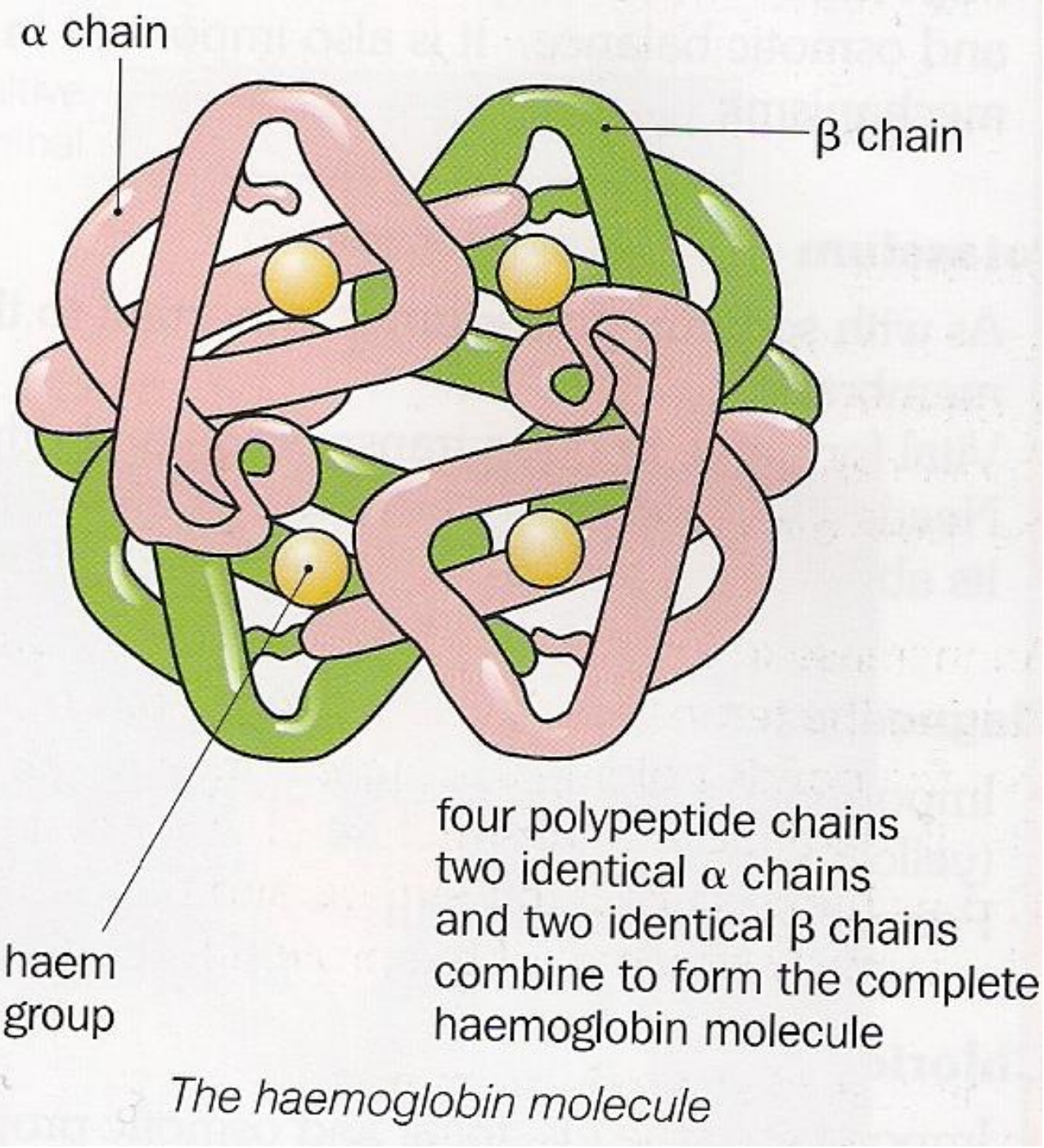

The haemoglobin molecule

Haemoglobin - Picks up O_2 from the lungs and forms oxyhaemoglobin, which then dissociates (breaks down) in the tissues and gives up its O_2, reverting to haemoglobin again.

- *Consists of 4 polypeptide chains (2 alpha and 2 beta)*
- *Chains are held by disulphide bridges*
- *At the centre of each chain is a haem group that contains an iron ion (Fe^{2+}), which can bind to an oxygen molecule*

This is an example of a non-protein **prosthetic group**. The protein combines with the prosthetic group to form a **conjugated protein**. Other examples of conjugated proteins are glycoproteins (protein combined with a carbohydrate, found in plasma membranes)

Table 3 Some important conjugated proteins

Name	Prosthetic group	Location
Glycoprotein	Carbohydrate	Mucin (component of saliva); cell-surface membrane
Lipoprotein	Lipid	Membrane structure
Nucleoprotein	Nucleic acid	Chromosome structure; ribosome structure
Haemoglobin	Haem (iron-containing)	Red blood cells