NAME_____ DATE_____

PERIOD _____

Assignment #: _____

Cell Membrane Coloring Worksheet

Composition of the Cell Membrane & Functions

The cell membrane is also called the plasma membrane and is made of a phospholipid bilayer. The phospholipids have a hydrophilic (water attracting) head and two hydrophobic (water repelling) tail. The head of a phospholipid is made of an alcohol and phosphate group, while the tails are chains of fatty acids. Phospholipids can allow water and other nonpolar molecules to pass through into or out of the cell. This is known as simple diffusion because it does not require energy and the water or molecules are moving with the concentration gradient.

Some of the functions of the cell membrane include protecting and enclosing the cell, giving shape to the cell, allowing transportation of materials in and out of the cell, and carrying out metabolic reactions near the inner surface of the cell membrane.

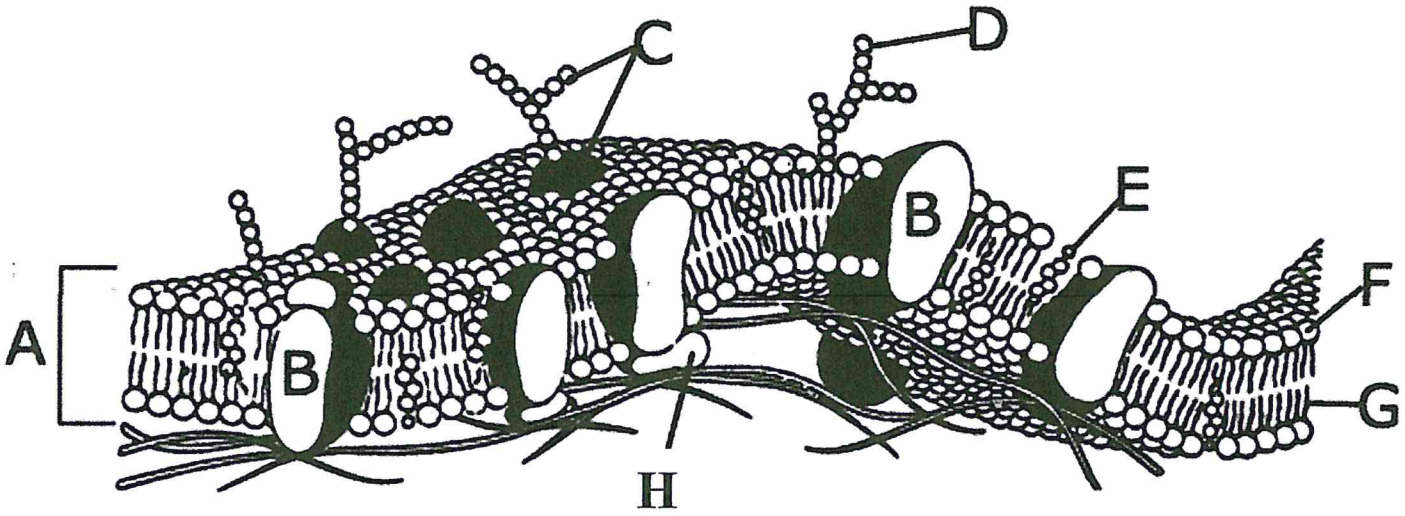
SKETCH AND LABEL a phospholipid coloring the heads red and the tails blue.

PHOSPHOLIPID

Another type of lipid in the cell membrane is cholesterol that makes the membrane more fluid and adds to its flexibility. Embedded in the phospholipid bilayer are proteins that also aid in diffusion and in cell recognition. Large molecules like carbohydrates use transport proteins to help move across cell membranes. Transport proteins go all the way through the bilayer and so are called integral proteins. Peripheral proteins are found only on one side of the membrane and attach only temporarily, usually to aid with a reaction within the cell. Some of the membrane proteins have carbohydrate chains called glycoproteins, these proteins help with cell recognition. Some lipids also have carbohydrate chains attached and are glycolipids, these also help with cell recognition.

Correctly ***color code and identify*** the name for each part of the cell membrane.

Letter	Name/Color	Letter	Name/Color
_____	Phospholipid bilayer (no color)	_____	Peripheral protein (red)
_____	Integral protein (pink)	_____	Cholesterol (blue)
_____	Fatty acid tails (orange)	_____	Glycoprotein (green)
_____	Phosphate heads (yellow)	_____	Glycolipids (purple)



Match the cell membrane structure or its function with the correct letter from the cell membrane diagram. <u>See in the info on the first page for help.</u>

Letter	Structure/Function	Letter	Structure/Function
_____	***Attracts water***	_____	**Repels water**
_____	**Helps maintain flexibility of membrane**	_____	**Make up the two layers**
_____	**Involved in cell-to-cell recognition**	_____	**Help transport certain materials across the cell membrane**
_____	**Also involved in cell to cell recognition**		