The **cell-surface membrane** is the name given to the **plasma membrane that surrounds cells and forms the boundary between cell cytoplasm and the environment**.

The cell-surface membrane:

Allows different conditions to be established inside and outside a cell

Controls the movement of substances in and out of the cell

Phospholipids:

These **form a bilayer**. They are important components of cell-surface membranes because:

1. the **hydrophilic heads** of both phospholipid layers point to the outside of the cell-surface membrane **attracted by water on both sides**.
2. The **hydrophobic tails** of both phospholipid layers point into the centre of the cell membrane **repelled by the water on both sides**.

Phospholipids:

Lipid soluble material moves through the membrane via the phospholipid portion. The functions of the phospholipids in the membrane are to:

1. **allow lipid-soluble substances to enter and leave the cell**
2. **Prevent water-soluble substances entering and leaving the cell**
3. **Make the membrane flexible and self-sealing.**

Proteins:

They are **embedded in the phospholipid bilayer** in two ways:

1. some proteins never extend completely across the bilayer. They act either to **give mechanical support to the membrane or in conjunction with glycolipids, as cell receptors for molecules such as hormones.**
2. Other proteins **completely span the phospholipid bilayer from one side to the other**. Some are **protein channels** (form water soluble ions to diffuse across the membrane) or **carrier proteins** (bind to ions or molecules like glucose and amino acids, then change shape in order to move these molecule across the membrane).

Function of proteins in the membrane:

1. provide **structural support**
2. **Act as channels transporting water-soluble substances across the membrane**
3. Form cell-surface receptors for identifying cells
4. **Allow active transport across the membrane through carrier proteins**
5. Help cells adhere together
6. Act as receptors (like hormones)

Structure of the Cell Surface Membrane