



Name \_\_\_\_\_

Period \_\_\_\_\_

Date \_\_\_\_\_

**SECTION**  
**3.3**

CELL MEMBRANE  
**Study Guide**

**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 major parts.

2. Which part of a phospholipid is charged, or polar? \_\_\_\_\_
3. Which part of a phospholipid is nonpolar? \_\_\_\_\_
4. What type of molecules interact with water, polar or nonpolar? \_\_\_\_\_
5. Where does a cell membrane come into contact with water? \_\_\_\_\_
6. Why do the phospholipids surrounding the cell form a bilayer? \_\_\_\_\_

## Section 3.3 STUDY GUIDE CONTINUED

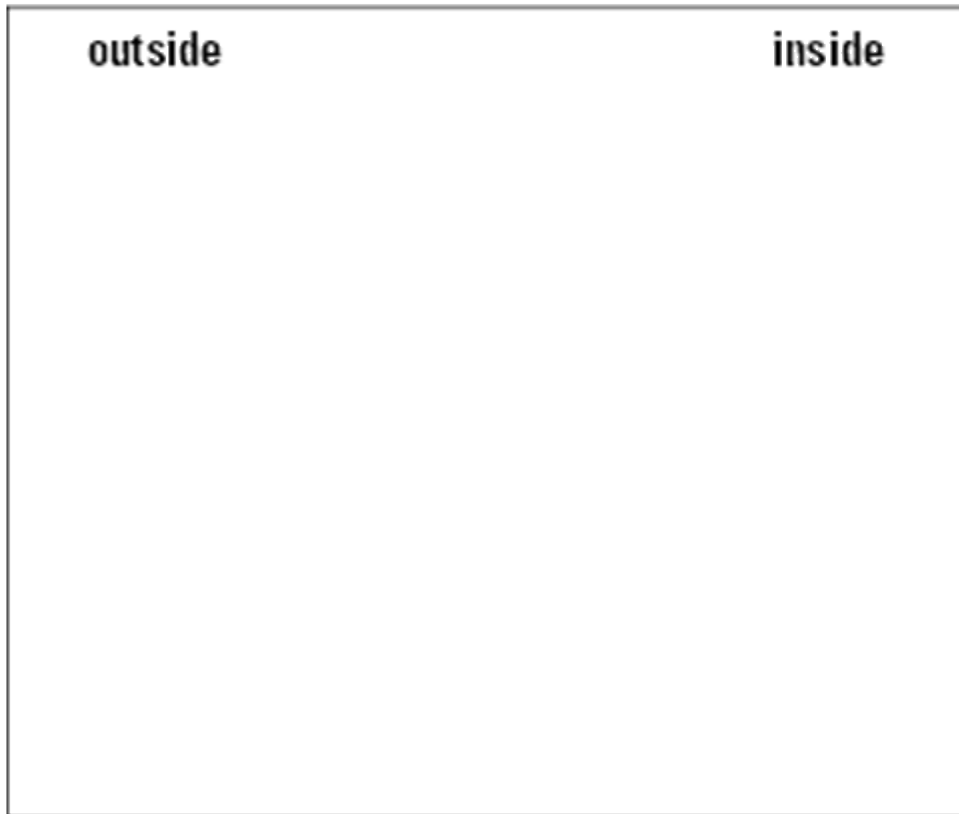
A cell membrane has other types of molecules embedded in the phospholipid bilayer. List a function of each type of molecule in the table below.

Molecule	Function
7. Cholesterol	
8. Proteins	
9. Carbohydrates	

10. In what way is a membrane fluid?

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11. Draw a picture in the box below to represent selective permeability.



## Section 3.3 STUDY GUIDE CONTINUED

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

12. A \_\_\_\_\_ detects a signal molecule and carries out an action in response.
13. A \_\_\_\_\_ is a molecule that acts as a signal when it binds to a receptor.
14. A ligand that can cross the cell membrane can bind to an \_\_\_\_\_ receptor.
15. A ligand that cannot cross the cell membrane can send a message to a cell by binding to a \_\_\_\_\_ receptor, which then \_\_\_\_\_ shape.

### Vocabulary Check

16. What is the fluid mosaic model?

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17. The cell membrane allows some, but not all, molecules to cross. What term describes this property?

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