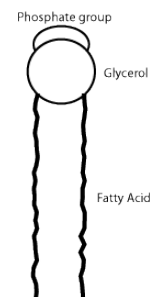
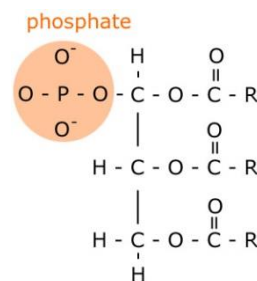
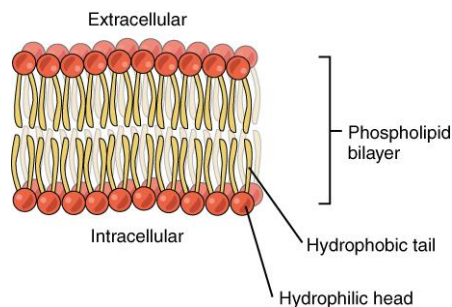


- Phospholipids:
 - Hydrophilic head – attracted to water.
 - Hydrophobic tail – repelled by water.
 - Amphipathic molecule.
 - Inside cell membranes:

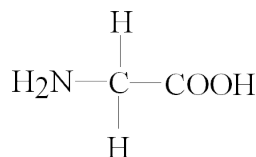


- Test for lipids: emulsion test, 5cm³ ethanol, 2cm³ sample, shake, 5cm³ water, shake, cloudy-white = lipid

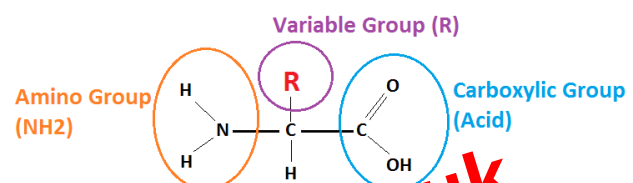
Proteins:

- Are made of amino acids which are polymerised.
- 20 different naturally occurring amino acids.
- Have the general structure:

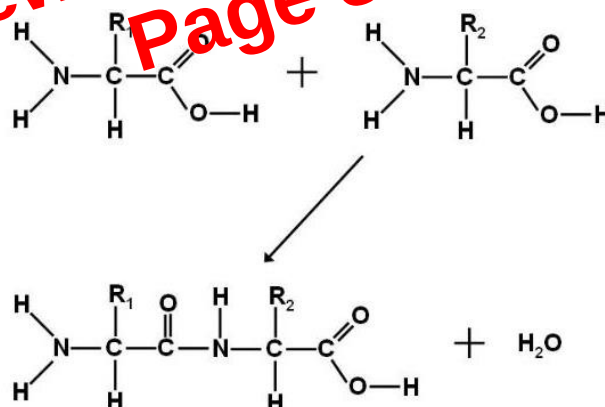
E.g.



glycine



- 2 amino acids join in a condensation reaction to form a dipeptide linked by a peptide bond:



- Protein functions: structural = soft tissue E.g. muscle, skin, hair, catalytic = enzymes, signalling = hormones/receptors, immunological = antibodies.
- Protein Structure:
 - Primary structure – the sequence of amino acids that makes up the polypeptides of a protein.
 - Secondary structure – the way a chain of amino acids of a polypeptide is folded, can be alpha-helix or beta-pleated sheet.
 - Tertiary structure – the folding of a whole polypeptide chain in a precise way, gives a 3D shape, held together by disulphide bonds (strong), ionic bonds (broken by pH change) and hydrogen bonds (numerous but easily broken).