

Food Preparation and Nutrition Knowledge Organiser Year 8

Nutrients
There are two different types of nutrients:

- macronutrients;
- micronutrients.

There are three macronutrients that are essential for health:

- carbohydrate;
- protein;
- fat.

There are two types of micronutrients:

- vitamins;
- minerals.

Carbohydrate

There are two types of carbohydrate.

Sugars – also known as **simple carbohydrates**.

Starches – also known as **complex carbohydrates**.

Effects

These two types of carbohydrate have different effects on our body.

Sugars (simple) – these raise the body's blood sugar level very quickly, as they enter the blood stream rapidly after they are eaten.

Starches (complex) – these keep blood sugar levels constant, because they enter the blood stream very slowly.

Functions

The body needs carbohydrate for a number of reasons:

- for energy – 1g of carbohydrate gives the body 3.75kcal of energy
- wholegrain varieties of carbohydrate provide the body with fibre
- carbohydrate has a protein-sparing effect, allowing protein to be used for its primary function of growth and repair

Sources

We can get **complex carbohydrates** from foods that are rich sources of **starch**:

- bread – including bagels and wraps
- rice
- pasta
- cereal
- potatoes



Protein

Functions

The body needs protein for a number of reasons:

- for growth, in particular during pregnancy and adolescence
- to repair body cells and tissues, including recovery after illness or injury
- to produce enzymes needed for digestion
- to produce hormones that control body functions
- protein provides a secondary source of energy

Sources

There are three types of sources we can get protein from. These are **animal**, **plant** and **novel**.

- **Animal sources:** Meat (e.g., chicken or beef), fish, dairy foods (e.g., milk or cheese) and eggs.
- **Plant sources:** Pulses (e.g., peas and beans), lentils, grains and nuts.
- **Novel sources:** Tofu, soya, TVP (Textured Vegetable Protein).

Minerals
Minerals are inorganic substances required by the body in small amounts for a variety of different functions.

The body requires different amounts for each mineral.

Some minerals are required in larger amounts, while others are needed in very small amounts and are called 'trace elements'.

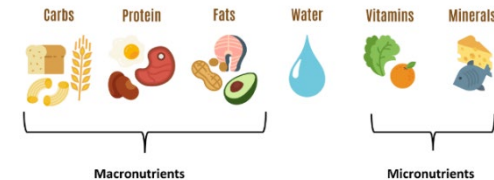


Nutrient	Function	Sources
Calcium	Helps to build and maintain strong bones and teeth.	Dairy, calcium-fortified dairy-alternatives, canned fish (where soft bones are eaten) and bread.
Iron	Helps to make red blood cells, which carry oxygen around the body.	Offal, red meat, beans, pulses, nuts and seeds, fish, quinoa, wholemeal bread and dried fruit.
Phosphorus	Helps to build strong bones and teeth and helps to release energy from food.	Red meat, poultry, fish, milk, cheese, yogurt, eggs, bread and wholegrains.
Sodium	Helps regulate the water content in the body.	Very small amounts found in foods. Often added as salt.
Fluoride	Helps with the formation of strong teeth and reduce the risk of tooth decay.	Tap water, tea (and toothpaste).
Potassium	Helps regulate the water content in the body and maintain a normal blood pressure.	Some fruit and vegetables, dried fruit, poultry, red meat, fish, milk and wholegrain breakfast cereals.
Iodine	Helps to make thyroid hormones. It also helps the brain to function normally.	Milk, yogurt, cheese, fish, shellfish and eggs.

NUTRITIONAL VALUE OF INGREDIENTS



SIX ESSENTIAL NUTRIENTS



Vitamins
Vitamins are nutrients required by the body in small amounts, for a variety of essential processes.

Most vitamins cannot be made by the body, so need to be provided in the diet.

- Vitamins are grouped into:
- fat-soluble vitamins (vitamins A, D, E and K)
 - water-soluble vitamins (B vitamins and vitamin C).

Vitamins

Nutrient	Function	Sources
Vitamin A	Helps the immune system to work as it should and with vision.	Liver, cheese, eggs, dark green leafy vegetables and orange-coloured fruits and vegetables.
B vitamins	<u>Thiamin</u> , riboflavin, niacin, folate, and vitamin B12 have a range of functions within the body.	Different for each B Vitamin.
Vitamin C	Helps to protect cells from damage and with the formation of collagen.	Fruit (especially citrus fruits), green vegetables, peppers and tomatoes.
Vitamin D	Helps the body to absorb calcium & helps to keep bones strong.	Oily fish, eggs, fortified breakfast cereals and fat spreads.
Vitamin E	Helps to protect the cells in our bodies against damage.	Vegetable and seed oils, nuts and seeds, avocados and olives.
Vitamin K	Needed for the normal clotting of blood and is required for normal bone structure.	Green vegetables and some oils (rapeseed, olive and soya oil).

Saturated and unsaturated fat – what's the difference?

Unsaturated fat is **liquid** at room temperature, for example rape seed oil or olive oil.

Unsaturated fats come from **plant** sources and therefore are better for us than saturated fats.

Monounsaturated fats have **one double bond** ('mono' meaning one)

Polyunsaturated fats have **more than one double bond** ('poly' meaning many)

Saturated fat is usually **solid** at room temperature, for example butter.

Saturated fats come from **animal** sources and therefore tend to be very unhealthy.

Sources

We can get **saturated fat** from the following sources:

- red meat – for example, lamb and minced beef
- dairy products – for example, butter and milk



Fat

There are two types of fat – **saturated fat** and **unsaturated fat**.

Unsaturated fat can be either **monounsaturated fat** or **polyunsaturated fat**.

Functions

The body needs fat for a number of reasons:

- for energy – 1g of fat gives the body 9kcal of energy
- to protect the vital organs
- to provide an insulating layer which helps the body to maintain a constant temperature
- fat is a source of the fat-soluble vitamins A, D, E and K.
- fat is an excellent source of the essential fatty acids omega 3 and omega 6