

Name _____ Period _____ Date _____

HOMEWORK 3.3: The Cell Membrane

KEY CONCEPT

The cell membrane is a barrier that separates a cell from the external environment.

VOCABULARY

CELL MEMBRANE	SELECTIVE PERMEABILITY
PHOSPHOLIPID	RECEPTOR
FLUID MOSAIC MODEL	

MAIN IDEA: Cell membranes are composed of two phospholipid layers.

1. Draw a phospholipid in the box below. Label the **three** (3) major parts.



2. Place a check mark in the appropriate box to show which parts of a phospholipid are charged, or polar, and which parts are nonpolar.

Phospholipid part	Polar (charged)	Nonpolar
Phosphate group		
Glycerol		
Fatty acid tail		

A cell membrane has other types of molecules embedded in the phospholipid bilayer. Fill in the type of molecule that performs each function indicated in the sentences below.

3. _____ strengthens the cell membrane.
4. _____ help materials cross the membrane and are also part of the cytoskeleton.
5. _____ help identify cell types.

Choose whether the statement is true or false.

6. **true / false** A membrane is fluid, because the phospholipids in each layer can move from side to side, in and out of the cell, by sliding past each other, and by spinning in circles.
7. **true / false** A selectively permeable membrane allows all molecules to cross.

MAIN IDEA: Chemical signals are transmitted across the cell membrane.

Circle the word or phrase that best completes the statement.

8. A **receptor / phospholipid** detects a signal molecule and carries out an action in response.
9. A ligand is a molecule that acts as a **receptor / signal** when it binds to a **receptor / signal**.
10. A ligand that **can cross / cannot cross** the cell membrane can bind to an intracellular receptor.
11. A ligand that **can cross / cannot cross** the cell membrane can send a message to a cell by **binding to / taking off** a membrane receptor, which then changes shape.

Vocabulary Check

12. The fluid mosaic model describes the arrangement of the _____ that make up a cell membrane. The model includes both the fluidity of the membrane and the variety of molecules that make up the membrane.
13. Selective _____ means that the cell membrane allows some, but not all, molecules to cross.