

**AS Biology**  
**Fluid Mosaic Model Writing**

Name: \_\_\_\_\_ Date: 11/04/14 Class: Gold 1

**Directions:** Type an essay describing the Fluid Mosaic Model of the membrane. The essay should be organized in paragraphs and use complete sentences, and should not be more than 2 pages, double-spaced. **Be sure to include a list of sources that you used.**

**Due:** Draft due by end of class today (11/04/14 at 10am). Please upload it through my Weebly or share it with me on Google Drive. My email is [ellen.campbell@asu.edu](mailto:ellen.campbell@asu.edu)

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The fluid mosaic model is used to describe the structure of the cell surface membrane. You are going to explain the meaning of this term by describing:

- the components of the membrane
- the arrangement of these components in the membrane
- the roles of these components in membrane function.

**1** Include **brief descriptions** of the following components:

- the structure of the phospholipids
- the structure of the proteins
- the presence of carbohydrate chains on lipids in the membrane
- membrane cholesterol. [max. 4]

**2** Expand upon the following points about the **arrangement** of the components:

- hydrophilic and hydrophobic properties of the phospholipids and how these are involved in formation of a bilayer
- movement of the phospholipids and how this relates to the fluid nature of the membrane
- the location of the proteins and how this results in a mosaic
- intrinsic (integral) and extrinsic (peripheral) proteins
- location of the carbohydrate chains
- where membrane cholesterol is located. [max. 10]

**3** Expand upon the **roles** of these membrane components:

- the lipid bilayer as a barrier
- diffusion through the lipid bilayer
- proteins as receptors
- proteins as channels
- proteins as carriers/pumps
- carbohydrate chains and cell recognition
- cholesterol and membrane fluidity. [max. 10]

Content [24]

Clear and well organized, using specialist terms [2]

Directions followed (including proper submission) [2]

Sources included [2]

Total Score: /30 points