

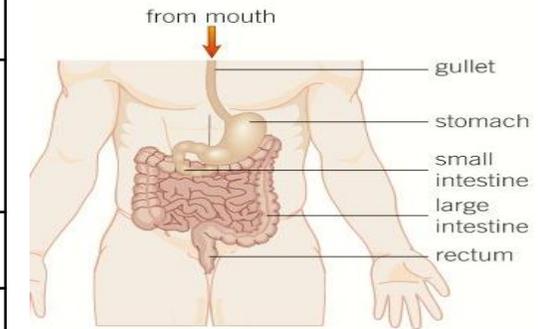
Section 1- Nutrients of a balanced diet

Nutrient	Function / why it is needed	Good sources
Carbohydrate (Starch & sugar)	for respiration to release energy	pasta, bread, potatoes, rice
Protein	for growth and repair	meat, fish, eggs, beans
Fat (lipid)	Energy store Insulation Protects organs	Dairy products (milk, cheese, yoghurt)
Vitamins	Vit D for absorbing calcium for healthy bones Vit C – needed for immune system	Fruits and vegetables
Minerals	Iron – needed to make red blood cells Calcium – needed for strong bones	Fruits and vegetables
Fibre	Helps your food to be squeezed through the gut (avoids constipation)	Fruits and vegetables Wholemeal products
Water	Transports dissolved substances Involved in chemical reactions	Fruit and vegetables

Section 2 – Food tests

Nutrient testing for	Chemical used	Positive result
Starch	Brown or yellow Iodine solution	Black or dark blue
Fat	Clear Ethanol	Cloudy
Protein	Blue Biurets solution	Purple
Sugar (glucose)	Blue Benedicts solution / heated	change in colour to green, yellow, orange or red. Order is from least to most amount of sugar

Section 3- Structure of the digestive system



- Mouth** Food is chewed and mixed with saliva. Teeth help to break the food into smaller chunks.
- Gullet** Food passes down this tube.
- Stomach** Food is mixed with digestive juices and acids.
- Small intestine** Digestive juices from the liver and pancreas are added and digestion is completed. Small molecules of nutrients pass through the intestine wall into the bloodstream.
- Large intestine** Only food that cannot be digested gets this far. Water passes back into the body, leaving a solid waste of undigested food called feces.
- Rectum** Feces are stored here until they leave the body.
- Anus** This is a muscular ring through which feces pass out of the body.

Section 5- Alcohol & Smoking

Drugs are chemicals that affect the way your body works. They can be medicinal (benefit health) or recreational (no health benefit). If your body gets used to the change: caused by a drug and you need to keep taking it just to feel normal this is an addiction.

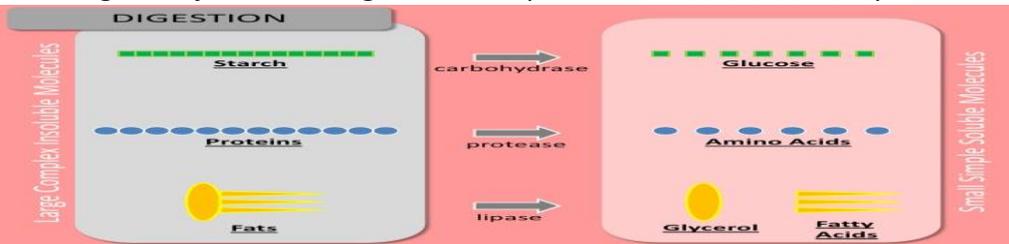
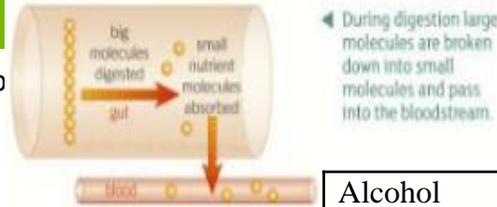
Alcohol (ethanol)	Depressant drug (slows down messages sent by your nervous system)	Continually breaking down ethanol leads to liver scarring called Cirrhosis. The liver can no longer clear other harmful wastes well. It can be fatal. Ethanol can cross from a pregnant woman to her baby. It can damage the baby's brain and can result in learning difficulties. Ethanol also reduces fertility (the ability to have children).
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Tobacco smoke contains tar, carbon monoxide and the stimulant drug nicotine (speeds up messages sent by your nervous system). Tar is a mixture of chemical many of which cause cancer. Carbon monoxide can attack to red blood cells and reduce the amount of oxygen your blood carries. This can cause pregnant woman to miscarry as their baby cannot gain enough oxygen. Smoking narrows your arteries which can increases the risk of a blockage which can cause heart disease or a stroke. Smoke damages the cells that sweep mucus up your airways. The mucus contains harmful microbes that are usually killed by stomach acid. Smokers get lots of chest infections.

Section 3 – Enzymes

To make use of the food, our bodies need to break it up into smaller sized molecules so it can be absorbed into our bloodstream at the small intestine. This is called **digestion**. Digestion turns large **insoluble** substances into small **soluble** ones.

The digestive juices of the gut contain special chemicals called enzymes .



Bile produced by the liver creates fat droplets which means the enzymes can digest fat quicker.