

Macronutrients – Carbohydrates



CARBOHYDRATES

large biomolecules built of carbon, oxygen and hydrogen, in form of simple, double or complex molecules built of hundreds of molecules of sugar bonded together

A Identify how much of daily energy intake should be provided with carbohydrates.

There are two types of carbohydrate: sugars and complex carbohydrates known as polysaccharides, which are further broken down in to subgroups.

SUGARS
Sweet-tasting carbohydrates made up of simple or double molecules of carbohydrates

POLYSACCHARIDES
Long chains of sugar bound together. Also known as complex carbohydrates. Polysaccharides are either digestible or non-digestible.

Monosaccharides
One sugar molecule

Disaccharides
Two sugar molecules

Digestible
Are absorbed and provide source of energy

Non-digestible
Are not absorbed and support digestive health. Also known as dietary fibre.

Functions

B Outline the functions of carbohydrates in the diet.

H Explain what could happen if you ate too much or too little carbohydrates.

Excess

Deficiency

- ➔ **Hypoglycaemia** – very low blood sugar level
 - collapse/fainting, coma
- ➔ **Hyperglycaemia** – very high blood sugar level
 - type 2 diabetes, damage to the nerves

C Identify three monosaccharides and provide a source of each.

- 1.
- 2.
- 3.

D Identify three disaccharides and provide a source of each.

- 1.
- 2.
- 3.

E Identify two types of digestible polysaccharides and two types of non-digestible polysaccharides.

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F Indicate how much dietary fibre should be provided every day with a balanced diet.

G Identify two functions of soluble dietary fibre and two functions of insoluble dietary fibre.

Dietary fibre can be either soluble or insoluble:

SOLUBLE

- 1.
- 2.

INSOLUBLE

- 1.
- 2.

Sources of soluble dietary fibre
Beans, oats and vegetables (especially the skins)

Sources of insoluble dietary fibre
Wholemeal products, bran, oatmeal, pasta and bread

What happens if you eat too much or too little fibre?

Excess

- Constipation or diarrhoea
- Impaired absorption of nutrients

Deficiency

- Constipation or diarrhoea
- Increased risk of obesity, type 2 diabetes, cardiovascular disease, bowel cancer



- Sources of sugars**
- Fruit and vegetables
 - Milk and dairy products
 - Sweets and condiments
 - Juices and beverages
 - Sugar, honey and syrups



Free sugar
Sugar that is added to foods, and the sugar naturally present in honey and fruit juices.
These should make up no more than 5% of your daily energy intake.

VS

Intrinsic sugar
Sugar that is naturally present in fruit and vegetables.


