### 2. Food and nutrients

2.2 The nutritional value of food

### 2.2.2

# The composition of the food groups

## NUTRIENT CONTENT

Foodstuffs are grouped according to their nutrient content. They often comprise several nutrients, but foodstuffs in the same group provide the same principal nutrient or nutrients.

## WATER



It comes as no surprise that water is the main nutrient in drinks. It is a key element in all the body's vital processes. Some kinds of water are rich in minerals, such as calcium and magnesium. Others contain less minerals.

# FRUIT AND VEGETABLES

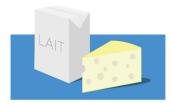


Vegetables are rich in vitamins, particularly vitamin C, betacarotene and some B vitamins. They also contain fibre and numerous minerals such as potassium. Fruit has a similar composition to vegetables. In general, fruit has a higher carbohydrate content.

# MEAT, FISH, EGGS, TOFU



# DAIRY PRODUCTS



Meat is the group principally associated with a relatively high protein content. The food in this group also contains minerals and vitamins. Meat contains iron, fish contains iodine and egg yolks are rich in vitamin A. We also need to remember the fats provided by some kinds of meat or oily fish.

Dairy products primarily provide minerals. Milk is very rich in calcium. It also provides phosphorous which makes it easier for the body to digest calcium. The food in this group also contains proteins and greater or lesser amounts of lipids, depending on the product. The food in this group also provides vitamins. Almost all B vitamins are present in milk.

Vitamin A is found in full-fat milk but not in skimmed milk. Finally, some dairy products are not classed under this group as they do not have the same nutritional properties. Butter and cream are included under fats.

# CEREALS, POTATOES, PULSES



The cereals group is primarily a source of starch, which is a complex carbohydrate. We should also be aware of the vegetable protein, B vitamin, mineral and fibre content. Dietary fibre, minerals and vitamins are present in larger quantities in unrefined products such as wholegrain cereals, pulses and potatoes.

# SUGARY PRODUCTS



Food in the sweets or sugary products group basically contains simple carbohydrates, such as sucrose, glucose and fructose. The body easily absorbs sugar so it is a source of energy we can use quickly during intense physical effort. Some foodstuffs in this group also contain lipids. This is true for chocolate or toffees. The food in this group provides energy but no, or very few vitamins or minerals.

FATS



The fats food group is characterised by food with a high fat content. Cream contains approximately 30 to 35% fat; butter and margarine over 80% and oil is 100% fat! However, fats also provide vitamins; butter and cream provide vitamin A and oils provide vitamin E.

# DIGESTIX

DIGESTIX illustrates the nutrient content of food. Food is first broken up into fragments which are then transformed into nutrients. It quickly becomes clear that fruit and vegetables are rich in vitamins, and that meat contains proteins.

# The composition of the food groups

Food in the fruit and vegetables group is rich in...

- O proteins and minerals O vitamins, dietary fibre and minerals
- O dietary fibre and lipids

Food in the meat group contains a high amount of...

O dietary fibre O lipids O proteins

# Milk and dairy products are a very good source of calcium.

**O True** O False

## The cereals group mostly contains...

O carbohydrates O lipids O vitamins

### It is preferable to eat...cereals.

O wholegrain O refined O chocolaty

### Calcium and potassium are...

- O trace elements
- O minerals
- **O proteins**

# Fats provide us with other nutrients as well as lipids. Which ones?

- **O Carbohydrates**
- O Fibre
- **O Vitamins**

# All the food in a particular food group has one single nutrient.

- O True
- **O False**

Which of the following is mainly linked to the drinks group and is ideal for keeping your body hydrated?

O Coffee O Lemonade O Water

### Butter and cream belong to...

O the fats group O the sugary products group O the dairy products group

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# Answers

### Food in the fruit and vegetables group is rich in...

- **O proteins and minerals** Wrong! Fruit and vegetables contain few proteins.
- vitamins, dietary fibre and minerals Well done! Fruit and vegetables mainly comprise these three nutrients. It is worth noting that fruit generally has a higher carbohydrate content than vegetables.
- O dietary fibre and lipids Wrong! Fruit and vegetables contain very few lipids.

### Food in the meat group contains a high amount of...

#### O dietary fibre

- Wrong! Meat does not contain dietary fibre.
- O lipids Wrong! Lipids are not the main component of meat.

#### proteins

Well done! Meat mainly consists of proteins.

#### Milk and dairy products are a very good source of calcium.

#### True

Well done! Milk is very rich in calcium. It helps strengthen bones.

#### **O** False

Wrong! Try again!

#### The cereals group mostly contains...

#### carbohydrates

Well done! Cereal products are very rich in complex carbohydrates and are a great source of energy.

#### O lipids

Wrong! Cereal products contain only few lipids.

#### O vitamins

Wrong! Cereal products contain vitamins, but they are not the main nutrient.

### It is preferable to eat...cereals.

#### • wholegrain

Well done! Wholegrain cereals have the best nutritional properties. There are larger amounts of dietary fibre, minerals and vitamins in non-refined cereals.

#### O refined

Wrong! A percentage of dietary fibre, vitamins and minerals are removed during the refining process.

#### O chocolaty

Wrong! Chocolate breakfast cereal may taste delicious, but it often contains more súgar.

#### Calcium and potassium are...

#### **O trace elements**

Wrong! Calcium and potassium are macroelements.

#### minerals

Well done! Calcium and potassium are minerals. Unlike other nutrients, they are inorganic.

#### O proteins

Wrong! Unlike proteins, these nutrients are inorganic.

#### Fats provide us with other nutrients as well as lipids. Which ones?

#### O Carbohydrates

Wrong! Fats do not contain large amounts of carbohydrates.

#### O Fibre

Wrong! Fats do not contain any fibre.

#### Vitamins Well done! Butter and cream provide us with vitamin A, and oils supply us with vitamin E.

All the food in a particular food group has one single nutrient.

#### O True

Wrong! That is not the correct answer.

#### False

Well done! Food in the same food group can provide more than one main nutrient.

### Which of the following is mainly linked to the drinks group and is ideal for keeping your body hydrated?

#### O Coffee

Wrong! Coffee belongs to the drinks group and can help hydrate your body, but not optimally.

#### O Lemonade

Wrong! Lemonade belongs to the sugary products group and should be consumed in moderation.

#### Water

Well done! Water is indispensable for all life processes and should be favoured over sweet drinks.

### Butter and cream belong to...

#### the fats group

Well done! Owing to their high lipid content, butter and cream belong to the fats group.

O the sugary products group Butter and cream do not contain large amounts of sugar.

O the dairy products group Wrong! Although both these products are made from milk, their high lipid content puts them in the fats group.