**IB Biology Chapter 1 Notes:** Membrane Structure (1.3) **NAME:**

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| **Word** | **Definition** |
| **Polar** | Having a charge or partial charge |
| **Non-polar** | Neutral—no charge |
| **Hydrophobic** | Fear of water or will not mix with water |
| **Hydrophilic** | Likes water or will mix with water |
| **Amphipathic** | Describes a molecule with both polar and nonpolar regions |
| **Cholesterol** | Help maintain membrane structure at a variety of temperatures |
| **Glycoproteins** | Proteins that have a sugar attached to them at the surface of the membrane.  |
| **Integral proteins** | Proteins that span the membrane |
| **Peripheral proteins** | Proteins only on one side of the membrane |
| **Phospholipids** | Lipids made of two fatty acid chains and one phosphate group that make up the primary structure of the cell membrane. They have polar and non-polar sections |
| **Bilayer** | A double layer |
| **Semi-permeable** | Only allowing certain materials to cross |

1.3.1 Phospholipids form bilayers in water due to the amphipathic properties of phospholipid molecules.

1.3.6 Analysis of evidence from electron microscopy that led to the proposal of the Davson-Danielli model.

1.3.7 Analysis of the falsification of the Davison-Danielli model that led to the Singer-Nicolson model.

1.3.2 Membrane proteins are diverse in terms of structure, position in the membrane and function.

Draw and label a phospholipid bilayer (including hydrophilic and hydrophobic regions):

Describe the membrane structure suggested by Davson and Danelli and their evidence:

Outline evidence that led to the disproving of the Davson-Danielli model:

1. Freeze-etched electron micrographs:
2. Structure of membrane proteins:
3. Fluorescent antibody tagging:

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| **Functions of Membrane Proteins** |
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1.3.5 Draw the fluid mosaic membrane model

1.3.3 Cholesterol is a component of animal cell membranes.

1.3.4 Cholesterol in mammalian membranes reduces membrane fluidity and permeability to some solutes.

Draw and label the parts of the fluid mosaic membrane model:

Describe the position of cholesterol in the structure of animal cell membranes:

Describe the role/ function of cholesterol in animal cell membranes: