Phospholipids in cell membrane:

- Form the bi-layer basic structure of the membrane
- Tails are non-polar difficult for polar molecules (ions) to pass through the membrane
- Act as a barrier to most water-soluble substances; molecules such as sugars, amino acids and proteins cannot leak out of the cell, while unwanted water-soluble molecules can't enter.
- Some phospholipid molecules can be chemically modified to act as signalling molecules; these may move around the bi-layer activating other molecules eg. enzymes.
- Some may be hydrolysed into smaller, water-soluble molecules(vesicles) which diffuse through the cytoplasm and bind to special receptors -eg. Release of calcium ions from storage in the ER, resulting in exocytosis of digestive enzymes hilic heads and

Cholesterol:

- Small
- More bert Insatura
- Also have hydrophilic heads and hydrophobic tails
- Fit neatly between phospholipids in cell membrane •
- Animal cell surface membranes contain almost as much cholesterol as phospholipids •
- Plant cells have less and prokaryotes have none similar compounds do the same function.
- Cholesterol increases fluidity of membrane at low temperatures Done by preventing it from becoming too rigid by prohibiting close packing of the phospholipid tails.

This allows cells to survive in colder temperatures

- Cholesterol also maintains stability at higher temperatures- prevent it from becoming too fluid Without this cell membranes would quickly break and burst open
- Hydrophobic regions prevent ions or polar molecules from passing through • membrane



Osmosis:

the diffusion of water molecules from a region of higher water potential (negative) to a region of lower w (more negative) through a selective membrane. tP

- Special type of diffusio water me • 6N i
- Movement of molecules by diffusion from a dilute solution to a a partially permeable membrane. Pol c ptrated solutio
- Remember: Solute + Solvent = Solution
- Two solutions separated by a partially permeable membrane only allows certain • molecules through

Water potential:

- Tendency of water to move out of a solution.
- Depends on two factors: -How much water the solution contains in relation to solutes (concentration)

-How much pressure is being applied