Intro to Cell Membranes Activity

GO TO: <http://www.pbslearningmedia.org/resource/tdc02.sci.life.cell.membraneweb/cell-membrane-just-passing-through/>

Where you see the picture with the word “LAUNCH” in the middle, click “LAUNCH.” You will see many boxes and a large picture. When you hover over words or click on them, you will see text under the picture. Use that text, as well as the animations, to answer the following questions.

INTERSTITIAL FLUID

* Hover over the label interstitial fluid. Based on the diagram and text, where is the interstitial fluid in relation to the cell (inside or outside)?
* What does the interstitial fluid consist of?

PLASMA MEMBRANE

* Hover over the plasma membrane. What does it consist of?
* What is true about substances that enter or exit from the cell?
* What is the difference between endocytosis and exocytosis?

OXYGEN

* Click on the button labeled “Oxygen” and pay attention to the picture. What happens to oxygen? Where does it move?
* In the text below the picture, what does Oxygen pass through?
* Why does Oxygen travel in the direction that it does?

CARBON DIOXIDE

* Click the button labeled “Carbon Dioxide.” Watch what happens in the picture. How is this similar to Oxygen? How is it different?
* Why might this be? Think about Oxygen and Carbon Dioxide in relation to life.

GLUCOSE

* Click on the button labeled “Glucose.” Watch what happens in the picture. Where does it move (FROM-TO)? Why might this be (Think about the characteristics of life and what you know about glucose)?
* Does Glucose go directly through the plasma membrane? If not, what does it go through? What kind of molecule is this?
* What happens to that molecule as Glucose goes through?
* What is the process by which glucose enters the cell called? Why is it called this?

POTASSIUM

* Click on the button labeled “Potassium.” Potassium is a much smaller substance than Glucose. As it moves in the picture, what differences can you see between Potassium and Glucose?

SODIUM

* Click on the button labeled “Sodium.” What is special about Sodium? Does this action follow a concentration gradient? Why or why not? What is the process of moving Sodium in this way called?

ENZYMES

* Click on the button labeled “Enzymes.” How do these enzymes move out of the cell? Why do you think enzymes move out of the cell in this way?

INTEGRAL/TRANSMEMBRANE PROTEINS

* Click on each of the four proteins in the plasma membrane. How are these similar? How are they different? For each protein, list the primary function and any interesting information you find.