Nutrients
And Health
Introduction

- All living things need food to survive. It gives us energy for everything that we do. It also gives the body what it needs to repair muscles, organs and skin. Food helps us fight off dangerous diseases.
- It is important to eat a wide variety of foods in order to stay healthy.
- Nutrition is the science that deals with food and how the body uses it.
How the body uses food

- Food has nutrients in it—substances that give our body many important things that we need. They provide us with energy and also help control the way our body grows.
- Before nutrients can go to work food must be broken down so that they can pass into our body. This is called digestion.
It starts when we chew the food that we eat. When we swallow it travels on to the stomach where it is mixed together with water and other fluids. Then the food is passed on to the intestine. Nutrients escape through the walls of the intestine into our blood. From there they are carried to all parts of the body. Most food leaves waste that the body cannot use. Some of it goes to the kidneys and turns into urine. The liver also filters out waste. What is left over passes through the large intestine and leaves our body.
Digestive System

- Mouth
- Throat
- Esophagus
- Stomach
- Small intestine
- Large intestine
THE SEVEN NUTRIENTS

- There are seven main groups of nutrients: **proteins, carbohydrates, fats, vitamins, minerals, water and dietary fibre**. The energy that food gives us is measured in kilocalories, or one thousand calories. A calorie is the energy that is needed to raise the temperature of water by one degree Celsius.
WATER

Although water does not give us energy it is the most important nutrient. We may be able to live on without the others for weeks, but we cannot go on without water for more than a few days.

- Water has many functions in our body. It helps break down food. It also cools the body down when it becomes too hot. The body carries away waste products in a watery solution.
Our body needs about 2 – 3 litres of water a day. We get it from the water and liquids we drink but also from fruits, vegetables and other food.
CARBOHYDRATES (CHO’S)

- Carbohydrates are the main source of energy for our body. Sugars and starches have carbohydrates in them.

- Sugar is a simple carbohydrate. It gives us energy very quickly. This form of energy can be found in dairy products, honey, syrup, jams and jelly.
Starches must be broken down into sugars before our body can use them. They are found in beans, bread, potatoes, cereals, corn, pasta and peas. They provide our body with a constant supply of energy.
Our body needs fat in small amounts. Fats are made up of carbon, oxygen and hydrogen. They store vitamins and produce fatty acids. We need these acids to produce cell membranes.

Fats can come from animals or plants. They are in meat and dairy products, like butter and cheese. Other types of fats are in vegetable oils, nuts or seeds.
Too many saturated fats produce a high level of cholesterol, a waxy material made by the body. It starts building up in the walls of blood vessels and may block blood as it flows through our body.
Proteins are among the most important building blocks of our body. Muscles, skin and hair, for example, are made up of proteins.

Proteins are complex molecules made up of amino acids. The body can produce some of them itself, however, we must get the others from food.
Proteins are in cheese, fish, meat, milk, as well as in nuts, peas, and beans.
MINERALS

Minerals are needed for growth. They are inorganic, not made up of living things. Our body needs different amounts of various minerals.

Calcium and magnesium, for example, are important for bones and teeth. We also need small amounts of iron. It is a component of haemoglobin, which carries oxygen to red blood cells.
Fluorine or zinc are other minerals we need in very small amounts. They are called trace elements.
VITAMINS

- Our body needs a variety of vitamins to stay healthy. Each of them does a different job. Vitamin A, for example, helps skin and hair grow. Vitamin C is needed to fight off infections. Vitamin D helps the growth of bones and teeth.
THE RIGHT DIET

- The key to staying healthy is eating the right food. Nutritionists suggest eating according to TAGTHE. It has five sections within the circle and two sections outside. All sections are important and useful to maximise all the nutrients required for a healthy lifestyle. It is also important to ensure you eat the correct serving sizes from each section every day!
Vegetables and legumes (choose a variety)

- Starchy vegetables: 1 medium potato/yam, ½ medium sweet potato, 1 medium parsnip
- Dark green leafy vegetables: ½ cup cabbage, spinach, silverbeet, broccoli, cauliflower or brussel sprouts
- Legumes and other vegetables: 1 cup lettuce or salad vegetables; ½ cup broad beans, lentils, peas, green beans, zucchini, mushrooms, tomatoes, capsicum, cucumber, sweetcorn, turnips, sprouts, celery, eggplant etc

Fruit

- 1 piece medium sized fruit (eg apple, orange, mango, banana, pear, etc)
- 2 pieces of smaller fruit eg apricots, kiwi, plum, figs, etc, about 8 strawberries, about 20 grapes or cherries, ½ cup (125ml) fruit juice (sugar free), ¼ medium melon (eg. rockmelon)
- Dried fruit eg 4 dried apricots or 1½ tablespoon sultanas
- 1 cup diced pieces/canned fruit

Milk, yoghurt, cheese & alternatives

- 250 ml glass or one cup of milk (can be fresh, long life or reconstituted milk)
- ½ cup evaporated milk, 40g (2 slices) cheese or 250ml (1 cup) of custard
- 200g (1 small carton) of plain or fruit yoghurt
- 1 cup of calcium-fortified soy milk, 1 cup almonds, ½ cup pink salmon with bones

Meat, fish, poultry & alternatives

- 65-100gm cooked meat/chicken (eg ½ cup mince, 2 small chops, or 2 slices roast meat)
- 80-120g cooked fish fillet,
- 2 small eggs, ½ cup cooked dried beans, lentils, chickpeas, split peas or canned beans, or 1/3 cup cooked lentils
IN CLASS ASSIGNMENT

- Working in pairs, put together a power-point presentation on your given nutrient and present it to the class.
- Information required:
  - Title slide with your names, class, date and name of nutrient
  - Functions of the nutrient
  - Characteristics of the nutrient
  - Sources/what foods/ or where you find it
  - Excess/deficiency symptoms and signs
  - Bibliography/reference where you got the information
BIBLIOGRAPHY

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- http://www.english-online.at/health_medicine/nutrition/nutrition-how-the-body-uses-food.htm