

# 8A Summary Sheets

## *Food and digestion*

We need to eat a wide variety of foods to provide our bodies with all the substances that are needed. When we do this, we are said to have a **balanced diet**.

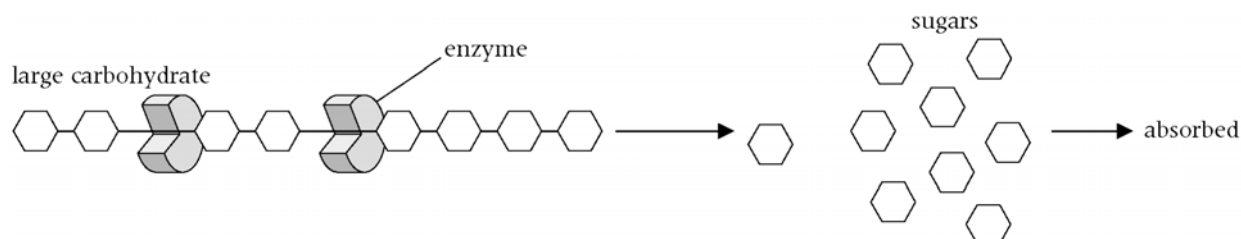
Substance needed	Examples	Why it's needed	Good sources
<b>carbohydrate</b>	starch, sugars	for respiration to release energy	pasta, bread
<b>protein</b>		for growth and repair	meat, beans
<b>vitamins</b>	vitamin C	for health	fruits and vegetables – oranges contain a lot of vitamin C
<b>minerals</b>	calcium	for health	fruits, vegetables and dairy products – milk contains a lot of calcium
<b>fibre</b>		for health; helps to keep our intestines clean stop them getting blocked up ( <b>constipation</b> )	wholemeal bread
<b>water</b>		for health; water is important <b>solvent</b> in the body	

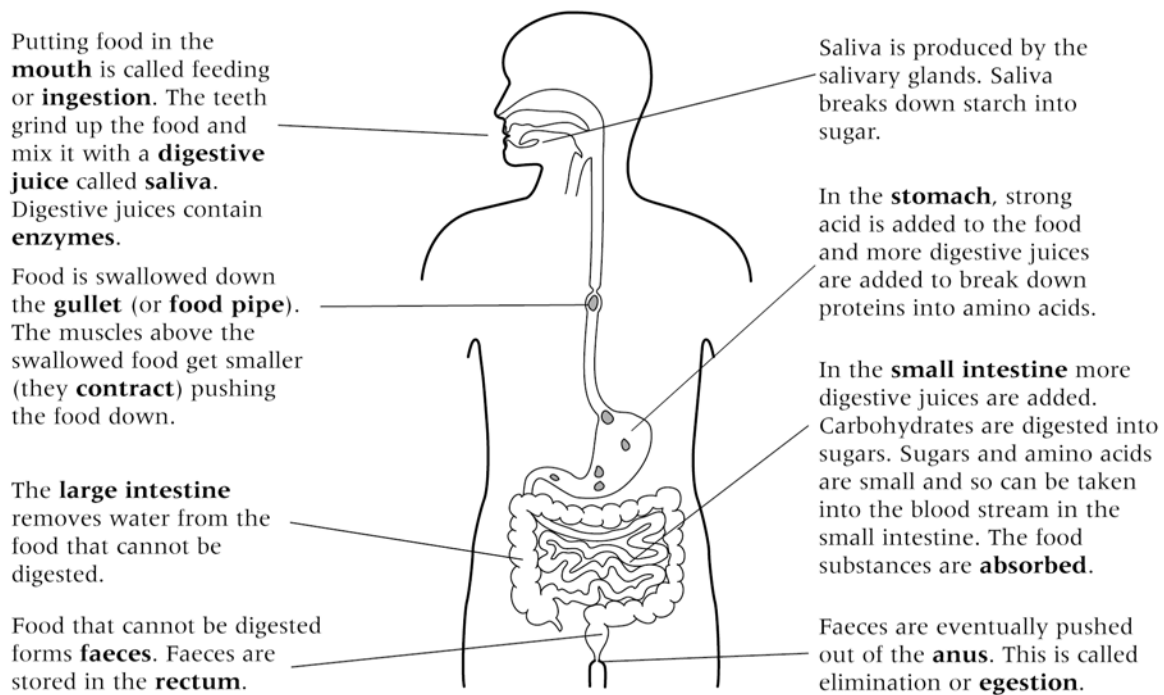
We can do tests to find out which substances are in foods. For example, starch makes iodine solution go a blue–black colour.

**Nutrition information** labels on foods tell us what the food contains. The labels also tell us how much chemical energy is stored in the food. The amount of energy is measured in **kilojoules (kJ)**.

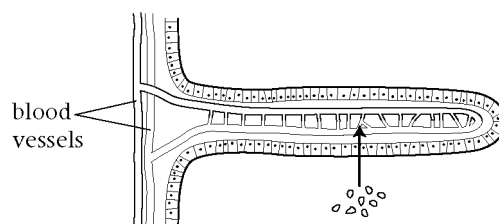
Eating too much of some foods can cause problems. Too much fat may cause **heart disease**.

To make use of the food, our bodies need to break it up into smaller sized molecules. This is called **digestion**. Digestion turns large **insoluble** substances into small **soluble** ones. The organs of the **digestive system** help us digest food. Many of them produce **enzymes** (chemicals that break up food).





To help absorb the digested food, the small intestine is covered with **villi**. These increase the surface area.



The digested food substances are carried around the body in the **blood**. The blood travels through **blood vessels**. **Arteries** carry blood away from the heart and **veins** carry blood towards the heart. The smallest blood vessels are **capillaries**. Substances enter and leave the blood through capillaries. Cells get the substances they need from the blood in capillaries.

Cells need food substances to:

- release energy
- make new substances.

Cells use a **chemical reaction** called **respiration** to release energy from a sugar called glucose.