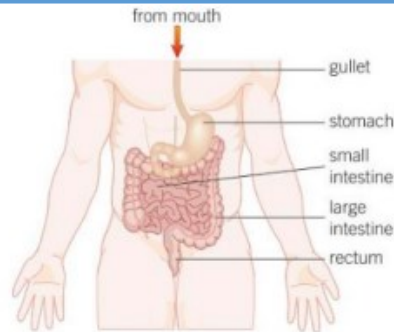


Food and digestion

Nutrients	Substances your body needs to survive.
Digestion	The process of turning food into useful substances
Enzyme	Biological catalyst.
Catalyst	Speeds up a reaction but isn't used up.
Bacteria	Found in the large intestine. They break down food.



What roles do bacteria and enzymes have in digestion?



Gut bacteria break down food to make some of the vitamins we need. Enzymes are proteins that turn large molecules into small molecules. Enzymes are biological catalysts, they speed up digestion without being used up. Carbohydrase turns starch into sugar, protease breaks down protein into amino acids and lipase breaks down lipids into fatty acids and glycer-

How can we test for different food groups?

- ⇒ To test for starch, use iodine solution. If the solution turns from orange/brown to blue/black it contains starch.
- ⇒ To test for lipids, add ethanol and shake well. If the solution is cloudy the food contains lipids.
- ⇒ To test for sugar, add Benedict's solution and heat. If the solution goes from blue to red/orange, the food contains sugar.
- ⇒ To test for protein, add copper sulfate and then sodium hydroxide. If it turns purple, it contains protein!

What are the consequences of an unhealthy diet? You can be underweight if you don't consume enough calories. Underweight people are often tired, lack energy, have poor immune systems and vitamin deficiencies. If you consume too much you may become overweight. Overweight people are more at risk of heart disease, stroke, diabetes or cancer. Vitamin A deficiency causes night blindness. Vitamin D deficiency causes rickets (weak bones).

How does the digestive system perform its function?

- ⇒ Food is chewed and mixed with saliva. Teeth break into smaller chunks.
- ⇒ Food passes down the gullet.
- ⇒ In the stomach food is mixed with acid and digestive juices.
- ⇒ In the small intestine, more digestive juices from the liver and pancreas are added. Small molecules of nutrients pass through the intestine wall into the blood stream.
- ⇒ Food that cannot be digested passes into the large intestine. Here, any water passes back into the body.
- ⇒ The remaining waste is faeces, this is stored in the rectum until it is passed out of the anus.

What are the components of a balanced diet?

A balanced diet contains the right nutrients in the correct amounts.

1. Carbohydrates provide energy.
2. Lipids provide energy.
3. Proteins are used for growth and repair.
4. Vitamins and minerals keep you healthy.
5. Water is needed in cells and body fluids.
6. Dietary fibre provides bulk to food to help it move through the gut.

