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CARBOHYDRATES

There are roughly 92 naturally occurring elements on earth, but only four make up about 96% of the mass of the human body: oxygen, carbon, hydrogen and nitrogen. These elements combine to form life-sustaining biomolecules, which can be divided into four major groups: carbohydrates, lipids, proteins, and nucleic acids. Carbohydrates, proteins, and lipids are used by cells as the building blocks for cells and for energy, while nucleic acids are the basis of genetic material (DNA and RNA). Carbohydrates are the most abundant of the biomolecules. If we were to identify the most important carbohydrate molecule on the planet, in terms of its ability to sustain life, we would undoubtedly select the monosaccharide glucose. Without glucose, nearly all animal life as we know it could not exist.

Carbohydrates can be classified into 4 major subtypes: monosaccharides, disaccharides, oligosaccharides and polysaccharides. These classifications are based on both the size and function of the molecule. The name "saccharide" is derived from Greek; it means "sugar." Monosaccharides are the simplest form of carbohydrates and are composed of a single molecule or subunit. The disaccharides are composed of two monosaccharides linked together, while oligosaccharides are composed of between 3 and 20 monosaccharides and polysaccharides consist of hundreds or thousands of monosaccharides linked together. We will now examine each of these types of carbohydrates.

Monosaccharides
Disaccharides
Polysaccharides
Oligosaccharides



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