You are about to embark on a journey that takes you through the very things that make you alive: cells!

We are starting out with the cell membrane, which is the “keeper of the cell”. Discover why this barrier to the cell is essential for your body to function properly!

Introduction

The cell membrane **holds everything in a cell** and without it a cell cannot exist. It is important to note that the cell membrane is not rigid or stiff, **rather it is fluid like a soap bubble**. The cell membrane acts as the **gatekeeper** of a cell, allowing some things in while keeping other things out. This **selective permeability** of the cell membrane is vital to the proper functioning of a cell. Our model of the cell membrane is called the ***Fluid Mosaic Model*** because the membrane...
is fluid in that it flows and is able to change shape as molecules slide past one another and...
looks a bit like a mosaic in that it is composed of numerous macromolecules.

Activity

1.) Click on this link http://www.bio.davidson.edu/people/macampbell/111/memb-swf/membranes.swf

2.) Follow the tutorial instructions. Below is an area for you to write down definitions and answers to my questions. ***Please answer these questions as you go (**Warning: They may not be in order!*. The sections go from 1 to 12, listed at the top right corner.***

- Fluid Mosaic Model =
- Phospholipids =
- How does this membrane keep the cell intact?
- What are the different categories of membrane function?
- Three classes of membrane lipids are:
- What does it mean to be hydrophobic and hydrophilic? Which part of the phospholipid is hydrophobic and which part is hydrophilic?
- Why would having both hydrophobic and hydrophilic parts be important to the cell?
- What’s the difference between saturated and unsaturated fat?
- You hear about people having high cholesterol. What is cholesterol?
- Play with the Fluidity-O-Meter in Section 9. What happens to the fluidity when tail length increases? What happens to the fluidity when the temperature increases?

3.) Visit the Construction of the Cell Membrane tutorial to review the important components of the cell membrane and to build/draw your own model later on.

4.) Visit this link http://learn.genetics.utah.edu/content/cells/membranes/ before going onto the

offline assignment. It will outline what you have learned in the interactive, for a review AND/OR if you missed some notes!

Offline Assignment

Use what you learned in the tutorial to draw a diagram of a cell membrane and hand it in to me.

Be sure to label:

Phospholipids

Lipid Tails

Phosphate Head

Cholesterol

Proteins (fibrous, pore, channel and glycoproteins)

*******If you finish and have a GOOD understanding of the cell membrane and what it does, visit this website to see how items move in and out of the cell: For those who understand the membrane, they can observe how items move in and out of the cell: http://www.pbslearningmedia.org/asset/tdc02_int_membraneweb/

1.) How does water move in and out?
2.) How do potassium and sodium move in and out?
3.) How do enzymes move in and out?