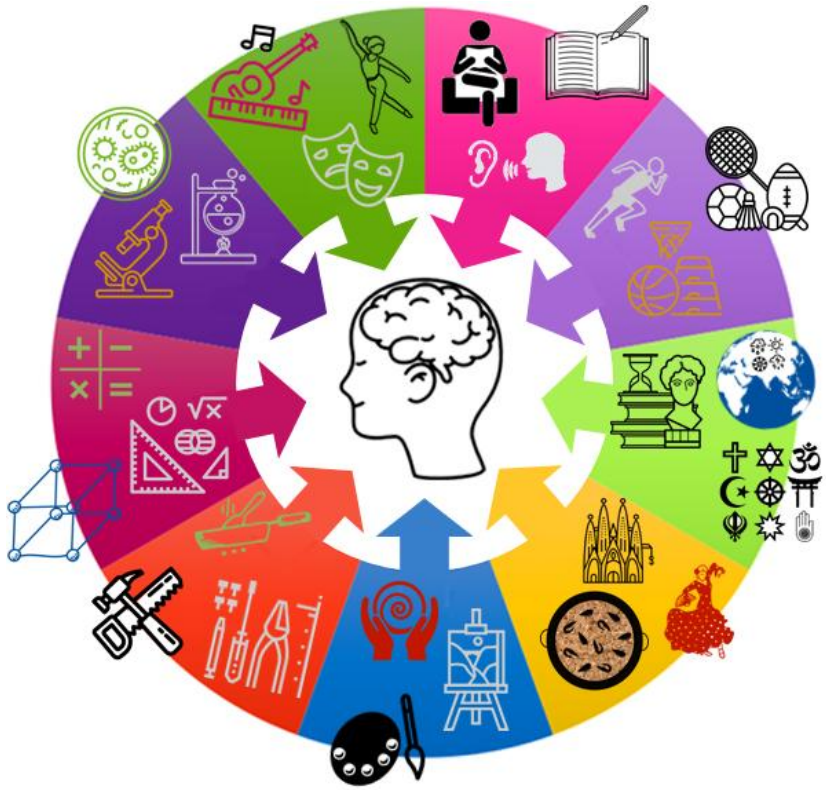
100% book – Year 8 Booster

Aim to memorise 100% of the knowledge on these Knowledge Organisers



Term 2

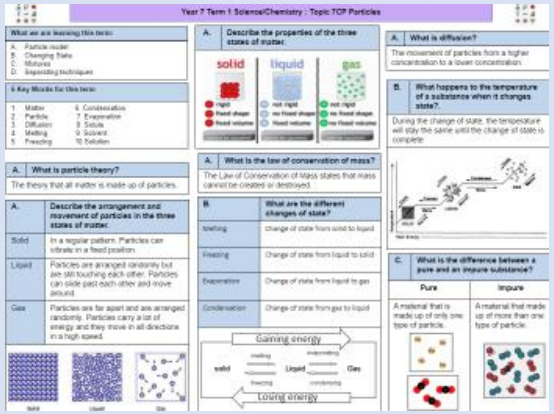
Swindon Academy 2026-27	
Name:	
Tutor Group:	
Tutor & Room:	

"If you are not willing to learn, no one can help you.
If you are determined to learn, no one can stop you."

Swindon Academy The best in everyone™ Part of United Learning
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Using your Knowledge Organiser and Quizzable Knowledge Organiser

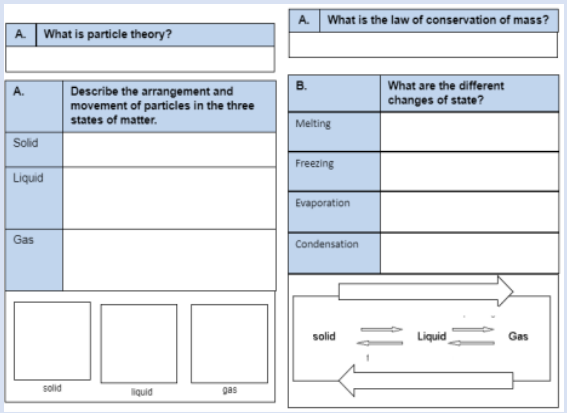
Knowledge Organisers



Knowledge Organisers contain the essential knowledge that you MUST know in order to be successful this year and in all subsequent years.

They will help you learn, revise and retain what you have learnt in lessons in order to move the knowledge from your short-term memory to long-term memory.

Quizzable Knowledge Organisers



These are designed to help you quiz yourself on the essential Knowledge.

Use them to test yourself or get someone else to test you, until you are confident you can recall the information from memory.

Top Tip

Don't write on your Quizzable Knowledge Organisers! Quiz yourself by writing the missing words in your prep book. That way you can quiz yourself again and again!

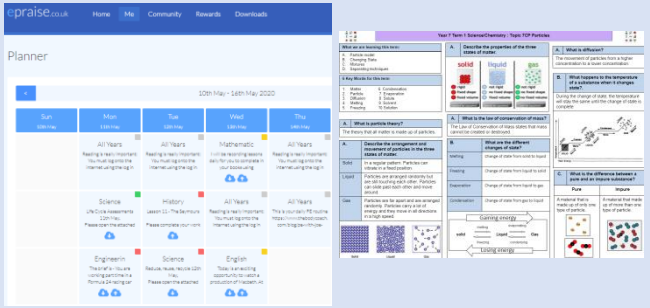
Expectations for Prep and for using your Knowledge Organisers

1. Complete all prep work set in your subject prep book.
2. Bring your prep book to every lesson and ensure that you have completed all work by the deadline.
3. Take pride in your prep book – keep it neat and tidy.
4. Present work in your prep book to the same standard you are expected to do in class.
5. Ensure that your use of SPAG is accurate.
6. Write in blue or black pen and sketch in pencil.
7. Ensure every piece of work has a title and date.
8. Use a ruler for straight lines.
9. If you are unsure about the prep, speak to your teacher.
10. Review your prep work in green pen using the mark scheme.

How do I complete Knowledge Organiser Prep?

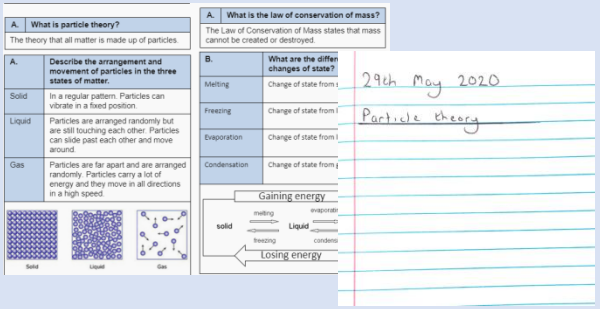
Step 1

Check Epraise and identify what words /definitions/facts you have been asked to learn. Find the Knowledge Organiser you need to use.



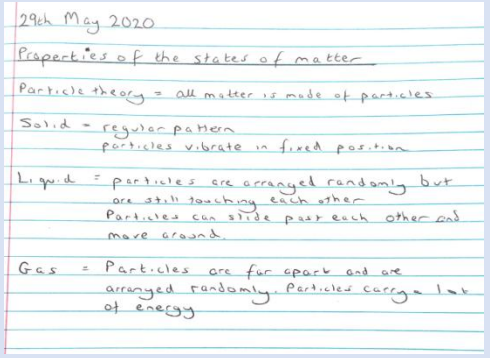
Step 2

Write today's date and the title from your Knowledge Organiser in your Prep Book.



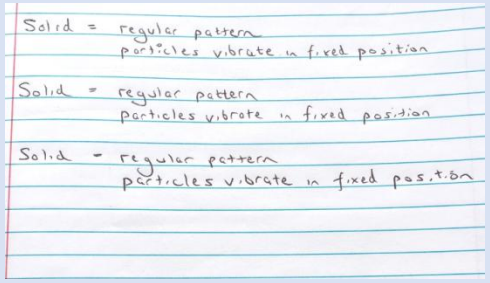
Step 3

Write out the keywords/definitions/facts from your Knowledge Organiser in FULL.



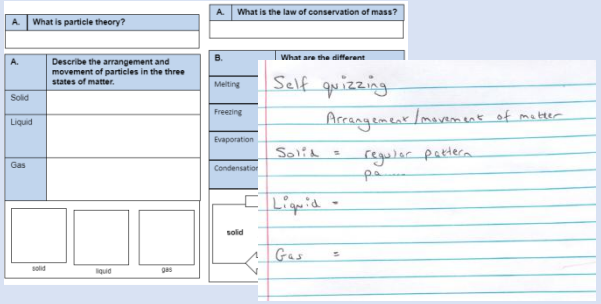
Step 4

Read the keywords/definitions/facts out loud to yourself again and again and write the keywords/definitions/facts at least 3 times.



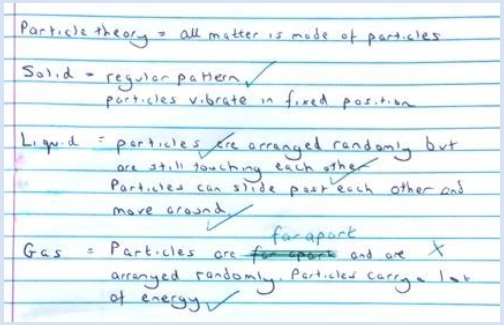
Step 5

Open your quizzable Knowledge Organiser. Write the missing words from your quizzable Knowledge organiser in your prep book.



Step 6

Check your answers using your Knowledge Organiser. Repeat Steps 3 to 5 with any questions you got wrong until you are confident.



Make sure you bring in your completed Prep notes to demonstrate that you have completed your prep.

‘Animal Farm’: Knowledge Organiser

Chapter breakdown

1	The animals gather to listen to old Major. He gives them a vision of a life without man.
2	The animals rebel and overthrow Jones. The commandments are written.
3	The animals’ first harvest is a success. The pigs keep the milk and apples to themselves.
4	The Battle of the Cowshed: Jones attempts to reclaim the farm.
5	Snowball and Napoleon debate the windmill. Napoleon uses dogs to chase Snowball from the farm. Napoleon makes himself leader.
6	Work begins on the windmill. The pigs move into the farmhouse. Winds destroy the windmill.
7	Work on the windmill starts again. Napoleon demands eggs from the hens. Napoleon slaughters animals at the show trials.
8	Napoleon betrays Mr. Pilkington and sells timber to Mr. Frederick. Frederick pays with counterfeit money. Frederick attacks the farm. The animals suffer losses in the Battle of the Windmill. The windmill is destroyed.
9	Boxer is sold to the knacker’s yard.
10	The pigs are leaders on the farm. They start walking on two legs and carrying whips. There is no difference between the pigs and the humans they sought to overthrow at the start of the novel.

The seven commandments

1	Whatever goes upon two legs is an enemy.
2	Whatever goes upon four legs, or has wings, is a friend.
3	No animal shall wear clothes.
4	No animal shall sleep in a bed.
5	No animal shall drink alcohol.
6	No animal shall kill any other animal.
7	All animals are equal.

Characters

Napoleon
‘a large, rather fierce-looking Berkshire boar, the only Berkshire on the farm, not much of a talker, but with a reputation for getting his own way.’

Snowball
‘a more vivacious pig than Napoleon, quicker in speech and more inventive, but was not considered to have the same depth of character.’

Squealer
‘with very round cheeks, twinkling eyes, quick movements, and a shrill voice. He was a brilliant talker, and when he was arguing some difficult point he had a way of skipping from side to side and whisking his tail which was somehow very persuasive. The others said of Squealer that he could turn black into white.’

Boxer
‘an enormous beast, nearly eighteen hands high, and as strong as any two ordinary horses put together… in fact he was not of first-rate intelligence, but he was universally respected for his steadiness of character and tremendous powers of work.’

Key words

allegory – A story with two meanings. It has a literal meaning, which is what actually happens in the story. But it also has a deeper meaning. The deeper meaning is often a moral. It teaches you a lesson about life.

tyrant – Someone who has total power and uses it in a cruel and unfair way. A **tyranny** is a situation in which a leader or government has too much power and uses that power in a cruel and unfair way.

rebellion – A rebellion is a situation in which people fight against those who are in charge of them.

harvest – The time when crops are cut and collected from fields.

corrupt – When people use their power in a dishonest way order to make life better for themselves.

propaganda – Information that is meant to make people think a certain way. The information may not be true.

cult of personality – A cult of personality is where a leader convinces people to worship him or her, and treat them like a god.

treacherous – If you betray someone who trusts you, you could be described as **treacherous**.

Biographical information

1	‘Animal Farm’ was written in 1945.
2	It was written by George Orwell.
3	Orwell was born in 1903.
4	‘Animal Farm’ was influenced by the events of World War II.
5	Orwell wanted to write about the cruel leaders of Europe during World War II.
6	‘Animal Farm’ is an allegory for the events of the Russian Revolution.

‘Animal Farm’: Knowledge Organiser

Chapter breakdown

1	The animals gather to _____ to old Major. He gives them a vision of a life _____ _____.
2	The animals _____ and overthrow Jones. The _____ are written.
3	The animals’ first harvest is a success. The pigs keep the _____ and _____ to themselves.
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9	Boxer is sold to the _____ yard.
10	The pigs are leaders on the farm. They start walking on _____ legs and carrying _____. There is _____ _____ between the pigs and the humans they sought to overthrow at the start of the novel.

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1	Whatever goes upon _____ legs is an _____.
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‘a large, rather _____-looking Berkshire boar, the only Berkshire on the farm, not much of a talker, but with a reputation for getting his _____ _____.’

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‘an _____ beast, nearly eighteen hands high, and as _____ as any two ordinary horses put together… in fact he was _____ of first-rate _____, but he was universally respected for his steadiness of character and tremendous powers of _____.’

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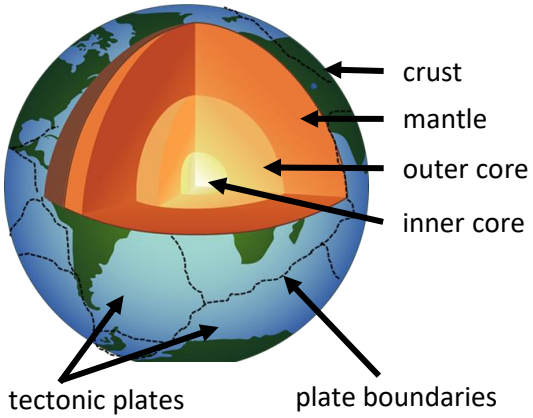
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6	‘Animal Farm’ is an _____ for the events of the _____ _____.

8.02: Earth and the Atmosphere

Composition and structure of the Earth

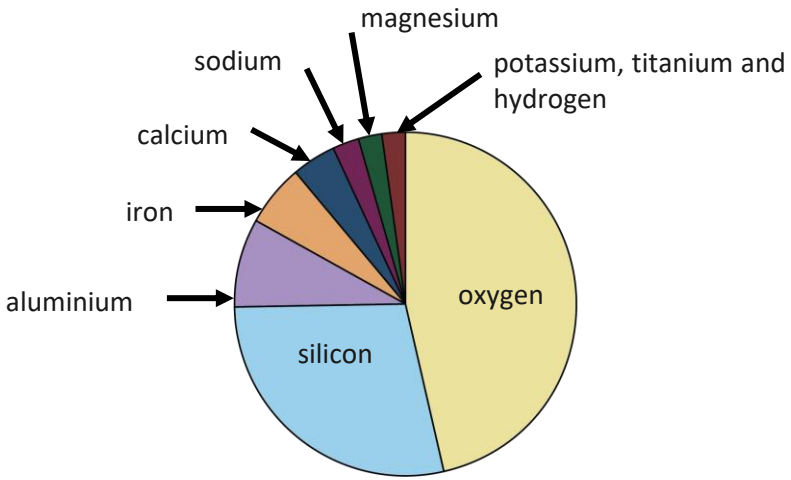


Layer	State	Composition	Thickness (km)	Temperature (°C)
crust	solid	rocks and minerals	5 to 70	0 to 30
mantle	solid	rocks and minerals	2900	1400 to 3000
outer core	liquid	molten iron and nickel	2200	4400
inner core	solid	solid iron and nickel	1200	5430

The two types of crust are continental crust, which is found beneath landmasses, and oceanic crust, which is found below the oceans.

Continental crust is the thickest.

Earth's crust is broken up into tectonic plates that meet at plate boundaries.



The most common elements that make up the minerals of Earth's crust.

Scientists can't explore deep inside Earth, so they use models to show what it's like. These models have limitations and can change when new evidence is found.

An apple



+
- has a thin outer layer
- has a thick middle layer
- has a core

−
- not spherical
- the outer layer is the same thickness all around
- the inner and outer cores are not clear

A layer cake

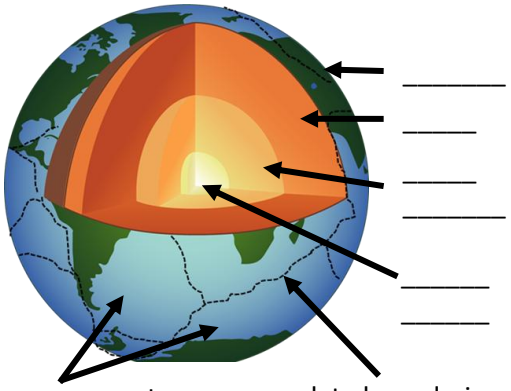


+
- has a thin outer layer
- has thicker middle layers
- has four layers

−
- not spherical
- doesn't show the difference in layer thickness
- the core is not hot

8.02: Earth and the Atmosphere

Composition and structure of the Earth

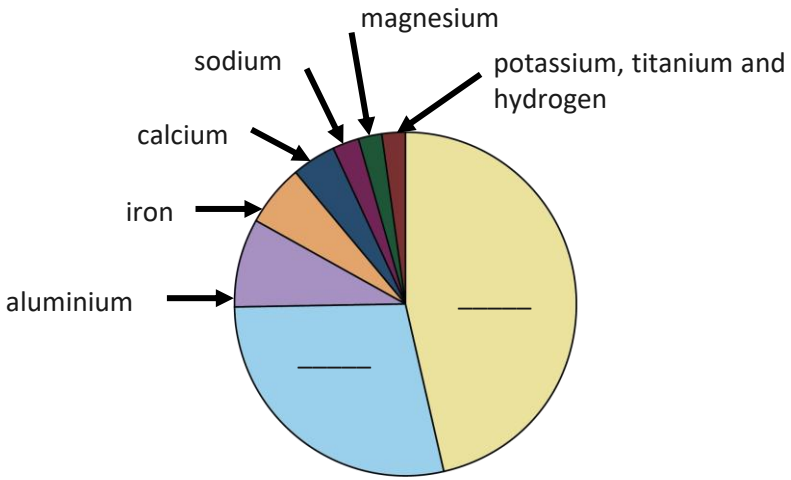


Layer	State	Composition	Thickness (km)	Temperature (°C)
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	solid	rocks and minerals	2900	1400 to 3000
outer core			2200	4400
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The two types of crust are _____crust, which is found beneath landmasses, and _____ crust, which is found below the oceans.

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The most common elements that make up the minerals of Earth's crust.

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An apple



(+)
- _____
- _____
- _____

(−)
- not _____
- the outer layer is the _____ thickness all around
- the inner and outer cores are _____ _____

A layer cake



(+)
- has _____
- has _____
- has _____ layers

(−)
- _____
- doesn't show the difference in layer _____
- the core is _____

8.02: Earth and the Atmosphere

Scientific theory: continental drift

After data collection, scientific thinkers propose a scientific theory; it is based on a body of facts and is repeatedly confirmed by observation (and experiment).

The theory of continental drift is the theory that the continents were once connected in a land mass (Pangaea) but have broken apart and drifted away over time.

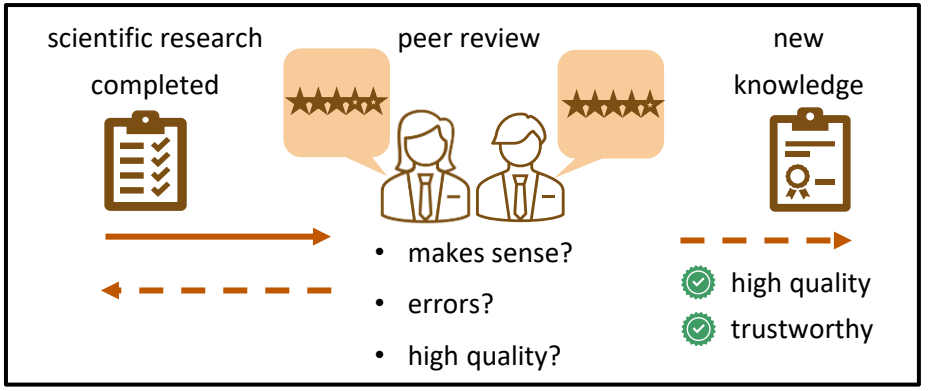
Three pieces of evidence that support the theory are:

- The coastlines of many continents appear to fit together like a jigsaw puzzle.
- There were similar types of rocks across continents that are now far apart.
- There were identical plant and animal fossils found on different continents that are now far apart.

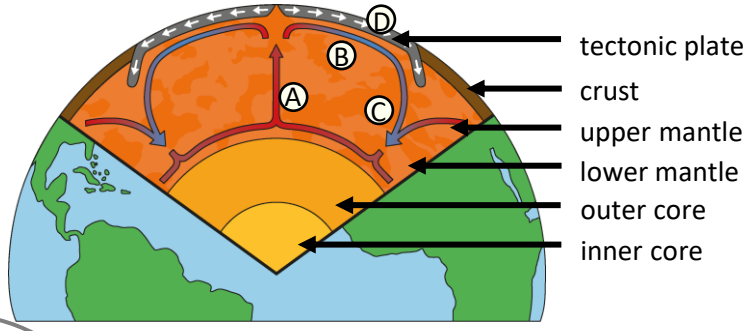
Peer review

Scientific thinkers present evidence to their peers in order to support an opinion and explain their reasoning.

Peer review is when researchers submit work for peer feedback. Peer review is important because it helps to make sure that the research is trustworthy and of high quality.



Convection currents cause continent movement



A. Hot, less dense rock rises towards the upper mantle.

B. In the upper mantle, the hot rock spreads and moves sideways.

C. As it cools, it becomes more dense and sinks back down, creating convection currents.

D. These convection currents cause the tectonic plates above to shift. As a result, the continents slowly change position over millions of years.

8.02: Earth and the Atmosphere

Scientific theory: continental drift

After data collection, scientific thinkers propose a scientific theory; it is based on a body of facts and is repeatedly confirmed by observation (and experiment).

The theory of _____is the theory that the continents were once connected in a _____ _____(Pangaea) but have broken apart and _____away over time.

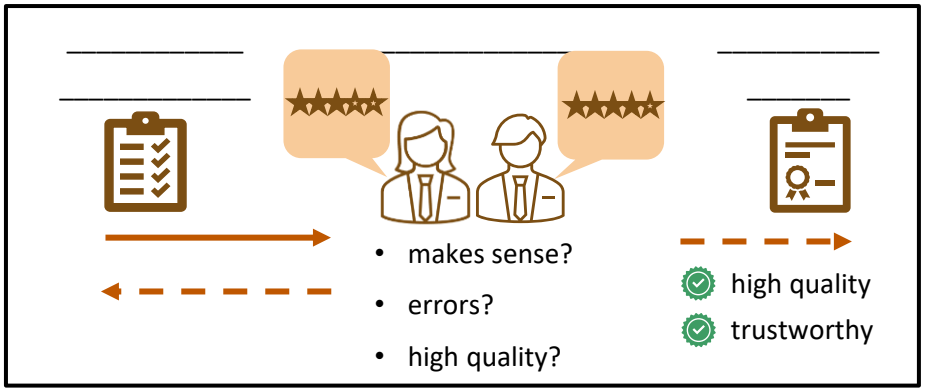
Three pieces of evidence that support the theory are:

- The coastlines of many continents appear to fit together like a _____ _____.
- There were similar types of _____ across _____that are now far apart.
- There were identical _____and _____ fossils found on _____ continents that are now far apart.

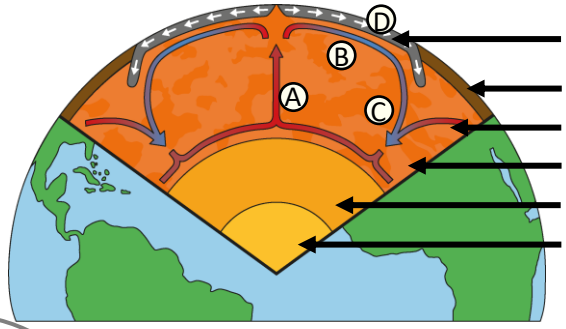
Peer review

Scientific thinkers present evidence to their peers in order to _____and _____.

Peer review is when researchers submit work for _____. Peer review is important because it helps to make sure that the research is_____ and of _____.



Convection currents cause continent movement



A. _

B. _

C. _

D. _

8.02: Earth and the Atmosphere

Rocks and the rock cycle

Igneous rock

- Igneous rocks are formed when molten rock crystallises.
- Molten rock above the Earth's surface is called **lava** and forms **extrusive** igneous rock when it cools and crystallises.
- Molten rock below the Earth's surface is called **magma** and forms **intrusive** igneous rock when it cools and crystallises.
- If molten rock cools **slowly**, it will form rock with **large** crystals.
- If molten rock cools **quickly**, it will form rock with **small** crystals.

Metamorphic rock

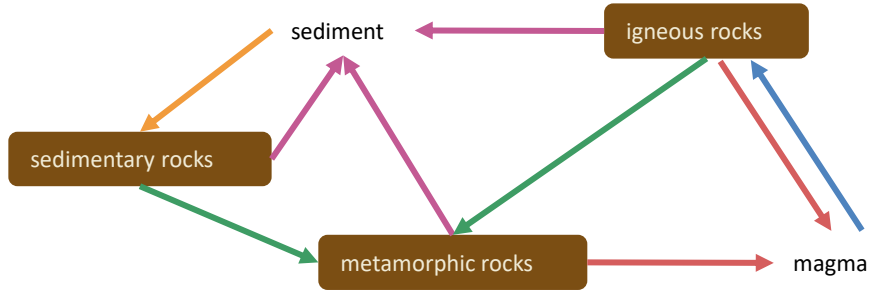
- Metamorphic rocks form from existing rocks, deep within the Earth's crust due to high temperature and pressure, causing chemical changes in minerals.
- Over millions of years, sedimentary and igneous rocks transform into metamorphic rocks, often near tectonic plate boundaries.

Sedimentary rock

Sedimentary rocks are formed through:
weathering → transportation → deposition → sedimentation → compaction → cementation
Layers, called **strata**, can be seen in sedimentary rock.

Weathering is the slow breakdown of rocks while they are in place. It can be **biological** (by living organisms), **chemical** (by chemical reactions) or **physical** (by forces e.g. freeze-thaw).
Erosion is the movement and carrying away of rock fragments.

The rock cycle involves the recycling of rocks, during which rocks can change into different types.



Fossils

Fossils are the preserved remains or traces of a dead organism that was alive millions of years ago. Fossils can be **trace fossils** (preserved imprints or evidence), **body fossils** (actual remains) or **mineralised fossils** (when hard parts are replaced by minerals).

Fossils are found in sedimentary rocks. High temperatures and pressures destroy fossils, so they are not found in metamorphic or igneous rocks.

8.02: Earth and the Atmosphere

Rocks and the rock cycle

Igneous rock

- Igneous rocks are formed when molten rock _____.
- Molten rock above the Earth's surface is called _____and forms _____igneous rock when it cools and crystallises.
- Molten rock below the Earth's surface is called _____and forms _____ igneous rock when it cools and crystallises.
- If molten rock cools _____, it will form rock with ____ crystals.
- If molten rock cools _____, it will form rock with _____ crystals.

Metamorphic rock

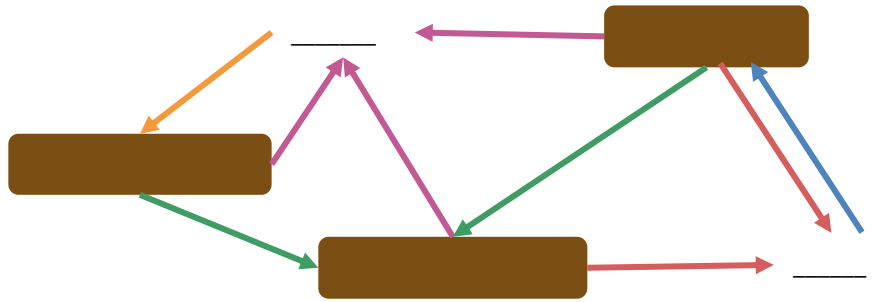
- Metamorphic rocks form from _____rocks, _____within the Earth's crust due to _____temperature and _____, causing chemical changes in minerals.
- Over millions of years, sedimentary and igneous rocks transform into _____ rocks, often near_____ plate boundaries.

Sedimentary rock

Sedimentary rocks are formed through:
_____ → transportation → _____→ sedimentation → _____ → cementation
Layers, called _____, can be seen in sedimentary rock.

_____is the slow breakdown of rocks while they are in place. It can be _____(by living organisms), _____ (by chemical reactions) or _____(by forces e.g. freeze-thaw).
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The rock cycle involves the recycling of rocks, during which rocks can change into different types.



Fossils

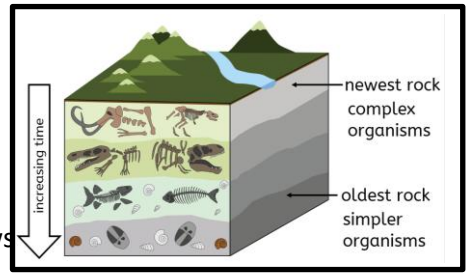
_____are the preserved remains or traces of a _____organism that was alive _____ of years ago. Fossils can be _____ _____(preserved imprints or evidence), _____ _____ (actual remains) or _____ _____(when hard parts are replaced by minerals).

Fossils are found in _____rocks. _____ temperatures and_____destroy fossils, so they are not found in _____ or i_____ rocks.

8.02: Earth and the Atmosphere

Fossils continued

Fossilisation process:
Organism dies → buried in sediment → soft parts rot, hard parts stay → pressure compacts layers → minerals replace hard parts → fossil forms → uplift exposes fossil



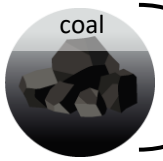
More complex fossil organisms are found at the top in newer rocks. Simpler fossils are deeper in older rocks.

The fossil record is a collection of fossils documenting the history of life on Earth. It shows how organisms and environments have changed over time.

Fossil fuels

Fossil fuels are natural resources formed over millions of years from the remains of dead organisms, such as plants and animals. Fossil fuels are **non-renewable** energy resources because they take a very long time to replenish.

Fossil fuel extraction provides energy, products, and jobs, but causes pollution, habitat loss, resource depletion, and global social inequality.

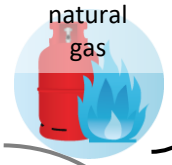


Swamp plants die → buried in mud and sediment → form peat → more burial → heat & pressure → peat turns to coal

Coal is extracted through surface and underground mining.

Uses: heating, generating electricity, steel production.



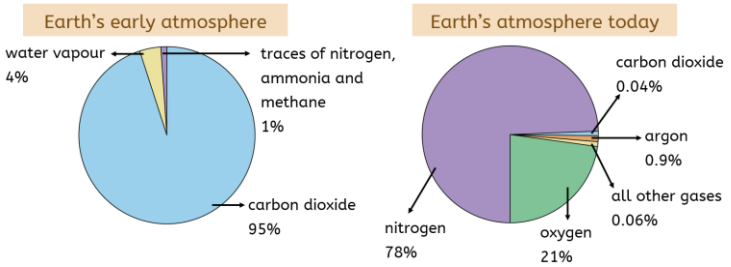


Plankton die → sink → buried in sediment → pressure and heat → oil and gas form → trapped under impermeable rock

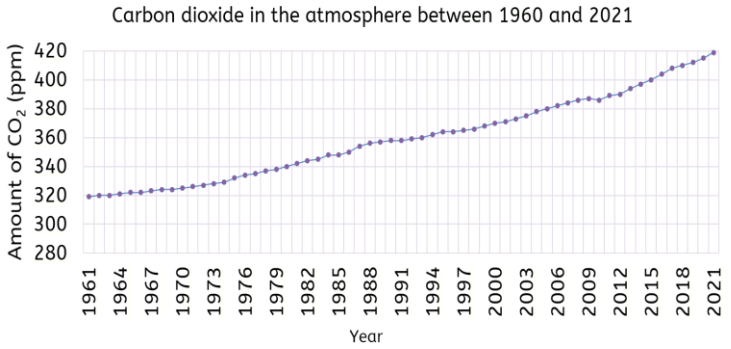
Crude oil and natural gas are extracted by drilling wells through impermeable rock.

Uses of crude oil: refined to make petrol, diesel, plastics. Uses of natural gas: cooking, generating electricity, industry.

Earth's atmosphere



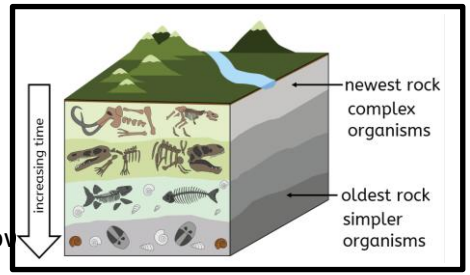
Human activities, such as the combustion of fossil fuels, which release large amounts of CO_2 into the atmosphere, result in an increase in atmospheric CO_2 concentration.



8.02: Earth and the Atmosphere

Fossils continued

Fossilisation process:



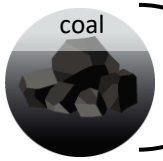
More complex fossil organisms are found at the _____in newer rocks. Simpler fossils are _____ in older rocks.

The fossil record is a collection of fossils documenting the history of ____ on Earth. It shows how organisms and environments have _____.

Fossil fuels

Fossil fuels are natural r_____ formed over millions of years from the remains of dead organisms, such as plants and animals. Fossil fuels are _____ energy resources because they take a very long time to replenish.

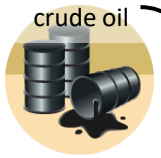
Fossil fuel extraction provides energy, products, and jobs, but causes _____, habitat _____, r_____ depletion, and global social inequality.



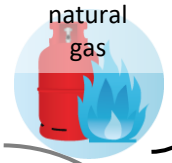
Swamp plants die →

Coal is extracted through _____ and _____ mining.

Uses:



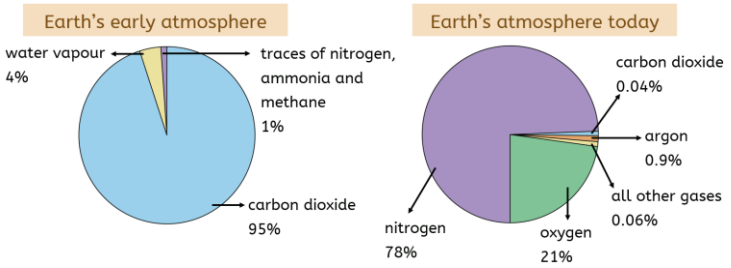
Plankton die →



Crude oil and natural gas are extracted by drilling _____through impermeable _____.

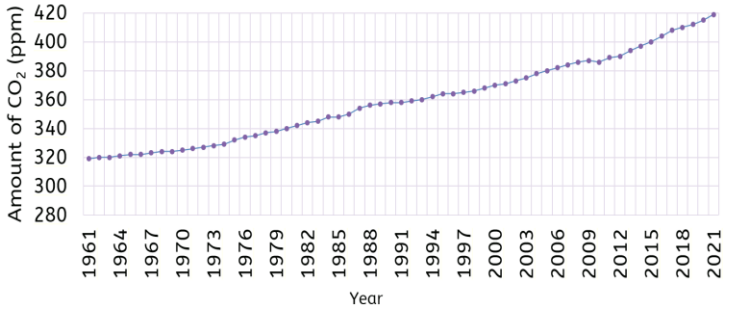
Uses of crude oil.

Earth's atmosphere



Human activities, such as the c_____ of fossil fuels, which release _____ amounts of CO_2 into the atmosphere, result in an increase in atmospheric CO_2 _____.

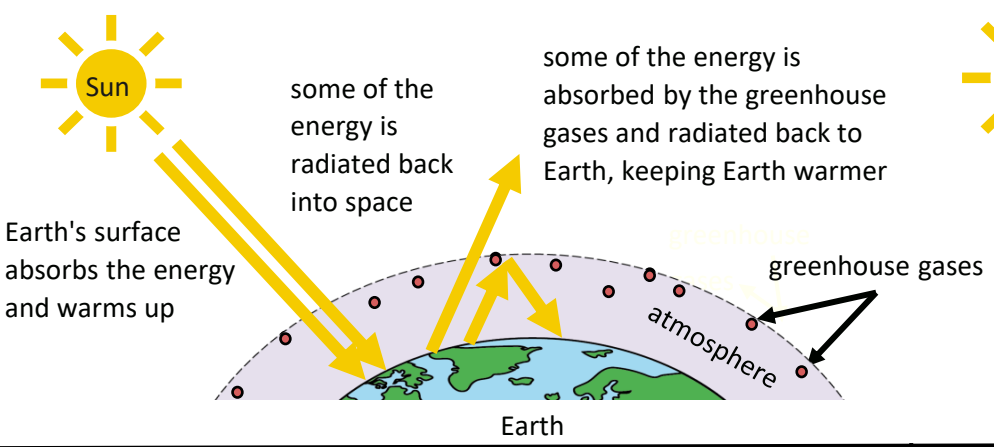
Carbon dioxide in the atmosphere between 1960 and 2021

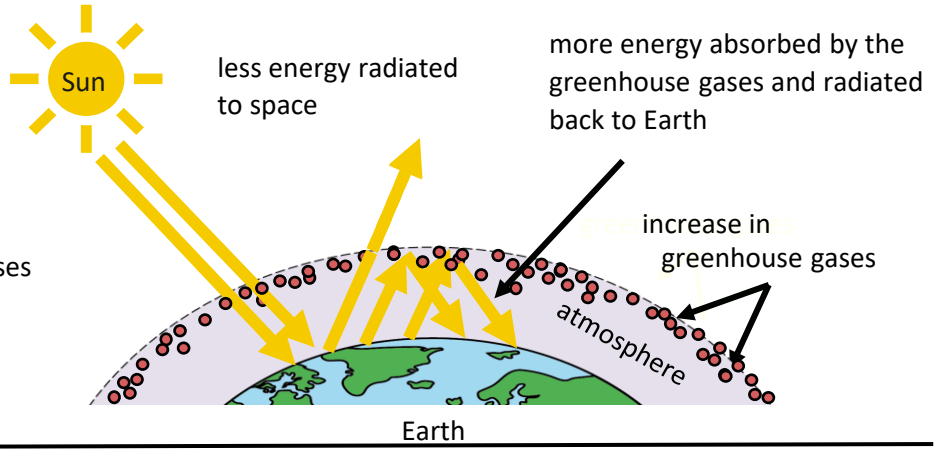


8.02: Earth and the Atmosphere

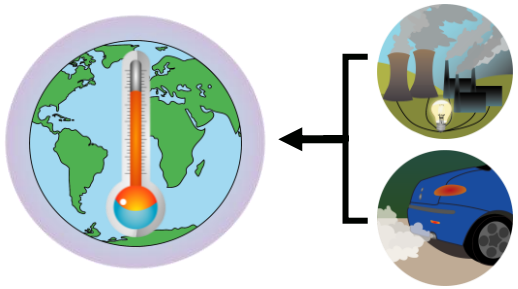
The greenhouse effect, global warming and climate change

Earth's atmosphere contains greenhouse gases (carbon dioxidemethane water vapour), which keep Earth warmer than it would be without them. The greenhouse effect is the natural warming of the planet to habitable temperatures, caused by greenhouse gases. The enhanced greenhouse effect is the unnatural warming of the Earth due to increased greenhouse gases in the atmosphere.





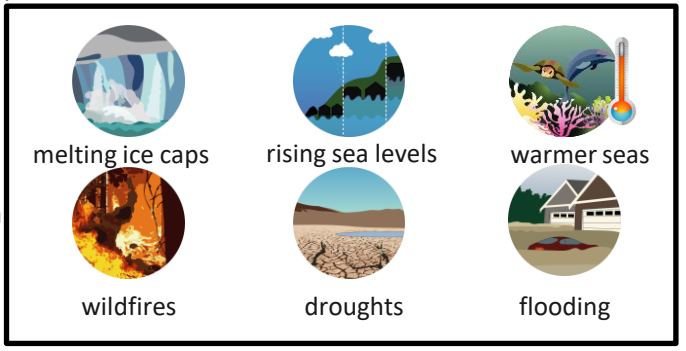
Global warming is the increase in Earth's average temperature, caused by the enhanced greenhouse effect.



combustion of fossil fuels increases greenhouse gases

Climate change is the change in the Earth's long-term weather patterns, including precipitation, wind and temperature. It leads to social, economic and environmental impacts.

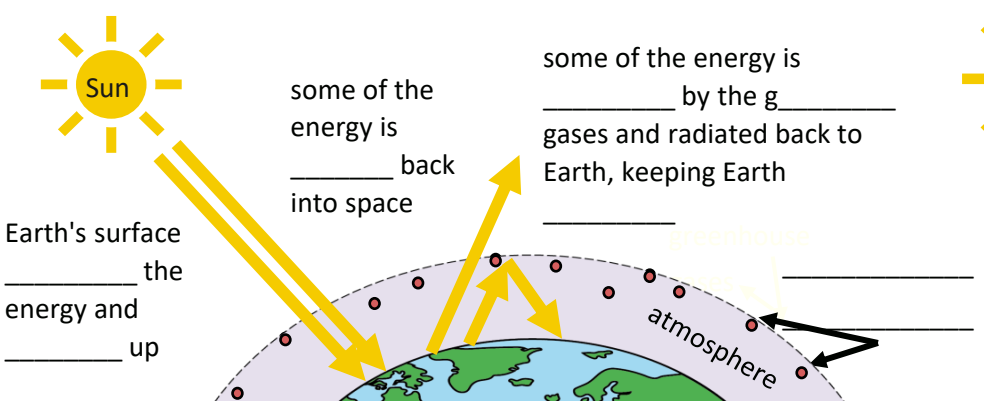
Environmental impacts cause habitat loss, food shortages, wildlife threats, farming issues, water problems, and human displacement.

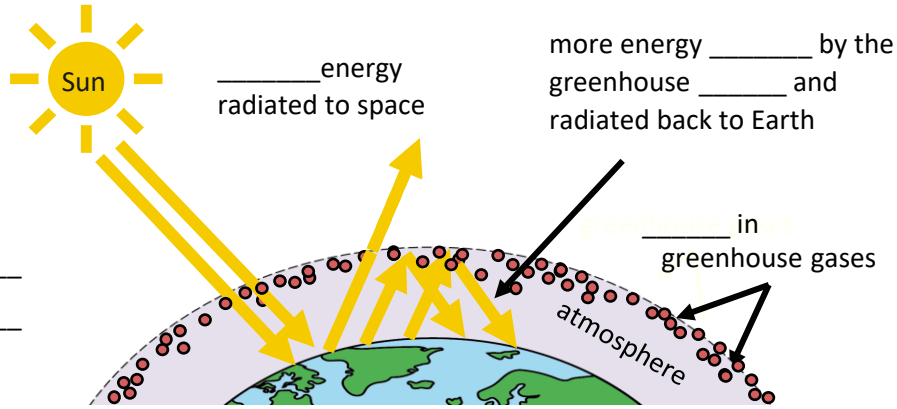


8.02: Earth and the Atmosphere

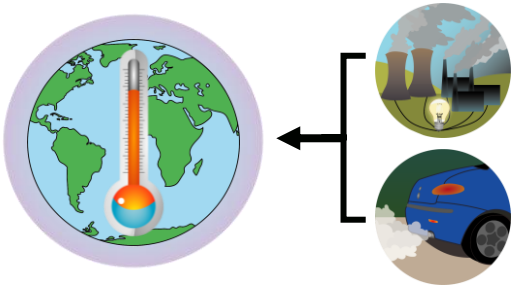
The greenhouse effect, global warming and climate change

Earth's atmosphere contains _____(carbon dioxidemethane water vapour), which keep Earth _____ than it would be without them. The greenhouse effect is the natural w_____ of the planet to habitable temperatures, caused by greenhouse g_____. The enhanced greenhouse effect is the _____ warming of the Earth due to i_____ greenhouse gases in the atmosphere.





_____is the increase in Earth's average temperature, caused by the enhanced_____effect.



_____ of fossil fuels increases g_____ gases

_____is the change in the Earth's long-term weather patterns, including precipitation, wind and temperature. It leads to s_____, e_____and e_____ impacts.

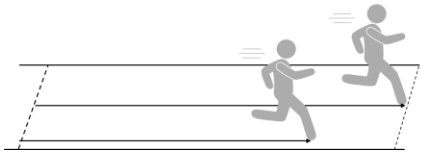
Environmental impacts cause _____loss, food shortages, wildlife threats, farming issues, w_____ problems, and _____ displacement.



8.03: Forces and Motion

Speed

- the rate of change of distance



uniform speed = unchanging speed

Higher speed:

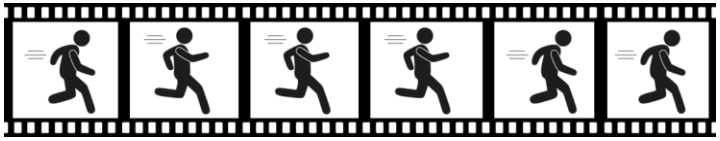
- greater distance in same time interval
- same distance, shorter time interval

$$\text{average speed} = \frac{\text{distance travelled}}{\text{time taken}}$$



Instantaneous Speed

Speed at a particular moment in time.

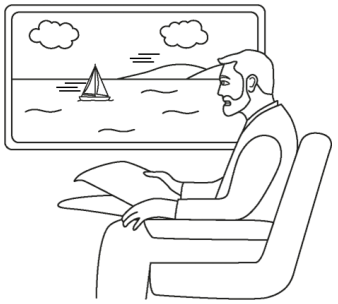


Average Speed

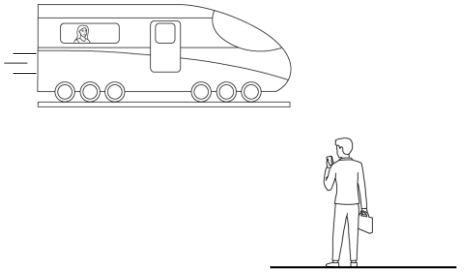
Speed for distance travelled, measured over a longer time interval.

Relative Motion

- movement of one moving object relative to another object
- depends on the frame of reference

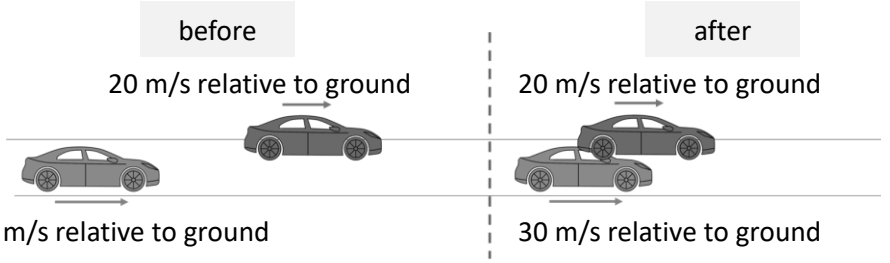


frame of reference: train



frame of reference: ground

Two moving objects relative to the ground



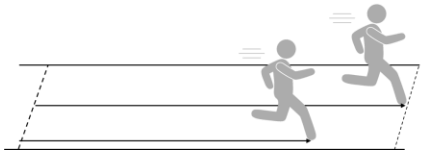
Every second: relative distance changes by 10 m.

Relative speed = 10 m/s

8.03: Forces and Motion

Speed

- the rate of change of distance



uniform speed =

_____ speed

Higher speed:

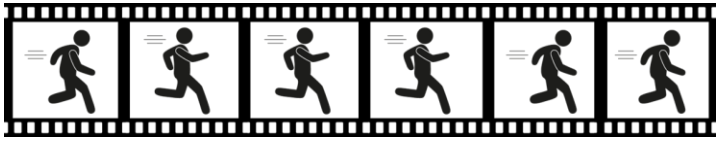
- _____ distance in same time interval
- same distance, _____ time interval

average speed = $\frac{\text{_____}}{\text{_____}}$



Instantaneous Speed

Speed at a particular moment in time.

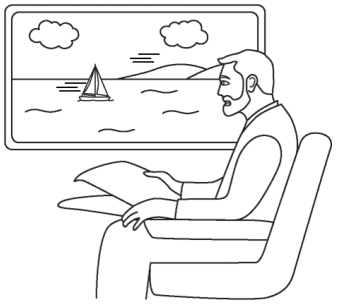


Average Speed

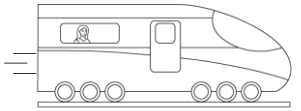
Speed for distance travelled, measured over a longer time interval.

Relative Motion

- movement of one moving object _____ to another object
- depends on the frame of reference



frame of reference: _____

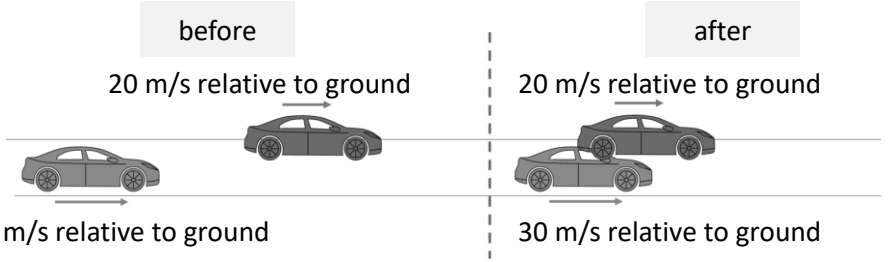




frame of reference: _____

_____

Two moving objects relative to the ground

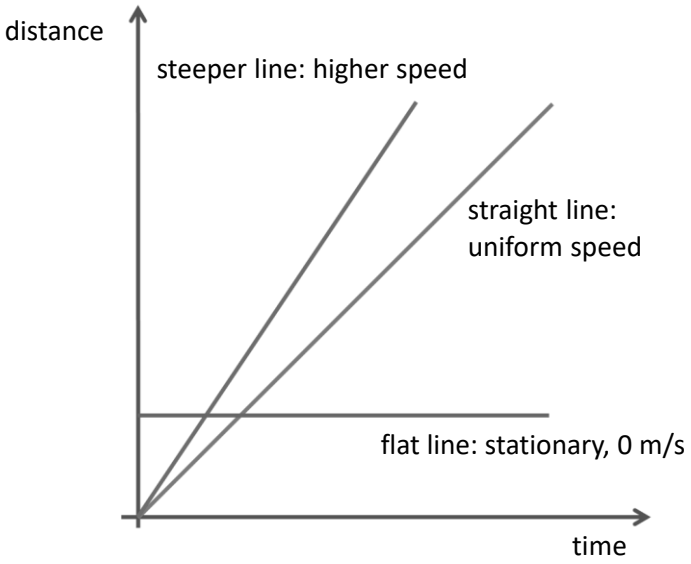


Every second: relative distance changes by ____ m.

Relative speed = ____ m/s

8.03: Forces and Motion

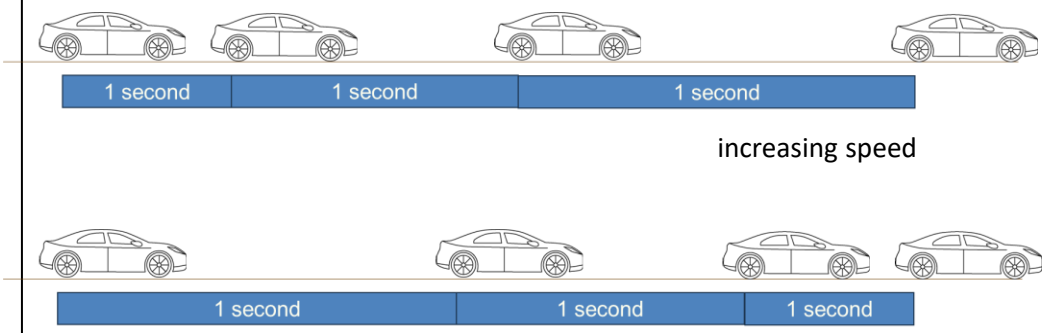
Distance-time Graphs

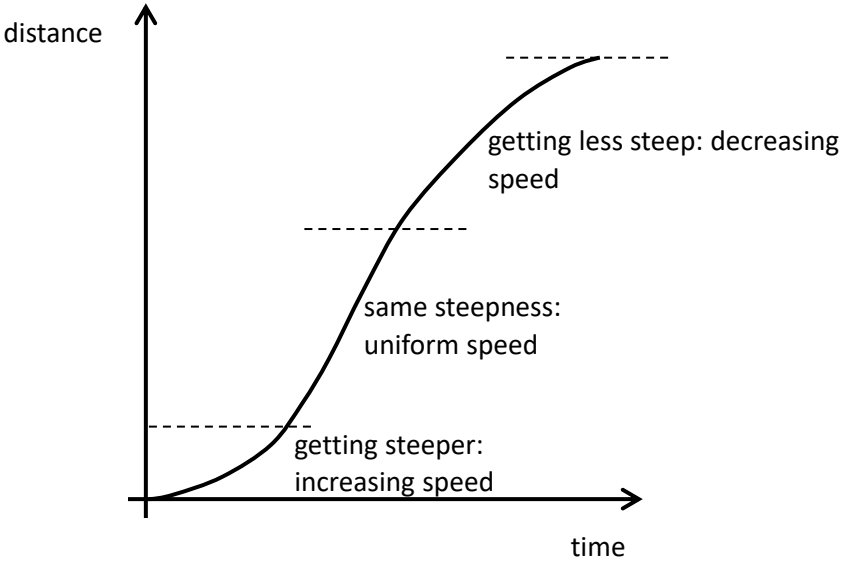


- Measurement results are plotted on a d-t graph.
- Lines-of-best-fit average out an object's position over time.
- Lines indicate general trends of motion.
- Values read off from the line to interpret specific parts of motion.

Acceleration

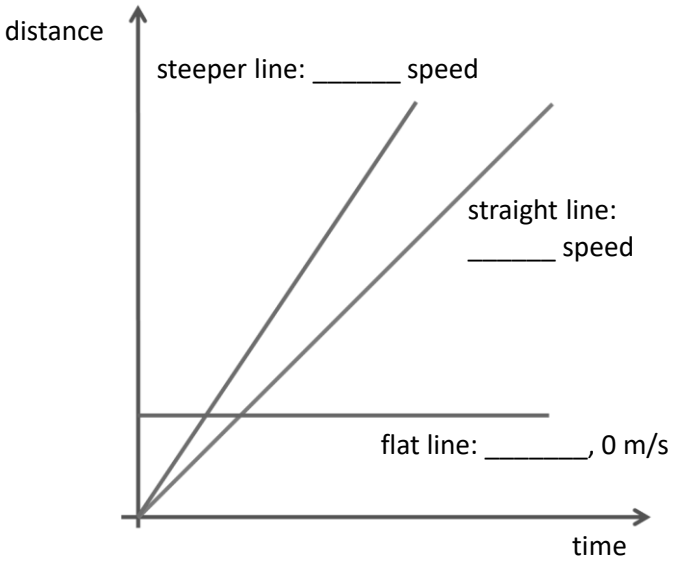
- the change of speed (or direction) over a time interval





8.03: Forces and Motion

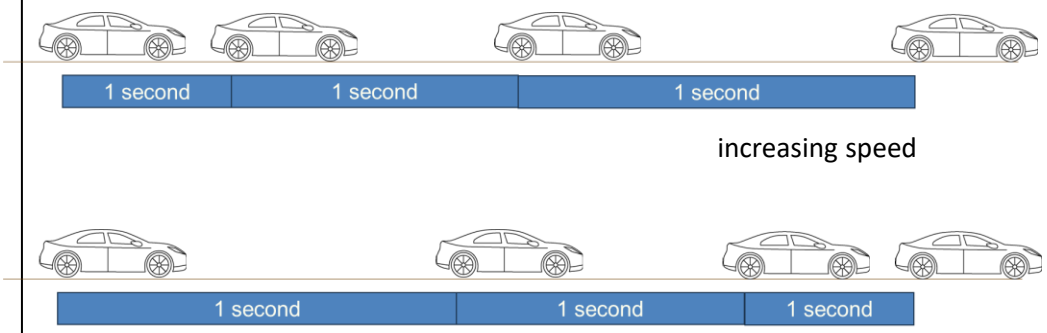
Distance-time Graphs

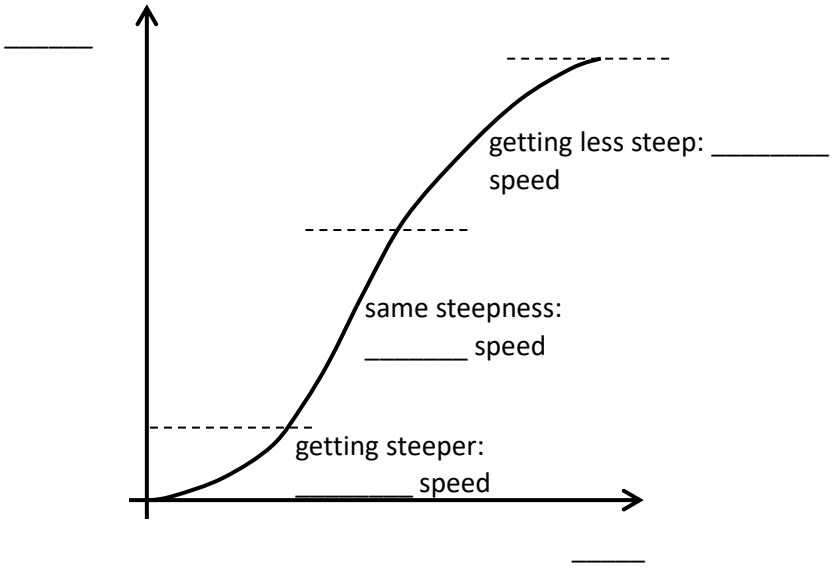


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Acceleration

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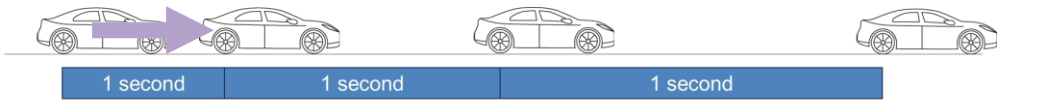




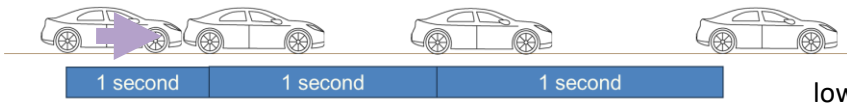
8.03: Forces and Motion

Affects on Acceleration

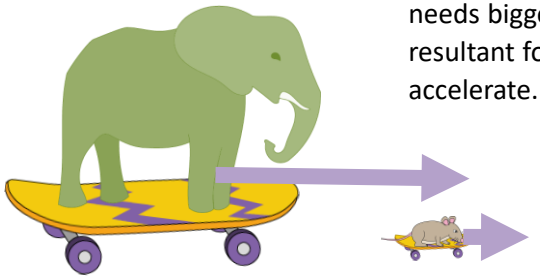
Greater resultant force causes higher acceleration.



higher acceleration

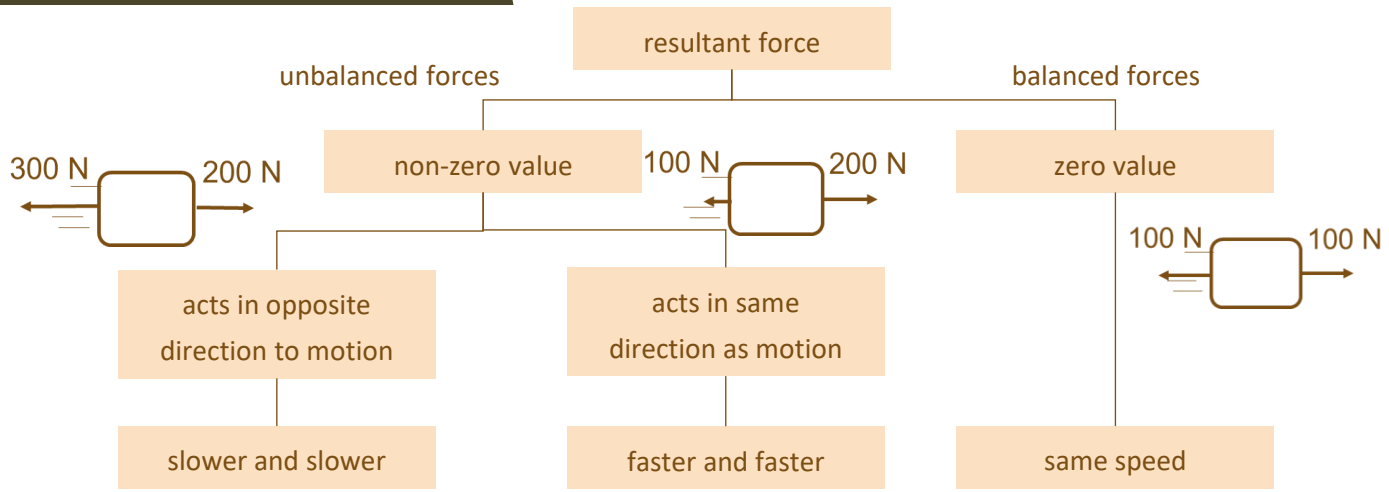


lower acceleration



Greater mass needs bigger resultant force to accelerate.

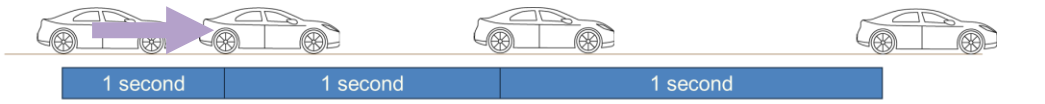
Resultant Force and Acceleration



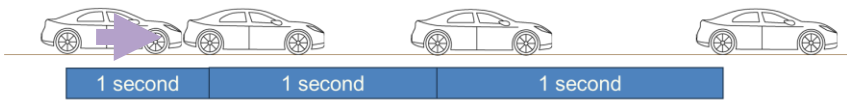
8.03: Forces and Motion

Affects on Acceleration

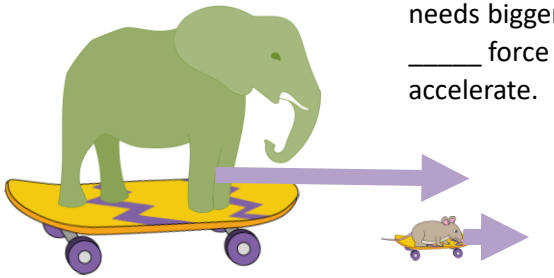
Greater resultant _____ causes higher acceleration.



_____ acceleration

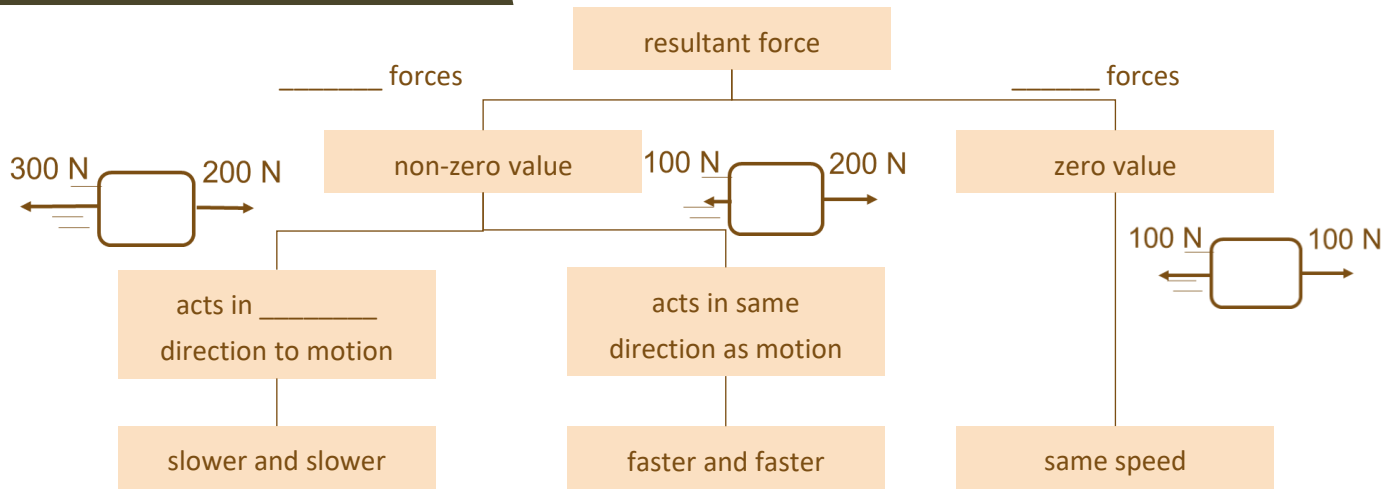


_____ acceleration



Greater _____ needs bigger _____ force to accelerate.

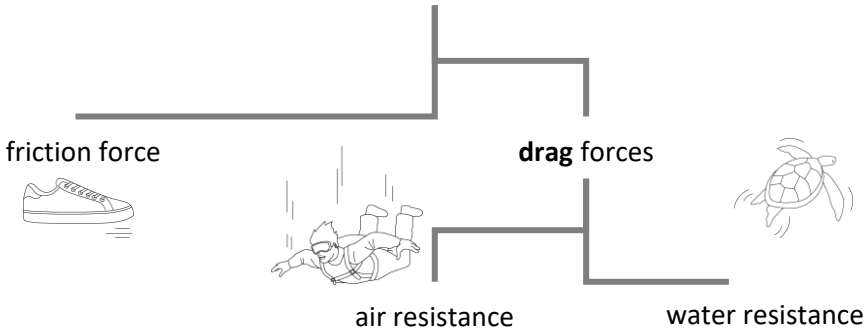
Resultant Force and Acceleration

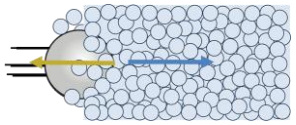


8.03: Forces and Motion

Motion in Fluids

Frictional forces act to **resist motion**

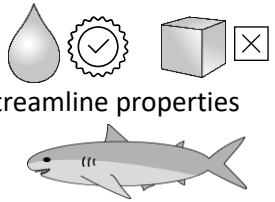




- Relative motion between fluid and object.
- Object pushes forwards on particles of fluid.
- Particles push backwards on object = **drag force**.

Drag force depends on:

- Material of fluid
- Speed of relative motion
- Shape of object
- Size of front surface
- Smoothness of surface

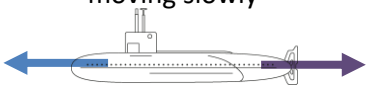


Propelled or Not

Propelled: has driving force

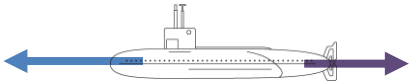
Moving: has drag force

moving slowly



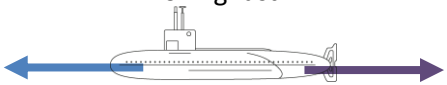
Resultant force is 0 N: uniform speed, no change to forces

increases thrust



Resultant force ← increasing speed, drag will increase

moving fast



Resultant force is 0 N: uniform speed, no change to forces

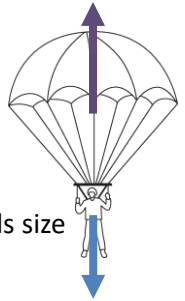
remove propulsion



→ Resultant force decreasing speed, drag will decrease



Accelerates until drag equals size of weight.



Parachute released, increases drag, resultant force acts upwards, decreases speed, drag decreases etc.

8.03: Forces and Motion

Motion in Fluids

Frictional forces act to **resist motion**

friction force



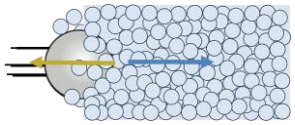
drag forces





__ resistance

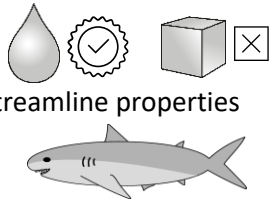
____ resistance



- Relative motion between fluid and object.
- Object pushes forwards on particles of fluid.
- Particles push backwards on object = ____ **force**.

Drag force depends on:

- _____ of fluid
- _____ of relative motion
- ____ of object
- ___ of front surface
- _____ of surface



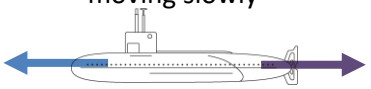
streamline properties

Propelled: has driving force

Moving: has drag force

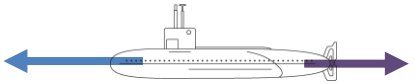
Propelled or Not

moving slowly



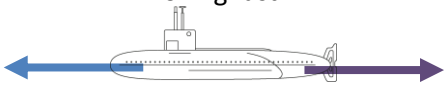
Resultant force is __ N: uniform speed, no change to forces

increases thrust



Resultant force ← increasing speed, ____ will increase

moving fast



Resultant force is 0 N: _____ speed, no change to forces

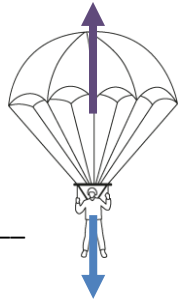
remove propulsion



Resultant force → decreasing speed, drag will _____



Accelerates until drag _____ size of weight.



Parachute released, _____ drag, resultant force acts _____, decreases speed, drag decreases etc.

8.03: Forces and Motion

High-Quality Data

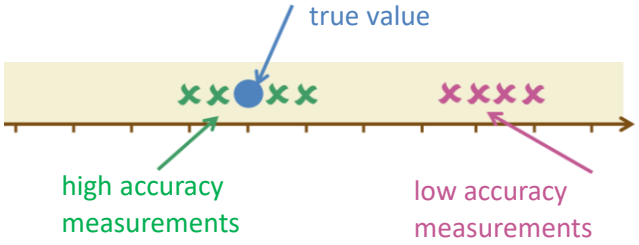
valid data

- with low measurement error
- that is accurate
- that is repeatable
- that is reproducible

- represents the real situation and is trustworthy

accurate data

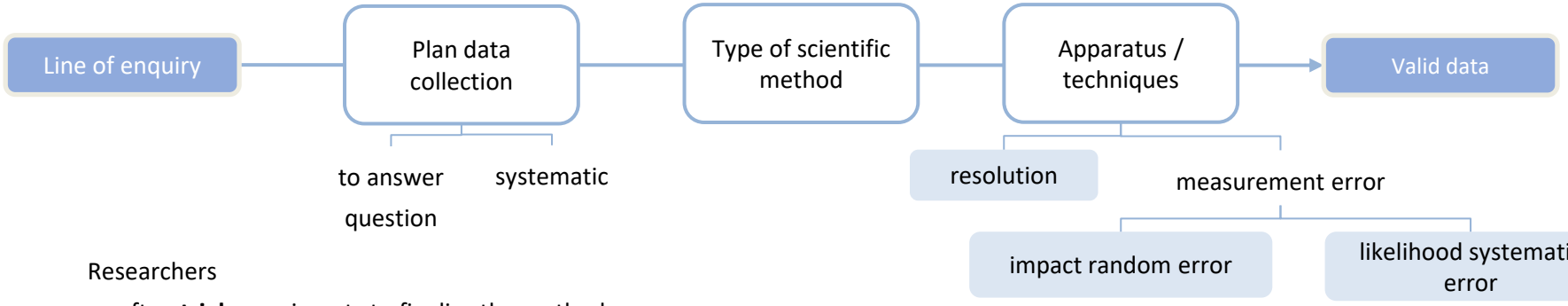
- closeness of a measurement to the true or agreed value.



Developing a Method

Researchers

- select apparatus and techniques known to give accurate data,
- measure over appropriate range, with systematic intervals.



Researchers

- often **trial** experiments to finalise the method.

Safe Practicals

Researchers

- may redesign experiments to reduce risk to acceptable levels.

Hazard	Risk	Control Measure
Falling	• Damage to bones on impact with floor or other fixed objects	• Do not stand on tables, stools etc. • Reduce maximum height to one students can reach.

8.03: Forces and Motion

High-Quality Data

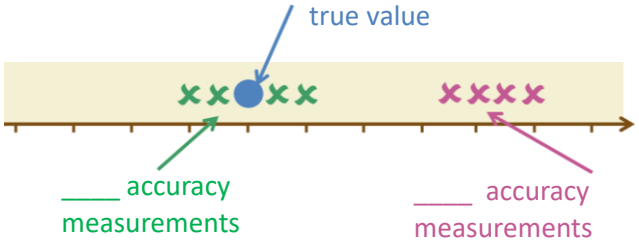
____ data

- with low measurement error
- that is a_____
- that is r_____
- that is r_____

- represents the real situation and is trustworthy

accurate data

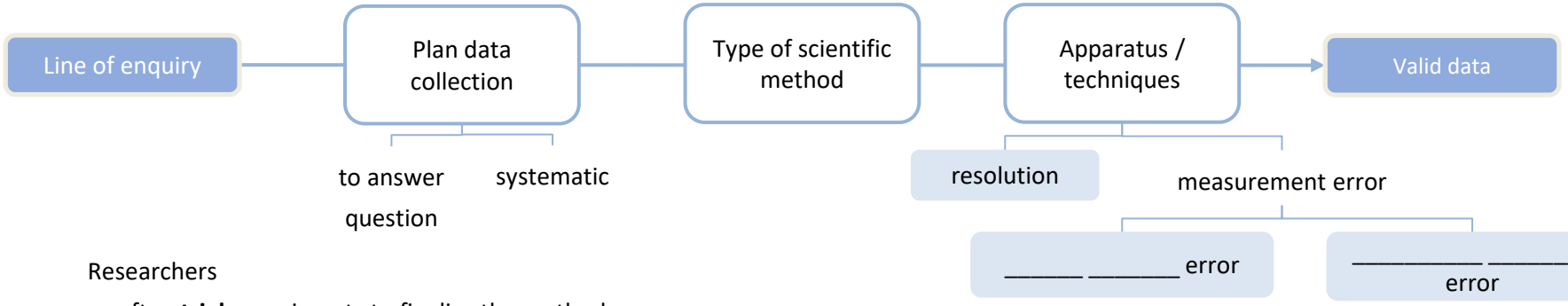
- closeness of a measurement to the ____ or _____ value.



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Researchers

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- measure over appropriate range, with systematic intervals.



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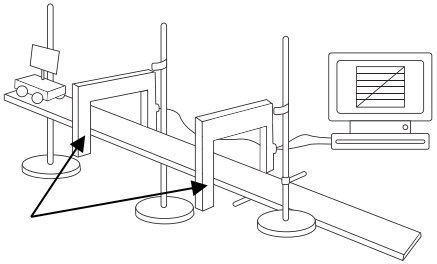
Selecting Apparatus and Techniques

Datalogging

- a process where sensors measure the physical properties of a system

Researcher sets up the constraints on the computer to record data, e.g. time intervals and the logging period.





Each light gate is set up to measure time for card to pass; processor calculates speed at each gate.

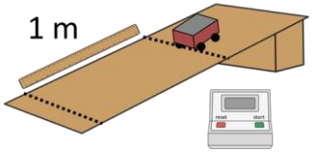
Digital Filming

- multiple images recorded (frames); each frame is over a strict time interval

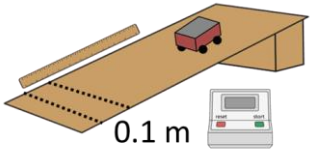


Recorded against a measurement background, any change can be observed.

Measuring Speeds (time and distance)

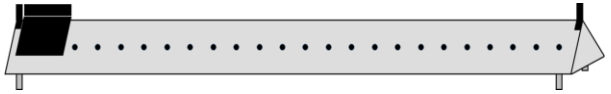


uniform speed – select greater distance



changing speed – select small distances

Ramp is 'banked up' to reduce effect of friction.



Air track removes almost all friction.

Apparatus	Advantages
Datalogging	• over very short intervals • consistent and not subjective • high resolution • removes reaction time (timing)
Digital filming	• not subjective • removes reaction time (timing) • removes measurement error while object moving (distance)

8.03: Forces and Motion

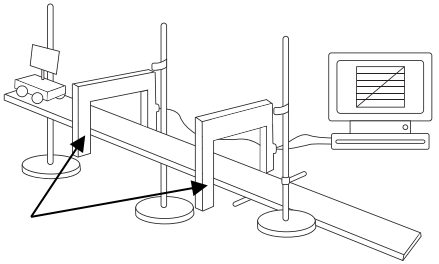
Selecting Apparatus and Techniques

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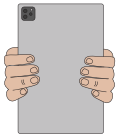
_____ data _____



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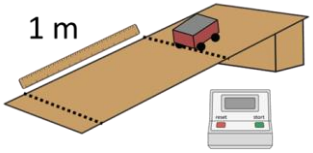
_____ _____

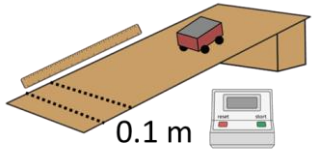
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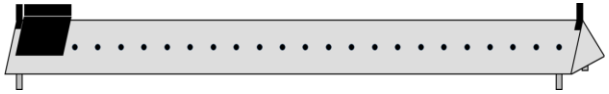




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8.03: Forces and Motion

Recording Data

Collected data is generally recorded in a table.

Column headings (describe quantities and units).

IV far left column

Raw data processed, e.g. speed = d ÷ t

Data processed: mean = sum ÷ number

All raw data included

DV furthest right-hand column: processed DV

Repeated measurements with anomalies identified

Rows' values change systematically

CV included

Situation	Distance travelled (m)	Time taken (s)	Average Speed (m/s)	Average Speed (m/s)
Parachute	2.00	1.49	1.34	1.19
	2.00	1.78	1.12	
	2.00	1.78	1.12	
No parachute	2.00	0.17		2.43
	2.00	0.86	2.33	
	2.00	0.79	2.53	

Constant mass

Quantitative values recorded with appropriate significant figures and consistent

Processed values rounded:
Formulae
s.f. same as measurement
Mean
s.f. same as worst measurement

8.03: Forces and Motion

Recording Data

Collected data is generally recorded in a table.

Column headings (describe quantities and units).

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Data processed: mean = ___ ÷ _____

_V far left column

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8.03: Forces and Motion

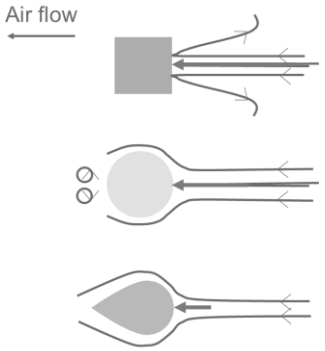
Applications of Technology on Science

Researchers select apparatus that:

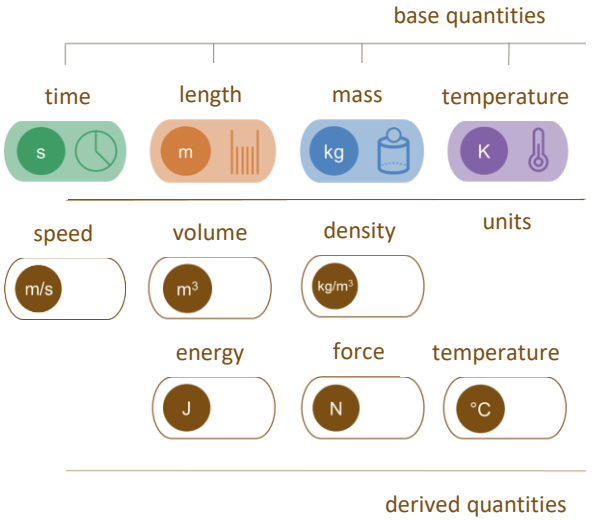
- Restricts control variables.
- Has higher resolution.
- Automates measurement (more often, longer duration).
- Removes random error related to human judgement (subjectivity).

Applications of Science on Industry

Knowledge of fluid flow around objects allows engineers to produce better designs, e.g. more efficient cars.



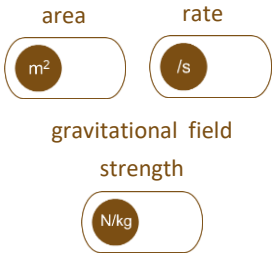
Measurement Values



Quantities and their units:

Base quantities: length, mass, time, temperature (K).

Derived quantities also include:



8.03: Forces and Motion

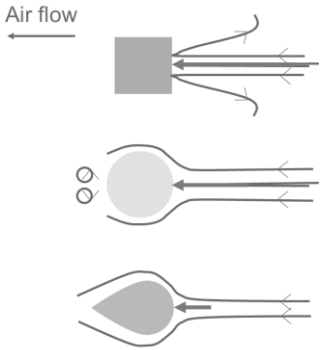
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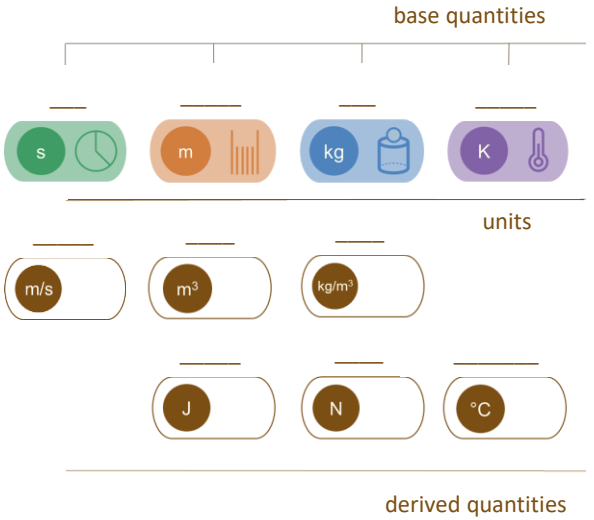
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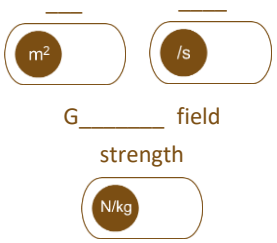
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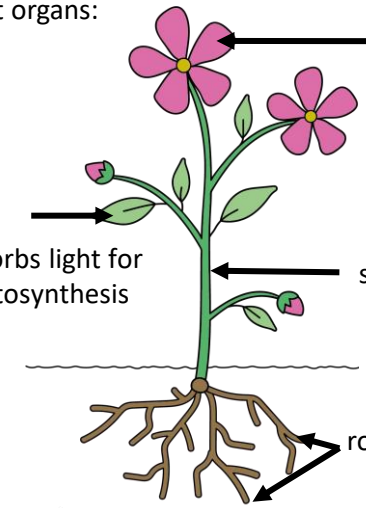
Derived quantities also include:



8.04 Plants and Their Processes

Plants as Organisms

Plant organs:



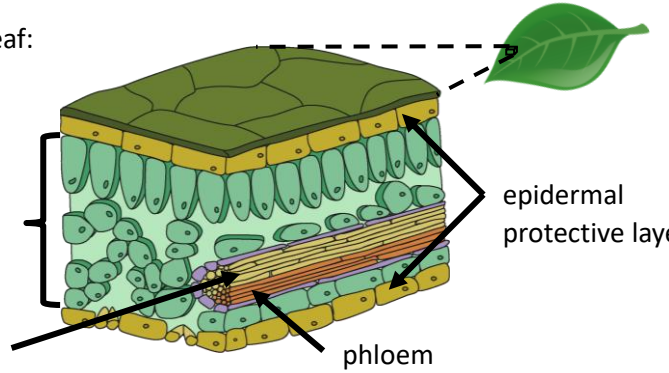
flower
the reproductive organ of the plant

leaf
absorbs light for photosynthesis

stem
connects the other organs and transports key substances

roots
anchor the plant and absorb water and minerals

Tissues in the leaf:



epidermal
protective layer

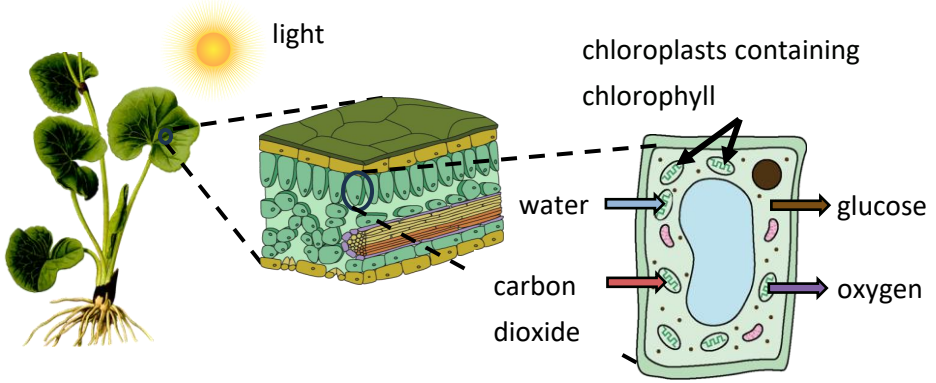
mesophyll
photosynthesis

xylem
transports water and dissolved minerals

phloem
transports dissolved sugars

Photosynthesis

Photosynthesis is a series of chemical reactions in which plants use carbon dioxide and water to make glucose and oxygen, driven by energy from light. Photosynthesis occurs in the chloroplasts and is absorbed by the green pigment called chlorophyll.



carbon dioxide + water → glucose + oxygen

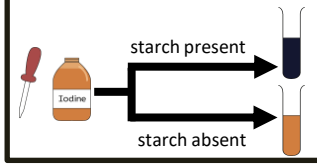
reactants → products

Uses of glucose:

1. used by the plant for respiration to release energy
2. turned into cellulose to build cell walls
3. turned into starch and stored for use later by the plant

Photosynthesis is an endothermic process because it requires energy to be transferred from its surroundings.

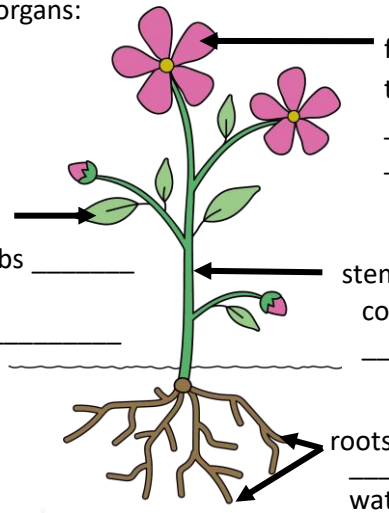
We can test a leaf for starch using iodine. Iodine will turn from orange-brown to blue-black when it is in contact with starch.



8.04 Plants and Their Processes

Plants as Organisms

Plant organs:



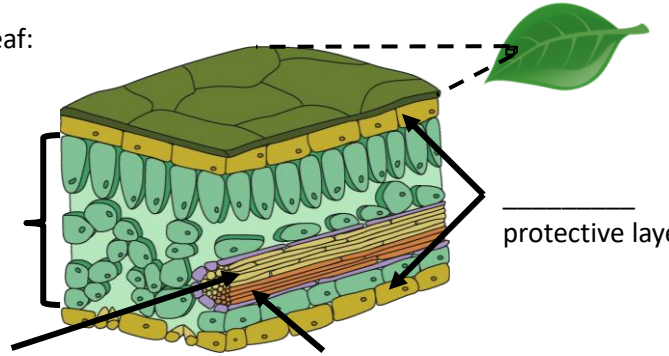
flower
the
_____
_____of the plant

leaf
absorbs _____
for
_____

stem
connects the other _____ and
_____ key substances

roots
_____ the plant and _____
water and minerals

Tissues in the leaf:



_____l
photosynthesis

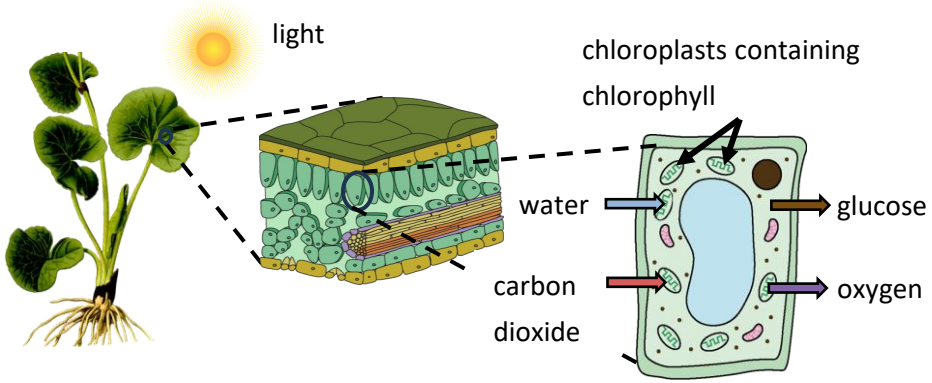
_____
protective layer

_____
transports water and
dissolved minerals

_____
transports dissolved
sugars

Photosynthesis

Photosynthesis is a series of _____ _____in which plants use _____ _____and _____ to make _____ and _____, driven by energy from _____. Photosynthesis occurs in the _____ and is absorbed by the green pigment called _____



carbon dioxide + _____ → _____ + oxygen

reactants

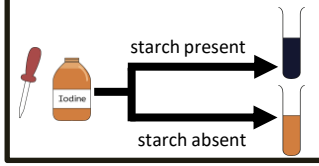
_____

Uses of glucose:

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3. turned into _____ and stored for use later by the plant

Photosynthesis is an endothermic process because it requires energy to be transferred from its surroundings.

We can test a leaf for starch using ____. Iodine will turn from _____ -_____ to ____- ____ when it is in contact with starch.



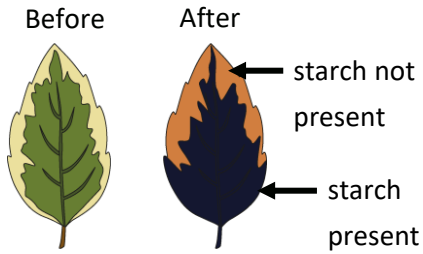
8.04 Plants and Their Processes

Photosynthesis Continued

A leaf is tested for starch using the following steps:

Step	Reason
Hold the leaf in the hot water	soften leaf
Cover the leaf with ethanol	remove chlorophyll
Place the boiling tube into the beaker of hot water	speed up removal
Rinse the leaf in the beaker of hot water	soften leaf again
Place the Petri dish containing the leaf on white tile	see colour change
Add a few drops of iodine solution to cover the leaf	test for starch

Results of the iodine test for starch on a variegated leaf:



Only green parts of the leaf photosynthesise and make starch, so iodine stays orange-brown on non-green parts.

When testing for starch, control measures should be taken using the hazardous substances:

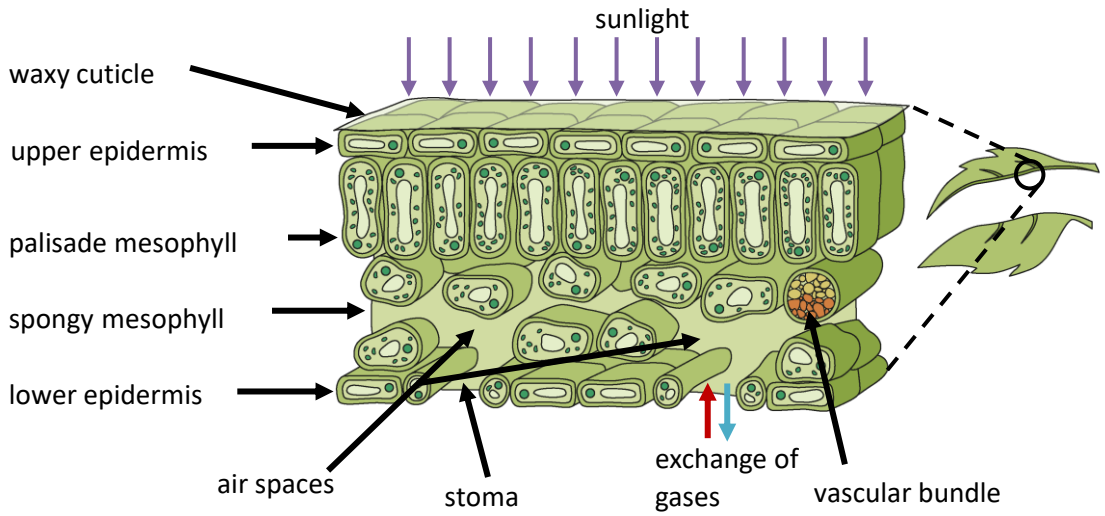
- iodine 
- ethanol 

Changing Understanding of Photosynthesis

People used to incorrectly believe that plants gain mass by taking in soil through roots. Van Helmont's experiment with the willow tree showed plants gain mass from water, not soil. Today, scientists know that plant mass comes from carbon dioxide, which is used in photosynthesis to make glucose for growth.

Leaf Structure and Adaptations

Leaf adaptation	Function of adaptation
Many chloroplasts	Contain chlorophyll to absorb light
Large surface area	Absorbs more light
Thin	Short diffusion distance for gases
Veins	Transport water, minerals, and sugars
Stomata (underside)	Allow gas exchange (CO_2 in, O_2 out)



8.04 Plants and Their Processes

Photosynthesis Continued

A leaf is tested for starch using the following steps:

Step	Reason
Hold the leaf in the hot water	
	remove chlorophyll
Place the boiling tube into the beaker of hot water	
Rinse the leaf in the beaker of hot water	
Place the Petri dish containing the leaf on white tile	
Add a few drops of _____ _____ to cover the leaf	test for starch

Results of the iodine test for starch on a variegated leaf:

Before

After





starch ___ _____

starch _____

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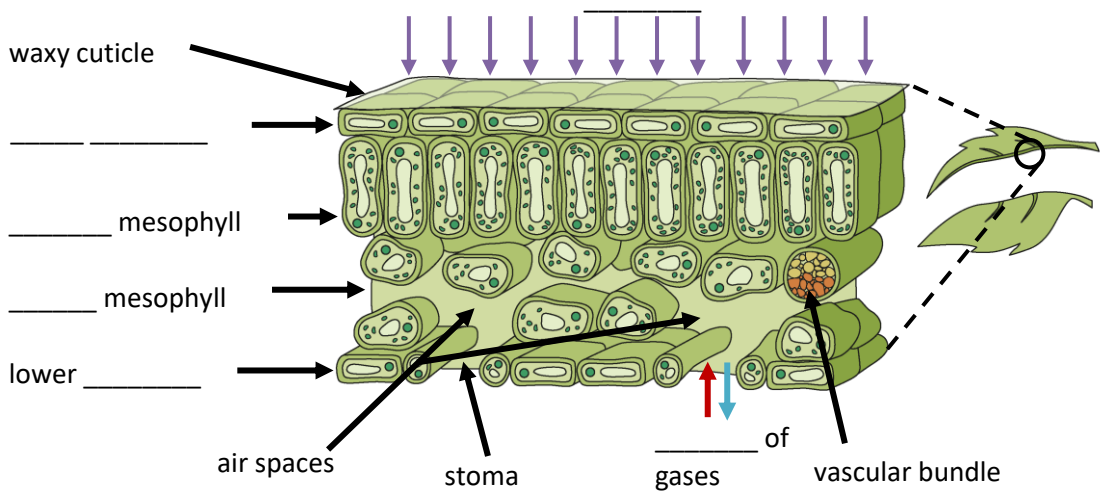
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Changing Understanding of Photosynthesis

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Leaf Structure and Adaptations

Leaf adaptation	Function of adaptation
Many _____	Contain chlorophyll to _____ light
Large _____area	Absorbs _____ light
Thin	Short _____ distance for _____
Veins	_____ water, minerals, and _____
Stomata (underside)	Allow gas _____ (CO_2 in, O_2 out)



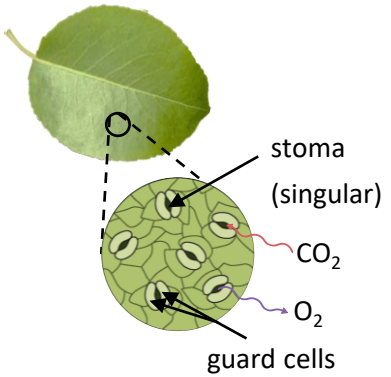
8.04 Plants and Their Processes

Leaf Structure and Adaptations Continued

Structure	Function	Adaptation
upper epidermis	allows light to pass through	thin and transparent
palisade mesophyll	photosynthesis	cells have lots of chloroplasts and are tightly packed
spongy mesophyll	supports diffusion of gases in and out of leaf	air spaces
lower epidermis	supports diffusion of gases in and out of leaf	stomata
vascular bundle	transports substances	xylem and phloem tissue
waxy cuticle	reduces water loss	waterproof

Guard cells and gas exchange:

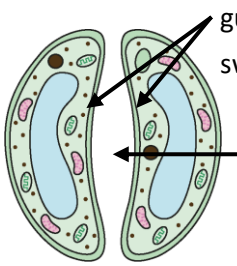
- Control opening/closing of stomata for gas exchange
- Sensitive to light
- Open stomata in day for CO_2 to enter for photosynthesis
- Close stomata at night when photosynthesis stops



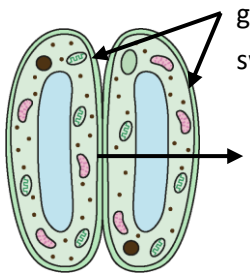
A light microscope can be used to observe an imprint of the structure of the stomata. Stomata are on the underside of the leaf because it is cooler and more shaded.

Guard cells and water loss:

- Guard cells open and close stomata to reduce water loss.



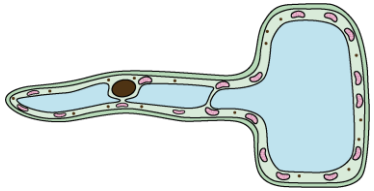
plant hydrated



plant lacking water

Root structure and adaptations

Root hair cells are adapted for the absorption of water and minerals, with a long extension to increase surface area. They contain many mitochondria to provide energy for active transport. They have no chloroplasts.



Water is essential for photosynthesis.
It maintains the structure of the plant and enables chemical reactions by acting as a solvent in which reactants and products are dissolved.

Plants also need minerals:

- Nitrates → healthy growth
- Phosphates → healthy roots
- Potassium → healthy leaves and flowers
- Magnesium → makes chlorophyll

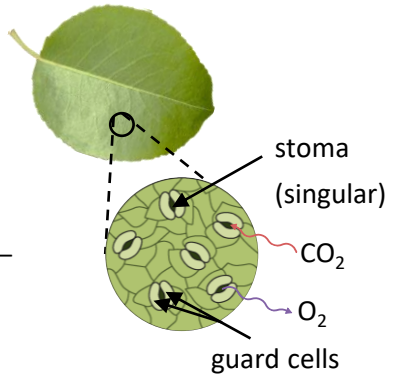
8.04 Plants and Their Processes

Leaf Structure and Adaptations Continued

Structure	Function	Adaptation
upper epidermis		thin and transparent
palisade mesophyll		cells have lots of chloroplasts and are tightly packed
	supports diffusion of gases in and out of leaf	air spaces
lower epidermis	supports diffusion of gases in and out of leaf	
vascular bundle		xylem and phloem tissue
	reduces water loss	waterproof

Guard cells and gas exchange:

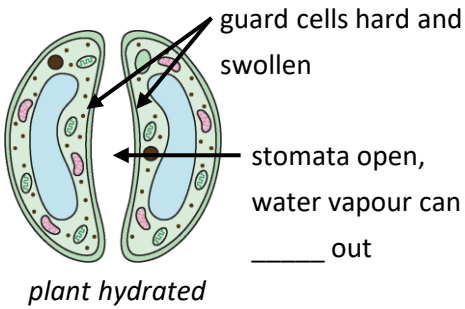
- Control opening/closing of _____ for ___ _____
- Sensitive to _____
- _____ stomata in day for CO_2 to enter for _____
- _____ stomata at night when photosynthesis stops



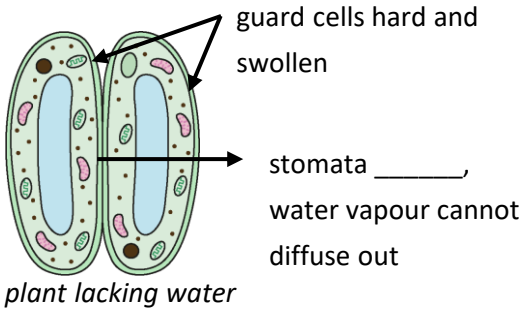
A _____ microscope can be used to _____ an imprint of the structure of the stomata. Stomata are on the _____ of the leaf because it is cooler and more shaded.

Guard cells and water loss:

- Guard cells ____ and _____ stomata to reduce water loss.



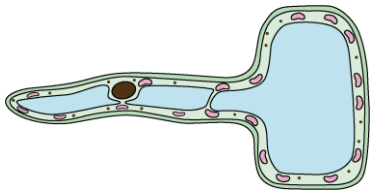
plant hydrated



plant lacking water

Root structure and adaptations

Root hair cells are adapted for the absorption of _____ and _____, with a long extension to increase _____ _____. They contain many _____ to provide _____for active transport. They have no _____.



Water is essential for _____.
It maintains the structure of the plant and enables chemical reactions by acting as a _____ in which reactants and products are _____.

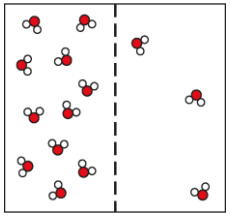
Plants also need minerals:

- Nitrates → _____ _____
- Phosphates → _____ _____
- _____ → healthy leaves and flowers
- _____ → makes chlorophyll

8.04 Plants and Their Processes

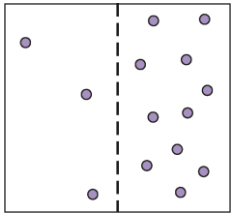
Root Structure and Adaptations Continued

Water is absorbed through osmosis, moving from an area of high water concentration in the soil to an area of lower concentration in root hair cells.



high → low
water concentration

Minerals are absorbed by active transport as they are in lower concentrations in soil than in root hair cells. Active transport requires energy from respiration, so root hair cells contain many mitochondria.

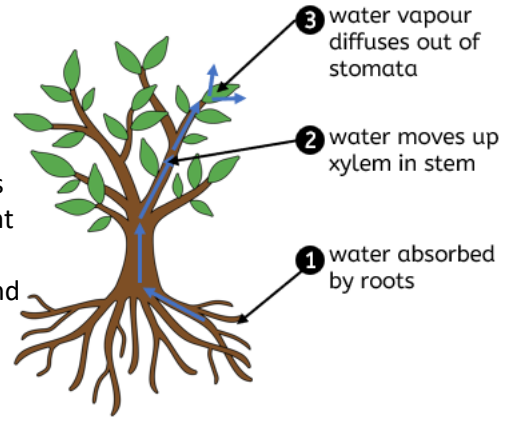


low → high
water concentration

Transpiration is the loss of water vapour from the leaves of plants, through the stomata.
When the stomata are open, plants lose water vapour through them.

The rate of transpiration is increased by:

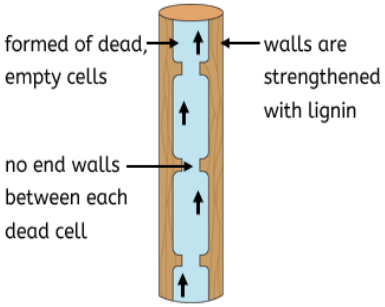
- increased temperatures
- increased light intensity
- increased wind
- decreased humidity



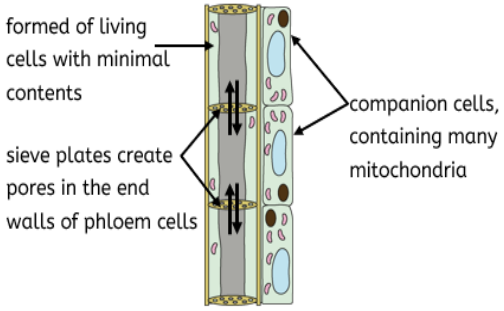
Transport in Plants

Xylem transports water and dissolved minerals up the stem, from roots to leaves. Phloem transports dissolved sugars. Sugars are transported up or down the stem, depending on where sugars are needed.

xylem adaptations



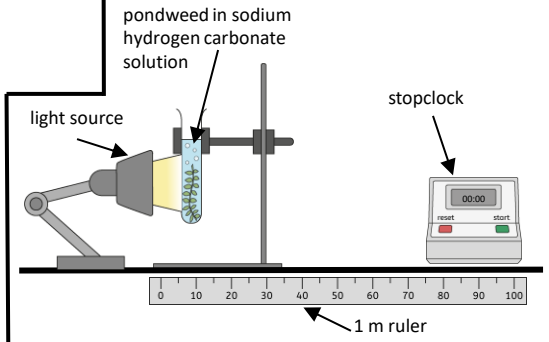
phloem adaptations



Rate of Photosynthesis

An increase in light intensity, temperature, chlorophyll, water and carbon dioxide increases the rate of photosynthesis.

Effect of light intensity on rate of photosynthesis



Variables

Independent: light intensity - distance between light and pondweed

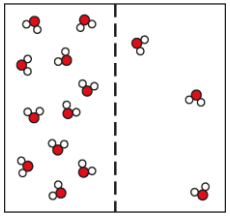
Dependent: rate of photosynthesis - number of bubbles per minute

Control: temperature, CO_2, water, chlorophyll, time, size/mass of pondweed

8.04 Plants and Their Processes

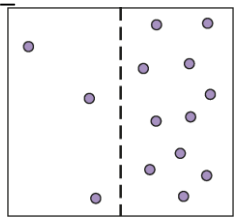
Root Structure and Adaptations Continued

Water is absorbed through _____, moving from an area of high _____ concentration in the soil to an area of _____ concentration in _____ _____ cells.



high → low
water concentration

Minerals are absorbed by _____ _____ as they are in lower concentrations in ___ than in root hair cells. Active transport requires _____ from respiration, so root hair cells contain many _____.

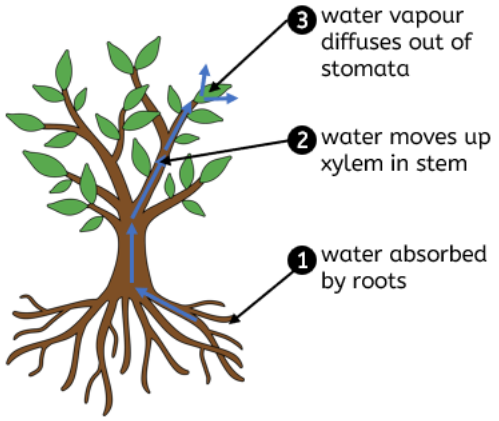


low → ____
water concentration

Transpiration is the _____ of ____ _____ from the _____ of plants, through the _____.
When the stomata are ____, plants lose _____ _____ through them.

The rate of transpiration is increased by:

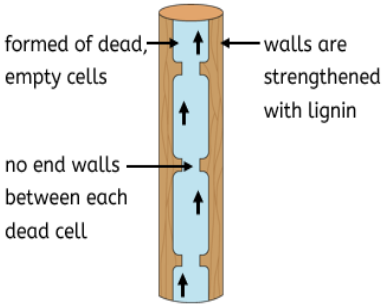
- increased _____
- increased ___ intensity
- increased _____
- _____ humidity



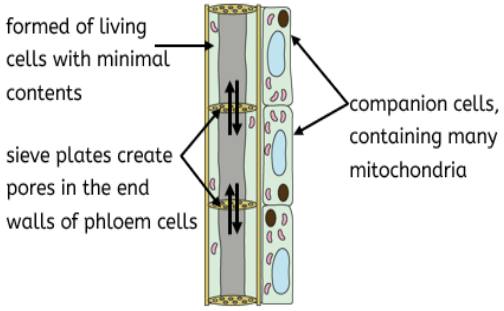
Transport in Plants

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xylem adaptations



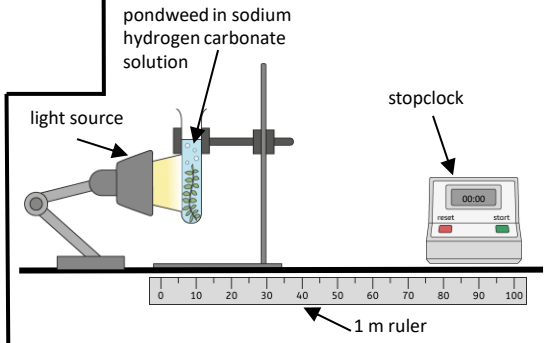
phloem adaptations



Rate of Photosynthesis

An increase in light intensity, temperature, chlorophyll, water and carbon dioxide increases the _____ of _____

Effect of light intensity on rate of photosynthesis



Variables

Independent: light intensity - _____ between light and pondweed

Dependent: rate of photosynthesis - _____ of bubbles per minute

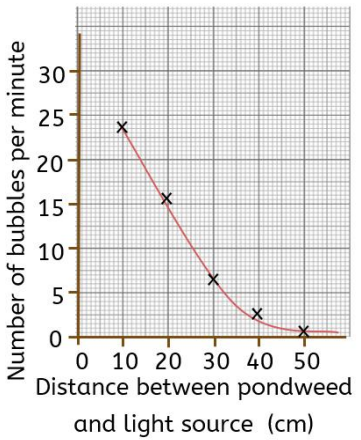
Control: temperature, CO_2, water, chlorophyll, time, size/mass of pondweed

8.04 Plants and Their Processes

Rate of Photosynthesis Continued

Step	Explanation
1. Set up the LED light source and meter ruler	it doesn't heat up during use, so temperature won't be affected
2. Fill the boiling tube with the sodium hydrogen carbonate solution	to provide carbon dioxide
3. Put the piece of pondweed into the boiling tube with the cut end at the top and keep it underwater	to observe bubbles of oxygen
4. Place the boiling tube with pondweed 10cm from the light source	this is the first independent variable light intensity to test
5. Leave the pondweed for three minutes	allows the photosynthesis rate to stabilise

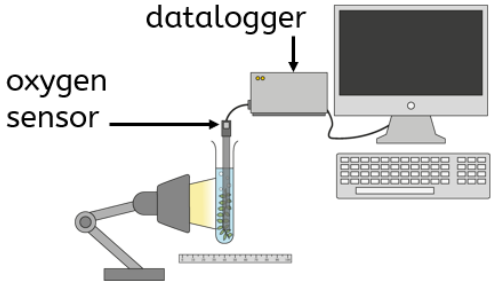
Typical results



As the distance between the pondweed and light increases, the number of bubbles per minute decreases. This is because less energy is transferred and absorbed by the chlorophyll for photosynthesis.

Datalogging and technology in science

Datalogging: Automatic data collection using sensors and computers (e.g. light, temperature, oxygen). Data is recorded at regular intervals (e.g., every second or minute). Technology improves experiments: Cameras, sensors, and computers make observations clearer and more accurate.

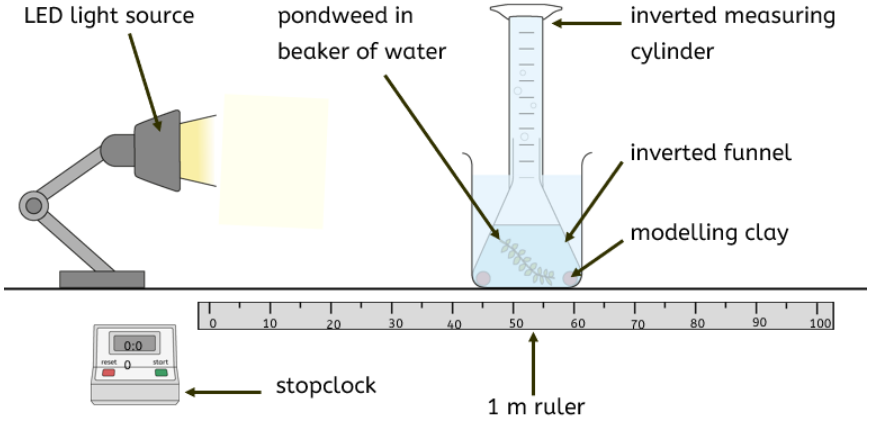


Limitations and improvements in measuring photosynthesis

Counting bubbles → Simple but inaccurate and biased (bubble size, bubble speed).

Better method → Measure volume of oxygen using inverted funnel and measuring cylinder (more accurate, objective).

Digital tools → Data loggers collect continuous data, reduce error and bias, improve validity and analysis.

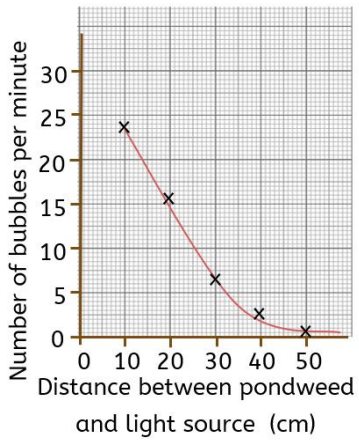


8.04 Plants and Their Processes

Rate of Photosynthesis Continued

Step	Explanation
1. Set up the LED light source and meter ruler	
2. Fill the boiling tube with the sodium hydrogen carbonate solution	
3. Put the piece of pondweed into the boiling tube with the cut end at the top and keep it underwater	
4. Place the boiling tube with pondweed 10cm from the light source	
5. Leave the pondweed for three minutes	

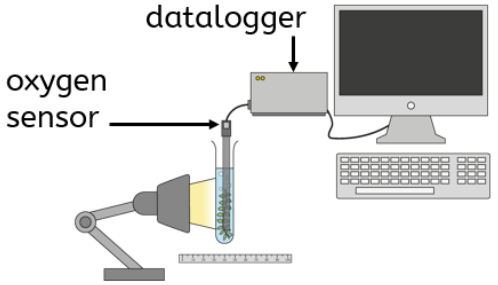
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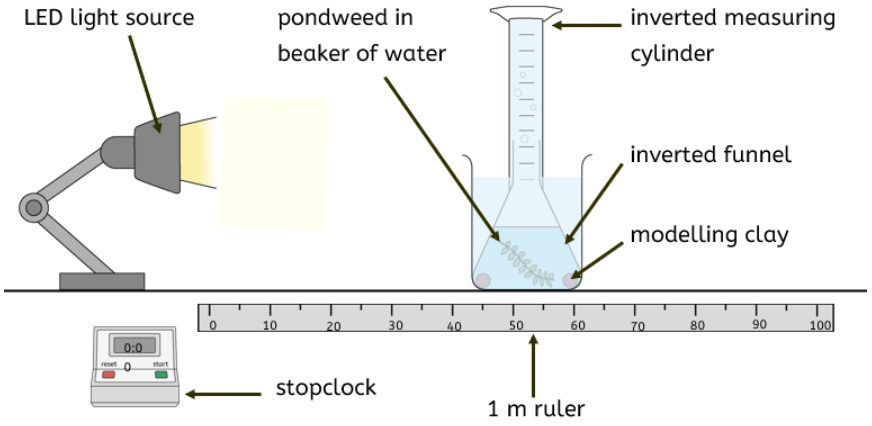


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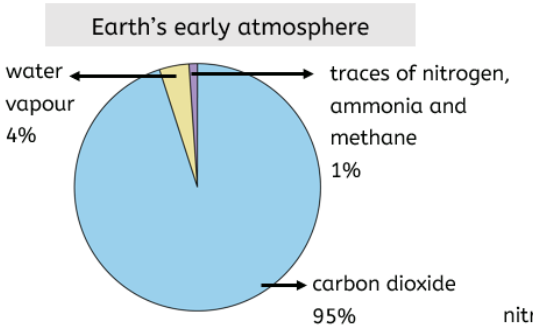
Digital tools → Data loggers collect _____ _____, reduce error and bias, improve validity and analysis.

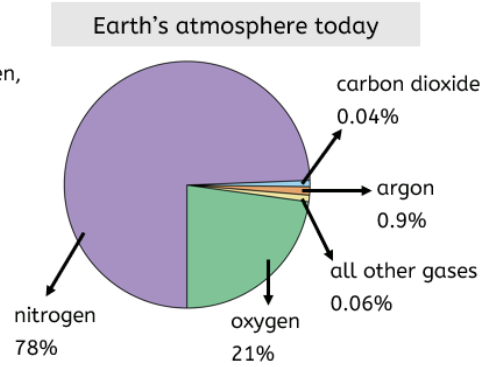


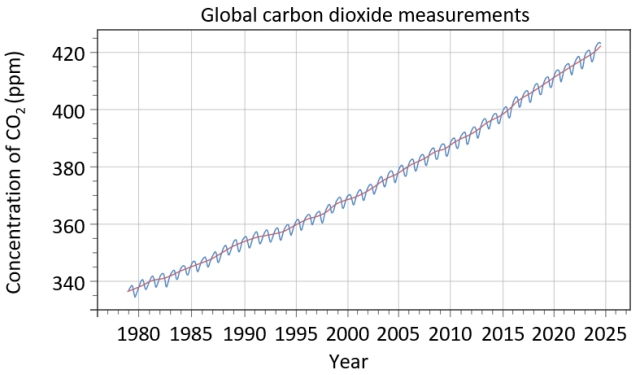
8.04 Plants and Their Processes

Plants and the Atmosphere

Early Earth's atmosphere was mostly carbon dioxide, with almost no oxygen. Over time, oxygen rose and CO_2 fell.



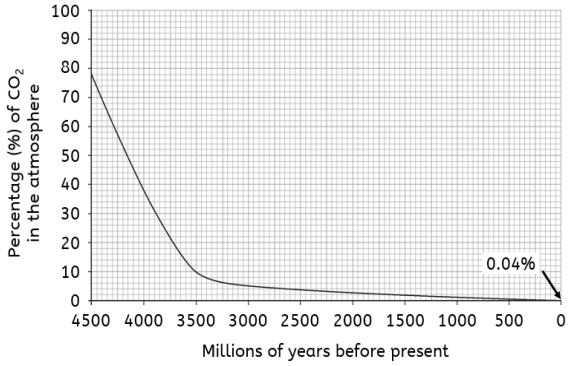


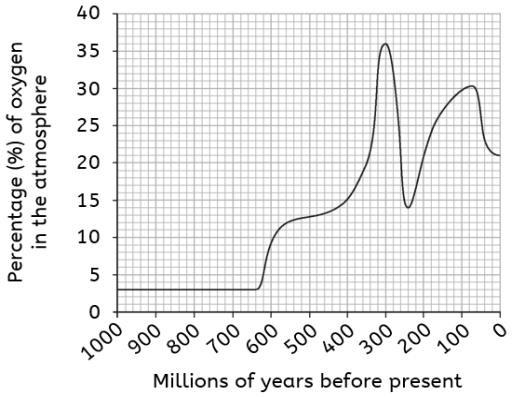


Deforestation reduces the number of plants, increasing carbon dioxide levels.

Carbon dioxide levels decreased because the oceans formed and carbon dioxide dissolved into them. Plants and algae then used it in photosynthesis.

Oxygen levels increased because algae and plants released oxygen during photosynthesis. Fluctuations occurred because early oxygen was absorbed by oceans and seabed rocks.





Plants as Producers

- Plants are producers that make their own food through photosynthesis. Plants provide food for humans and other animals, forming the basis of food chains.
- Foods that contain starch can be identified using iodine.
- Raw data in tables may need to be processed by finding frequency.

Starch Test Result	Tally	Frequency
Starch present	𝍸 𝍸 𝍸 𝍸 ///	18
No starch	𝍸 𝍸 //	12

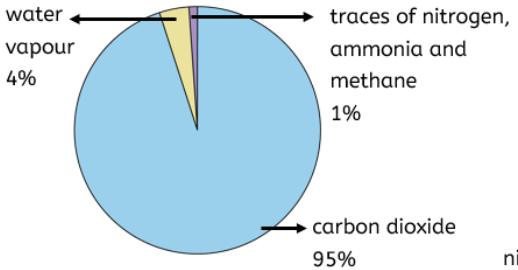
- Insect pollination is essential for crop growth and food production.
- A significant portion of our food relies on pollinators.
- The decline in bee populations threatens food security.

8.04 Plants and Their Processes

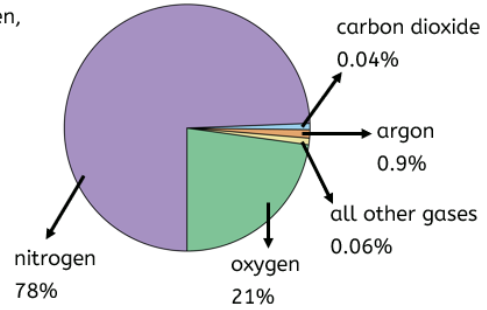
Plants and the Atmosphere

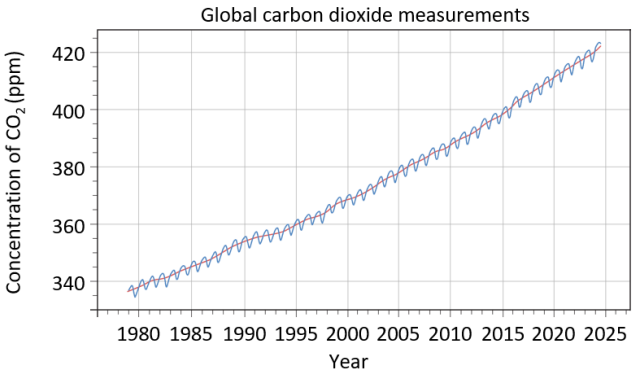
Early Earth's atmosphere was mostly _____ _____, with almost no oxygen. Over time, oxygen _____ and CO_2 _____.

Earth's early atmosphere



Earth's atmosphere today

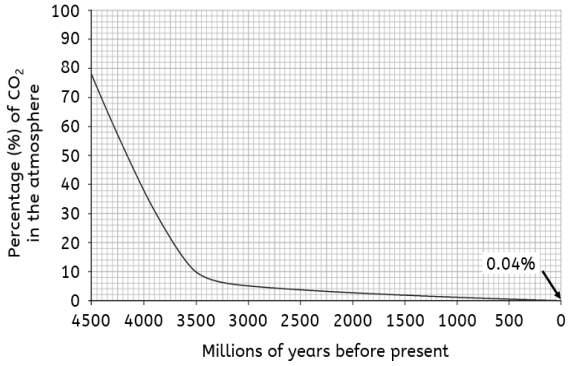


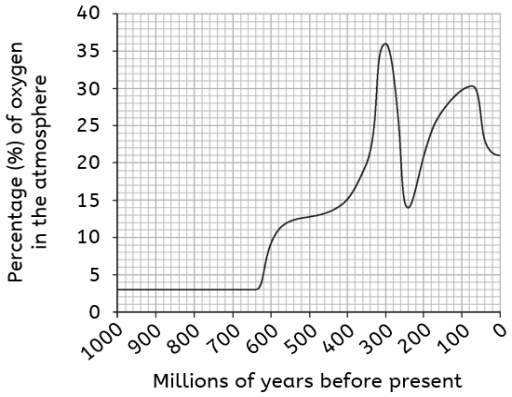


Deforestation reduces the _____ of plants, increasing _____ _____ levels.

Carbon dioxide levels _____ because the _____ formed and carbon dioxide _____ into them. Plants and _____ then used it in _____.

Oxygen levels _____ because algae and plants released _____ during photosynthesis. Fluctuations occurred because early oxygen was absorbed by _____ and seabed rocks.





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- Plants are _____ that make their own food through photosynthesis. Plants provide food for humans and other animals, forming the basis of _____ _____.
- Foods that contain starch can be identified using _____.
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Starch Test Result	Tally	Frequency
Starch present	𝍸 𝍸 𝍸 ///	18
No starch	𝍸 𝍸 //	12

- Insect _____ is essential for crop growth and food production.
- A significant portion of our food relies on pollinators.
- The decline in ____ populations threatens food security.

8.02: Coasts

1. Wave features

1	**swash**	(n) the movement of a wave up the beach. The direction is dependent upon the wind direction.
2	**backwash**	(n) the movement of water down a beach. This is caused by gravity and happens at 90 degrees to the shore.
3	**constructive wave**	(n) waves that have a strong swash and a weak backwash. Deposition is the dominant process.
4	**destructive wave**	(n) waves that have a weak swash and a strong backwash. Erosion is the dominant process.
5	**fetch**	(n) the distance a wave has travelled
6	**prevailing wind**	(n) the direction that the wind usually comes from in a particular area over a long period of time

2. Weathering and erosion

1	**hydraulic action**	(n) the erosion caused by the force of the water hitting the rocks, which traps and compresses air in the cracks and causes the cracks to weaken and break
2	**abrasion**	(n) the erosion caused when rocks and sediment carried by waves (or a river) are thrown against a cliff or riverbank
3	**attrition**	(n) the erosion caused when rocks and sediment carried by waves (or a river) hit each other and cause each other to break into smaller pieces
4	**weathering**	(n) the slow breakdown of rocks while they are in place

3. Geology

1	**geology**	(n) the scientific study of the Earth, including its structure, materials (such as rocks and minerals) and the processes that act upon it
2	**igneous rock**	(n) rocks formed from the cooling and crystallisation of molten rock. Examples include basalt and granite.
3	**metamorphic rock**	(n) rocks formed when very high temperature and pressure cause existing rocks to change. Examples include slate and marble.
4	**sedimentary rock**	(n) rocks formed when sediments of rock are transported, deposited, compacted and cemented together in layers. Examples include chalk, clay and limestone.

4. Coastal processes

1	**transportation**	(n) the movement of sediment
2	**deposition**	(n) when waves drop the sediment they are transporting, either due to a loss of energy or change in the direction of the coastline
3	**longshore drift**	(n) the process by which sediment (such as sand and pebbles) is transported along a coastline by the action of waves. It creates beaches.

5. Headlands and bays

1	**resistant**	(aj) does not easily erode or wear away
2	**headland**	(n) a piece of land that sticks out into the sea and is usually made of hard, resistant rock
3	**bay**	(n) a curved or indented area of the coastline where the land curves inward

Alternating hard and soft rock → destructive waves → hydraulic action → soft rock less resistant → erodes quickly → hard rock more resistant → erodes slowly → soft rock retreats → bay forms → hard rock remains → headland forms

6. Caves, arches, stacks and stumps

1	**cave**	(n) a hollow or opening in a cliff face, usually at the base, formed when waves erode a weakness in the rock, such as a fault or crack
2	**arch**	(n) a natural bridge of rock with an opening underneath, formed when a cave is eroded all the way through a headland.
3	**stack**	(n) a tall, isolated pillar of rock that is left standing in the sea after the roof of an arch collapses
4	**stump**	(n) the remains of a collapsed stack, which has been eroded by waves down to a small, flat rock just above or below sea level

Weakness or crack in headland → destructive waves → hydraulic action and abrasion → cave formed → headland erodes through → arch formed → unsupported roof collapses → vertical stack left → stack collapses leaving a stump

8.02: Coasts

1. Wave features

1	swash
2	backwash
3	constructive wave
4	destructive wave
5	fetch
6	prevailing wind

2. Weathering and erosion

1	hydraulic action
2	abrasion
3	attrition
4	Weathering

3. Geology

1	geology
2	igneous rock
3	metamorphic rock
4	sedimentary rock

4. Coastal processes

1	transportation
2	deposition
3	longshore drift

5. Headlands and bays

1	resistant
2	headland
3	bay

6. Caves, arches, stacks and stumps

1	cave
2	arch
3	stack
4	stump

8.02: Coasts

6. Beaches and longshore drift

1	**sand**	(n) loose material made up of fine rock particles, usually smaller than 2 mm in diameter
2	**shingle**	(n) loose, rounded pebbles and small stones found on beaches, usually between 2 mm and 200 mm in size
3	**sediment**	(n) solid material that is moved and deposited in a new location
4	**beach**	(n) a landform made of loose material, such as sand, pebbles or shingle, that lies along the edge of a sea, ocean or lake
5	**longshore drift**	(n) the process by which sediment (such as sand and pebbles) is transported along a coastline by the action of waves. It creates beaches.

Direction of prevailing wind at an angle → swash happens at an angle → transports material up the beach → backwash takes material down the beach at 90 degrees → due to the force of gravity → process repeats → sediment moves across the beach → zigzag pattern

7. Coastal management

1	**soft engineering**	(n) adaptations to work with nature **beach nourishment –** Sand and shingle from elsewhere are added to the beach. **managed retreat -** Engineers do nothing, people are moved and the coast is left to erode and flood naturally.
2	**hard engineering**	(n) human-made structures that help to deal with coastal erosion **seawalls –** concrete walls that reflect the waves' energy back out to sea **groynes –** wooden posts that trap sediment and interrupt longshore drift

8. Other threats to the coast

1	**plastic pollution**	(n) when plastic waste ends up in the environment, especially in the sea
2	**sewage pollution**	(n) when untreated or poorly treated wastewater (including human waste) is released into rivers or the sea
3	**oil spill**	(n) when oil accidentally leaks into the sea, usually from a ship or drilling platform
4	**sea level rise**	(n) the increase in the average level of the world's oceans
5	**sustainability**	(n) meeting the needs of the present without compromising the ability of future generations to meet their own needs

9. Coastal erosion case study: Happisburgh, Norfolk coast

Background: Norfolk coast in between Cromer and Sea Palling.
A small village with a population of approx. 1400 people.

Vulnerability: soft boulder clay, long fetch, longshore drift, limited sea defences

Impacts	Management strategies
homes destroyed or had to be knocked down	1950s: groynes and revetments
roads lost to the sea	
car parks relocated	2000s: rock armour
homes valued at £1 on Beach road	
farmland lost: 1 field per year	2007 onwards: managed retreat
businesses lost, e.g. caravan parks	

8.02: Coasts

6. Beaches and longshore drift

1 **sand**	
2 **shingle**	
3 **sediment**	
4 **beach**	
5 **longshore drift**	

7. Coastal management

1 **soft engineering**	
2 **hard engineering**	

8. Other threats to the coast

1 **plastic pollution**	
2 **sewage pollution**	
3 **oil spill**	
4 **sea level rise**	
5 **sustainability**	

9. Coastal erosion case study: Happisburgh, Norfolk coast

Impacts	Management strategies

Year 8 History : Elizabethan England

What we are learning this term:

The differences in the religious policies of the Tudor monarchs (religious rollercoaster), the threats faced by Elizabeth I and whether her reign truly was a Golden Age.

A.	*Can you define these key words?*
Transubstantiation	the conversion of the substance of the Eucharistic elements into the body and blood of Christ at consecration, only the appearances of bread and wine still remaining.
Illegitimate	a child born of parents not lawfully married to each other.
Papacy	the office or authority of the Pope.
Poverty	the state of being extremely poor.
Recusant	someone who refused to attend Protestant church services
Puritan	an extreme protestant
Armada	a fleet of warships
Vagrant	a person without a settled home or regular work who wanders from place to place and lives by begging

C.	Elizabeth's Middle Way
Catholic (**stayed the same** as under Mary I)	• Churches can be run by bishops • Churches should be decorated and some ceremonies should be allowed • Bright robes should be allowed
Protestant (**changes made** by Elizabeth after becoming queen)	• Priests are allowed to marry • A person can be saved by faith alone (no need for prayers/ indulgences) • There should be no Mass (no transubstantiation) • Church services and the Prayer Book should be in English • Saints should receive no special prayers.

B. What were the religious policies/beliefs of these Tudor monarchs and what changes did they make?

1. Edward VI	2. Mary I	3. Elizabeth I
• Strong Protestant • Two very strongly Protestant advisors (Dukes of Northumberland and Somerset) that influenced him • He allowed priests to be married (1549) • Introduced a new prayer book written in English (1549) so common folk could understand it • Made a change to the line of succession and was succeeded by Lady Jane Grey (ruled for 9 days) who was a Protestant	• Strong Catholic • Changed language back to Latin • Reverted churches back to how they looked before (colourful, images, statues) • Made the Pope head of the church once again. • Made priests choose between the church and their families • Burned nearly 300 people at the stake – majority were Protestants (heretics) • Burned the Archbishop of Canterbury at the stake (Thomas Cranmer) as he refused to convert to Catholicism.	• Protestant (mild/moderate) • Did not want any more major religious change and upheaval. • She introduced the Middle Way – this was a comprise of both Catholic and Protestant features • The Middle Way leaned more towards Protestantism as this was Elizabeth's own belief. • Tolerant of Catholics at the start of her reign but after numerous plots to depose and kill her and the threat of Mary Queen of Scots her toleration of Catholics lessened. • Known as the 'Virgin Queen'- never married/ never had an heir.

D. Was the Elizabethan Period a Golden Age?

YES	NO
Renaissance – a high point, or a renaissance in drama, art, music and literature. - Elizabeth's Golden Age opened up the arts to every class of society e.g. the theatre.	**Rising population** – led to an increase in poverty ad growing social problems especially in towns.
Victory, exploration and expansion – the defeat of the Spanish armada in 1588, expansion of the British empire into the New World, the founding of Virginia	**Religious division returned** – recusants and Catholic threats to Elizabeth
Religious settlement – very little religious tension during this period. Elizabeth was able to avoid the religious strife and political turmoil that had dominated the reigns of her siblings.	**Four poor harvests** in a row paired with changes in farming (enclosures) led to a **rise in unemployment and homelessness**.
Improvement in quality of life – Business and industry developed and it was possible for merchants to become extremely wealthy and rise in social status (gentry class). Life improved for the lower classes - **Elizabethan Poor Laws**.	**Intense rivalry at court** led to an **unsuccessful rebellion-** Essex Rebellion (1601)- Earl of Sussex tries to take over the privy council.

E.	What was life like for the poor in Elizabethan England?		
No welfare state – if you were out of a job you had to beg, steal or starve	Dissolution of the Monasteries – after this life became harder for the poor and these places had looked after people in times of hardship or distress.	Vagrancy – some homeless and jobless people roamed around in gangs stealing or bulling people into giving them alms	Punishments for vagrancy, begging or stealing were brutal e.g. flogging, branding, whipping and hanging.
The Poor Laws (1597 and 1601) helped to ease the lives of the poor by making sure that each Parish looked after their poor e.g. a poor relief tax was collected, food, money and clothes were donated and dispensed, work or apprenticeships were provided etc.			

Year 8 History : Elizabethan England

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Transubstantiation	
Illegitimate	
Papacy	
Poverty	
Recusant	
Puritan	
Armada	
Vagrant	

C.	Elizabeth's Middle Way
Catholic (**<u>stayed the same</u>** as under Mary I)	
Protestant (**<u>changes made</u>** by Elizabeth after becoming queen)	

B. What were the religious policies/beliefs of these Tudor monarchs and what changes did they make?

1. Edward VI (1537-1553	2. Mary I (1516-1558)	3. Elizabeth I (1533-1603)

D. Was the Elizabethan Period a Golden Age?

<u>YES</u>	<u>NO</u>

E.	What was life like for the poor in Elizabethan England?		

Islam

Key Vocabulary

1	Abu Bakr	The first Caliph chosen by Sunni Muslims after Muhammad's death
2	Ali	Muhammad's cousin and son-in-law, considered by Shia Muslims as his rightful successor
3	Allah	The Arabic word for God in Islam
4	burqa	A full-body covering worn by some Muslim women for reasons of modesty
5	caliph	A leader in Sunni Islam who succeeded Muhammad in leading the Muslim community
6	charity	Giving to those in need, especially through zakat
7	Constitution of Medina	A document created by Muhammad to establish peace and cooperation in Medina
8	Eid-al-Fitr	A festival marking the end of Ramadan
9	Fatima	Muhammad's daughter, especially respected in Shia Islam
10	Hadith	Recorded sayings and actions of Muhammad
11	Hajj	A pilgrimage to Makkah that Muslims aim to complete once in their lifetime
12	hijab	A headscarf worn by some Muslim women as a sign of modesty
13	Hijrah	The migration of Muhammad and his followers from Makkah to Medina
14	imam	A leader in Shia Islam or someone who leads prayer in Sunni Islam
15	Islam	A monotheistic religion revealed to the Prophet Muhammad
16	Jahannam	Hell; a place of punishment after death for those who reject faith or do wrong
17	Jannah	Paradise; a place of reward after death for the righteous
18	Kaaba	The sacred cube-shaped structure in Makkah that Muslims face during prayer
19	Khadija	Muhammad's first wife and the first person to accept Islam
20	Makkah	The birthplace of Muhammad and the holiest city in Islam

Religious Authority

Qur'an	The holy book of Islam, believed to be the literal word of God
Surah	A chapter of the Qur'an
Muhammad	The final prophet in Islam, believed to have received the Qur'an
Sunnah	The example of Muhammad's life used as a guide by Muslims

Tools for Studying Religion

Theology is the study of God and ideas about God. Theologians look at how ideas about God influence beliefs in religions and the actions people will do.

Social Scientists use evidence to see how people are influenced by society. Social Scientists look at patterns in what people believe about God and how this may change due to time and place.

Islam

Key Vocabulary

1	Abu Bakr	
2	Ali	
3	Allah	
4	burqa	
5	caliph	
6	charity	
7	Constitution of Medina	
8	Eid-al-Fitr	
9	Fatima	
10	Hadith	
11	Hajj	
12	hijab	
13	Hijrah	
14	imam	
15	Islam	
16	Jahannam	
17	Jannah	
18	Kaaba	
19	Khadija	
20	Makkah	

Religious Authority

Qur'an	
Surah	
Muhammad	
Sunnah	

Tools for Studying Religion

Theology is the study of God and ideas about God. Theologians look at how ideas about God influence beliefs in religions and the actions people will do.

Social Scientists use evidence to see how people are influenced by society. Social Scientists look at patterns in what people believe about God and how this may change due to time and place.

Islam

Key Vocabulary

21	Medina	The city where Muhammad established the first Muslim community
22	modesty	A principle in Islam often expressed through clothing and behaviour
23	Muhammad	The final prophet in Islam, believed to have received the Qur'an
24	niqab	A face veil worn by some Muslim women as part of modest dress
25	prophet	A messenger chosen by God to deliver His message
26	Qur'an	The holy book of Islam, believed to be the literal word of God
27	Ramadan	The ninth month of the Islamic calendar, observed with fasting
28	salah	Ritual prayer performed five times a day
29	sawm	Fasting from dawn to dusk during Ramadan
30	Seal of the Prophets	A title for Muhammad, indicating he is the final prophet
31	shahada	The Islamic declaration of faith
32	Sharia	Islamic law derived from the Qur'an and Sunnah
33	Shia	A branch of Islam that believes Ali was Muhammad's rightful successor
34	shirk	The sin of associating partners with Allah
35	Sunnah	The example of Muhammad's life used as a guide by Muslims
36	Sunni	The largest branch of Islam, following the elected caliphs
37	Surah	A chapter of the Qur'an
38	tawhid	The belief in the oneness of Allah
39	ummah	The global Muslim community
40	wudu	Ritual washing before prayer
41	zakat	Compulsory act of charity, for those who can afford it

Islam

Key Vocabulary

21	Medina	
22	modesty	
23	Muhammad	
24	niqab	
25	prophet	
26	Qur'an	
27	Ramadan	
28	salah	
29	sawm	
30	Seal of the Prophets	
31	shahada	
32	Sharia	
33	Shia	
34	shirk	
35	Sunnah	
36	Sunni	
37	Surah	
38	tawhid	
39	ummah	
40	wudu	
41	zakat	

Year 8 Term 2 SPANISH Knowledge organiser: Topic = Dieta y Salud

What we are learning this term:

A. Talking about what you eat and drink
B. Giving opinions on food and drink
C. Ordering food in a restaurant
D. Discussing what makes a healthy diet
E. Saying what parts of the body are hurting
F. Key words across topics
G. Translation practice

6 Key Words for this term

1. la dieta	4. comer
2. sano/a	5. beber
3. vegano/a	6. usted

A. ¡Qué hambre! – I'm so hungry!

almorzar	to have lunch
beber	to drink
cenar	to have dinner
comer	to eat
desayunar	to have breakfast
merendar	to snack
tomar	to have (food/drink)
la cena	dinner
la comida	food / lunch
el desayuno	breakfast
la merienda	the snack
el agua	water
la bebida	drink
la leche	milk
el zumo	juice
el zumo de piña	pineaple juice
la cantina	the canteen
vegetariano/a	vegetarian

B. Más Comida – More Food

el arroz	rice
la carne	meat
la ensalada	salad
la fruta	fruit
el marisco	seafood
las patatas fritas	chips
el pescado	fish
el pollo	chicken
el queso	cheese
las salchichas	sausages
el salmón	salmon
la sopa	soup
el tomate	tomato
las tostadas	toast

C. ¡Una de bravas por favour! – One bravas please!

la verdura	vegetables
el yogur	yoghurt
¿Qué desea?	What wld you like?
¿Qué va a tomar?	What are you going to have?
el primer/Segundo plato	first/second course
el postre	dessert
alérgico/a	allergic
el apetito	appetite
el/la camarero/a	the waiter/ress
la cuenta	the bill
el menú	the menu
servir	to serve
fresco/a	fresh

D. ¡Nam nam! – Yum Yum!

Mi plato favorito	my favourite dish
la cebolla	onion
el champiñón	mushroom
los guisantes	peas
el pimiento	pepper
el plátano	banana
el refresco	fizzy drink
amargo/a	bitter
asqueroso/a	disgusting
delicioso/a	delicious
dulce	sweet
insípido/a	tasteless
picante	spicy
sabroso/a	tasty
salado/a	salty
tradicional	traditional
contener	to contain
el ingrediente	the ingredient
la energía	energy
la grasa	fat
el mineral	mineral
el nutriente	nutrient
la porción	portion



Key Verbs

Almorzar To have lunch	Comer To eat	Beber To drink	Tomar To have (food)	Merendar To snack
Almuerzo I have lunch	Como I eat	Bebo I drink	Tomo I have	Meriendo I snack
Amuerzas You have lunch	Comes You eat	Bebes You drink	Tomas You have	Meriendas You snack
Almuerza s/he has lunch	Come s/he eats	Bebe s/he drinks	Toma s/he has	Merienda s/he snacks
Almorzamos We have lunch	Comemos We eat	Bebemos We drink	Tomamos We have	Merendamos We snack
Almuerzan They have lunch	Comen They eat	Beben They drink	Toman They have	Merendan They snack

E. Mi dieta sana – My healthy diet

la proteína	protein
diario/a	daily
grasiento/a	fatty
lácteo/a	lactose
nutritivo/a	nutritious
poco sano/a	unhealthy
saludable	healthy
sano/a	healthy
el aceite	olive oil
el caramelo	sweet
la comida rápida	fast food
derivado/a de	derived from
la dieta	diet
las fajitas	fajitas
la hamburguesa	hamburger
el helado	ice cream
el huevo	egg
la manzana	apple
el pan	bread
las sardinas	sardines
aconsejable	advisable
esencial	essential
ideal	ideal
importante	important
recomendable	recommended
variado/a	varied
un estilo de vida sano	a healthy lifestyle
llevar una vida sana	to have a healthy life
la salud	health

F.¡ Ay! ¡Qué dolor! – Ouch! That's sore!

Me duele	It hurts…
el brazo	arm
la cabeza	head
el codo	elbow
el cuello	neck
el dedo	finger
el dedo del pie	toe
la espalda	back
el estómago	stomach
el hombro	shoulder
la mano	hand
la nariz	nose
el pie	foot
la pierna	leg
la rodilla	knee
los oídos	ears
los ojos	eyes
el tobillo	ankle
estoy…	I am…
cansado/a	tired
mal	bad
mareado/a	dizzy
tengo…	I have…
tos	a cough
vómitos	sickness
¿Qué te duele?	What hurts you?
¿Estás bien?	Are you ok?
¿Cómo te sientes?	How do you feel?
Me siento mal	I feel bad
enfermo/a	ill
mejorar	to get better

Year 8 Term 2 SPANISH Knowledge organiser: Topic = Dieta y Salud

G. Translation Practice	
I ate chips and I drank coke in the cafe	C p f y b u c c e e c
We ate a sandwich and we drank water	C u b y b a
The chicken is delicious	E p e d
The salad is tasty	L e e s
The tarts are sweet	L t s d
The hot dogs are more tasty	E p c s m s
The sausages are more fatty	L a s m g
Eating fruit is healthy	C f e m s
This dish has lots of protein and minerals	E p t m p y m
My back hurts but his head hurts	M d l e p l d l c
Are you ok?	¿E b?
My head and my neck hurt a lot	M d m m c y m c
Her feet hurt a lot	L d m l p
What hurts?	¿Q t d?
How do you feel?	¿C t s?
For my first course I would like soup.	P m p p m g l s
And for a second course I would like a seafood paella	Y p e s p m g u p d m
Can I have the bill please?	¿P t l c p f?

H . Key Questions: Answer the following in your own words. Use these model answers	
¿Qué te gusta comer y beber y por qué?	Me gusta comer una dieta muy sana así que como muchas verduras. También me gusta mucho comer fruta como uvas y plátanos porque son muy sanos. Mi bebida preferida es el té con un poco de azucar pero sé que beber agua es mucho más sano.
¿Qué comiste ayer y qué vas a comer mañana?	Ayer comí una paella de mariscos y fue muy rico! Después de comer la paella tomé un helado de chocolate para postre. Mañana desgraciadamente no voy a comer lo mismo pero voy a comer un bocadillo de queso que hace mi madre y voy a beber un coca-cola.
¿Qué te duele?	Me duele mucho la cabeza desde hace tres días. No puedo concentrar. También me duele mucho el cuello y me siento un poco mareada.
¿Qué desea para el primer plato?	Para el primer plato me gustaría tomar la sopa de tomate con un vaso de agua por favor y para el segundo plato me gustaría tomar el pollo con verduras. Muchas gracias.

I. Key Questions: Translate these model answers using the KO	
¿Qué te gusta comer y beber y por qué? – What do you like to eat and drink and why?	I like to eat toast with fruit for breakfast because it is healthy. Sometimes I eat cereals for breakfast. For lunch I like to eat a chicken salad with some crisps and sometimes I eat a cheese sándwich. I like to drink lemonade because it's sweet and gives me energy.
¿Qué comiste ayer y qué vas a comer mañana? – What did you eat yesterday & what are you going to eat tomorrow?	Yesterday I ate a lot of fruit and a pizza. I also drank a tea with my family and we had ice cream after dinner. Tomorrow I am going to eat cereals with milk for breakfast and for lunch I'm going to eat a meat paella with some bread. I am going to snack some biscuits with a glass of milk in the afternoon with my brother when we watch TV.
¿Qué te duele? – What hurts you?	My feet have been hurting for a week. My legs also hurt me too. And you?
¿Qué desea para el primer plato? – What wld you like for 1st course?	For my first course I would like mushroom soup and strawberries. For my second course I would like salmon with vegetables please.

J. Key Grammar	
Using 'Me duele(n)' correctly	Remember to use the correct pronoun for who you are referring to. *e.g. Le duele la nariz = His/her nose is hurting* *Me duele el ojo = My eye hurts* Remember to add **N** for plural body parts *e.g. Me duelen los pies = My feet hurt*
Using the verbs "to be" and "to have" correctly	Tengo = I have (you just need one word in Spanish not 2 like in English) but remember each person needs a different word *eg he has = tiene, we have = tenemos*
Adjective placement Adjective agreement	Remember adjectives go after the noun Remember adjectives have to agree with the noun in number and gender *e.g. Los caramelos son muy dulces*
Use **porque** to describe your opinions Use singluar and plurals correctly	Me gusta comer fruta **porque** es sana. BUT No me gusta comer sardinas **porque** son asquerosas.

Completra esta seccion. Complete these translations

What we are learning this term:

A. Talking about what you eat and drink
B. Giving opinions on food and drink
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2. sano/a
3. vegano/a
4. comer
5. beber
6. usted

A. ¡Qué hambre! – I'm so hungry!

_____
_____
_____
comer
_____
merendar
tomar
_____
_____
el desayuno
_____
el agua
_____
la leche
_____
el zumo de piña
_____
vegetariano/a

to have lunch
to drink
to have dinner
_____
to have breakfast
_____
_____
dinner
food / lunch
_____
the snack
_____
drink
_____
juice
_____
the canteen
_____

B. Más Comida – More Food

_____
_____
_____
la fruta
el marisco
las patatas fritas
el pescado
el pollo
_____
_____
_____
la sopa
el tomate
las tostadas

rice
meat
salad
_____
_____
_____
_____
_____
cheese
sausages
salmon
_____
_____
_____

C. ¡Una de bravas por favour! – One bravas please!

_____
_____
_____
_____
_____
_____
el postre
alérgico/a
el apetito
el/la camarero/a
la cuenta
_____
_____
_____

vegetables
yoghurt
What wld you like?
What are you going to have?
first/second course
_____
_____
_____
_____
the bill
the menu
to serve
fresh

D. ¡Nam nam! – Yum Yum!

_____
_____
el champiñón
los guisantes
el pimiento
_____
_____
_____
asqueroso/a
delicioso/a
dulce
insípido/a
_____
_____
_____
_____
contener
el ingrediente
la energía
la grasa
_____
_____
la porción

my favourite dish
onion
_____
_____
_____
banana
fizzy drink
bitter
_____
_____
_____
_____
spicy
tasty
salty
traditional
_____
_____
_____
_____
mineral
nutrient
_____

Key Verbs

Almorzar To have lunch	Comer _____	Beber To drink	_____ To have (food)	Merendar _____
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Almuerza s/he has lunch	_____ s/he eats	Bebe _____	_____ s/he has	Merienda s/he _____
Almorzamos We have lunch	Comemos We eat	Bebemos _____	_____ We have	Merendamos _____
Almuerzan They have lunch	Comen They eat	_____ They drink	Toman _____	Merendan They snack

E. Mi dieta sana – My healthy diet

_____
_____
_____
lácteo/a
nutritivo/a
poco sano/a
_____
_____
_____
el caramelo
la comida rápida
_____
_____
las fajitas
la hamburguesa
el helado
el huevo
_____
_____
las sardinas
aconsejable
esencial
_____
_____
_____
variado/a
un estilo de vida
sano
_____
_____

protein
daily
fatty
_____
_____
_____
healthy
healthy
olive oil
_____
_____
derived from
diet
_____
_____
_____
_____
apple
bread
_____
_____
_____
ideal
important
recommended
_____
_____

to have a healthy life
health

F.¡ Ay! ¡Qué dolor! – Ouch! That's sore!

Me duele
el brazo
la cabeza
el codo
_____
_____
_____
_____
el estómago
el hombro
la mano
_____
_____
_____
la rodilla
los oídos
los ojos
el tobillo
_____
_____
_____
mareado/a
tengo…
_____
_____
¿Qué te duele?
¿Estás bien?
_____
_____
enfermo/a
mejorar

_____
_____
_____
_____
neck
finger
toe
back
_____
_____
_____
nose
foot
leg
_____
_____
_____
_____
I am…
tired
bad
_____
_____
a cough
sickness
_____
_____
How do you feel?
I feel bad
_____
_____

Los Alimentos en español



ART: Year 8 Term 1 & 2 - Topic = Day of the Dead

What we are learning during these term:

A. About Day of the Dead (DOTD) Mexican Holiday.
B. How to use the Grid Method for accurate drawing of a skull.
C. DOTD artists: Thaneeya McArdle and Laura Barbosa.
D. Positive/negative collage.
E. Papier mâché sugar skulls.

6 Key Words for this project

1. Sugar Skull
2. Mexican Day of the Dead
3. Symmetry
4. Armature
5. Papier Mâché
6. Outcome



B. How to use the Grid Method for accurate drawing.

1. Use a ruler to draw an equally spaced grid onto your image.
2. Draw an identical grid **LIGHTLY** onto paper.
3. Draw in the main *outlines* of your image, focusing on one square at a time Use a ruler to help you *measure* the positioning of lines if needed.
4. Add main details before erasing he grid on the paper.
5. Add fine *details* and build in *tone.*



D. How to make a positive/negative collage.

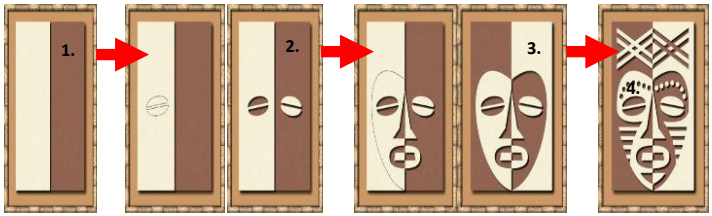
Collage is a form of art by cutting and ripping paper to create interesting artworks.

Steps for making your collage:

1. Cut a piece of light A4 piece of paper in half and place one half over the top of the darker A4 piece of paper.
2. Draw and cut out one facial feature at a time from the light piece of paper and flip it over onto the dark piece of paper. ***DO NOT*** *cut into the dark piece of paper, only the light. Remove the dark piece of paper from underneath the light piece before cutting.*
3. Draw the shape of the face on the light piece of paper and flip it over to the dark piece of paper, aligned with the rest of the face.
4. Add additional details on the face and in the background, following the same technique as step 2.

What each tool is used for:

Cutting mat	To protect the table from damage.
Craft knife	To precisely cut shapes from paper.
Glue stick	To cleanly stick the shapes onto paper.



Keywords for this project in detail:

Sugar Skull 	A colourful an and heavily patterned skull. The term is often applied to edible version of a skull, with colour and pattern. They are made and eaten in celebrating ancestors who have died.
Mexican Day of the Dead 	Or known as 'Día de Muertos' in Spanish, is a festival held in Mexico from 31st October to 2nd November every year to remember the deceased.
Symmetry 	Same on both sides, like a reflection.
Armature 	A support and foundations (starting point) for a sculpture.
Papier Mâché 	A technique using watered down PVA glue and paper.
Outcome 	The final piece of art for a project, which shall be the DOTD papier mâché sugar skull sculptures.

A. About Day of the Dead, Mexican Holiday.

What?
- It is a Mexican Christian holiday.
- It began as a day of thanks for the harvest.
- The festival lasts 3 days. It Occurs 31st October – 2nd November every year.

Why?
It is a festival that celebrates the lives of those who have died.

How?
Different things happen on each day….
DAY 1:
- ❖ Relatives put flowers on graveyards or in vases.
- ❖ They create an altar somewhere in the house with pictures of the dead, along with favourite objects. The rest of this day is spent making the favourite foods of the person(s).

DAY 2:
- ❖ Families have big celebrations at their homes. They serve all the food they made the day before. They eat candies shaped like skeletons. Friends stop by and people dance and sing.

DAY 3:
- ❖ The holiday expands to the town. There are parades and floats and characters in costume.

C. DOTD artists: Thaneeya McArdle and Laura Barbosa.

Thaneeya McArdle



- Inspired by Indian Art.
- Works with a range of materials including acrylic. paint and various programmes on the computer.
- Her work shows a creative and personal. interpretation of Day of the Dead and has Indian like qualities.
- Designs are vibrant, symmetrical and include the use of intricate patterns.

Laura Barbosa



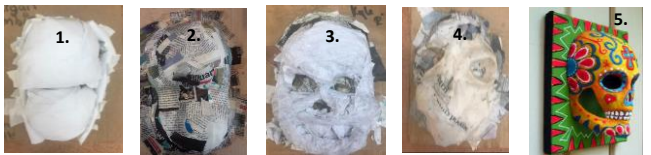
- Self-taught painter
- Produces artwork based on the theme Mexican day of the dead
- Uses fluorescent and vibrant colours that also have contrasting areas.
- Her brush strokes are dominant in her work and
- Her use of patterns are simplistic.

E. How to make a papier mâché sugar skull.

Papier mâché is made from newspaper and PVA glue, which hardens solid once dry.

Steps for making your sugar skull:

1. Roll two balls of white tissue, one slightly bigger than the other and tape it to a piece of A4 card. This is the armature, the bare bones of starting the sculpture.
2. Apply the first layer of papier mâché using newspaper as smoothly as possible using PVA glue.
3. Mould the facial features with papier mâché using white tissue and PVA glue, building it up to make it three dimensional and as smooth as possible.
4. Apply a final thin layer of newsprint and PVA papier mâché for a smooth and even finish.
5. Paint the sugar skull with white emulsion paint and allow to dry. Apply colourful poster paint in the background and use acrylic paint and pens to add the final details.



ART: Year 8 Term 1 & 2 - Topic = Day of the Dead QUIZZABLE

What we are learning during these term:

A. About Day of the Dead (DOTD) Mexican Holiday.
B. How to use the Grid Method for accurate drawing of a skull.
C. DOTD artists: Thaneeya McArdle and Laura Barbosa.
D. Positive/negative collage.
E. Papier mâché sugar skulls.

6 Key Words for this project

1. Sugar Skull
2. Mexican Day of the Dead
3. Symmetry
4. Armature
5. Papier Mâché
6. Outcome



B. Explain how to use the Grid Method for accurate drawing.

1
2
3
4
5



D. Explain how to make a positive/negative collage.

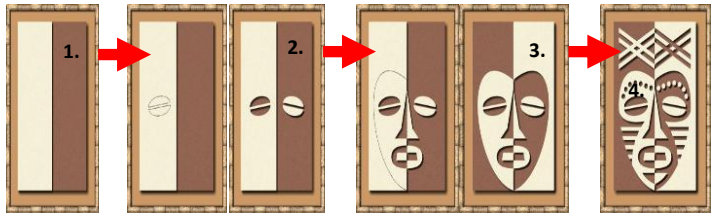
Collage is:

Steps for making your collage:

1
2
3
4

What each tool is used for:

Cutting mat	
Craft knife	
Glue stick	



Keywords for this project in detail:

Sugar Skull	A colourful an and heavily patterned skull. The term is often applied to edible version of a skull, with colour and pattern. They are made and eaten in celebrating ancestors who have died.
Mexican Day of the Dead	Or known as 'Día de Muertos' in Spanish, is a festival held in Mexico from 31st October to 2nd November every year to remember the deceased.
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- Self-taught painter
- Produces artwork based on the theme Mexican day of the dead
- Uses fluorescent and vibrant colours that also have contrasting areas.
- Her brush strokes are dominant in her work and
- Her use of patterns are simplistic.

E. Explain how to make a papier mâché sugar skull.

Papier mâché is:

Steps for making your sugar skull:

1
2
3
4
5



YEAR 8 GRAPHIC COMMUNICATION

What are we learning this term?

A	B	C	D	E
Stencil design	Step up card	Accordion card	Key words	Evaluation

A | Stencil design

List 3 health and safety rules for using a cutting knife

Three health and safety rules to consider that could be considered when using a craft knife are to hold the knife in the correct way with finger and thumb on base of knife to support the blade, to cut pushing the blade away from you, to tuck tie in and tie hair up.

List the materials you need to create a stencil

 Cutting Mat

 Craft Knife

 Stencil design

 Card

B | Draw the inside of the pop up card

Annotate the different steps, materials you need to make the card

2 pieces of card, both folded in half
A ruler to measure the cut out
A pencil to draw the guidelines
Scissors to make the incisions



Coloured paper to add to the design
Cut any incisions

C | Draw the inside of an accordion card

Annotate the different steps, materials you need to make the card

2 pieces of card, one folded in half
A ruler to measure the folds
Second card folded to create the accordion



Coloured paper to add to the design

D| Key words

Material	The matter from which a thing can be made. E.g. a pop-up card would be made from paper and card
Stencil	a thin sheet of card, plastic, or metal with a pattern or letters cut out of it, used to produce the cut design on the surface below by the application of ink or paint through the holes.
Design	a plan or drawing produced to show the look and function or workings of a building, garment, or other object before it is made

E | Evaluation

Evaluation: To judge or give an opinion

Designers will evaluate their products to see what works well and what doesn't. This way they can make any improvements on their current designs to ensure a high-quality product.

When writing an evaluation it is important to include the following three things:

1. Positives – what works well
2. Negatives – what doesn't work well
3. Possible improvements – how could you make it better?

For example:

My tote bag looks great, the colours are bright which appeals to the audience of the festival. However, I have not designed a combined logo. One improvement I could make is to use images and text to create a combined logo.

YEAR 8 GRAPHIC COMMUNICATION

What are we learning this term?

A	B	C	D	E
Stencil design	Step up card	Accordion card	Key words	Evaluation

A | Stencil design

List 3 health and safety rules for using a cutting knife

List the materials you need to create a stencil






B | Draw the inside of the pop up card

Annotate the different steps, materials you need to make the card

C | Draw the inside of an accordion card

Annotate the different steps, materials you need to make the card

D| Key words

Material	The matter from which a thing can be made. E.g. a pop-up card would be made from paper and card
Stencil	a thin sheet of card, plastic, or metal with a pattern or letters cut out of it, used to produce the cut design on the surface below by the application of ink or paint through the holes.
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E | Evaluation

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When writing an evaluation it is important to include the following three things:

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Y8 Food technology

What we are learning this term:

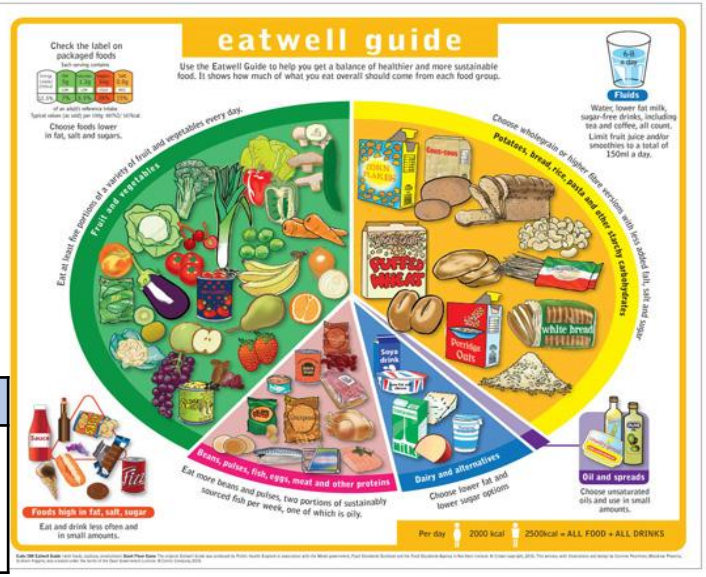
1. Health, safety and hygiene in the kitchen
2. The Eatwell guide and nutrients
3. Storing food safely
4. Causes and solutions for food and food packaging waste
5. Influences on people's food choice
6. Practical skills

A. What are the nutrients required in the diet?

Carbohydrates	To give the body energy e.g bread.
Protein	To grow and repair the body, and to give energy e.g eggs.
Fats	To insulate your body, give you energy, and protect your organs i.e butter.
Vitamins	For general body health and function i.e carrots for eyesight.
Minerals	For general body health and function i.e iron to make blood cells.

B. What are the 5 different sections of the Eatwell plate?

1 **Fruit and Vegetables** – provides minerals, vitamins & fibre
2 **Carbohydrates** – provides carbs and fibre
3 **Protein** - provides protein, omega 3, come vitamins
4 **Dairy** - provides vitamins, minerals (calcium)
5 **Fats and Oils**



C. Storing food safely

Perishable foods should be stored out of the **temperature danger zone** to reduce the risk of **food poisoning.**
Hot foods should be kept above 63ºC and cold foods should be kept below 5ºC.

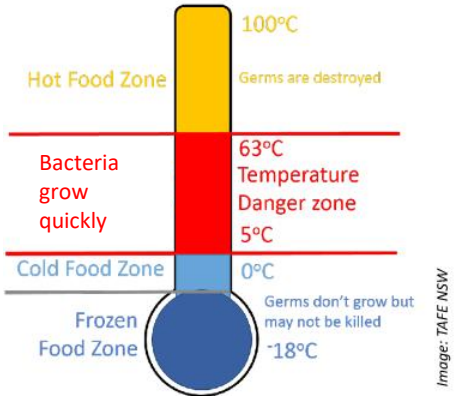


Image: TAFE NSW

C. Food related waste

Reasons for wasting food:
- Confusion over best before dates and other date marks
- Too much food was cooked
- Preparing food incorrectly
- Food is spoiled

Reducing Waste:
- Plan meals and correct portion sizes
- Correctly storing food and paying attention to use by dates
- Use up contents of your fridge before buying more food
- Use leftovers in meals the day after or freeze them
- Use the whole food e.g. bones for stock
- Choose products with recyclable packaging
- Bring your own shopping bags
- No single use plastic i.e straws
- Buy food loose i.e apples

E. Keywords

Cross contamination	The transfer of contaminants onto food through either the hands, the equipment or the surfaces. Causes food poisoning.
Spoilage	When food becomes unsafe to eat i.e rot, mould.
Use-by date	A date that informs you when the food will have **spoiled.**
Best-before date	You can still wat the food after this date but it may be worse quality.
Fibre	Foods that keep your digestive system healthy and avoid constipation.
Allergen	A substance (sometimes food) that causes an immune system response that can be fatal i.e throat swelling up. Nuts are common allergens.
Intolerance	When the body cannot digest a food and rejects it i.e vomiting, diarrhea. Many people are lactose intolerant (milk intolerance).
Coeliac	When someone cannot eat gluten (wheat), similar to an intolerance but more dangerous.
Vegan	When someone does not eat anything that comes from an animal including eggs, milk, honey.

C. Influences on food choice

- A person's **physical activity level (PAL)**
- Whether they want to **eat healthily**
- The **cost** of the food vs their income
- Whether they are influenced by **peer pressure** or online trends
- Their cooking skills (**culinary skills**)
- Their **lifestyle** and how much time they have to cook/eat
- Whether they have rules in their **religion, culture or ethical rules**
- Whether the food is **available** in that season
- Whether they **enjoy** that food
- Whether there is a **special occasion** with special food

Y9 Food technology

What we are learning this term:

1. Health, safety and hygiene in the kitchen
2. The Eatwell guide and nutrients
3. Storing food safely
4. Causes and solutions for food and food packaging waste
5. Influences on people's food choice
6. Practical skills

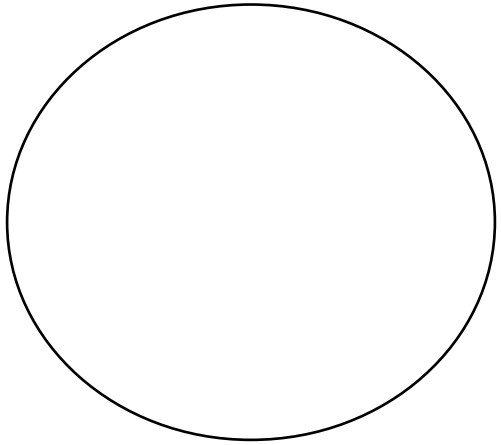
A. What are the nutrients required in the diet?

Carbohydrates	To give the body _____ e.g bread.
Protein	To _____the body, and to give energy e.g eggs.
Fats	To insulate your body, give you _____, and protect your organs i.e butter.
Vitamins	For general body health and function i.e carrots for _____.
Minerals	For general body health and function i.e iron to make _____.

B. What are the 5 different sections of the Eatwell plate?

1 F _____ and _____
2 C_____ provides _____
3 _____
4 _____ - provides vitamins, minerals (calcium)
5 **Fats and Oils**

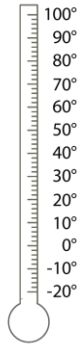
Divide the circle below into 5 sections as on the eatwell guide and annotate it with one healthy eating guideline .



C. Storing food safely

Perishable foods should be stored out of the **temperature danger zone** to reduce the risk of **food poisoning.**
Hot foods should be kept above 63ºC and cold foods should be kept below 5ºC.

Annotate the thermometer to show key food safety temperatures.



C. Food related waste

Reasons for wasting food:
- Confusion over best before dates and other date marks
- Too much food was cooked
- Preparing food incorrectly
- Food is spoiled

Reducing Waste:
1.
2.
3.
4.

E. Keywords

Hygiene	A method of keeping yourself and equipment clean
Cross contamination	
	When food becomes unsafe to eat i.e rot, mould.
Perishable food	Food that spoils if not kept in the fridge or freezer e.g ham.
Fibre	
Allergen	
	When the body cannot digest a food and rejects it i.e vomiting, diarrhea. Many people are lactose intolerant (milk intolerance).
Coeliac	When someone cannot eat _____ (wheat), similar to an intolerance but more dangerous.
	When someone does not eat anything that comes from an animal including eggs, milk, honey.

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- A person's **physical activity level (PAL)**
- Whether they want to **eat healthily**
- The **cost** of the food vs their income
- Whether they are influenced by **peer pressure** or online trends
- Their cooking skills (**culinary skills**)
- Their **lifestyle** and how much time they have to cook/eat
- Whether they have rules in their **religion, culture or ethical rules**
- Whether the food is **available** in that season
- Whether they **enjoy** that food
- Whether there is a **special occasion** with special food

Year 8 PRODUCT DESIGN Rotation Knowledge Organiser

What we are learning this term:

A. Workshop Tools **B. Materials** **C. Key words** **D. Art Deco Design Movement**

A. Workshop Tools

Steel Rule	Wooden Vice	Clamp	Bench Hook	Tenon Saw	Pillar Drill	Bandfacer
						

B. Materials

Timbers come from **trees**



Scots pine – which you used for your clock base – is a **softwood**

Softwoods come in planks and boards

Manufactured Boards come from **wood pulp**



Plywood – which you used as your Memphis shapes – is a **manufactured board**

Manufactured Boards come in sheets

Polymers come from **crude oil**



Acrylic – which you used as your Memphis shapes – is a **polymer**

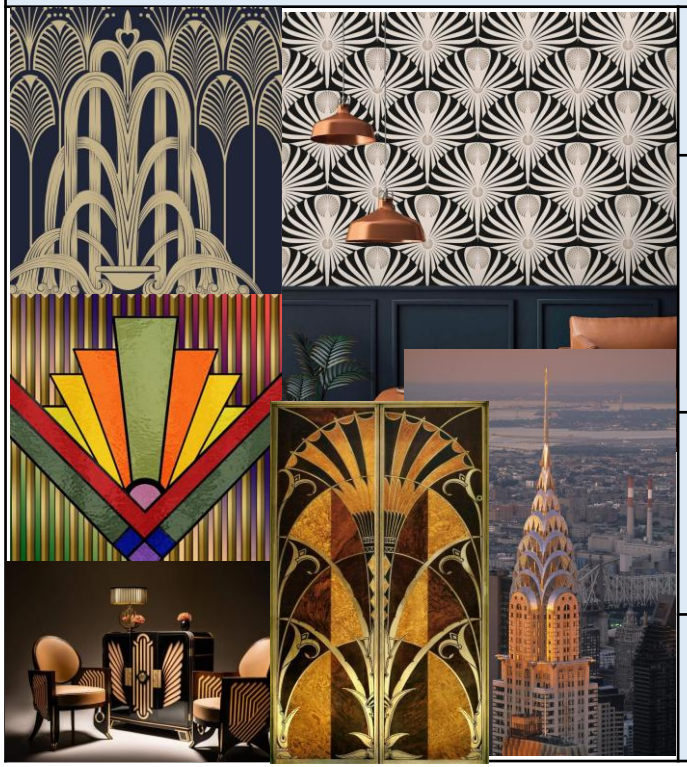
Polymers come in sheets, graduals and filament

C. Key Words

Research	An investigation of resources and materials to help inspire ideas
Design	A plan or drawing produced to show the look and function or workings of a building, garment or other object before it is made
component	Part of a whole
Manufacture	The degree to which the result of a measurement, conforms to the correct value

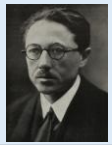
D. Art Deco Design Movement

Art Deco was a decorative art and architectural style that originated in France in the 1920s and flourished until the start of World War II. It's characterized by its geometric shapes, luxurious materials, and bold colors, often reflecting a sense of glamour and modernity.



Key Designer

Émile-Jacques Ruhlmann



Key Features:

Geometric shapes and patterns,

Bold colours and contrasting pallets,

Symmetry and rectangular forms

Streamlined and elongated forms

Stepped or Setback forms

Colours:

Rich, bold, contrasting colour palettes

Key colours include; red, blue, green often contrasted with black, gold or silver.

Line Styles:

Very geometric, straight lines, symmetry, streamlined forms, repetitive patterns

Year 8 PRODUCT DESIGN Rotation Knowledge Organiser

What we are learning this term:

A. Workshop Tools B. Materials C. Key words D. Art Deco Design Movement

A. Workshop Tools

_____	_____	_____	_____	_____	_____	_____
						

C. Key Words

Research	
Design	
component	
Manufacture	

B. Materials

Timbers come from _____



Scots pine – which you used for your clock base – is a **softwood**

Softwoods come in _____ and _____

Manufactured Boards come from _____



Plywood – which you used as your Memphis shapes – is a **manufactured board**

Manufactured Boards come in _____

Polymers come from _____

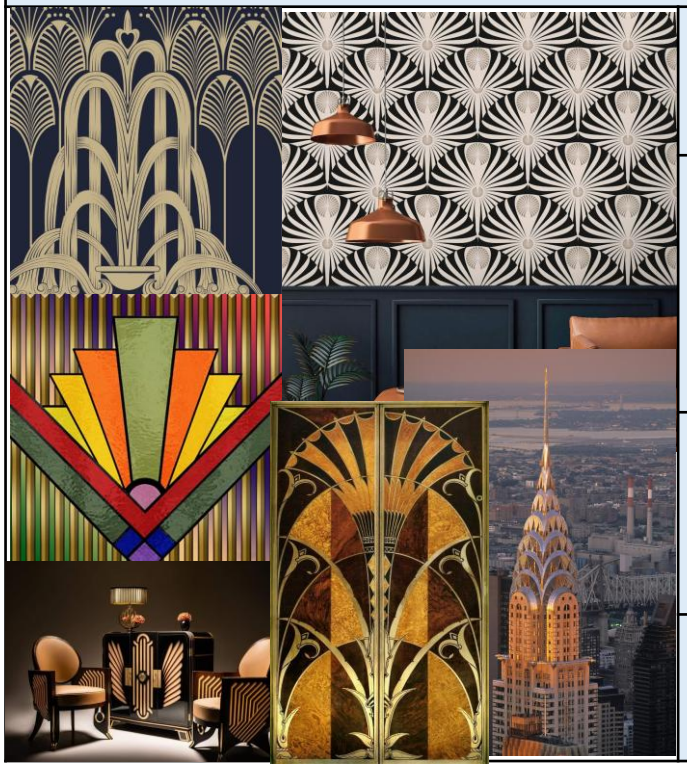


Acrylic – which you used as your Memphis shapes – is a **polymer**

Polymers come in _____, _____ and _____

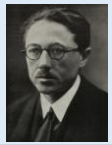
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Key Designer

_____



Key Features:

_____ shapes and _____,

_____colours and contrasting _____,

_____ and rectangular forms

_____ and elongated forms

Stepped or _____

Colours:

_____

_____

_____

Line Styles:

_____

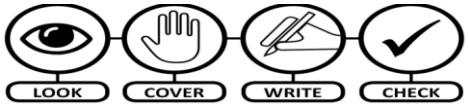
_____

Year 8: tonality and Structure

Term 2

A What we are learning about this term…

1	Develop music reading skills
2	Treble / Bass clef notation
3	Sharp, Flats and Natural notes
4	Structure and Tonality

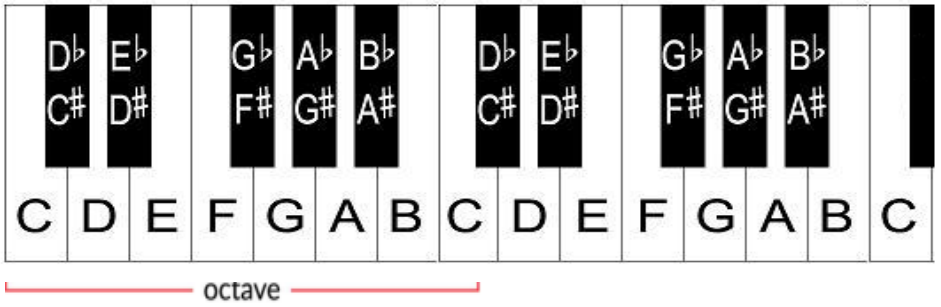


B Keywords

Binary	*A piece of music divided into 2 sections*
Ternary	*A piece of music divided into 3 sections*
Chromatic	*The full 12 notes of a scale, including sharps and flats*
Pentatonic	*A set of 5 musical notes that are being played as a scale*
Atonal	*Music that is neither major or minor, sounding clashing*
Structure	*The way the Music is put together – overall plan of the music*



C Layout of a Keyboard

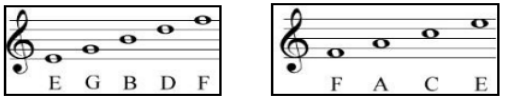


A piano or keyboard is laid out with **WHITE KEYS** and **BLACK KEYS** (as above). **C** is to the left of the two **BLACK KEYS** and the notes continue to **G** when they go back to **A** again. Notes with the same letter name/pitch are said to be an **OCTAVE** apart. **MIDDLE C** is normally in the centre of a piano keyboard.
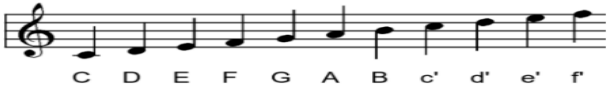
D Treble Clef & Treble Clef Notation

A **STAVE** or **STAFF** is the name given to the five lines where musical notes are written. The position of notates on the stave or staff shows their **PITCH** (how high or low a note is). The **TREBLE CLEF** is a symbol used to show high-pitched notes on the stave and is usually used for the right hand on a piano or keyboard to play the **MELODY** and used by high pitched instruments such as the flute and violin. The stave or staff is made up of 5 **LINES** and 4 **SPACES**.

Every Green Bus Drives Fast. Notes in the **SPACES** spell **"FACE"**



Notes from **MIDDLE C** going up in pitch (all of the white notes) are called a **SCALE**.

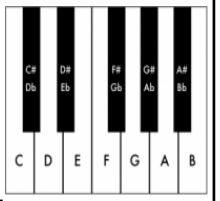


E Black Keys and Sharps and Flats

There are five different black notes or keys on a piano or keyboard. They occur in groups of two and three right up the keyboard in different pitches. Each one can be a **SHARP** or a **FLAT**. The **#** symbol means a **SHARP** which raises the pitch by a semitone (e.g. C# is higher in pitch(to the right) than C). The *b* symbol means a **FLAT** which lowers the pitch by a semitone (e.g. B*b* is lower in pitch(to the left) than B).

Each black key has two names – C# is the same as D*b* – there's just two different ways of looking at it!

Remember, black notes or keys that are to the **RIGHT** of a white note are called **SHARPS** and black notes to the **LEFT** of a white note are called **FLATS**.



F Note Values and Dotted Note Values

Note	Name	Beats	Rest	Note	Name	Beats	Rest
𝅝	Semibreve, Whole Note	4 beats	𝄻	𝅝.	Dotted Semibreve, Dotted Whole Note	6 beats	𝄻.
𝅗𝅥	Minim, Half Note	2 beats	𝄼	𝅗𝅥.	Dotted Minim, Dotted Half Note	3 beats	𝄼.
♩	Crotchet, Quarter Note	1 beat	𝄽	♩.	Dotted Crotchet, Dotted Quarter Note	1½ beats	𝄽.
♪	Quaver, Eighth Note	1/2 beat	𝄾	♪.	Dotted Quaver, Dotted Eighth Note	3/4 beat	𝄾.

G Describing music – MAD T SHIRT

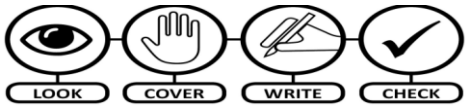
M	A	D	T	S	H	I	R	T
Melody	**Articulation**	**Dynamics**	**Texture**	**Structure**	**Harmony/Tonality**	**Instruments**	**Rhythm**	**Tempo**
The tune	How notes are played	Loud/quiet and any other volume changes	Layers of sound / how they fit together	The sections and organising	Chords used / the mood	Types of instruments heard	Pattern of notes	The speed

Year 8: tonality and Structure

Term 2

A What we are learning about this term…

1	Develop music reading skills
2	Treble / Bass clef notation
3	Sharp, Flats and Natural notes
4	Structure and Tonality

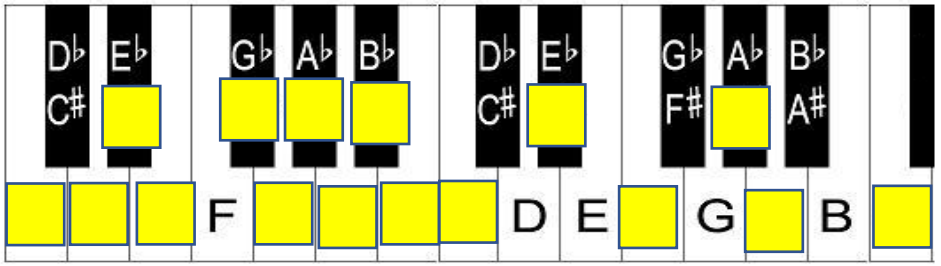


B Keywords

Binary	
Ternary	
Chromatic	
Pentatonic	
Atonal	
Structure	



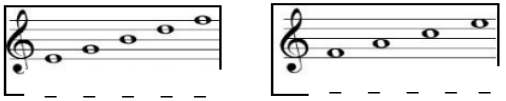
C Layout of a Keyboard
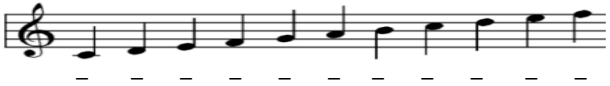


D Treble Clef & Treble Clef Notation

A **STAVE** or **STAFF** is the name given to the five lines where musical notes are written. The position of notates on the stave or staff shows their **PITCH** (how high or low a note is). The **TREBLE CLEF** is a symbol used to show high-pitched notes on the stave and is usually used for the right hand on a piano or keyboard to play the **MELODY** and used by high pitched instruments such as the flute and violin. The stave or staff is made up of 5 **LINES** and 4 **SPACES**.

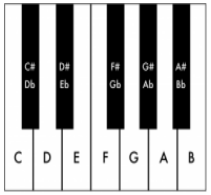
Every Green Bus Drives Fast. Notes in the **SPACES** spell **"FACE"**



Notes from **MIDDLE C** going up in pitch (all of the white notes) are called a **SCALE**.



E Black Keys and Sharps and Flats



F Note Values and Dotted Note Values

Note	Name	Beats	Rest	Note	Name	Beats	Rest
𝅝			𝄻	𝅝.	Dotted		𝄻.
𝅗𝅥			𝄼	𝅗𝅥.			𝄽.
♩			𝄽	♩.			𝄾.
♪			𝄾	♪.			𝄿.

G Describing music – MAD T SHIRT

M	A	D	T	S	H	I	R	T
M_____	A_____	D_____	T_____	S_____	H_____/T_____	I_____	R_____	T_____

Drama – Year 8 Term 2



SLAPSTICK

For GCSE drama, you need to understand and be able to apply techniques from different genres of performance. This genre is COMEDY

Background	Characters
Its roots go back to Ancient Greece and Rome. The term arises from a device developed for use in the physical comedy style known as commedia dell'arte The slapstick was a two-piece paddle that actors would use to accentuate the impact of a hit. Shakespeare incorporated slapstick into his comedies, such as in his play *The Comedy of Errors*	BOSS- The only character who talks. Always thinks they have control. Has pain inflicted on them more so than the sidekick.
The BOSS character is the only one to talk. Deliberately clumsy actions and humorously embarrassing events. There are elements of stage combat	SIDEKICK- Works against the boss character. Inflicts pain towards the boss. Does not speak.
Simple and predictable storylines. Music and sound effects are key Genre of COMEDY	KEY WORDS- Exaggeration, Mime Pain, comedic timing, gestures, sound effects, music.







How can you create humour without the use of words?
Why is it important that the characters have specific roles?
How would you mark the moment of the sidekick inflicting pain?

Why ?
What is a BOSS CHARACTER?
What role do sound effects play in this genre?

Drama – Year 8 Term 2



SLAPSTICK

For GCSE drama, you need to understand and be able to apply techniques from different genres of performance. This genre is

Background	Characters
Its roots go back to _____ and _____. The term arises from a device developed for use in the physical comedy style known as _____ The _____ was a _____-piece paddle that actors would use to accentuate the impact of a hit. Shakespeare incorporated slapstick into his comedies, such as in his play *The Comedy of Errors*	BOSS-.  
The _____ character is the only one to talk. Deliberately clumsy actions and humorously embarrassing events. There are elements of _____ 	SIDEKICK-
Simple and predictable _____ Music and _____ are key Genre of _____	KEY WORDS-

How can you create humour without the use of words?
Why is it important that the characters have specific roles?
How would you mark the moment of the sidekick inflicting pain?

Why ?
What is a BOSS CHARACTER?
What role do sound effects play in this genre?

SWINDON ACADEMY READING CANON

Year 7

- The Canterbury Tales
- War Horse
- Adventures of a Young Naturalist
- A Monster Calls
- The Pearl
- Number the Stars
- The Hunger Games
- Chinese Cinderella
- Sir Gawain and the Green Knight

Year 8

- The Dark Lady
- Trash
- The Diary of a Young Girl
- Ghost Boys
- The Amazing Maurice
- The Bone Sparrow
- Salt to the Sea
- The Giver
- Witch Child

Year 9

- Skin
- I am Malala
- Noughts and Crosses
- Liccle Bit
- Fahrenheit 451
- The Black Flamingo
- One
- Simon vs the Homo Sapiens Agenda
- Long Way Down
- Northern Lights
- The Boy Who Steals Houses
- The Woman in Black
- The Book Thief

Year 10

- The Curious Incident of the Dog in the Night-Time
- The Underground Railroad
- Rani and Sukh
- The Hate U Give
- The Boxer
- Pigeon English
- Orangeboy
- 1984
- The Art of Being Normal
- The Outsiders
- To Kill a Mockingbird
- A Selection of Short Stories

#ReadingisPower