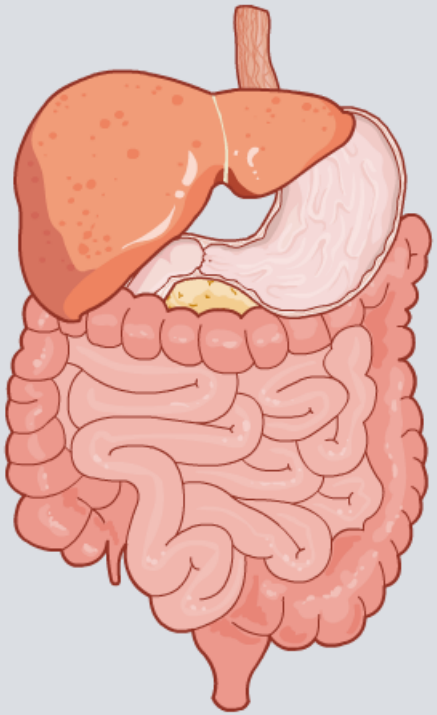
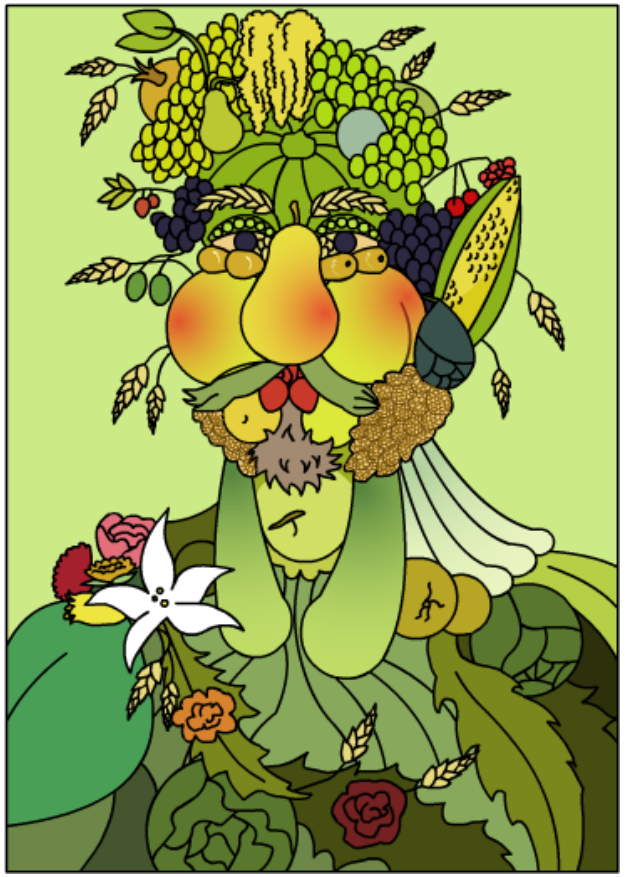
Digestion



You are what you eat!

When food is digested its components enter the blood.

carbohydrate	→	glucose
fat	→	fatty acids + glycerol
protein	→	amino acids



Molecules used for **growth** and **repair** become part of the body.

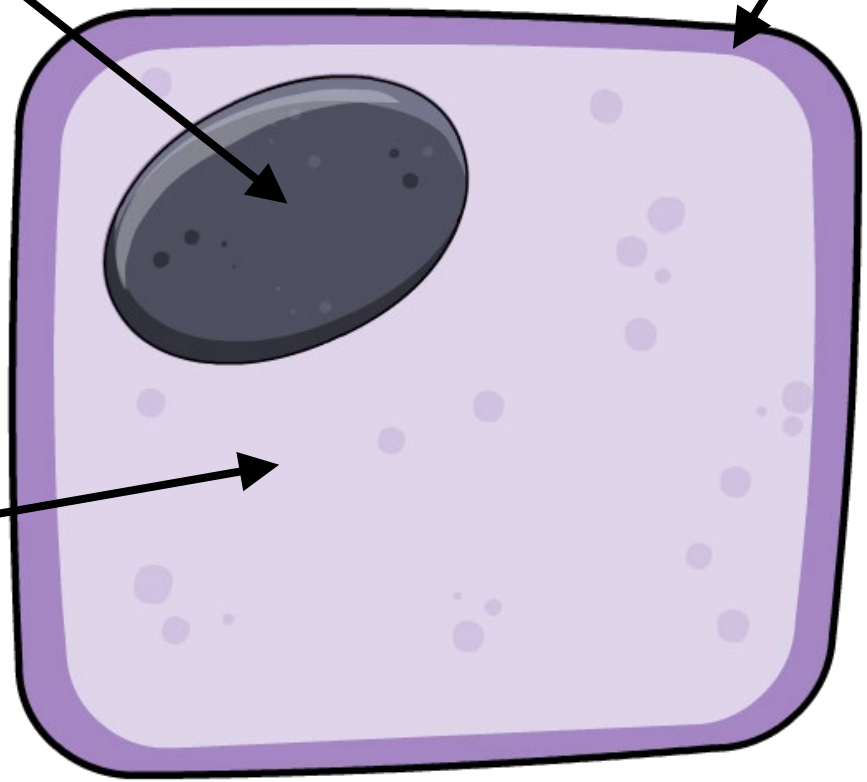
Those used as **energy sources** are lost as CO_2 and H_2O.

What are cells made from?

Different nutrients are incorporated into each part of a cell:

nucleus:
protein

membrane:
fats and
carbohydrate



cytoplasm:
protein and
water

You are what you eat!

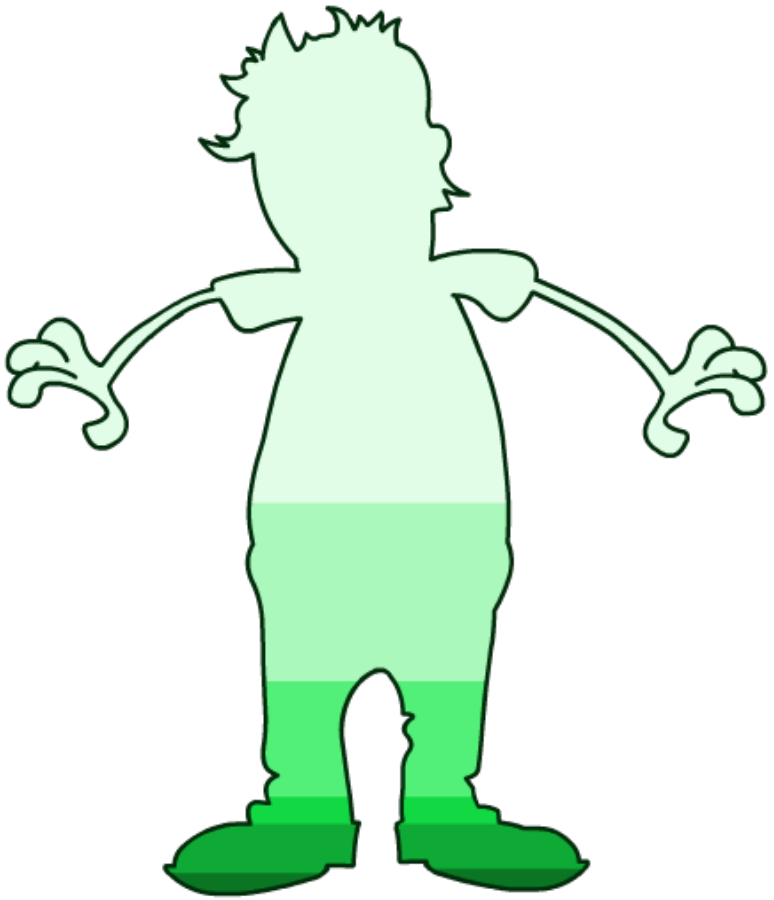
Nutrition information:

Typical values (percent)

Water	60%
Protein	20%
Minerals	10%
Fat	9%
Carbohydrate	1%
Vitamins	<1%

! Use by: see date on lid
May contain nut traces

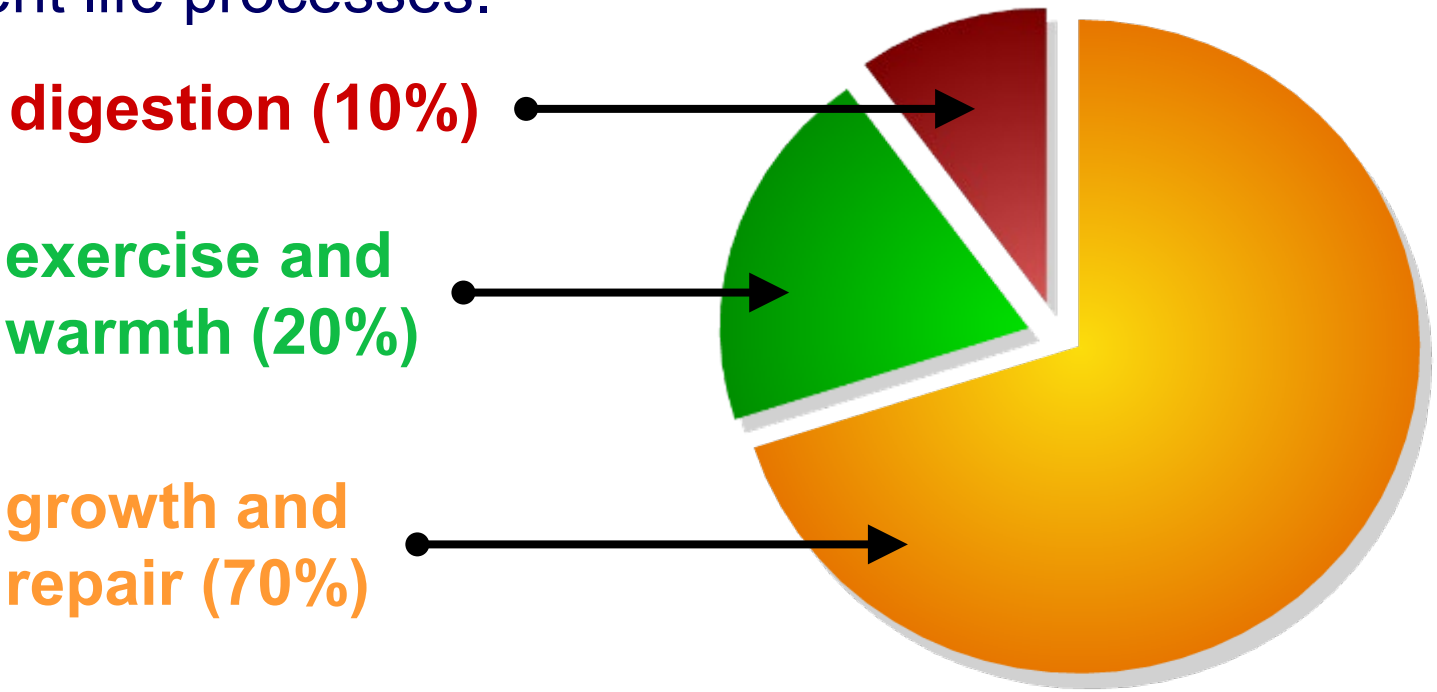
What could this food label represent? **A human!**



Different nutrients

Why do some people need more food?

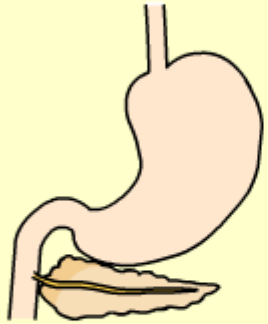
Metabolism is the series of chemical reactions or 'life processes' in the body. Different amounts of energy are used in different life processes.



Metabolic rate is the rate at which cells uses energy. This varies between individuals. Why does metabolic rate increase during exercise and cold weather?

How is food digested?

Digestion is the breakdown of food into small soluble nutrients that can be absorbed into the bloodstream.



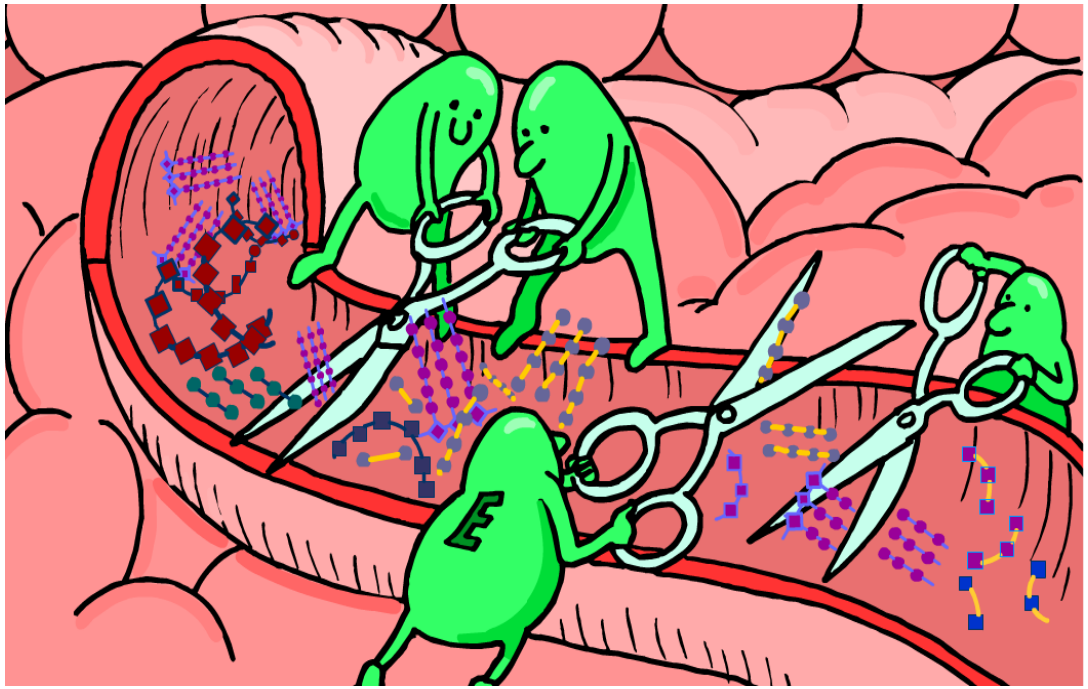
Click "**start**" to learn more about the process.

start

Enzymes at work

Enzymes digest food in the **mouth**, **stomach** and **small intestine**.

Enzymes break down large food molecules into smaller ones that can be absorbed by the blood. This is called **chemical digestion**.

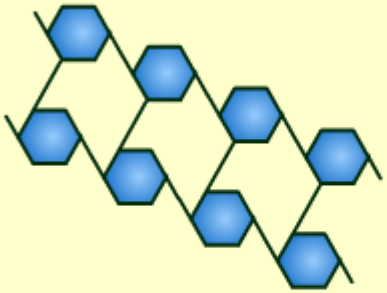


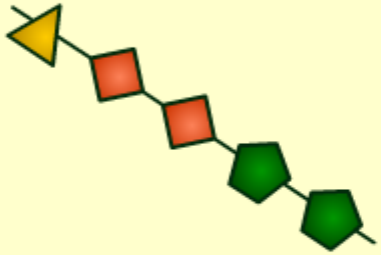
Different types of food are broken down by different enzymes.

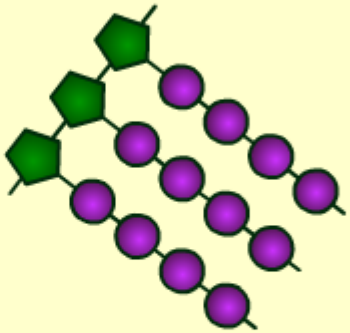
Enzymes of digestion

Which enzymes break down each nutrient?

Carbohydrates, proteins and fats are broken down by different enzymes in the digestive process.







Choose a nutrient to see how each enzyme works.

starch | protein | fat