

## KNOWLEDGE ORGANISER

**BIG IDEA:** ORGANISMS

**TOPIC:** Digestion

Key Word	Definition
<b>Enzymes</b>	Substances that speed up the chemical reactions of digestion by breaking down large food molecules into smaller ones.
<b>Dietary fibre</b>	Parts of plants that cannot be digested, which helps the body eliminate waste.
<b>Carbohydrates</b>	The body's main source of energy. There are two types: simple (sugars) and complex (starch).
<b>Lipids</b>	(fats and oils) A source of energy. Found in butter, milk, eggs, nuts.
<b>Protein</b>	Nutrient your body uses to build new tissue for growth and repair. Sources are meat, fish, eggs, dairy products, beans, nuts and seeds.
<b>Stomach</b>	A sac where food is mixed with acidic juices to start the digestion of protein and kill microorganisms.
<b>Small intestine</b>	Upper part of the intestine where digestion is completed and nutrients are absorbed by the blood.
<b>Large intestine</b>	Lower part of the intestine from which water is absorbed and where faeces are formed.
<b>Gut bacteria</b>	Microorganisms that naturally live in the intestine and help food break down.

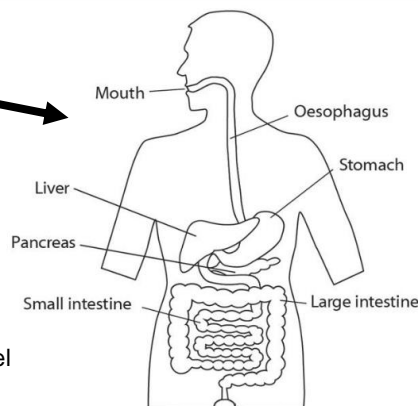
### Parts of the digestive system

(see the diagram )

### The route of food in digestion:

Mouth → oesophagus (gullet) → stomach  
→ Small intestine → large intestine →  
rectum → anus

Organs of the digestive system are adapted (they have special features) to break large food molecules into small ones which can travel in the blood to cells and are used for life processes.



The body needs a **balanced diet** with lipids, proteins, vitamins, minerals, dietary fibre and water, for its cells' energy, growth and maintenance.

Vitamins and minerals are needed in small amounts to keep the body healthy:

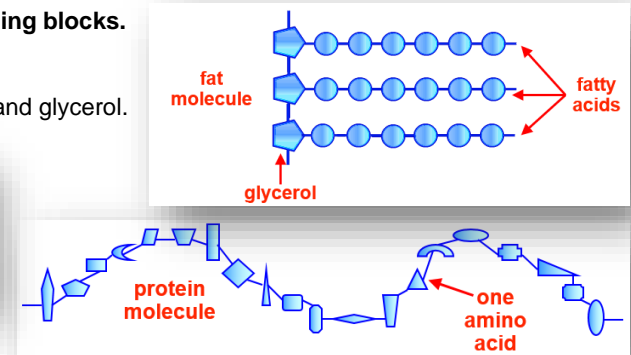
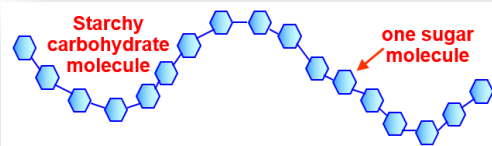
- Iron is a mineral important for red blood cells.
- Calcium is a mineral needed for strong teeth and bones.

If you have an unbalanced diet you might suffer health problems such as obesity, anorexia or a deficiency disease.



### Carbohydrates proteins and fats and their building blocks.

- Starchy carbohydrates are made of sugars
- Proteins are made from amino acids
- Lipids (fats and oils) are made from fatty acids and glycerol.



**Digestive enzymes** are the chemicals that **break** large Insoluble (will not dissolve) food molecules into smaller Soluble (will dissolve) molecules:

- carbohydrase – breaks carbohydrate into smaller sugars
- protease – breaks protein into amino acids
- lipase – breaks fat into fatty acids and glycerol

