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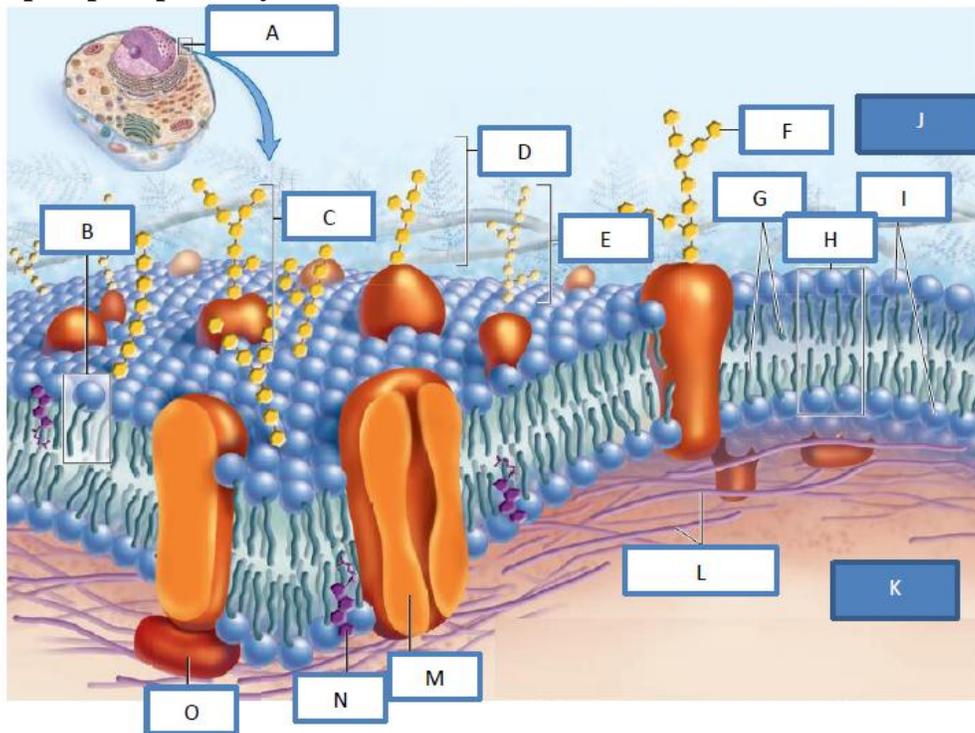
NAME:

CLASS:

CHAPTER 3
WORKSHEET**The Fluid-Mosaic Model****BLM 3-7**
ANSWERS

1. Label the different parts of the cell membrane (plasma membrane) shown below.

- | | | | |
|----|-----------------------------------|----|-----------------------------------|
| A. | cell membrane (plasma membrane) | I. | hydrophilic heads of phospholipid |
| B. | phospholipid | J. | outside the cell |
| C. | glycoprotein | K. | inside the cell |
| D. | extracellular matrix (ECM) | L. | filaments of the cytoskeleton |
| E. | glycolipid | M. | integral protein |
| F. | carbohydrate chain | N. | cholesterol |
| G. | hydrophobic tails of phospholipid | O. | peripheral protein |
| H. | phospholipid bilayer | | |



2. Complete the following table by identifying the membrane structure and describing the role of the different components of the cell membrane in the fluid-mosaic model.

Labelled Part	Membrane Structure	Role
B	phospholipid	serves as a barrier to keep certain substances out of the cell; provides fluidity
C	glycoprotein	helps identify the cell
N	cholesterol	regulates membrane fluidity; supports and strengthens the cell membrane
O	peripheral protein	provides support, stability, and shape

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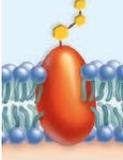
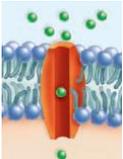
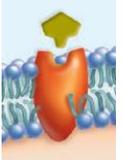
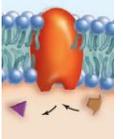
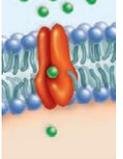
(continued)

3. The cell membrane is said to be selectively permeable. What does this mean?
The cell membrane will allow only certain molecules to pass through it.

4. Describe the fluid-mosaic model.

The cell membrane (plasma membrane) consists of a phospholipid bilayer that has a fluid consistency. Various types of proteins are scattered throughout this phospholipid bilayer. Both the phospholipids and proteins move among each other. The lipid bilayer represents the “fluid” part of the fluid-mosaic model, while the various proteins found embedded in the cell membrane account for the “mosaic” part.

5. Classify the different types of integral proteins and give the function of the protein.

	Diagram of Protein	Type of Integral Protein	Function
A		cell recognition protein	<ul style="list-style-type: none"> • helps the cell recognize itself
B		channel protein	<ul style="list-style-type: none"> • allows certain molecules to pass through the cell membrane • e.g. transports H⁺ or Cl⁻
C		receptor protein	<ul style="list-style-type: none"> • binds to a specific molecule that fits into its receptor site
D		enzymatic protein	<ul style="list-style-type: none"> • involved in metabolic reactions
E		carrier protein	<ul style="list-style-type: none"> • transports specific molecules across the cell membrane • e.g. transports Na⁺ or K⁺ across a nerve cell membrane