B2.1 Membranes and membrane transport

What the Cell · DP Biology · note-taking sheet · SL statements B2.1.1–10

Name _____ **Date** _____

How to use this sheet: go through the slides and videos with it, then close them and write from memory. Use your own words and add page numbers from the book (pp. 223–236) where you want more detail.

Guiding questions. How do lipid and protein molecules come together to form membranes? What decides whether a substance can cross a membrane?

B2.1.1–2 The bilayer as a barrier

What does amphipathic mean? Why do phospholipids form a bilayer in water?

Which particles does the hydrophobic core hold back, and which pass easily?

B2.1.3 Simple diffusion

Define diffusion, and name two gases that cross by this route.

B2.1.4 Membrane proteins

	Integral	**Peripheral**
Position		
Surface properties		

B2.1.5 Osmosis and aquaporins

Define osmosis using solute concentration. What do aquaporins change, and what do they not change?

B2.1.6–8 Channels, pumps and selectivity

	Channel protein	Pump protein
ATP used?		
Direction		
Why selective?		

Why is simple diffusion not selective?

B2.1.9 Glycoproteins and glycolipids

What are they made of, where is the carbohydrate, and what are their two roles?

B2.1.10 The fluid mosaic model

Draw it in two dimensions. Label phospholipids, hydrophilic and hydrophobic regions, integral and peripheral proteins, a glycoprotein and cholesterol.

Before you finish

Tick the ones you can explain without notes. Circle anything to ask about.

- ☐ Amphipathic
- ☐ The barrier
- ☐ Simple diffusion
- ☐ Integral and peripheral
- ☐ Osmosis
- ☐ Aquaporins
- ☐ Channels
- ☐ Pumps
- ☐ Selectivity
- ☐ Glycocalyx
- ☐ Fluid mosaic drawing