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# THE HUMAN BODY

Chemical composition of living things

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## Bioelements

Bioelements are chemical elements, such as carbon (C), that make up living things.

Bioelements join together to form biomolecules. These can be classified into two types: inorganic and organic.

## Inorganic biomolecules

They are **water** and mineral **salts**.

- Water is the most abundant substance found in living things. It makes up about **65%** of the human body.
- Mineral salts can be found in living things in the form of **dissolved** ions or as **crystals**.

## Organic biomolecules

Organic biomolecules are unique to living things and contain significant amounts of the chemical element carbon.

The major types of organic biomolecules are **carbohydrates**, **lipids**, **proteins** and **nucleic acids**.

- **Carbohydrates** can be composed of **one molecule** (glucose); **disaccharides** (sucrose or maltose), formed when two monosaccharides are joined; or **polysaccharides** (cellulose or glycogen), formed when many monosaccharides are joined.
- **Lipids** include **fats**, **phospholipids** and **cholesterol**. Fats are the simplest lipids and can be broken down into **fatty acids** and **glycerol** (a sugar alcohol).
- **Proteins** are macromolecules composed of many smaller molecules called **amino acids**. Some important human proteins are **collagen**, **haemoglobin** and **antibodies**.