

Introduction

- Cell _____ keep bulky materials inside the cell and allow _____ substances to pass from the outside to the inside of the cell and other substances to pass in the opposite direction.

What We Know

- The cell membrane, or _____ membrane, separates the world outside of the cell, or _____ space, from the world inside the cell, or _____ space.
- Both/neither plant and animal cells have a cell membrane.
- Functions of the cell membrane include:
 - Holding the cell _____, keeping its parts in place
 - Mediating cellular processes by _____ materials that enter and exit the cell by being _____.
 - Carrying _____ that allow cells to recognize each other and transmit signals.
- _____ is another word for "fat."
- _____ are what make up the cell membrane.
 - The _____ "head" interacts with water.
 - The _____ "tails" do not interact with water.

- In the presence of water, lipids line up parallel to each other so that the heads are touching the water and the tails are in between. This makes up the phospholipid _____.

- Hypothesize what would happen to a cell that is put in a solution of water and salt where there is a higher concentration of salt outside the cell than inside.

- _____

- Name two things that proteins embedded in cell membranes do.

- _____
○ _____

- The electric field generated by negatively charged proteins being trapped inside cells influences the movement of electrically charged _____ across the membrane. The negative proteins inside the cell attract positive/negative ions.

- This separation of electrical charges creates a form of stored _____. Changing the _____ of a membrane causes movement of ions because:

- Charged atoms move from areas of high/low concentration to areas of high/low concentration. This falls under the laws of diffusion.
- Charged atoms are attracted to regions of opposite/similar charge.

How We Know

- Scientists were able to conclude the existence of membranes because:
 - Something was _____ how water and other chemicals were getting into and out of cells.
 - When the surface of a cell was punctured, materials inside the cell _____ out.
- One of the clues to knowing that membranes are made up of lipids is that fatty substances _____ entered cells while other kinds of chemicals passed _____ or not at all.
- The bilayer nature of membranes discussed earlier was discovered because the total surface area of a lipid was exactly _____ the surface area needed to completely surround the cell.
- Membrane proteins are classified into two groups:
 - _____ proteins are anchored on the side of the membrane and do not go completely through the membrane.
 - _____ proteins pass completely through the membrane with parts of the protein hanging out of either side.

Common Hazards

- _____ is attracted to and concentrates in cell membranes.
- Alcohol can change the function of _____ cells and thus affect behavior. This change in behavior is called _____.
- Alcohol orients itself in the cell membrane so that the carbon portion of the molecule aligns with the phosphate heads/ carbon tails of lipids and the OH group aligns with the phosphate heads/carbon tails.
 - The resulting change in the membrane changes the shape and function of the _____ embedded in the membrane.