

**Nutrients in food and nutrition.**

Living things need food to stay alive

Humans need special nutrients in their food and should follow a balanced diet to keep them healthy.

See how many of the fruit and vegetables you can identify in the pictures below?



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**Food groups that we all need!**

There are some key words that need to be known for this section of work!

**Nutrients:** part of food needed by your body for energy and good health.

**Diet:** the foods animals & people need to eat daily.

**Food groups:** the different groups from which you need to eat daily.

**Carbohydrates:** foods that give energy to living things.

**Proteins:** food group that provides growth & repairs the body.

**Fats & oils:** food group that supplying large amount of energy to the body.

**Vitamins and minerals:** food needed to keep bodies working well.

**Immune system:** system that protects body from germs & disease.

**Saturated fats:** mainly from animal food products.

**Processed food:** food made & then changed from how it is found in nature.

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**Different food groups that we should eat each day:**

If possible, we recommend that everyone should eat foods from these different food groups every day.



Carbohydrates



Proteins



Fats & oils



Vitamins & minerals

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**Carbohydrates for you!**

Carbohydrates used to keep you warm and provides the energy needed for growth and movement.

Without carbohydrates you would be too tired to walk, run, dance or even think at school!

Sugar and starch are the two main carbohydrates that we eat – found in:



Apples



Potatoes



Rice



Mealie meal

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**More about carbohydrates.**

Sugar found naturally in fruits, jam & cooldrinks is good for you and gives you quick energy.



However, eating foods that contain lots of sugar can be bad for you, as some of the sugar can be converted into fat and can be stored in your body as fat – not so good.



60% of our food comes from carbohydrates – often starch which gives you more energy, more slowly than sugar & is better for you.

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**What about Proteins?**

Living things need Proteins to build and repair their bodies.

Proteins help fight sickness and develop the immune system to fight off infection & disease.

The immune system protects your body from sicknesses and helps you get better after you have been sick.

Protein makes up part of the red blood cells in your body and carries oxygen to the lungs and the rest of your body.

Foods high in protein:



Eggs



Beans



Meat



Nuts

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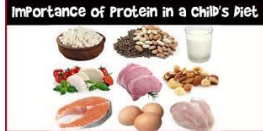
**Proteins.**

Nutrients in the protein group help children grow.

Muscles and organs are mostly made of proteins – in fact, protein is part of everything in our bodies, such as bones, hair, skin & nails.



Protein helps repair tissues that are damaged through normal use over the years.



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**Oils and fats.**

Oils and fats give extra energy to living organisms.

They provide more energy than any other food group.

They store energy in the form of body fat that protect organs in the human body, and they keep some animals warm.

Foods such as avocado pears, sardines, some fish and sunflower oil contain healthy oils and fats.

Too much fatty meat is not good for you since it contains unhealthy fats known as saturated fat.



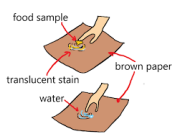
Good oils and fats.

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**To see if foods contain oils or fats:**

It is easy to check and see if food contains oil or fats.

Rub a bit of the food on brown paper – if a see-through stain appears on the paper and it does not dry or disappear, it means that the food contains oil and/or fat.



Fish oil stain on brown paper.

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**Vitamins and minerals.**

We get vitamins and minerals from the foods that we eat.

Vitamins & minerals work with carbohydrates, proteins and fats to help our bodies grow and develop normally to build strength and bones, have good eyesight and a healthy immune system that fights diseases.



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**Vitamins and foods that contain vitamins** Important vitamins:

Vitamin	Function in body	Foods that contain this vitamin
<b>A</b>	Helps you see at night & body to fight infections	Carrots, pumpkin, butter & liver
<b>B</b>	Helps make energy, proteins, red blood cells & other functions	Cereals, brown rice, meat, vegetables
<b>C</b>	Helps fight infections	Green vegetables, oranges & guavas.
<b>D</b>	Helps make strong bones	Margarine, eggs, produced in sunlight
<b>E</b>	Protects the skin	Spinach, green leafy vegetables, carrots, avocados & butter
<b>K</b>	Helps stop bleeding	Spinach, broccoli, & other dark green vegetables.

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**Minerals & foods that contain these minerals.**

Important minerals:

Mineral	Function in the body	Foods with this mineral
<b>Calcium</b>	Makes teeth and bones strong	Dairy foods: Milk, yoghurt, cheese & green leafy vegetables
<b>Iron</b>	Makes red blood cells that carry oxygen to body & gives energy	Red meat, liver, green leafy vegetables & beans
<b>Zinc</b>	Helps you grow	Meat, fish and poultry (chicken & other birds).



Milk



Liver



Chicken

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**Nutritional value of foods.**

Most natural foods contain a mixture of the nutrients from the 4 main food groups: carbohydrates, proteins, fats and oils, vitamins and minerals, in varying proportions.

Nutrient-rich foods have a lot of nutrients, but few calories.

Calories tell us how much energy you get from one serving of food & if you don't use them up, they get stored as fat in your body.

Apples & carrots each contain nutrients from 3 food groups.

	Calories	Fat	Sodium	Potassium	Carbohydrates	Fibre	Protein	Vitamin A	Vitamin B
Apple:	130	0	0	260mg	34g	5g	1g	2%DV	8%DV
Carrot:	30	0	60mg	250mg	7g	2g	1g	10%DV	10%DV

DV = daily value as a percentage of what you should have per day

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**Nutritional value of foods.**

Foods in packages or tins usually have a nutrition label, indicating the contents of the food.

Now find some bottles or tins of your own and see if you can find the contents of the 4 different food groups.

Now establish whether this is a healthy food for you to eat?

This food looks high in sugar (not good for you!) and fats, but low in Vitamins. Be careful not to eat too much of this food.

Nutrition Facts	
Per 3/4 cup (175 g)	
Amount	% Daily Value
Calories 160	
Fat 2.5 g	4 %
Saturated 1.5 g	8 %
+ Trans 0 g	
Cholesterol 10 mg	
Sodium 75 mg	3 %
Carbohydrate 25 g	8 %
Fibre 0 g	0 %
Sugars 24 g	
<b>Protein 8 g</b>	
Vitamin A 2 %	Vitamin C 0 %
Calcium 17 %	Iron 0 %

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**Processed foods.**

To eat processed foods daily (even if they taste nice), is not good for you at all, and they should be avoided most of the time.



They invariably have too much fat, sugar or salt & not enough of the 4 main food groups!

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**A balanced diet.**

Eating a balanced diet containing suitable amounts of carbohydrates, proteins, fats & oils, vitamins & minerals, together with 6 – 8 glasses of water per day, will ensure that you grow, are healthy, have a strong immune system and are getting the right amounts of each food group daily.



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**A balanced diet for a Grade 6 learner:**

Food Groups	Examples of foods	A serving of food
Grain group	Bread Rolls Rice Cereal Pasta (macaroni, spaghetti)	2 slices 1 roll 1 cup 1 cup 1 cup
Dairy group	Milk Yoghurt Cheese	1 cup 1 small tub 1 large slice
Meat, fish & beans group	Beef, chicken, fish Egg Peanut butter Baked beans Fish fingers	80 – 100 g (fits palm of hand) 1 egg 3 teaspoons Half a cup Two

**Note: This is not a daily consumption!**

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**A balanced diet for a Grade 6 learner continued**

Food groups	Examples of foods	A serving of food
Fats & oils	Margarine, butter & cooking oil Peanuts	1 teaspoon (5 g) 10 (5 g of fat)
Vegetables & fruits	Carrots, mealies, cauliflower, peas, pumpkin, spinach & cabbage Green salad Apple, orange, banana, peach Fruit juice	Half a cup 1 cup 1 fruit 1 small glass (150 ml)

**Note: This is not a daily consumption!**

This amount of food is probably adequate for 7 – 10 days for your age group.

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**Incorrect diet can cause disease in both children and adults.**



Rickets is caused by vitamin D deficiency, bones become soft and bend and break easily.



Too much sugar causes tooth decay and infection may start



A poor diet and little exercise may cause children to become overweight, and this can lead to diabetes, where people require daily injections and a special diet.

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