

Topic Overview

Healthy living



KNOW IT

- I can state the [7 essential](#) nutrients in our [diet](#)
- I can describe how to test for [starch](#) and [glucose](#)
- I can describe the effects of [deficiencies or excesses](#) of different nutrients on a person's health.
- I can state what [happens during digestion](#)
- I can describe the structure and main parts of the [digestive system](#)
- I can explain how components of the digestive system are [adapted to their function](#).
- I can state the difference between medicinal and recreational drugs
- I can describe the effect of drugs on behaviour.
- I can describe the effect [alcohol](#) has on health, behaviour and pregnancy
- I can describe and explain the effects [of tobacco](#) smoke on [health](#).



LINK IT

This topic links with the respiration and photosynthesis topic you will do in Year 8



PROVE IT

- DIRT task -
- End of unit test



SAY IT

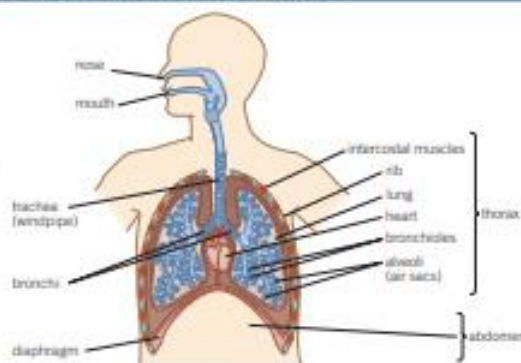
VOCABULARY	DEFINITION
Benedicts reagent	A reagent used to test for reducing sugars.
iodine	A reagent used to test for starch
Unbalanced diet	When a diet consists of too much or too little of a particular nutrient.
enzyme	A chemical produced by the body that chemically breaks down large molecules in our food.
digestion	The process of breaking food down into small soluble molecules that can be absorbed into our blood.
carbohydrates	A group of chemicals in our diet that provide us with energy.
protein	A group of chemicals in our diet that can be broken down into amino acids which are used for growth and repair.
Small intestine	The location in our digestive system where small soluble molecules are absorbed into our blood.

B2 Chapter 8: Organisms

Knowledge organiser

Gas exchange and breathing

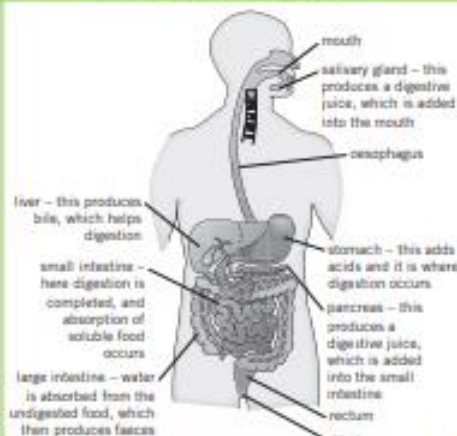
- Gas exchange** is the process of taking in oxygen and giving out carbon dioxide
- This occurs in the **respiratory system**
- The proportions of gases in the air we **inhale** and **exhale** changes due to using oxygen in **respiration** and producing carbon dioxide



What happens when you breathe in and out

when you breathe in (inhale)	<ul style="list-style-type: none"> muscles between the ribs contract ribs are pulled up and out diaphragm contracts and flattens volume of the chest increases pressure inside the chest decreases air rushes into the lungs
when you breathe out (exhale)	<ul style="list-style-type: none"> muscles between ribs relax ribs are pulled in and down diaphragm relaxes and moves up volume in the chest decrease pressure inside the chest increases air is forced out of the lungs

The digestive system



Enzymes

- Enzymes** are biological **catalysts**, they speed up the digestion of **nutrients**
- Each enzyme is specific to each nutrient
- The way the enzyme and nutrient bind with each other is called a **lock and key model**
- Carbohydrases** break **carbohydrates** down into simple sugars
- Proteases** break **proteins** down into amino acids
- Lipase** breaks **lipids** (fats) down into fatty acids and glycerol



Drugs

- Drugs** are chemicals that affect the way that our body works
- Medicinal drugs** are used in medicine, they benefit health
- If medicinal drugs are not taken in the correct way they can harm health
- Examples include antibiotics and pain killers
- Recreational drugs** are taken by people for enjoyment
- Recreational drugs normally have no health benefits and can be harmful for health
- Examples include alcohol and tobacco
- Drug **addiction** is when your body gets so used to a drug, it feels it cannot cope without it
- If someone who has an addiction stops taking the drug, they will experience **withdrawal symptoms**

Nutrients

- A **balanced diet** involves eating the right amount of nutrients for your body to function
- Not eating enough of a nutrient means you have an unbalanced diet, and this can lead to a **deficiency**

Nutrient	Role in your body
carbohydrates	main source of energy
lipids	fats and oils provide energy
proteins	growth and repair of cells and tissues
vitamins and minerals	essential in small amounts to keep you healthy
water	needed in all cells and body fluids
fibre	provides bulk to food to keep it moving through the gut



Key terms

Make sure you can write definitions for these key terms.

addiction balanced diet carbohydrate carbohydrases catalyst deficiency drug enzyme exhale fibre gas exchange inhale lipid
medicinal drug mineral nutrient protease protein recreational drug respiration respiratory system vitamin withdrawal symptoms