located in which type of cells?
e. nickname
f. interesting fact

Vacuole

a. structure/components/shape
b. function
c. difference in plant and animal cells w/respect to size and amount
d. located in which type of cells
e. nickname
f. interesting fact

Prokaryote vs. Eukaryote

a. What are the main differences?
b. In terms of evolution, explain which type of cell scientists believe developed first.
c. Examples of each type of cell.

Cell Transportation

a. passive
    1. diffusion
    2. osmosis
    3. facilitated
    4. examples and explanations
a. active
    1. examples and explanations

Plant vs. Animal Cell

a. list main differences
b. explain how the differences relate to the different functions of plant and animal cells.

Surface area : Volume

a. define surface area
b. define volume
c. define surface area : volume
d. when is SA : V maximized?
e. Why is it important to maximize SA : V?
f. Examples

Partner responsibilities:

1) Draw topic. If a part of the cell, the group needs to draw the part so that it will fit in the class model of the cell. In addition, groups need to decide if their part belongs to plant or animal cells or both.
2) Research information and present to the rest of the class.
3) Each member should be participating in the research and presentation of the information. Partners will be graded on effort, completion, accuracy, and level of understanding