

Types of Nutrients
Foods

Videos:

Nutrients in Food overview:

<https://www.youtube.com/watch?v=cKRf53I737E>

Nutrients in Food explanation:

<https://www.youtube.com/watch?v=WIE0efeV4GA>

Part A

Activity: Complete the carousel activity with each piece of information on one table, ss go around and fill in the information on their nutrition graphic organizer

Macronutrients

“Macro” = big. Macronutrients include carbohydrates, fats, and proteins. They provide our bodies with energy for growth and activity (e.g., eating a chicken breast would give your body protein, helping to repair muscles; eating whole-wheat spaghetti noodles would give your body carbohydrates to provide energy).

Carbohydrates

The body’s main source of energy in the form of calories.

- An important form of this nutrient is dietary fibre.
- Insoluble fibre promotes regular bowel movements and may lower the risk of colon cancer.
- Soluble fibre may reduce blood cholesterol levels.

Carbohydrates provide the largest percentage of energy that we use when we are being active, also they are the only source of energy which feeds the brain. This is one reason why it is important for both children and adults to eat a nourishing breakfast. Foods that are good sources of carbohydrates are often good sources of fibre, too (except very sugary foods, like candies and juice). Fibre is the stuff in plant foods that our bodies can't break down, but it does prevent constipation. Foods which are good sources of carbohydrates can be found in the Fruit and Vegetables, Grain Products, and Milk and Alternatives food groups on Canada's old Food Guide.

Examples:

Choose whole grains more often than refined grains.

Grains, potatoes, corn, sweet potatoes, fruits, milk, milk products, and milk alternatives. A small amount of carbohydrates is present in other vegetables.

Sources: <https://www2.qnb.ca/content/dam/qnb/Departments/sd-ds/pdf/Wellness-MieuxEtre/Chefs/AllAboutNutrients.pdf>
https://teachingtools.ophea.net/sites/default/files/ophea-files/lesson_plan/gr8_hl_myfc_sr1.pdf
<https://medlineplus.gov/minerals.html>

Fats

a source of energy in the form of calories; most energy-rich source of calories

- Moderate amounts are needed to perform important body functions such as transporting nutrients.
- Essential fatty acids promote healthy skin and normal cell growth, and carry vitamins A, D, E and K to where they are needed.
- Body fat is built in part from nutrient fats. It acts as a cushion to protect the heart, liver and other vital organs.
- Fats add flavour to food.
- Fats help you feel full longer

Fats are also used for energy, but we primarily use energy from fat when we are performing low-energy activities, like sitting, walking leisurely, or playing video games. We also need fat in our diets to help us absorb some of the vitamins in our foods

Examples:

Choose oils or soft margarine more often than solid fats like butter or shortening. Naturally-occurring fats found in nuts, seeds, and fatty fish (like salmon) are very healthy fats and these foods are also good sources of protein.

Proteins

a source of energy in the form of calories.

- Proteins help build, repair and maintain body tissue.
- They help the body grow.
- They play a major role in fighting disease.

Protein does double duty by providing calories, but, most importantly, it maintains normal body function and provides the building blocks for growth and development. It is, therefore, important for children to eat a diet with adequate protein. This can be accomplished through eating healthy, balanced meals which include foods from the Meat and Alternatives section of Canada's old Food Guide.

Examples:

Choose protein sources that are low in saturated (solid at room temperature) fats. Think extra lean ground beef, skinless chicken, beans, lentils, and chickpeas, nuts and nut butters, and low-fat milk or milk alternatives.

Micronutrients

“Micro” = small. Micronutrients are the vitamins and minerals in our food. They help regulate body functions such as vision, healing and muscle movement.

Vitamins and minerals, together, are called micronutrients (micro=tiny). They are called micronutrients because the amounts that we need of these substances are very small.

Vitamins and minerals are different than the nutrients we discussed in the last session in that they don't contain energy (calories). Even though they don't contain energy, vitamins and minerals can, on top of a lot of other things, help the body use the energy that it gets from the carbohydrates, fats, and protein. All of the micronutrients can be found in the foods that we eat, but sometimes people buy them in pills when they might not be able to get enough from their food. You may have heard of your friends taking multi-vitamins or Vitamin C supplements.

Vitamins

Vitamins regulate vital body processes.

- They help carbohydrates, fats and proteins do their job.
- They keep body tissues healthy.
- They protect body cells and the immune system from harmful chemicals.
- They may protect against illnesses such as heart disease and cancer.
- They help prevent birth defects

When you are learning more about vitamins, you might read that they are fat-soluble or water soluble. Soluble is a word for dissolved. So, this means that some vitamins dissolve in fat (vitamins A, D, E &K), and some dissolve in water (all of the B vitamins and vitamin C). Fat-soluble vitamins get stored in body fat and in the liver and they only get used when they are needed. The water-soluble vitamins don't get stored and, if we don't need them, they come out when we pee.

Canada's Food Guide recommends that we eat at least one dark green vegetable and one orange vegetable every day. This is because dark green vegetables are excellent sources of an important vitamin called folate and dark orange vegetables and some dark orange fruits are a good source of vitamin A.

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List some dark green vegetables and some orange vegetables and fruit on your paper:

Dark Greens	Orange Fruit	Orange Vegetables
1.	1.	1.
2.	2.	2.
3.	3.	3.

Minerals

Minerals help the body function.

- They help build body cells and tissue.
- They build strong bones and teeth.
- They prevent osteoporosis

Minerals are nutrients like calcium, iron, and manganese. There are so many different minerals that we need. Minerals are in food, in the skins on food, and even in the water coming out of the tap. However, one mineral in particular is found in abundance in many of the processed foods that we buy; sodium! Most Canadians are consuming much more sodium in their diets than their bodies need; this is because food manufacturing companies use this mineral to add flavour and shelf life to their foods. Over time, consuming too much sodium may lead to high blood pressure which is a risk factor for stroke, heart disease and kidney disease.

There are two kinds of minerals: macrominerals and trace minerals. You need larger amounts of macrominerals. They include calcium, phosphorus, magnesium, sodium, potassium, chloride and sulfur. You only need small amounts of trace minerals. They include iron, manganese, copper, iodine, zinc, cobalt, fluoride and selenium.

Most people get the amount of minerals they need by eating a wide variety of foods. In some cases, your doctor may recommend a mineral supplement. People who have certain health problems or take some medicines may need to get less of one of the minerals.

Water

essential to life.

- Water maintains normal body temperature.
- It is a medium for transport with the body by supplying nutrients and removing waste.
- It makes up 50 – 60% of the body. (A person can live only a few days without water but may be able to live for weeks without food.)

Water is so essential to our bodies that we would not live for very long, if we didn't have it. Fortunately, water is everywhere! Water is found in all of the foods we eat and beverages we drink. Of course, you can always drink water by itself. Water's job is big; it performs a range of functions, from carrying the nutrients around in our body, to helping us breathe, to helping us keep a normal body temperature.

Part B:

See the assignment printout

1. Track your diet for 3 days between first class and next class (include one weekend day)
2. Evaluate nutrients you consumed by entering in all food consumed into the calculator
 - a. www.cronometer.com
2. Reflect on the results and answer the questions

Types of Nutrients
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Name: _____

Date: _____

Nutrient	Big Ideas	Main Functions	Examples of Foods and Their Food Group from Canada's Food Guide
Carbohydrates			
Fats			
Proteins			
Vitamins			
Minerals			
Water			