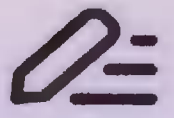
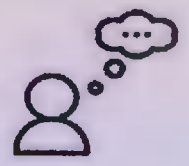
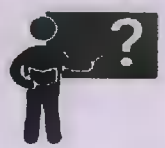
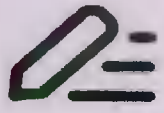
Year 8

Home Learning

Knowledge Organiser Booklet
Summer Term 2026

Name: **Form Class:**

How to use a knowledge organiser – step by step guide

	Look, Cover, Write, Check	Definitions of Key Words	Flash Cards	Self Quizzing	Mind Maps	Paired Retrieval
Step 1	Look at and study a specific area of your KO. 	Write down the key words and definitions. 	Use your KO to condense and write down key facts or information onto flash cards. 	Use your KO to create a mini quiz. Write down your questions using your KO. 	Create a mind map with all the information you can remember from your KO. 	Ask a friend or family member to have the KO or flash cards in their hands. 
Step 2	Cover or flip the KO over and write down everything you can remember. 	Try not to use your KO to help you. 	Add pictures to help support. Then self-quiz using the flash cards. You could write questions on one side, and answers on the other! 	Answer the questions and remember to use full sentences. 	Check your KO to see if there are any mistakes on your mind map. 	They can test you by asking you questions on different sections of your KO. 
Step 3	Check what you have written down. Correct any mistakes in green pen and add anything you have missed. Repeat. 	Use your green pen to check your work. 	Ask a friend or family member to quiz you on the knowledge. 	Ask a friend or family member to quiz you using the questions. 	Try to make connections, linking the information together. 	Write down your answers. 

Knowledge organisers contain essential, fundamental knowledge that you MUST know in order to be successful in Year 7 and subsequent years. Using the methods above, they help you to **recap, revisit and revise** what you have learnt in lessons, enabling you to move the knowledge from your short-term memory to your long-term memory. They are very useful in developing your confidence at home with topics you have covered in class, which in turn will mean you are more prepared for your lessons, as well as your GCSEs that you will sit in the future.

Contents Page

Art

Painting skills

- **Hold brush correctly**
- Correct amount of water (opaque/transparent colour
- Layering colour
- Blending colour
- Mixing colour - secondary, tertiary, tints and shades

Landscape/Seascape

Painting techniques

- **Impasto** (thick textured paint)
- **Glazing** (transparent layers)
- **Wet on Wet** (damp brush)
- **Scumbling** (thin layer of light colour over a darker layer)
- **Stippling** (dots, vertical dabbing motion)

Inspiring artists

Friedensreich Hundertwasser
Vincent van Gogh
Scott Naismith
Erin Hanson

Basic Photography skills

- **Macro photography** Macro photography is all about show-casing a subject larger than it is in real life — an extreme close-up of something small.
- **Rule of Thirds composition** -The Rule of Thirds places your subject on the left-third or right-third of the frame, creating a pleasing composition. To create balance or visually interesting image

Computing: Summer

Databases 8-2

A database is an **organised** store of **information.**
Information about a collection of items is stored in a data table.

Superhero	Real name	gender	Occupation
Superman	Clark Kent	male	Reporter
Spiderman	Peter Parker	male	Teacher
The Hulk	Robert Banner	male	Nuclear physicist
Batman	Bruce Wayne	male	Industrialist
Wonder Woman	Diana Price	female	Teacher
Iron Man	Tony Stark	male	Millionaire
Plastic Man	Eel O'Brian	male	Full time superhero
Green Lantern	Hal Jordan	male	Freelance Artist

A **record** is all the information stored about a single item in the data table.
A **field** stores a piece of information about the item. The type of information it stores is decided by the data type of the field.
The **key field** is a field that is used to identify each record. It has to be **unique** and **cannot change**.

Searching a Data Table
Data tables can be searched for records that match certain conditions. This is called a query and queries are written using a language called **Structured Query Language (SQL)**.

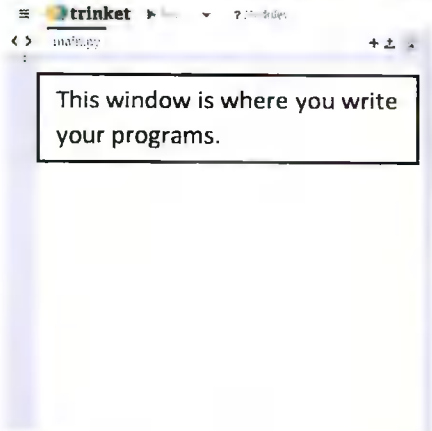
```
SELECT <field names>
FROM <table name>
WHERE <condition>;
```

This query finds all the superheroes that are teachers and shows their name and gender

```
SELECT Superhero, gender
FROM Superheroes
WHERE Occupation = "Teacher";
```

Programming 8-3

Python is a **text based** programming language. We will use a website to create and store our programs called **trinket.io**.



This window is where you write your programs.

This window is where you programs will run when you run them.

Storing Information
Python uses variables to store information. A variable is a location where data is stored, we give it name so that we can find and change that information easily.

```
school = "Whitburn"
```
This creates a variable called **school** and assign the value **"Whitburn".**

```
print(school)
```
This fetches the value stored in the variable and prints it on the screen.

```
input()
```
This allows the user to type a value in. It is a string by default.

Computing: Summer

Data Representation 8-2

Computers store all information as **Binary** data. Binary uses only **0**'s and **1**'s.

A single binary digit, a 0 or a 1, is called a **bit** and eight bits make a **byte.**

Binary Numbers

Computers store numbers using Binary digits, which is a **base 2** number system as it uses 2 digits. Our normal number system, decimal numbers, uses 10 digits so is a **base 10** number system.

1001 1011

128	64	32	16	8	4	2	1
1	0	0	1	1	0	1	1

128 + 16 + 8 + 2 + 1 = 155

Binary Addition

Binary addition is completed the same as normal column addition except that we only have the digits 0 and 1. If a result is larger than 1 a digit is carried to the next column.

0 + 0 = 0 0 + 1 = 1 1 + 0 = 1 1 + 1 = 10

$$\begin{array}{cccccc} & \mathbf{0} & \mathbf{1} & \mathbf{0} & \mathbf{1} \\ + & \mathbf{0} & \mathbf{1} & \mathbf{1} & \mathbf{0} \\ \hline & \mathbf{1}^{1} & \mathbf{0} & \mathbf{1} & \mathbf{1} \end{array}$$

Year 8 English, Travel Writing

Travel Writing is non-fiction (real life) writing that describes travelling and visiting different parts of the world.

Travel writing can take the form of newspaper/magazine articles, blogs, journals, tourist guides or even whole books.

Purposes of Travel Writing

Inform: To tell a reader about something they don't know, or add to their knowledge

Explain: To make clear 'how' and 'why' something works or happens in a certain way

Describe: To give precise details about a person, place, object or experience

Persuade: To manipulate or induce and audience into doing something or thinking a certain way

Key Vocabulary

- **Review:** A formal assessment of something, usually in a newspaper or a magazine
- **Blog**: A regularly updated web page that is written in an informal or conversational style.
- **Irony:** The expression of one's meaning by using language that normally signifies the opposite, typically for humorous or emphatic effect.
- **Evaluate:** To assess or form an idea of the amount, number, or value of something.
- **Sarcasm:** The use of irony to mock or convey contempt.
- **Travel Documentary:** Describes travel in general or tourist attractions.
- **Culture:** The ideas, customs, and social behaviour of a particular people or society.

Key Vocabulary:

Language feature	Definition	*Example*
Direct address	Addressing the reader	*We will, you must, I believe...*
Alliteration	Repeated consonant sound	*Hilary has horrid hair.*
Facts	True information	*There are billions of children.*
Opinion	A viewpoint or attitude	*Everybody wants to save the world.*
Rhetorical question	A question that doesn't need answering	*Isn't technology just the best thing?*
Repetition	Duplicating words	*I love, love, love curry!*
Emotive language	Words used to evoke emotion	*Animals are being slaughtered.*
Statistics	Using numbers as fact	*Nine out of ten, 42%, three-fifths...*
Three (rule of)	Three linked words	*They are happy, excited and free.*

T
A
P

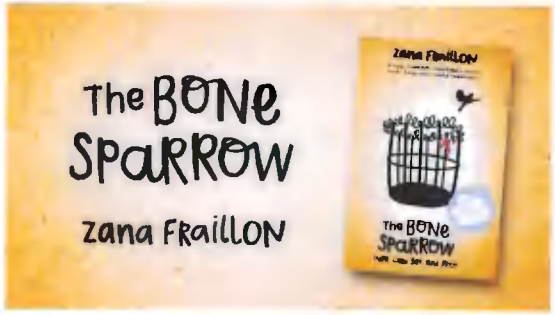
When you approach a travel writing text for the first time, think TAP.

Text type: What sub-genre of travel writing is it? (E.g. Fiction, vlog, brochure...)

Audience: Who is the author writing for? Can you select groups of potential readers?

Purpose: What is the author trying to achieve? (e.g. to entertain, to inform, to persuade...)

Year 8 English: The Bone Sparrow



Main Characters

Subhi: The narrator and protagonist of the novel. He tells us about life in a refugee detention centre.
Queeny: Subhi's older sister. She has taught Subhi to read and to use his imagination.
Maá: Subhi's mother. She used to be energetic and teacher her children about their heritage. But now she has grown tired.
Eli: Subhi's best friend. He is resourceful, generous and always has a plan.
Jimmie: An outsider from a town near the detention centre.
Harvey: He is a jacket (a guard). He is kind towards Subhi and gives him gifts.
Beaver: Another jacket. He is cruel and callous.

Suggested reading:
The Boy at the Back of the Class by Onjali Q. Raú
Illegal by Eoin Colfer and Andrew Donkin
Child I by Steve Tasane

Plot:

Nine-year-old Subhi is a refugee (a member of the Rohingya people of Myanmar) who was born in an Australian detention centre.
This prison-like refugee camp is the only home Subhi has ever known and he dreams of his absent father one day arriving at the detention centre to rescue his family. With his vivid imagination, Subhi uses stories to lessen his suffering and that of his mother and sister, Queeny.

One night, at the fence that separates the refugee camp from the surrounding town, Subhi meets Jimmie, a young Australian girl, and the two of them strike up an unlikely friendship that changes both their lives forever.

But on his side of the fence, can Subhi survive the brutal and violent reality of life inside the detention centre? Will the better life Subhi dreams of ever arrive or will he be forever scarred by the violent and harrowing scenes that he witnesses?

This novel reminds us all of the importance of freedom, hope, and the power of a story to speak for anyone who's ever struggled to find a safe home.

Key symbols:

Water

Sparrows/ Birds

Fences

Key Vocabulary for reading:

Refugee	Regression
Immigration	Independence
Freedom	Belonging
Human Rights	Characters
Oppression	Narrative
Authority	Characterisation
Agency	Narrator
	Perspective

Context:

Refugees and Detention Centres:
- A refugee is a person who has been forced to leave their country in order to escape war, persecution or natural disaster.
- They immigrate to other country to seek safety and a new life. Often, they have to wait in an immigration detention centre while they wait for permission to enter or before they are deported from the country.

Rohingyas:
- A district, Muslim ethnic group mainly living in Myanmar (also known as Burma), in Southeast Asia.
- Thought to have descended from Muslim traders who settled there more than 1,000 years ago.
- They are regularly persecuted, not seen as citizens and in Bangladesh many are poor with no documents or job prospects.

Identity:
- Often refugees feel they are stripped of an identity, having no documentation, no rights and no freedom.

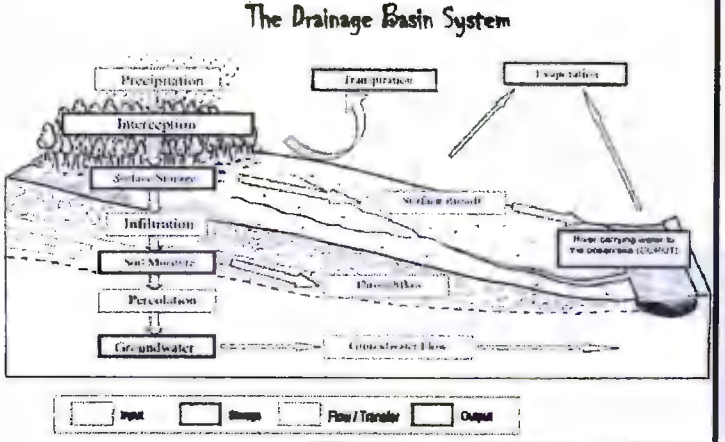
Y8 LANDSCAPE SHAPER P1

1. Why are rivers important?

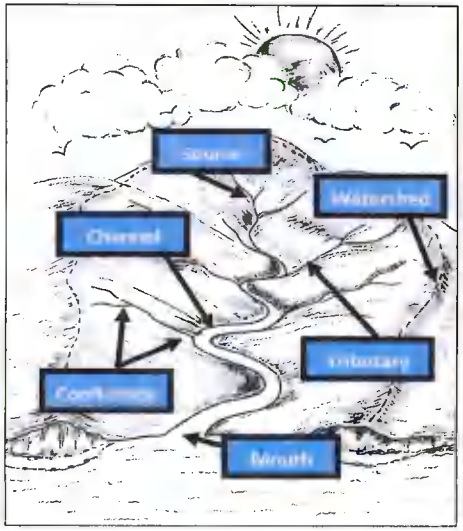
Rivers are important because they **shape the landscape, supply us with water,** influence the location of settlements and provide us with a means of **travel, power** and **recreation.**

2. How does water flow into rivers?

The water cycle is the journey water takes between the **hydrosphere** (water), **atmosphere** (air) **and lithosphere** (land). At it's most simple, this involves evaporation, condensation and precipitation



A drainage basin is an area of land which feeds a river. The rain falling in this area will flow into the **river channel** and travel from **source** to **mouth**. The division between drainage basins is called the **watershed**. Where two rivers meet is called the **confluence** and smaller rivers feeding a bigger one is known as a **tributary.**



3. What work do rivers do?

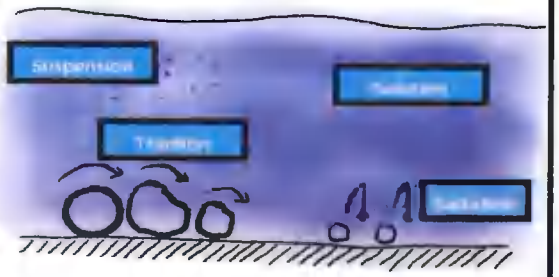
Rivers flow downhill due to gravity. Where the gradient of a river is steep, more energy is provided to erode the landscapes. Material found within a river is known as the **load** and this material is **transported** and **deposited** downstream.

1. River Erosion.

There are four types of river erosion: **abrasion, attrition, hydraulic action** and **corrosion.** (see key term glossary)

2. River Transport

The greater the volume of water in the river, the more energy it will have to transport material. There are four different ways in which a river may transport material: **suspension, solution, saltation** and **traction** (see key term glossary)



3. Deposition

Deposition takes place when the river no longer has the
energy to carry material, so it is dropped. The larger rocks are dropped first due to the greatest weight.

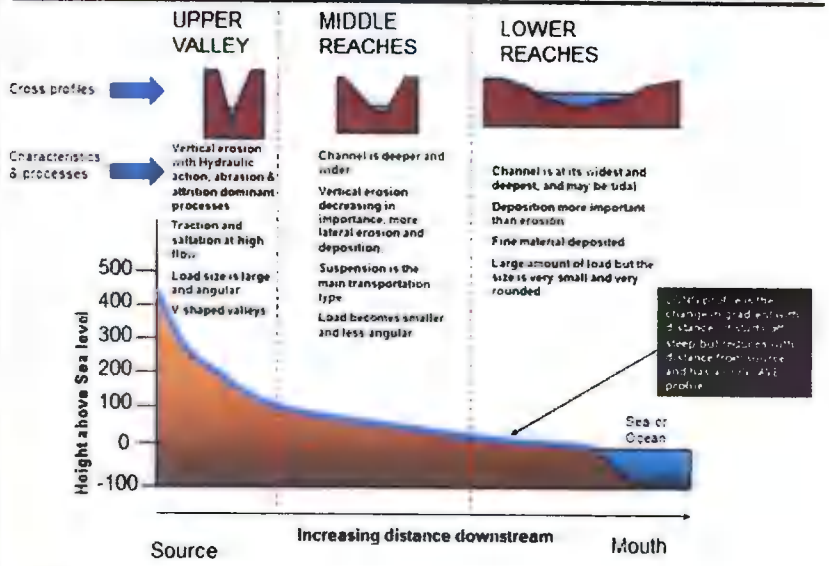
Deposition will occur where:

- the gradient of the river or the volume of water decreases
- the water slows down on the inside bend of a river
- the river channels becomes shallower
- the river enters a lake or the sea.

4. How do rivers change from source to mouth?

Although no two rivers are the same, many share a similar **long profile,** which shows a change in the gradient of a river from source to mouth. A **cross profile** shows the gradient of slopes across the valley.

Long and cross profiles on a TYPICAL river



Changes in the Valley Downstream

In the upper course of a river the gradient is steeper and the valley have steep v-shaped valley sides and narrow valley floors, as it moves further downstream the valley gets flatter and much wider.

Changes in the River Channel Downstream

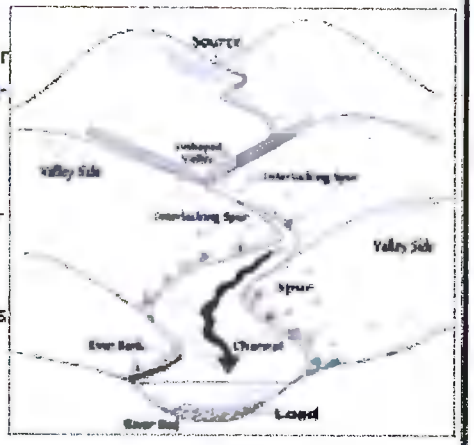
Y8 LANDSCAPE SHAPER P2

5. How do rivers shape the land?

The processes of erosion, transport and deposition also have a key role in the formation of other river landscapes such as **v-shaped valleys, waterfalls** and **meander, flood plains** and **oxbow lakes.**

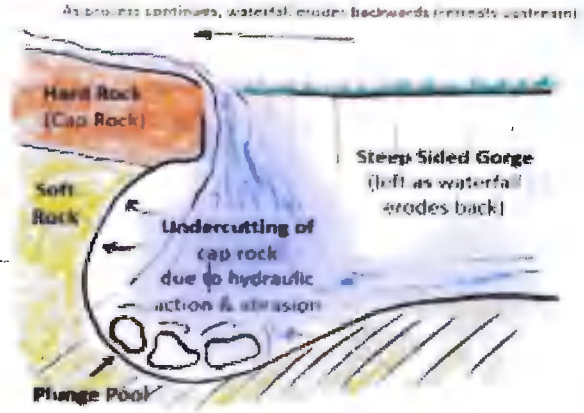
1. V-Shaped Valleys

In the upper course, the river cuts down **vertically** into the bed, creating **v-shaped valleys**. Where the river does not have the power to cut through hills it winds around them leaving **interlocking spurs**



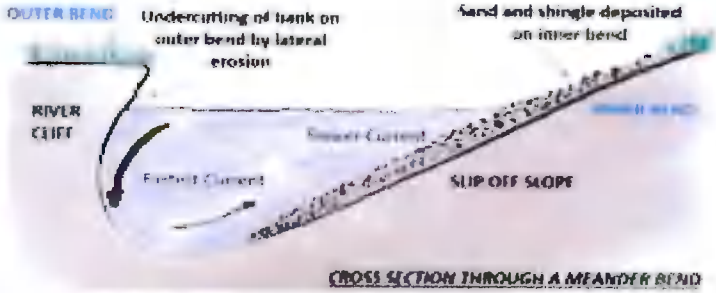
2. Waterfalls

A waterfall forms at a steep drop in the long profile of a river, **where a hard layer of rock lies over a softer, less resistant rock.** A deep pool forms at the base of the **waterfall** called a **plunge pool.**



3. Meanders

A meander is a bend in the course of a river. On the outside of a meander the water is deeper and the current flows faster. The force of water undercuts the bank of the outside bend, forming a steep bank. This is called a **river cliff.** On the inside bend the current is slower, sand and pebbles are deposited forming a gentle **slip off slope.**

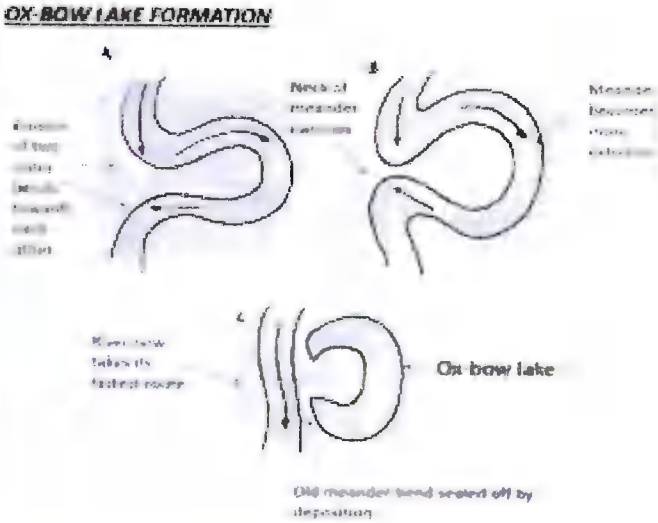


4. Floodplains

Lateral erosion (where the river is eroding into its banks) occurs at the lower stage of the river, forming a wide flat valley called a **flood plain.** As a river floods it deposits material, continuing to build up a flat wider floodplain.

5. Ox-Bow Lakes

Sometimes when the loop of a meander becomes extreme, two erosion banks can meet at a narrow neck. Eventually the channel can cut through leaving an **ox-bow lake.**



6. How are rivers important to people?

Historically settlements grew up next to rivers. River water supplied drinking water, narrow points along a river channel provide bridging points and a focus for roads, where people could trade, leading to a growth of a settlement. The mouth of a river can also provide a deep and wide natural harbour. For example, the mouth of The River Tees has developed into a large port which brings in raw materials for industries located in the area.

Mouth of the River Tees

Y8 LANDSCAPE SHAPER P3

7. How do river floods create problems?

A flood occurs when a river has too much water in its channel. The water in the river overflows its banks and spreads out onto the surrounding area.

The Causes of River Flooding

PHYSICAL CAUSES	HUMAN CAUSES
Heavy, prolonged rainfall	River Management
Saturated Soil	Deforestation
Impermeable rock	Urbanisation
Steep Gradient	

8. The effects of Flooding

Flooding can have the follow types of effects:

ECONOMIC EFFECTS—cost of damage to buildings, loss of crops, insurance costs, damage to cars.

ENVIRONMENTAL EFFECTS—loss of habitats, land flooded, pollution of freshwater

SOCIAL EFFECTS—deaths, stress and anxiety, closure of schools etc.

9. Managing Floods

The Environment Agency (EA) is a governing body that has responsibility for the protection and enhancement of the environment in the England.

They also manage the risk of flooding and making people aware of how they can protect themselves and their property, using a combination of **hard and soft engineering approaches. Hard Engineering** being man-made artificial structures which try and control rivers.eg. building a raised bank. **Soft Engineering** being where more natural methods are used.eg. planting trees which uptake water.

Hard Engineering

1. Build dams and reservoirs

2. Raise banks & dredge the river bed

3. Straighten rivers to speed up flow

4. Build Concrete Walls.

Soft Engineering

1. Warn and educate people

2. PLANTING TREES (more interception)

3. LAND–USE ZONING

- To test yourself Read, Cover, Write, Check or try this Quizlet: Year 8 Rivers Flashcards | Quizlet
- BBC Bitesize – Rivers and Water Rivers and Water - KS3 Geography (Environment and society) - BBC Bitesize
- Geography | KS3 | River Flooding | BBC Teach (youtube.com)

Now challenge yourself even further:

- Try to find out what the Bradshaw model shows
- Investigate the causes, effects and responses to flooding in York or Bangladesh.
- In what ways can an increasing population lead to an increasing flood risk.

SCAN ME

Key Term	Definition
Abrasion	Rocks hitting into and scraping against the river bank wearing it away
Attrition	Rocks hitting into each other becoming smaller & rounded
Biological Weathering	The breakdown of rocks caused by living plants and creatures (e.g. roots forcing themselves into rock).
Chemical weathering	The breakdown of rocks by chemicals in the rock reacting with air and water
Condensation	The change in state from a gas to a liquid
Confluence	The point where two or more river channels join
Drainage Basin	The area of land drained by a river (i.e. land where a river gets its water from.
Evaporation	The change in state from liquid to gas
Groundwater Flow	The transfer of water through the ground back to the sea or river
Hydraulic Action	The force of water hitting the bank and squeezing air into cracks in rocks causing mini explosions
Infiltration	The movement of water into the ground from the surface
Interception	Where leaves on trees / plants stop rain reaching the ground
Mouth	The point at which a river meets the sea
Physical Weathering	The breakdown of rock caused by the effects of changing temperature in rocks & the effects of wind and rain.
Precipitation	Any moisture falling from the sky—including rain, snow, sleet and hail
River Channel	The path through which the river flows (consisting of bed and banks)
Saltation	Medium sized rocks 'bounced' along bed
Solution	Where minerals in rocks are dissolved by the water
Source	Starting point of a river
Surface Runoff	The movement of water over the surface of land into the rivers (also known as overland flow)
Suspension	Small material actually carried in the flow of the water
Throughflow	The horizontal movement of water through the soil
Traction	Large material rolled along bed of river.
Transpiration	The evaporation of water from the leaves of trees and plants
Tributary	A small river or stream which joins a larger river
Watershed	The invisible land (marked by high land) marking the edge of a drainage basin.

Energy and the Environment

Key words:

Conservation – the protection of the environment
Pollution – harmful substances produced by human activity that can damage the environment
Resources – raw materials such as coal that can be useful to people
Environment – the surroundings in which people, plants and animals live
Sustainable development – improving peoples standard of living and quality of life without wasting resources or harming the environment
Habitat - the place or environment where a plant or animal naturally or normally lives
Species - types of plants, animals, birds and fish
Endangered – wildlife and plants that are in danger of becoming extinct
Extinct – a species of animal or plant that no longer exists
Renewable – resources that can be used over and over again e.g. wind
Non-renewable – resources that can only be used once e.g. coal
Fossil fuels – energy resources that come from the fossilised remains of plants or animals (coal, oil and natural gas)

Websites you could use to revise:
https://www.bbc.co.uk/bitesize/topics/zjsc87h
https://www.internetgeography.net/topics/types-of-energy/

What are environmental issues?

Environmental issues are the set of challenges and problems facing Earth and its natural systems. From climate change and pollution to overpopulation and energy use, these issues are complex and interconnected.

Global warming caused by CO2 emitted by burning fossil fuels is heating up the earth and melting the ice caps!

One and one-half acres of rainforest are lost every second! experts estimate that the last remaining rainforests could be consumed in less than 40 years!

We are over-fishing our oceans, leading to once plentiful fish, such as tuna, facing extinction.

Many animal species are at risk of extinction due to hunting or habitat loss!

Who is responsible for looking after the environment?

One of the jobs of the British government is to try and protect the countryside. There are several government bodies that are responsible for this:
Department for the Environment, Food and Rural Affairs (DEFRA) – responsible for environment and landscape management, supporting farming and the rural economy.
Joint Nature Conservation Committee - advises the Government on UK and international nature conservation.
The Forestry Commission - responsible for forestry policy throughout Great Britain.
Environment Agency – responsible for protecting and improving the environment in England and Wales.
Natural England - advises the English Government on the natural environment in England, in order to help protect England's nature and landscapes.
As well as the government bodies, there are also conservation groups which rely on earnings from visitors and/or donations to help them do their job. For example:

rspb | The Wildlife Trusts | GREENPEACE | WOODLAND TRUST | National Trust | WWF

Endangered Wildlife

Rhinos - numbers have dropped dramatically due to poaching for their horn which is prized in Asian countries.

Whales and dolphins - threatened by whaling, entanglement in fishing gear, climate change, toxic contamination and habitat degradation.

Elephants - an estimated 100,000 elephants were killed for their ivory in Africa between 2010 and 2012. The trade is driven by demand for ivory in some Asian countries where it is sought after as a status symbol and an investment.

Sharks – accidently caught in fishing nets or killed for their fins which are used to make sharks fin soup, a dish popular in some Asian countries.

Crocodiles and alligators are hunted for their skins as they are used for leather goods, some people eat their meat and they also face the threat of habitat loss.




Antarctica

The Antarctic ice deflects some of the sun's rays away from the Earth, keeping temperatures liveable.

Small-scale melting would raise global sea levels, and cause flooding around the world.

The ocean surrounding the continent also support masses of the world's sea life – including 15 species of whale and dolphin, and five species of penguin.

Antarctica is one of the world's most important 'natural laboratories' – which is why so many scientists brave the cold to work there.

Pros and **Cons** of tourism in Antarctica

The awareness of the unique environment is increased as people are able to visit it.
There are many guidelines in place, so the environmental impact can be minimised.
Tourists learn about the marine biology and threats because of climate change.
The ecosystem is very fragile, and too many people will disrupt the delicate balance it has. It can take many years to recover, if at all.
There is the threat of pollution (e.g. oil spills from the cruise ships). This happened in 2007.
Tourists, along with research scientists, may unknowingly bring seeds and spores of plants from other areas.

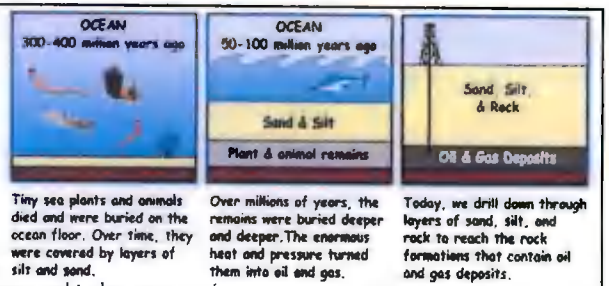
Renewable Energy

This type of energy is generated from sources that do not run out when we use them. The main advantage for all of them is that they do not directly cause air pollution and global warming.

Wind – generated using wind turbines. It has become a lot cheaper because the turbines are now bigger and more efficient but the wind does not always blow so the energy is not always available.
Solar – uses solar panels to capture the energy of the sun. It has become a lot cheaper because the panels are more efficient but the sun does not always shine so the energy is not always available.
Hydroelectric power (HEP) – uses dams to create a reservoir then channel water through a pipe to drive turbines. It makes lots of energy but dams are very expensive and damage the environment.
Geothermal – uses hot rocks where magma is close to the surface of the earth to heat water which can be used directly for heating or turned to steam to drive a turbine. It produces a lot of cheap energy but can only be easily done in certain parts of the world such as Iceland and New Zealand.
Tidal energy – uses underwater turbines similar to wind turbines or a large tidal lagoon to trap the tide. Turbines can be a hazard to shipping and wildlife. Lagoons are very expensive to construct and may be damaging to the local environment.

Non-Renewable Energy

Oil and gas were formed from the remains of animals and plants that lived millions of years ago in the sea. Coal was formed from dead plants about 300 million years ago. Back then much of the land was covered by swamps. As the vegetation died it decayed, slowly forming layers of peat that were buried by sediment and compressed to become coal.



Tiny sea plants and animals died and were buried on the ocean floor. Over time, they were covered by layers of silt and sand.

Over millions of years, the remains were buried deeper and deeper. The enormous heat and pressure turned them into oil and gas.

Today, we drill down through layers of sand, silt, and rock to reach the rock formations that contain oil and gas deposits.

The advantages of these 'fossil fuels' are that they are easily available in many parts of the world, they are cheap compared to many other energy sources and the technology and transport systems to use them is available and well understood. The disadvantages are that burning them causes air pollution which is bad for human health if breathed in and also leads to global warming. Oil can also cause water pollution if spilled.

Nuclear power is another type of non-renewable energy. It is created by the release of energy from nuclear reactions using uranium or plutonium. The advantages are that a lot of energy can be produced and only a relatively small amount of fuel is required so it could still last for many years. Another big advantage is that nuclear power doesn't cause global warming. However, the nuclear power stations are very expensive to build and the waste that is produced is radioactive, which means it is difficult and expensive to dispose of.

Impacts of Fossil Fuels

When fossil fuels are burned (e.g. by industry, in power stations and by vehicles and planes), gases such as carbon dioxide (CO_2) are released into the air. Although these gases have always been present in the atmosphere, their concentration has increased as more and more fossil fuels have been burned. This is leading to the enhanced greenhouse effect where more heat is trapped by the atmosphere than would naturally be the case.

As the Earth warms it is causing the ice caps to melt. The resulting sea level rise is already threatening some low lying countries and coastal cities. The extra heat also causes more extreme weather events such as droughts, floods and storms.

Protest, equality and the vote (1811-1918)

1811-1813 – The Luddite protests.

1836 – The beginning of Chartism.

1897 – The NUWSS is set up.

1903 – The WSPU is set up.

June 1913 - Emily Wilding Davison dies.

1913 – The Cat and Mouse Act.

Aug 1914 – WW1 begins.

1918 – Representation of the People Act.

Key People

Emmeline Pankhurst – WSPU

Led the WSPU from October 1903. Took more **militant** action such as windows smashing, **arson** and **hunger strikes**. Arrested numerous times, went on **hunger strike** and was force fed. Died in 1928.

Christabel Pankhurst - WSPU

Became a speaker for the WSPU in 1905. She trained as a lawyer but could not practice as woman. Arrested with her mother. Fled England in 1912 for fear of being arrested again. Unsuccessfully ran for Parliament in 1918.

Emily Wilding Davison - WSPU

Joined WSPU in 1906. 3 years later, left job as a teacher and **became a suffragette** full time. Frequently arrested for number of crimes inc. setting fire to post box. By 1911, become increasingly **militant**.

Millicent Fawcett - NUWSS

Leading suffragist and led **NUWSS** from 1897-1919. Played a key role in getting women the vote. Dedicated to using **constitutional** means, and argued that **militancy** was counter-productive.

Key Terms		
1	**Luddites**	Working class textile worker who opposed new industrial machinery. They organised protests which involved smashing machines.
2	**Chartism**	A working class movement. It's aim was to improve the voting system. They had 6 demands including secret ballots and pay for MP's.
3	**Suffrage**	The right to vote.
4	**Secret Ballot**	Where you can cast your vote in secret, so no one can influence your decision.
5	**NUWSS**	National Union of Women's Suffrage Society set up in 1897. Campaigned peacefully for the right to vote. Known as the Suffragists.
6	**WSPU**	Women's Social and Political Union. Set up in 1903 and championed militant methods of campaigning. Suffragettes.
7	**Epsom Derby**	National horse race where Emily Wilding Davison was fatally injured.
8	**Cat and Mouse Act**	Allowed the temporary discharge or prisoners who was on hunger strike. Then they were arrested again once better.
9	**Force feeding**	Women were brutally forced fed in prison using a tube that was brutally shoved down their throat or up their nose.
10	**Black Friday**	A demonstration in London where 300 women marched on parliament. It is known for police brutality and sexual assault.
11	**Petition**	A formal written request. Usually asks for a change in the law and gains signatures.
12	**Militant**	Violent.
13	**Representation of the People Act**	Law giving all men over the age of 21 and all women over 30 (who had property) the vote.

Tension and war (1882-1918)

28th June 1914 – Archduke Franz Ferdinand assassinated.

August 1914 – Germany invades Belgium. British forces arrive in France.

July 1st 1916 – The Battle of the Somme begins.

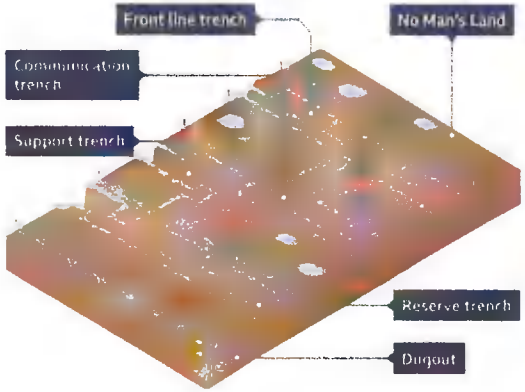
6th April 1917 – United Stated declares war on Germany.

15th December 1917 – Russia signs armistice with Germany.

11th November 1918 – Germany signs the armistice ending WW1.

Key Terms		
1	**Alliance**	An agreement between countries to support each other in times of war.
2	**Triple Alliance**	The alliance between Germany, Austria-Hungary and Italy.
3	**Triple Entente**	The alliance between Britain, France and Russia.
4	**Franz Ferdinand**	The heir to the throne of Austria-Hungary. He was assassinated by members of the Black Hand in Sarajevo, the capital of Bosnia. This was the catalyst of WW1.
5	**The Black Hand**	A secret military group based in Serbia. Famous for the assassination of Archduke Franz Ferdinand in 194.
6	**Militarism**	A belief that a country should have a strong military and be prepared to use it to defend itself.
7	**Imperialism**	A belief that a country should extend its power through taking over other countries.
8	**Nationalism**	A love of one's country and support for it's interest, especially to the detriment of other nations.
9	**The Somme**	One of the most famous battles of WW1. There were 57,000 British casualties on the first day and it lasted for four months with no side gaining much advantage.
10	**Artillery**	Large, heavy guns used on land warfare.

11	**Western Front**	The region, mostly along the boarder of France and Germany, where the majority of the fighting in WW1 took place,
12	**Trench system**	Man made ditches that spread for hundreds of miles. Much of the fighting in WW1 took place between opposing trenches. They included dugouts, reserve and communication trenches.
13	**Propaganda**	Information used and distributed to present a one sided view. Often with the aim of persuading the reader.
14	**No Man's Land**	The area between the front lines of two enemy armies.
15	**Pals Battalions**	Units in the British Army that grouped together men who were friends and had enlisted together.
16	**Shellshock**	Now known as Post Traumatic Stress Disorder. This illness was caused by the trauma of war.
17	**Trench foot**	Condition caused by cold, wet environment. Symptoms included swelling and numbness. If left untreated the foot could start to rot and cause further infection.
18	**Armistice**	An agreement by both side to stop fighting while a peace treaty is negotiated.



Year 8
Knowledge Organisers

Summer Term

Circles
Transformations
Statistics
Probability
Pythagoras' Theorem

Year 8

Circles

What do I need to be able to do?

By the end of this unit you should be able to:

- Find the circumference of a circle
- Find the area of a circle
- Find the area of compound shapes

Keywords

Area: Space inside a 2D object
Perimeter: Length around the outside of a 2D object
Pi (π): The ratio of a circle's circumference to its diameter
Formula: A mathematical relationship/ rule given in symbols E.g. b x h = area of rectangle/ square

Area of a circle (Non-Calculator)

Read the question – leave in terms of π or if $\pi \approx 3$ (provides an estimate for answers)

Area of a circle
π x radius^2

Diameter = 8cm
∴ **Radius** = 4cm

π x radius^2
$= \pi \times 4^2$
$= \pi \times 16$
$= 16\pi$ cm^2

Find the area of one quarter of the circle

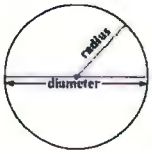
Radius = 4cm

Circle Area = 16π cm^2
Quarter = 4π cm^2

Area of a circle (Calculator)

How to get π symbol on the calculator

Area of a circle
π x radius^2



It is important to round your answer suitably – to significant figures or decimal places. This will give you a decimal solution that will go on forever!

So $16\pi = 16 \times \pi = 50.265$ cm^2

Circumference of a circle (Non-Calculator)

Read the question – leave in terms of π or if $\pi \approx 3$ (provides an estimate for answers)

Area of a circle
π x diameter

Diameter = 8cm
π x diameter
$= \pi \times 8$
$= 8\pi$ cm

Find the perimeter of one quarter of the circle

Radius = 4cm
∴ **Diameter** = 8cm

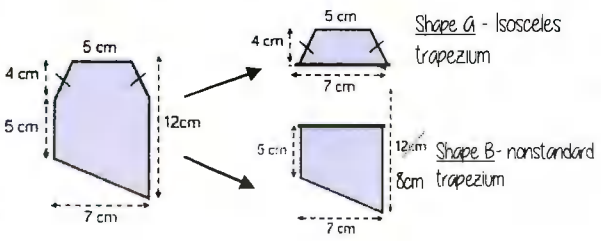
Circle Circumference = 8π cm^2
Quarter = 2π cm^2

Total Perimeter = straight edges + curve
$= 4 + 4 + 2\pi$
$= 8 + 2\pi$ cm

b

Compound shapes

To find the area compound shapes often need splitting into more manageable shapes first. Identify the shapes and missing sides etc first



Shape A - Isosceles trapezium

Shape B - nonstandard trapezium

Shape A + Shape B = total area

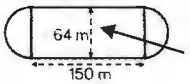
$\frac{(5+7) \times 4}{2} + \frac{(5+8) \times 7}{2} = 24 + 45.5 = 69.5$cm^2

Compound shapes including circles

Circumference
π x diameter

Compound shapes are not always area questions. For Perimeter you will need to use the circumference

Spotting diameters and radii



This dimension is also the diameter of the semi circles

Arc lengths = $\pi \times 64$
$= 64\pi$

Don't need to halve this because there are 2 ends which make the whole circle

Arc lengths + Straight lengths = total perimeter

$= 64\pi + 150 + 150$
$= (300 + 64\pi)$ m
OR = 501.1m

Still remember to split up the compound shape into smaller more manageable individual shapes first

Year 8
Transformations (Translation and Rotation)

What do I need to be able to do?

By the end of this unit you should be able to:

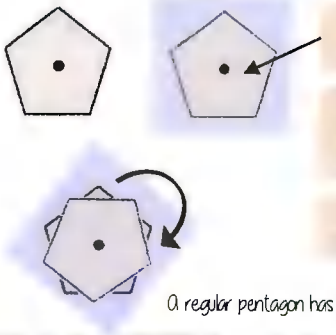
- Identify the order of rotational symmetry
- Rotate a shape about a point on the shape
- Rotate a shape about a point not on a shape
- Translate by a given vector

Keywords

Rotate: a rotation is a circular movement
Symmetry: when two or more parts are identical after a transformation
Regular: a regular shape has angles and sides of equal lengths
Invariant: a point that does not move after a transformation
Vertex: a point two edges meet
Horizontal: from side to side
Vertical: from up to down

Rotational Symmetry

Tracing paper helps check rotational symmetry



1 Trace your shape (mark the centre point)

2 Rotate your tracing paper on top of the original through 360°

3 Count the times it fits back into itself

A regular pentagon has rotational symmetry of order 5

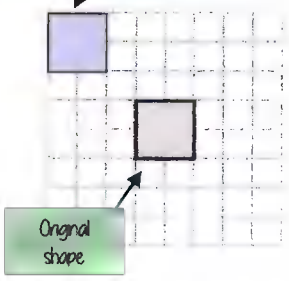
Translation and vector notation

Vector Notation → $\begin{pmatrix} 1 \\ -2 \end{pmatrix}$

How far left or right to move
Negative value (left)
Positive value (right)

How far up or down to move
Negative value (down)
Postive value (up)

Translation $\begin{pmatrix} -3 \\ 3 \end{pmatrix}$

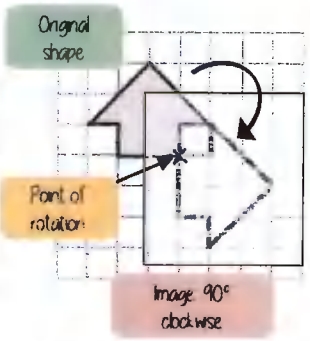


Every vertex has been translated by the same amount

$\begin{pmatrix} -3 \\ 3 \end{pmatrix}$

The image has been moved 3 squares to the left and 3 squares up

Rotate from a point (in a shape)

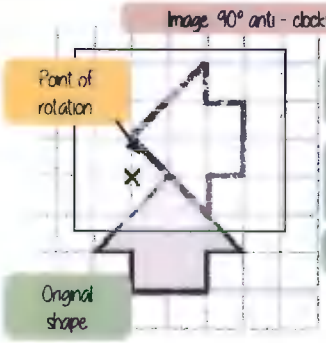


1 Trace the original shape (mark the point of rotation)

2 Keep the point in the same place and turn the tracing paper

3 Draw the new shape

Rotate from a point (outside a shape)



1 Trace the original shape (mark the point of rotation)

2 Keep the point in the same place and turn the tracing paper

3 Draw the new shape

Year 8
Transformations (Line symmetry and reflection)

What do I need to be able to do?

By the end of this unit you should be able to:

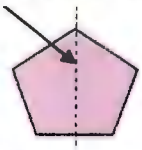
- Recognise line symmetry
- Reflect in a horizontal line
- Reflect in a vertical line
- Reflect in a diagonal line

Keywords

Mirror line: a line that passes through the centre of a shape with a mirror image on either side of the line
Line of symmetry: same definition as the mirror line
Reflect: mapping of one object from one position to another of equal distance from a given line.
Vertex: a point where two or more-line segments meet
Perpendicular: lines that cross at 90°
Horizontal: a straight line from left to right (parallel to the x axis)
Vertical: a straight line from top to bottom (parallel to the y axis)

Lines of symmetry

Mirror line (line of reflection)



Shapes can have more than one line of symmetry...
This regular polygon (a regular pentagon has 5 lines of symmetry)

Rhombus
two lines of symmetry

Parallelogram
No lines of symmetry

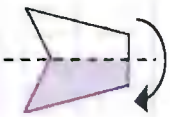
A circle has an infinite amount of lines of symmetry

Reflect horizontally/ vertically (1)

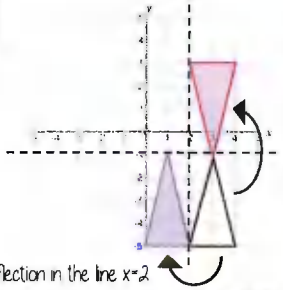
Note a reflection doubles the area of the original shape

Reflection in a vertical line

Reflection in a horizontal line



Reflection on an axis grid

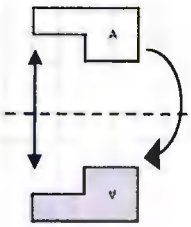


Reflection in the line y=-2

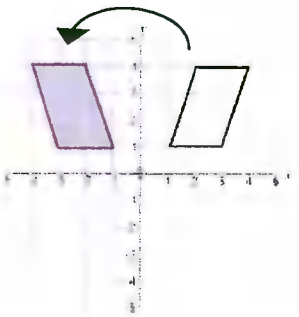
Reflection in the line x=2

Reflect horizontally/ vertically (2)

All points need to be the same distance away from the line of reflection



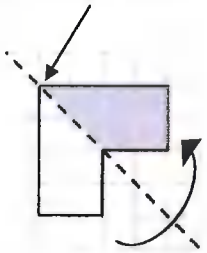
Reflection in the line y axis — this is also a reflection in the line x=0



Lines parallel to the x and y axis
REMEMBER
Lines parallel to the x-axis are y = ____
Lines parallel to the y-axis are x = ____

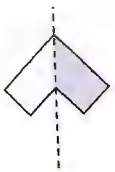
Reflect Diagonally (1)

Points on the mirror line don't change position



Fold along the line of symmetry to check the direction of the reflection

Turn your image
If you turn your image it becomes a vertical/ horizontal reflection (also good to check your answer this way)

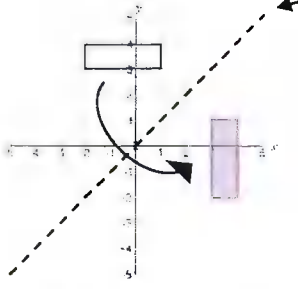


Drawing perpendicular lines

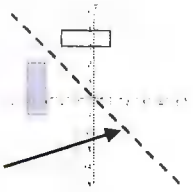
Perpendicular lines to and from the mirror line can help you to plot diagonal reflections

Reflect Diagonally (2)

This is the line **y = x** (every y coordinate is the same as the x coordinate along this line)



This is the line **y = - x**
The x and y coordinate have the same value but opposite sign



Turn your image
If you turn your image it becomes a vertical/ horizontal reflection (also good to check your answer this way)

Year 8

Transformations (Enlargement)

What do I need to be able to do?

By the end of this unit you should be able to:

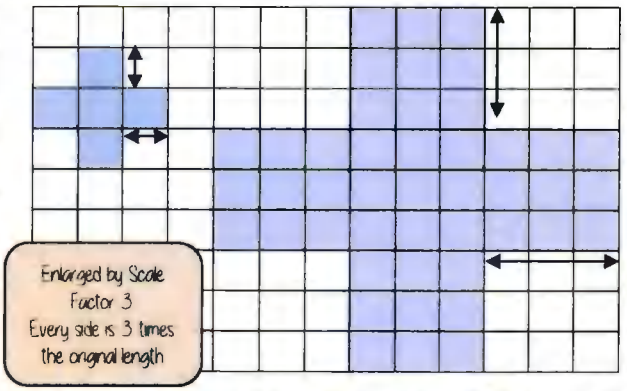
- Recognise enlargement
- Enlarge a shape by a positive SF
- Enlarge a shape from a point
- Enlarge a shape by a fractional SF

Keywords

Scale Factor: the multiple describing how much a shape has been enlarged
Enlarge: to change the size of a shape (enlargement is not always making a shape bigger)
Corresponding: objects (or sides) that appear in the same place in two similar situations
Image: the picture or visual representation

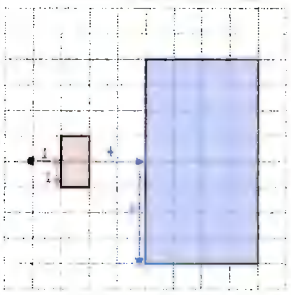
Enlarge by a positive scale factor

With a scale factor larger than 1 it makes the shape **bigger**



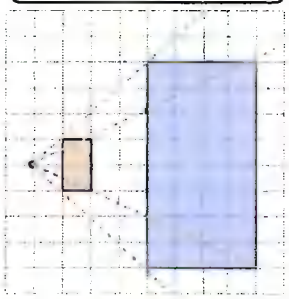
Enlarge a shape from a point

Scaled distances method



Scale the distance between the point of enlargement and each corresponding vertices

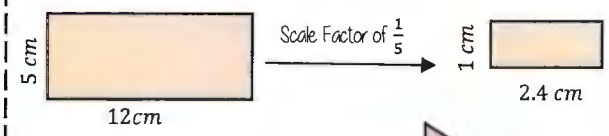
Rays method

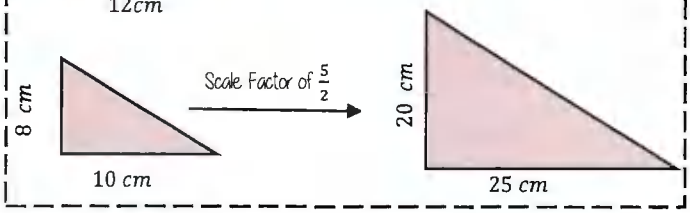


Multiply the distance from the centre of corresponding vertices by the scale factor along the ray

Positive fractional scale factor

With a scale factor between 0 and 1 it makes the shape **smaller**





Year 8

Statistics

What do I need to be able to do?

By the end of this unit you should be able to:

- Construct and interpret a stem-and-leaf diagram
- Construct and interpret a frequency diagram
- Construct a frequency polygon
- Construct and interpret a line graph
- Construct and interpret a cumulative frequency diagram

Keywords

Variable: a quantity that may change within the context of the problem
Origin: where two axes meet on a graph
Outlier: a point that lies outside the trend of graph
Quantitative: numerical data
Qualitative: descriptive information, colours, genders, names, emotions etc.
Continuous: quantitative data that has an infinite number of possible values within its range
Discrete: quantitative or qualitative data that only takes certain values
Frequency: the number of times a particular data value occurs

Stem-and-leaf diagrams

The key tells us how two digits combine.

1	4
2	1 2 4 5
3	2 5 6 6 6 7 7 8 8
4	0 1 2 2 4 5 6 7 7 7 7 8
5	0 1 1 2

Key: 2 | 1 means 2.1cm

These numbers (known as the 'stems') represent the first digit of the number

These numbers (the 'leaves') represent the second and must be in order

Frequency Diagrams

When we record data, we may record the number of times we saw a value (we'd use a 'tally' when collecting the data) – this is known as the **frequency**

A **frequency table** might show **ungrouped** or **grouped** data:

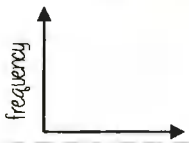
Ungrouped Data

Shoe Size	Frequency
12 ½	4
13	10
13 ½	6

Grouped Data

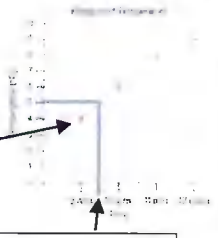
Time t (seconds)	Frequency
$10 \leq t < 15$	9
$15 \leq t < 20$	1402
$20 \leq t < 25$	1

A **Frequency Diagram** are charts where the vertical axis shows the frequency



Draw and interpret line graphs

- Commonly used to show changing over time
- The points are the recorded information and the lines join the points



Line graphs do not need to start from 0

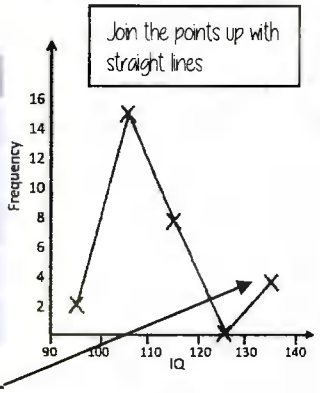
More than one piece of data can be plotted on the same graph to compare data

It is possible to make estimates from the line e.g. temperature at 9.30am is 5°C

Frequency Polygons

IQ (x)	Frequency
$90 \leq x < 100$	2
$100 \leq x < 110$	15
$110 \leq x < 120$	8
$120 \leq x < 130$	0
$130 \leq x < 140$	4

Join the points up with straight lines

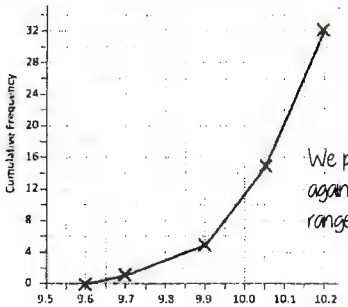


We use the **midpoint** of each range

Cumulative Frequency (CF) Graphs

'Cumulative' means '**running total**'.

Time (s)	Frequency	CF
$9.6 < t \leq 9.7$	1	1
$9.7 < t \leq 9.9$	4	5
$9.9 < t \leq 10.05$	10	15
$10.05 < t \leq 10.2$	17	32



We plot **cumulative frequency** against the **end** value of each range

Year 8

Probability

What do I need to be able to do?

By the end of this unit you should be able to:

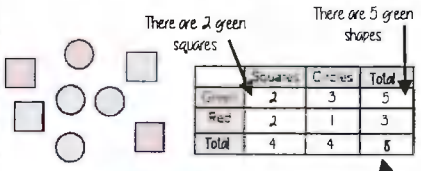
- Design and use a two-way table to find a probability
- Design and use a frequency tree
- Understand the meaning of independence for events
- Complete a tree diagram to show outcomes and probabilities

Keywords

Probability: the chance that something will happen
Independent: an event that is not effected by any other events
Chance: the likelihood of a particular outcome
Event: the outcome of a probability – a set of possible outcomes
Biased: a built in error that makes all values wrong by a certain amount

Representing data in two-way tables

Two-way tables represent discrete information in a visual way that allows you to make conclusions, find probability or find totals of sub groups



	Squares	Circles	Total
Green	2	3	5
Red	2	1	3
Total	4	4	8

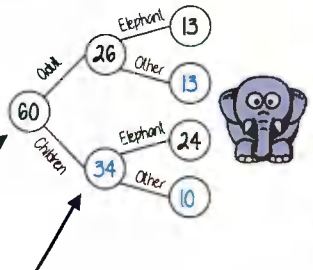
There are 8 items in total

Using your two-way table

To find a fraction
e.g What fraction of the items are red? **3 red items**
but **8 items in total** - $\frac{3}{8}$

Frequency trees

60 people visited the zoo one Saturday morning
26 of them were adults 13 of the adult's favourite animal was an elephant 24 of the children's favourite animal was an elephant



The overall total "60 people"

A frequency tree is made up from part-whole models
One piece of information leads to another

Probabilities or statements can be taken from the completed trees
e.g 34 children visited the zoo

Independent events

The rolling of one dice has no impact on the rolling of the other The individual probabilities should be calculated separately

Probability of event 1 × Probability of event 2

$P(5) = \frac{1}{6}$ $P(R) = \frac{1}{4}$

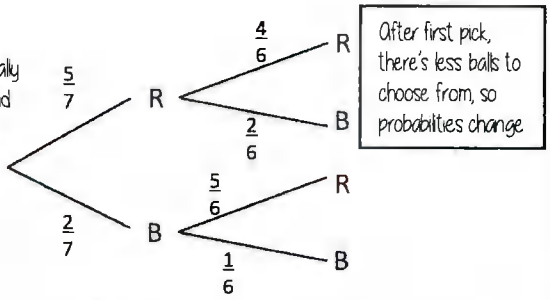
Find the probability of getting a 5 and a red

$P(5 \text{ and } R) = \frac{1}{6} \times \frac{1}{4} = \frac{1}{24}$

Tree Diagrams

Question: Given there's 5 red balls and 2 blue balls What's the probability that after two picks we have **a red ball and a blue ball?**

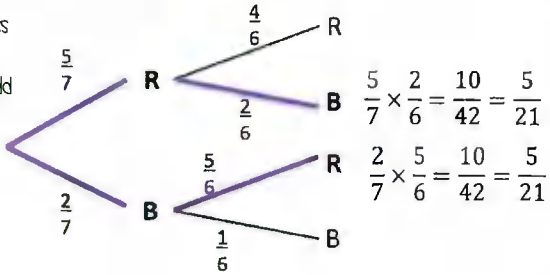
Note that probabilities generally go on the lines, and events at the end



After first pick, there's less balls to choose from, so probabilities change

Question: Give there's 5 red balls and 2 blue balls What's the probability that after two picks we have **a red ball and a blue ball?**

We multiply across the matching branches, then add these values



$\frac{5}{7} \times \frac{2}{6} = \frac{10}{42} = \frac{5}{21}$

$\frac{2}{7} \times \frac{5}{6} = \frac{10}{42} = \frac{5}{21}$

P(red and blue) - $\frac{5}{21} + \frac{5}{21} = \frac{10}{21}$

Year 8

Pythagoras' Theorem

What do I need to be able to do?

By the end of this unit you should be able to:

- Use square and cube roots
- Identify the hypotenuse
- Calculate the hypotenuse
- Find a missing side in a Right-angled triangle
- Use Pythagoras' theorem on axes
- Explore proofs of Pythagoras' theorem

Keywords

Square number: the output of a number multiplied by itself
Square root: a value that can be multiplied by itself to give a square number
Hypotenuse: the largest side on a right-angled triangle. Always opposite the right angle
Opposite: the side opposite the angle of interest
Adjacent: the side next to the angle of interest

Squares and square roots (R)

This can also be written as 6^2

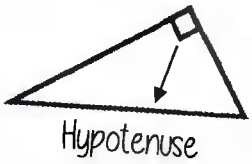
$\sqrt{}$ is the square root symbol

eg $\sqrt{64} = 8$
Because $8 \times 8 = 64$

1×1	2×2	3×3	4×4	5×5	6×6	7×7	8×8	9×9	10×10
1	4	9	16	25	36	49	64	81	100

Square numbers

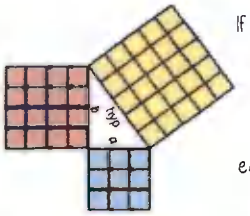
Identify the hypotenuse



The hypotenuse is always the longest side on a triangle because it is opposite the biggest angle

Polygons can still have a hypotenuse if it is split up into triangles and opposite a right angle

Determine if a triangle is right-angled



$a = 3$ $b = 4$ $c = 5$

If a triangle is right-angled, the sum of the squares of the shorter sides will equal the square of the hypotenuse

$$a^2 + b^2 = \text{hypotenuse}^2$$

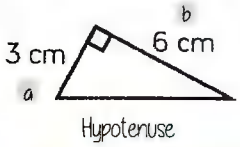
eg $a^2 + b^2 = hypotenuse^2$

$3^2 + 4^2 = 5^2$

$9 + 16 = 25$

Substituting the numbers into the theorem shows that this is a right-angled triangle

Calculate the hypotenuse



Either of the short sides can be labeled a or b

$$a^2 + b^2 = \text{hypotenuse}^2$$

1 Substitute in the values for a and b

$3^2 + 6^2 = \text{hypotenuse}^2$

$9 + 36 = \text{hypotenuse}^2$

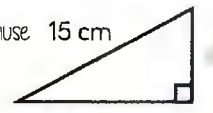
$45 = \text{hypotenuse}^2$

2 To find the hypotenuse square root the sum of the squares of the shorter sides

$\sqrt{45} = \text{hypotenuse}$

$6.71cm = \text{hypotenuse}$

Calculate missing sides



Either of the short sides can be labelled a or b

$$a^2 + b^2 = \text{hypotenuse}^2$$

$12^2 + b^2 = 15^2$

1 Substitute in the values you are given

$144 + b^2 = 225$
$-144 \quad -144$

Rearrange the equation by subtracting the shorter square from the hypotenuse squared

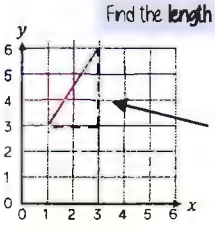
Square root to find the length of the side

$b^2 = 111$

$b = \sqrt{111} = 10.54\ cm$

Pythagoras' theorem on a coordinate axis

Find the **length** of the line segment



The segment can be made into a right-angled triangle by adding the sides on the diagram

The line segment is the **hypotenuse**

$$a^2 + b^2 = \text{hypotenuse}^2$$

The lengths of a and b are the sides of the triangle

Be careful to check the scale on the axes

Year 8 French – Summer Term – Module3

1. Tu es comment? (what are you like?)

Opinion + verb phrase	Adjectives	
Je pense que je suis ... (I think that I am) *Je ne suis pas ... (I am not)* *Tout le monde dit que je suis... (everyone says that I am)* *Ma mère dirait que je suis... (My mum would say that)* *Avant, j'étais... (before, I was...)*	*MASCULINE* *curieux (curious/strange)* *débrouillard (resourceful)* *gentil (kind)* *intelligent (intelligent)* *paresseux (lazy)* *drôle (funny)* *égoïste (selfish)* *pénible (annoying)* sympa (nice)	*FEMININE* *curieuse (curious/strange)* *débrouillarde (resourceful)* *gentille (kind)* *intelligente (intelligent)* *paresseuse (lazy)* *drôle (funny)* *égoïste (selfish)* *pénible (annoying)* sympa (nice)

2. Quels sont tes qualités? (what are your qualities?)

My skills	My preferences
Je peux parler français et anglais (I speak French and English) Je peux jouer du piano (I can play piano) Je peux jouer à des cartes (I can play cards) Je peux chanter (I can sing) Je peux danser (I can dance)	j'aime parler de sport (I like talking about sport) j'aime parler de mode (I like talking about fashion) j'aime parler de musique (I like talking about music) j'aime parler de cinéma (I like talking about films) j'aime passer des heures à jouer du piano (I like to spend hours playing the piano) j'aime passer des heures à lire (I like to spend hours reading)

Year 8 French – Summer Term – Module3

3. Il est comment, ton ami? (what is your friend like?)

Opinion phrase	Pronoun + verb	Adjectives	
		MASCULINE	FEMININE
Je pense qu' *(I think that)*	il est (he is)	*curieux (curious/strange)*	*curieuse (curious/strange)*
Je dirais qu' *(I would say that)*	elle est (she is)	*débrouillard (resourceful)*	*débrouillarde (resourceful)*
		gentil (kind)	*gentille (kind)*
Je trouve qu' *(I find that)*		*intelligent (intelligent)*	*intelligente (intelligent)*
		paresseux (lazy)	*paresseuse (lazy)*
Tout le monde dit qu' *(everyone says that)*		*drôle (funny)*	*Drôle (funny)*
		égoïste (selfish)	*égoïste (selfish)*
		pénible (annoying)	*pénible (annoying)*
		sympa (nice)	sympa (nice)

4. Tu t'entends bien avec les autres? (do you get along well with others?)

Time Expression	Reflexive Phrase	Person
Tous les jours (every day)	je m'entends bien avec … (i get along well with)	mon copain (my friend)
Quelquefois (sometimes)	je m'amuse bien avec … (I have fun with)	mon meilleur ami (my best friend)
De temps en temps (from time to time)	je me dispute avec … (I argue with)	mes potes (my mates)
	je me fâche avec … (I get angry with)	mes parents mon frère (my brother) mon père (my dad) ma mère (my mum) ma sœur (my sister)

5. Est-ce que tu aimes la musique? (do you like music?)

Opinion / Verb phrase	Noun	Justification
☺ J'aime écouter… (I like to listen) J'adore … (I love) Je préfere … (I prefer) Ce soir je vais écouter… (This evening, I am going to listen..) Ce matin, j'ai écouté (This morning, I listened..)	le jazz (jazz) la musique classique (classical music) le pop-rock (pop rock music) le rap (rap music) le R'n'B (rhythm & blues music)	☺ car ça détend (because it's relaxing) car j'aime les paroles (because I like the lyrics) car ça me rend heureux (because it makes me happy) car ça me donne envie de bouger (because it makes me want to move) car ça me donne envie de chanter (because it makes me want to sing)
☹ Je n'aime pas du tout… (I don't like _____ at all)		☹ car ça me rend triste. (It makes me sad) car ça me donne envie de pleurer (It makes me want to cry)

Year 8 Spanish – Summer Term – Module 3

¿Dónde vives? – Where do you live? ¿Cómo es tu ciudad? – What is your town like? ?

Verb			Verb	Adverb					
Mi pueblo está (situado) ... *My town/village is (located)...*	en el campo *the countryside*	en el norte *the north*	Mi pueblo es... *(My town/village is...)*	más *more*	moderno *modern*	antiguo *old*	acogedor *welcoming*	que *than*	*Madrid* *Zaragoza* *Málaga* *Newcastle* *Liverpool* *Barcelona* *Paris*
	en el desierto *the desert*	en el oeste *the west*			pintoresco *picturesque*	turística *touristy*	famosa *famous*		
	en la montaña *the mountains*	en el este *the east*			sucio *dirty*	limpio *clean*	industrial *industrial*		
	en la costa *the coast*	en el sur *the south*	Mi ciudad es... *(My city is...)*		moderna *modern*	antigua *old*	acogedora *welcoming*		
	en el centro *in the centre*				pintoresco *picturesque*	turística *touristy*	famosa *famous*		
					sucia *dirty*	limpia *clean*	industrial *industrial*		
Mi ciudad está (situada) ... *My city is (located)...*	lejos... *far...*	de la playa *from/to the beach*	del bosque *from/to the forest.*	Si pudiera ... *If I could...*	mejoraría los parques *I would improve the parks.*				
	cerca... *close...*	del desierto *from/to the desert.*			renovaría los edificios *I would renovate the buildings.*				
		de la montaña *from/to the mountains.*			controlaría el ruido *I would limit the noise.*				
					crearía mas zonas de ocio *I would create more leisure areas.*				
					construiría un nuevo centro comercial *I would build a new shopping centre.*				

¿Qué hay en tu ciudad? - What is there in your town? ¿Dónde está el museo? - Where is the museum? ?

Sentence starter	Article (a / some)	noun	Location			
En mi ciudad hay... *In my city there is...*	un	parque *a park* cine *a cinema* centro comercial *a shopping centre*	El parque *The park*	está *is...*	al lado... *next to...*	del cine *the cinema* de la playa. *the beach.*
		supermercado *a supermarket* museo *a museum* castillo *a castle*			enfrente... *opposite...*	del supermercado. *the cinema.*
		estadio *a stadium* restaurante *a restaurant* polideportivo *a sports centre*				
En mi ciudad había... *In my city there was...*	una	playa *a beach* piscina *a pool* plaza *a square* universidad *a university*	(No) Me gusta vivir aquí porque... *I (don't) like living here because...*		*(no) hay mucho que hacer* *there is(n't) a lot to do*	
		biblioteca *library* carnicería *butchers*				
En mi ciudad perfecta habría... *In my perfect city there would be...*	unas *some* muchos *lots of*	parques *parks* cines *cinemas* centro comerciales *shopping centres*	Lo bueno es que... *The good thing is that...*		*hay demasiada gente* *there are too many people*	
		bares *bars*			*hay tanto tráfico* *there is so much traffic*	
	unas *some* muchas *lots of*	playas *beaches* piscinas *pools* plazas *squares* universidades *universities*	Lo malo es que... *The bad thing is that...*		*el transporte público es muy bueno* *the public transport is very good*	
		tiendas *shops* carnicerías *butchers*			*Es demasiado ruidoso* *It's too noisy*	
En mi ciudad no hay.. *In my city there isn't/aren't any...*	parques *parks*	polideportivos *sports centres* plazas *town squares*				

Year 8 Spanish – Summer Term – Module 3

¿Qué se puede hacer en tu pueblo/ciudad/barrio? - What can you do in your town/city/neighbourhood?

En mi pueblo/ciudad/ barrio se puede hacer muchas cosas: *In my town/ city/ neighbourhood you can do many things:* Por ejemplo, se puede *For example, you can...*	hacer	deporte *do sports* equitación *go horseriding* footing *go jogging* natación *go swimming* senderismo *go hiking* turismo *go sightseeing*	en el parque *in the park* en la calle *in the street* en el bosque *in the woods* en el campo de fútbol *on the football pitch* en el centro comercial *in the shopping center* en el centro de la ciudad *In the city centre* en el cine *in the cinema* en el club de tenis *in the tennis club* en el estadio *in the stadium* en el polideportivo *in the sports centre* en la piscina *in the swimming pool* en la plaza mayor *in the town square*
	jugar	al fútbol *play football* al golf *play golf* al rugby *play rugby*	
	ir	de compras *go shopping* de marcha *go clubbing* de paseo *go for a walk*	
	ver	conciertos *watch concerts* espectáculos de flamenco *watch flamenco shows* partidos de fútbol *watch football games* películas *watch films*	
	visitar	castillos *visit castles* galerías de arte *visit art galleries* museos *visit museums* ruinas romanas *Roman ruins*	

en la zona... *in the ... area*	comercial *shopping*	de la ciudad *of the city*
	histórica *historical*	
	Industrial *industrial*	
	turística *tourist*	

¿Qué hiciste en tu ciudad recientemente? - What did you do in your town recently?

Time expression	Verb	Noun	Opinion	Because	Verb	Opinion
Ayer *Yesterday* La semana pasada *Last week* El fin de semana pasado *Last weekend* El més pasado *Last month* Hace dos semanas *Two weeks ago*	fui *I went to* fue *He/She went* fuimos *We went*	al parque *to the park* al mercado *to the market* al centro commercial *to the shopping centre* al cine *to the cinema* al museo *to the museum* a la iglesia *to church* a la mezquita *to the mosque* a la playa *to the beach* a la bolera *to the bowling alley* a la cafetería *to the café* a la biblioteca *to the library*	(No) Me gustó... *I did (not) like it...* (No) le gustó... *He/She did (not) like it...* (No) Nos gustó... *We did (not) like it...*	porque ya que dado que puesto que	era... *it was...*	emocionante *exciting* divertido *fun* aburrido *boring* interesante *interesting* fatigante *tiring* una pérdida de dinero *a waste of money* una pérdida de tiempo *a waste of time*
	hice *I did* hizo *He/She did* hicimos *We did*	boxeo *boxing* natación *swimming* patinaje *skating* equitación *horseriding*				
	jugué *I played...* jugó *He/She played* jugamos *We played*	al futbol *football* al baloncesto *basketball* al ajedrez *chess* al hockey (sobre hielo) *(ice) skating*				

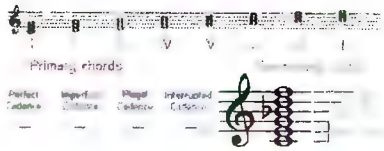
Whitburn C of E Academy Music Department
Year 8 – Summer (Film music)

Extra Curricular:
Choir, Orchestra & Instrumental lessons.
musictuition@whitburncofeacademy.org

MELODY

The tune

HARMONY



Describes the chords

SONORITY

Instrumental tone colour

RHYTHM

Patterns of notes and rests

TONALITY

Major, Minor, or Atonal

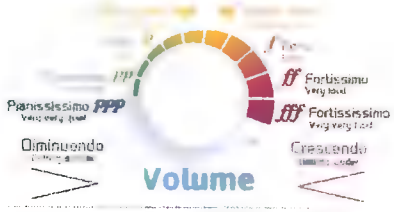
STRUCTURE

The order of the sections

TEXTURE

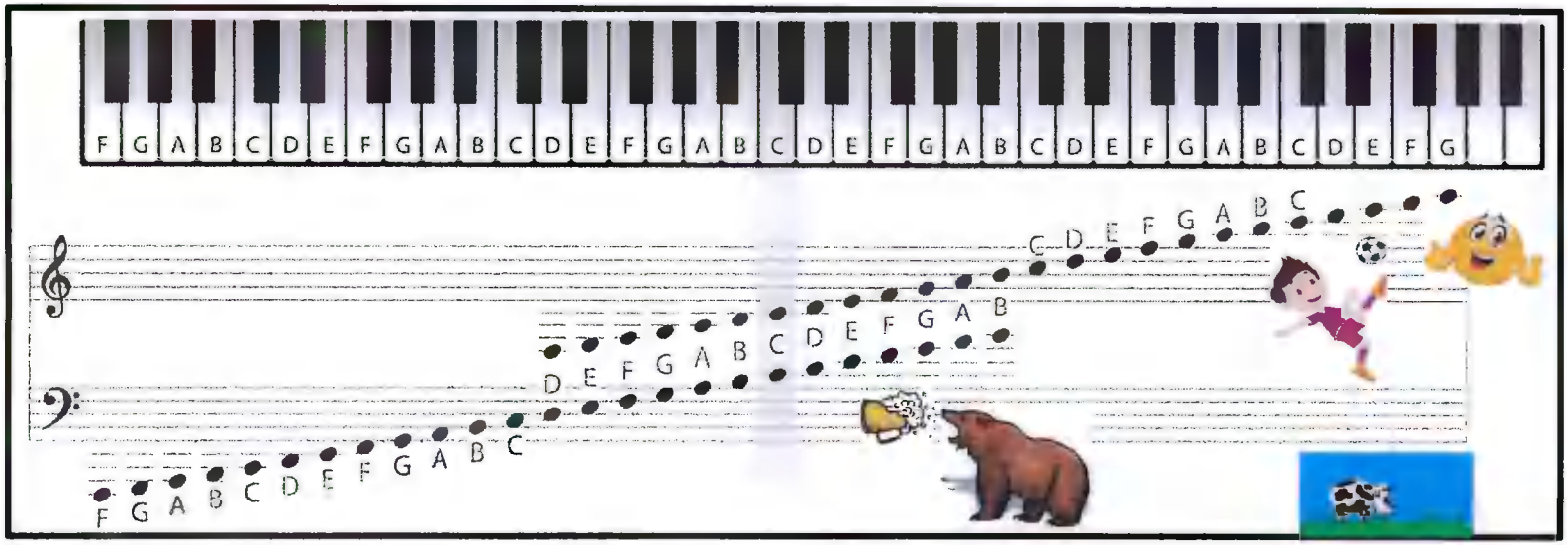
How the parts fit together

DYNAMICS



Volume

www.teachinggadget.com User name: 'Whitburn' Password: 'music.1234'



Drone
Duration
Ostinato
Motif
Leitmotif
Tonality
Discord
Chromatic
Leitmotif

Whitburn Church of England Academy. Y8 Unit 5: How far does it make a difference if you believe in life after death?

Key words

Life after death – the belief that existence continues after physical death
Day of Judgement – God will judge people and decide where they will spend eternity
Heaven – a place of perfect peace in the presence of God
Hell – separation from God
Main 6 world religions – Judaism, Christianity, Islam, Hinduism, Buddhism, Sikhism
Mandir – temple
Atman – a person's soul, it is made of part of the spirit of Brahman
Reincarnation – when a soul enters a new body after death
Karma - consequences of one's actions
Samsara – the cycle of birth, death and rebirth
Moksha – liberation from samsara
Cremation – the disposal of a dead person's body by burning it to ashes
Ascetic - a holy man who gives up the pleasures of normal life
Dhamma – truth/knowledge about existence
Enlightenment – a state of wisdom which means you understand life
Wheel of Life – represents Buddhist views about the afterlife
Theravada, Mahayana & Tibetan – different kinds of Buddhism
Middle Way – a life between extreme luxury and poverty
Atheist – no belief in God/religion
Agnostic – unsure of belief in God/religion
Theist – belief in God/religion
Celebrant – a funeral host

Christianity

Parable of the Sheep and Goats

- This shows how God will separate people based on how they behave
- Jesus uses a metaphor of sheep and goats to explain this
- E.g. if you are a 'sheep' (a good person), you go to Heaven, if you are a 'goat' (a bad person), you go to Hell
- Jesus gives examples of good actions, e.g. caring for those who are sick

The Resurrection of Jesus

- Christians believe that Jesus rose from the dead 3 days after he was crucified, this is the resurrection
- Many Christians believe that this is good evidence that there will be an afterlife; Jesus came back to life!

Impact of the afterlife on Christians: pray more, do good deeds, hopeful of Heaven, etc.

Hinduism: Key Facts

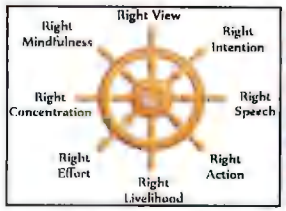
- Many consider this to be the oldest out of the main 6 world religions
- 1st began near the River Indus in India
- 3rd largest religion worldwide, about 95% of the world's Hindus live in India
- Brahman is the name for God or Supreme Being
- The Om or Aum is the symbol of Hinduism
- Hindus believe that God can be understood through various deities, one of which is the Tri-murti
- Tri-murti = Brahma (Creator), Vishnu (Preserver), Shiba (Destroyer)
- The holy book of Sikhism is the Vedas
- Hindus worship in a Mandir
- Hindus celebrate Diwali, the festival of lights

Hinduism: Life after death

- Hindus believe in atman
- Hindus believe that when a person dies, their atman (soul) enters a new body (e.g. animal or human), this is reincarnation
- Samsara describes the cycle of birth, death and rebirth
- To be reincarnated as something 'good' or to escape the cycle of life, death and rebirth, Hindus must gain karma
- Karma refers to the consequences of one's actions
- Hindus hope to escape samsara and achieve moksha (liberation from reincarnation)
- **Impact of an afterlife on Hindus:** try to gain good karma, have the right intention, meditate, be vegetarian
- **Funeral rites:** after death, Hindus cremate bodies because helps the person to be reincarnated, the body has no purpose and it does not need to be preserved

Buddhism: Key Facts

- The founder of Buddhism is the Buddha (Siddhartha)
- He was born into a life of luxury, but left his palace and saw the '4 sights': an old man, a sick man, a dead man and a holy man (ascetic)
- The Buddha achieved enlightenment when sitting under a Bodhi tree
- He gained knowledge about existence (dhamma) and told his followers to follow the Middle Way
- They can do this by following the Noble Eightfold Path (image below)



Buddhism: Life after Death

- Like Hindus, Buddhists believe in reincarnation. The aim of every Buddhist is to escape the cycle of birth and rebirth by achieving enlightenment
- Buddhists try to live a good life to gain karma
- The Wheel of Life represents Buddhist views about life after death – look in your exercise book for more info!

- **Buddhist funeral rites:**
- Theravada Buddhists – believe that rebirth happens immediately, make shrines, give money to monks, usually cremate the body
- Mahayana Buddhists – rebirth takes up to 7 weeks, usually cremate the body, funeral takes place a few days later
- Tibetan Buddhists – sky burials, the body is placed on a mountain and vultures eat the body! Then the remains are collected and burned

Humanism: Life after death

- Humanists are a kind of atheists or agnostics
- The Humanist movement began in 1896
- Core Humanist beliefs: trust science, reject the supernatural, support ethical thinking, no belief in an afterlife

- **Funeral rites:** even though they don't have a belief in God, Humanists still have funerals to say goodbye to their loved ones
- Most Humanist funerals are lead by a celebrant who guides guests through readings and music
- Humanist funeral songs, poems and speeches don't have to be funeral themed
- Some families asks their guests to wear bright colours or their loved one's favourite colours, instead of black

Whitburn Church of England Academy. Y8 Unit 6: Good, bad, wrong, right: how do I decide?

Key words

Morality – our sense of what is right or wrong

A moral person – is someone who makes the 'right' decisions or chooses good actions

Ethics – the study of what is wrong or right; a system of moral principles

Absolute morality – ethical rules or actions apply to any situation; the behaviour is fixed. E.g. some people think stealing is always wrong

Relative morality – ethical rules or behaviours have exceptions and can be changed to fit a situation. E.g. some people think stealing can be right in some situations

Conscience – a person's own sense of what is right or wrong, e.g. thinking about a situation and deciding what to do

Laws - rules that must be followed. In the Bible, there are several commandments/laws given by God. In the UK, the laws are decided by the government.

Parable – a simple story used to show a moral message

Maxims – a general rule or principle

Precept – a general rule or principle

What is morality?

- Our **morality** is our sense of what is right or wrong
- It is a bit like a compass; it points us in the right direction and helps us make decisions
- We might consider someone to be a **moral person** if they make the 'right' decisions, or choose good actions
- Some people study good and bad actions, this is called **ethics**
- There are a number of places where people get their morals from, e.g.:

1. Religious values
2. Family and friends
3. Society and the law
4. Using your conscience

How does the Bible guide Christians to make moral decisions?

- Many Christians use the Bible to help them make decisions, the Bible contains laws, parables and maxims
- **Laws** – e.g. the Ten Commandments

The Ten Commandments (The Decalogue)

1. You must not worship any other gods except me.
2. You must not make an idol to worship.
3. You must not use God's name thoughtlessly.
4. Remember to keep the Sabbath holy.
5. Honour your father and your mother.
6. You must not murder anyone.
7. You must not be guilty of adultery.
8. You must not steal.
9. You must not tell lies about your neighbour.
10. You must not want to take something that does not belong to you.

- **Parables**, e.g. the Parable of the Good Samaritan
- **Maxims** – e.g. 'love thy neighbour', 'treat others how you want to be treated'

Is the Bible a useful source of moral guidance?

Yes:

- ✓ Some rules are timeless, e.g. do not murder
- ✓ They tell Christians how they should behave towards other people
- ✓ There are different kinds of advice, e.g. laws, parables and maxims
- ✓ Parables can have layers of meaning
- ✓ Maxims can be relative and applied to different situations

No:

- ✗ Some rules might seem outdated or less relevant for a modern society
- ✗ Some rules might be too specific or too vague/general
- ✗ Some rules can be interpreted in different ways
- ✗ The Bible should be updated to give advice on modern issues

How do the 5 Precepts Guide Buddhists?

1. Refrain from taking life
E.g. Do not kill any living being

2. Refrain from taking what is not given
E.g. Do not steal

3. Refrain from the misuses of the senses or sexual misconduct
E.g. Do not look at people lustfully

4. Refrain from wrong speech
E.g. Do not lie or gossip

5. Refrain from intoxicants that cloud the mind
E.g. Do not drink alcohol or take drugs

Are these good rules to follow?
Most Buddhists live in Asia (e.g. Thailand, Cambodia, Sri Lanka), would the 5 precepts be easier to follow in Asia or the UK?

How can the 4 Brahma Viharas help Buddhists to make decisions?

- The 4 Brahma Viharas are the 4 highest emotions
- 'Brahma' means 'highest' or 'superior'
- 'Vihara' means 'to live' or 'to dwell'

1. **Metta** – loving-kindness
Near enemy – selfish love
Far enemy – hatred

2. **Kaurna** – compassion
Near enemy – pity
Far enemy – cruelty

3. **Mudita** – joy and empathy with other
Near enemy – too happy excitable
Far enemy - unhappiness

4. **Upekkha** – feeling balanced/equanimity
Near enemy – indifference
Far enemy – craving something

How do atheists make moral decisions?

- See the previous sheet for definitions!
- Atheists may use: emotions, laws/rules, role models, family/friends, intuition, instinct, etc., to make moral decisions, rather than religion
- **Peter Singer** (1946-) is a philosopher who is concerned with ethics
- He focuses on 'practical action' – things people can do to respond to problems in the world
- Singer uses the 'Drowning Child' thought experiment to claim that people should help others when they can
- He wanted people in affluent countries to help those in poverty

Year 8 Term 3 Biology Ecology

Key words

Food web: Shows how food chains in an ecosystem are linked.

Food chain: Part of a food web, starting with a producer, ending with a top predator.

Ecosystem: The living things in a given area and their non-living environment.

Environment: The surrounding air, water and soil where an organism lives.

Population: Group of the same species living in an area.

Producer: Green plant or algae that makes its own food using sunlight.

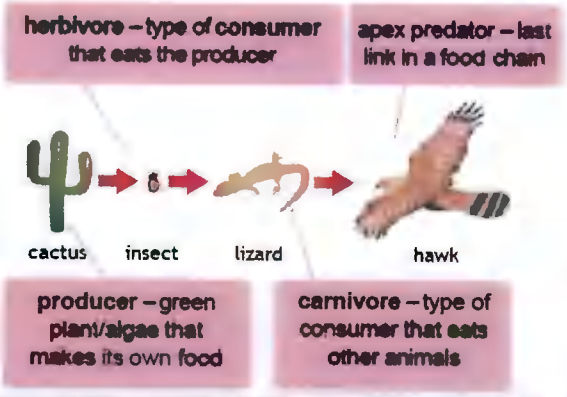
Consumer: Animal that eats other animals or plants.

Decomposer: Organism that breaks down dead plant and animal material back to the soil or water.

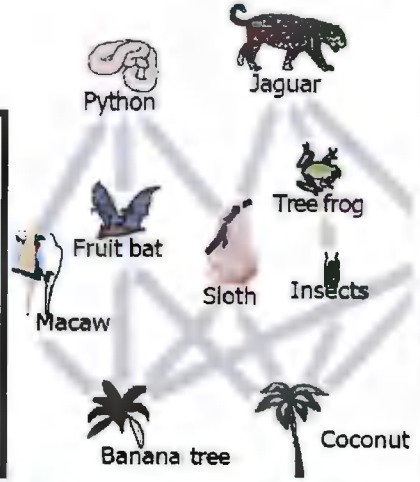
Community: Populations of different species living in a habitat

Species: A group of living things that can successfully breed together

Food chains show the transfer of energy between organisms – the arrows represent the direction of energy transfer.



Food webs show how lots of food chains are connected in an ecosystem.



Interdependence

Species depend on each other for food, shelter, pollination, seed dispersal etc. Removing a species can affect the whole community.

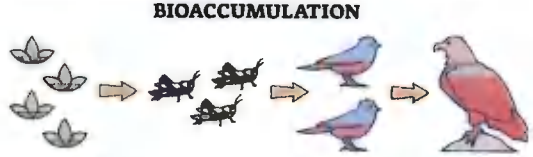
Non-living (ABIOTIC) factors that affect a community	Living factors (BIOTIC) that affect a community
Living intensity.	Availability of food.
Temperature.	
Moisture levels.	New predators arriving.
Soil pH, mineral content.	
Wind intensity and direction.	New pathogens.
Carbon dioxide levels for a plant.	One species outcompeting so numbers are no longer sufficient to breed
Oxygen levels for aquatic organisms.	

Above are some pyramids. These can demonstrate several things about a food chain:

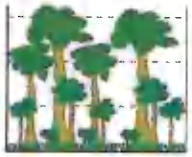
Pyramids of number tell us how many organisms there are at each stage of the food chain.

Pyramids of biomass show how much living matter there is at each stage.

This image shows bioaccumulation, the build up of a toxin (such as pesticide) in a food chain. It can be fatal to the species at the top of the food chain.

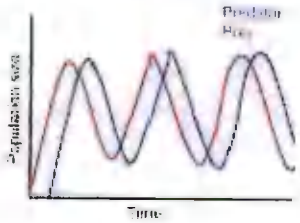


Competition



Plants in a habitat compete for light, space, water and ions

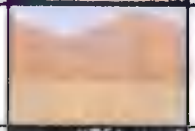
Animals in a habitat compete for food, mates and territory



This graph shows the relationship between **predators** and **prey**. They are inter-related. In a stable community the number of predator and prey rise and fall in cycles

Key Vocabulary

offspring	The young animal or plant that is produced by the reproduction of that species.
inheritance	This is when [illegible] are passed on to offspring from their parents.
variations	The differences between individuals within a species.
characteristics	The distinguishing features or qualities that are specific to a species.
adaptation	An [illegible] is a trait (or [illegible]) changing to increase a living thing's chances of surviving and reproducing.
habitat	Refers to a specific area or place in which particular animals and plants can live.

Living Things		Habitat		Adaptive Traits
polar bear		arctic		Its white fur enables it to camouflage in the snow.
camel		desert		It has wide feet to make it easier to walk in the sand.
cactus		desert		It stores water in its stem.
toucan		rainforest		Its narrow tongue allows it to eat small fruit and insects.

Extinction

Extinction is the dying out of a species. Famous examples include the dinosaurs and Dodos.

Evolution

Natural Selection

Fossils of giraffes from millions of years ago show that they used to have shorter necks. They have gradually evolved through natural selection to have longer necks so that they can reach the top leaves on taller trees.

What is a chemical change?

1. Physical and Chemical changes

Physical Changes	Chemical Changes
Can easily be undone No new material is formed. Change in state	Cannot easily be undone. New materials / chemicals formed Heat or light given off Colour change Bubbling or Noises Smells

Examples

Water melting Chopping wood Ironing clothes	Frying an egg Food going off Fireworks

2. Writing Chemical equations

Key features

- Can be symbol or word equations
- Show the **reactants** (what we start with) and the **products** (what we end with).
- No atoms are lost or made - mass of the products and reactants are equal.

Hydrogen	+	Oxygen	→	Water
$2H_2$	+	O_2	→	$2H_2O$
4g		32g		36g

3. Testing for Gases

Hydrogen	Oxygen	Carbon dioxide
burning splint squeaky pop	glowing splint relights	Limewater turns cloudy

4. Exothermic and Endothermic reactions

Exothermic	Endothermic
GET HOTTER	**GET COLDER**
Heat energy transferred to the surroundings	Takes heat energy from the surroundings

Examples

Combustion / burning Neutralisation	Melting / evaporation Baking

5. Combustion

Complete combustion

With an adequate supply of air they react to form carbon dioxide and water

$C_4H_8 + 6O_2 \rightarrow 4CO_2 + 4H_2O$

Incomplete combustion

In an inadequate supply of oxygen, carbon monoxide and water form

$C_4H_8 + 4O_2 \rightarrow 4CO + 4H_2O$

6. Displacement reactions:

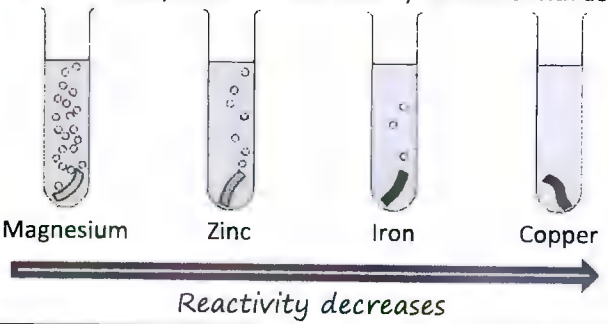
During a displacement reaction the metal in a compound is replaced with a more reactive metal.

Metal / Solution	$MgSO_4$	$ZnSO_4$	$FeSO_4$	$CuSO_4$
Magnesium		✓	✓	✓
Zinc	×		✓	✓
Iron	×	×		✓
Copper	×	×	×	

Example	Zinc + Iron sulfate → Iron + Zinc sulfate
	$Zn + FeSO_4 \rightarrow Fe + ZnSO_4$

7. Core Practical – metal reactivity

Metal reactivity can be determined by reactions with acid



More reactive metals produce more bubbles of gas

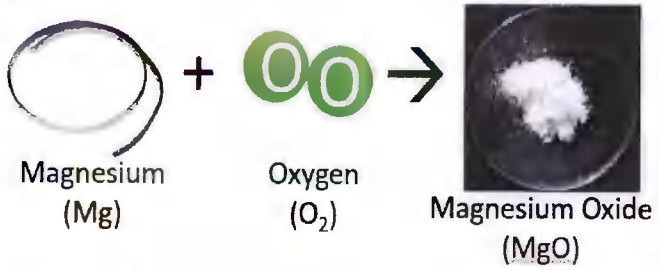
Tier 2 vocabulary	Context (Definitions, Properties or Examples)
State	*Solids, liquids and gases are called the three states of matter*
Energy	*Energy is 'the ability to do work. Chemical energy is a type of potential energy stored*
Chemical equations	*Word or symbol equations to represent reactions using elements and compounds*
Displacement	*A displacement reaction is a type of reaction in which part of one reactant is replaced*

Tier 3 vocabulary	Definitions, Properties or Examples
Exothermic	*A reaction that gets warmer as overall heat energy is transferred to the surroundings*
Endothermic	*A reaction that gets colder as overall heat energy is taken in from the surroundings*
Combustion	*The act of burning something or the process of burning*

Oxidation

is the name for a chemical reaction in which oxygen is added to a substance?

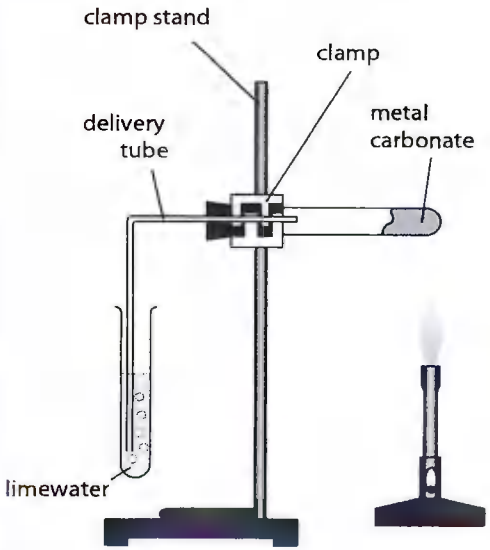
E.g.



Thermal decomposition

Breaking something down using heat.

We can break down metal carbonates, like copper carbonate, using heat.

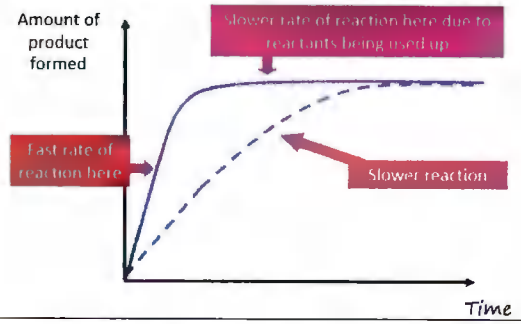


KEYWORD	DEFINITION
Rate	The speed at which reactants are converted into products
Concentration	The amount of a substance in a defined space.
Activation energy	The minimum **energy** required for a reaction to occur
Pressure	The particles in a **gas** move quickly in all directions, but they do not get far before they bump into each other or the walls of their container. When **gas** particles hit the walls of their container they cause **pressure**
Reactant	**Reactants** are substances initially present in a **chemical** reaction that are consumed during the reaction to make products
Product	**Products** are what is formed from **chemical** reactions
Catalyst	A **catalyst** is a substance that speeds up a **chemical** reaction, but is not consumed by the reaction;
Independent variable	The variable you change
Dependant variable	The variable you measure
Control variable	What you keep the same in an experiment

How can I speed up a chemical reaction?

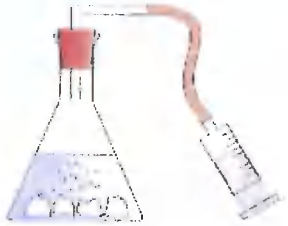
The speed that a chemical reaction takes place is called the **rate of reaction**
We can speed up a chemical reaction by:

1) Increasing the pressure
2) Increasing the temperature
3) Increasing the concentration
4) Increasing the surface area

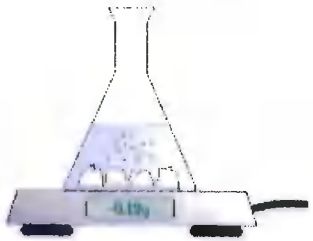


We can **measure** the rate of reaction by:

1) Measuring how fast products are formed
2) Measuring how fast reactants are used up



Amount of product formed



Rate the reactant is used up

Reactions do not proceed at a steady rate. They start off at a certain speed, then get slower and slower until they stop.
As the reaction progresses, the concentration of reactants decreases.
This reduces the frequency of collisions between particles and so the reaction slows down.

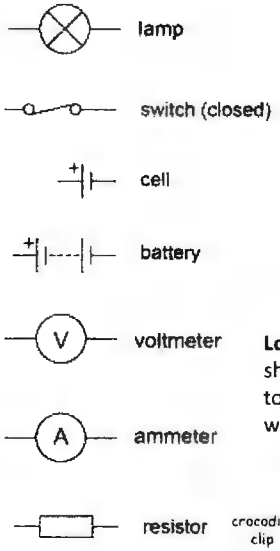
A catalyst is a substance that is used to increase the rate of reaction. It does this by lowering the activation energy. It remains unchanged once the reaction is complete.

Reactions take place when particles collide with a certain amount of energy. The minimum amount of energy needed for the particles to react is called the **activation energy**, and is different for each reaction.
The rate of a reaction depends on two things: the **frequency** of collisions between particles
The **energy** with which particles collide.
If particles collide with less energy than the activation energy, they will not react. The particles will just bounce off each other.

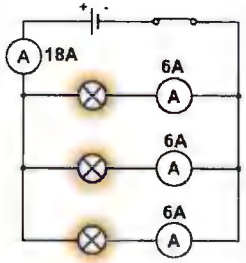
Why does increased temperature increase the rate of reaction?
At a higher temperature, particles have more energy. This means they move faster and are more likely to collide with other particles. When the particles collide, they do so with more energy, and so the number of successful collisions increases.
Why does increased surface area increase the rate of reaction?
If the solid is split into several pieces, the surface area increases. This means that there is an increased area for the non-solid reactant particles to collide with. The smaller the pieces, the larger the surface area. This means more collisions and a faster rate of reaction.
Why does increasing the pressure of gaseous (gas) reactants increase the rate of reaction?
As the pressure increases, the space in which the gas particles are moving becomes smaller. The gas particles become closer together, increasing the frequency of collisions, and so increasing the rate of reaction.
Why does increasing the concentration increase the rate of reaction?
A higher concentration means there are more particles (atoms/molecules) of reactant in the same area, so

Electricity

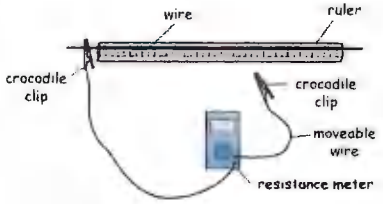
Quantity	Symbol	Definition	Unit
Current	I	A flow of charges called electrons	A / Amp
Voltage	V	The energy provided to the charges by the battery.	V / Volt
Resistance	R	Caused when electrons collide with copper atoms in the wire. Makes wires hot.	Ω / Ohm

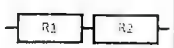


Current splits at junctions



Long wires have more **resistance** than short wires because the charges have to get past more copper atoms in the wire. This means more collisions!



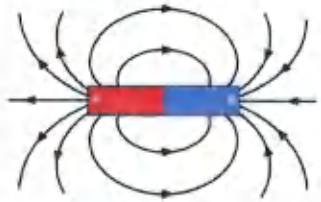
Resistance	$R = V \div I$	
Resistance in series 	The resistance adds up.	Bulbs connected in series are very dim. The high resistance limits the flow of current to the bulbs.
Resistance in parallel 	The resistance stays very small.	Bulbs connected in parallel remain bright. The low resistance means a larger current can flow to the bulbs.

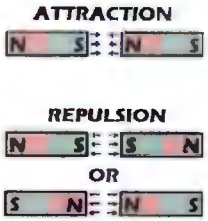
Magnetism

Magnetism is a **non-contact force** meaning two magnets don't have to touch to exert a force on each other.

Magnetic materials are iron, steel, cobalt and nickel.

A **magnetic field** is the area around a magnet where if a magnetic material is placed, it will experience a force.





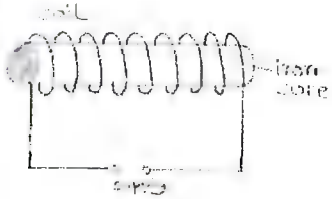
The Earth has an iron core and hence its own magnetic field. A **Compass** needle is a magnet that is free to spin. The south pole end of the compass is attracted to the Earths north pole.

Magnetic materials can become magnets when stroked in the same direction with the end of a magnet.

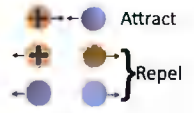
An **electromagnet** is a **current carrying wire**.
To make the magnetic field stronger,

- Increase the **current**
- Add more **coils**
- Add an **iron core**

Electromagnets can be switched on and off and their strength can be varied.

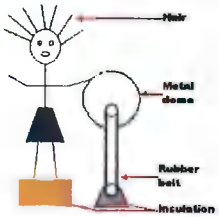


Static



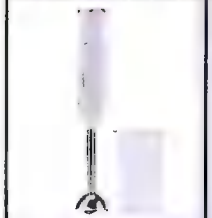
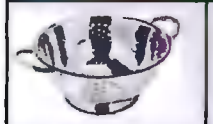
Friction can move **electrons** from one object to the other. The object that gains electrons builds up a negative charge. The object that loses electrons builds up a positive charge.

A Van de Graff dome becomes charged when the rubber belt rubs against a comb. Standing on insulation causes a persons hair to become charged too and the hairs repels each other.



A spark is seen when a conducting rod is placed near the Van de Graaff dome. The electrons jump the gap to the earth when there is a large enough potential difference.

Year 8 Food (1)

	**Garlic**	Turns fresh, whole garlic cloves into minced garlic by pressing it through small holes.
	**Rolling pin**	A long, thin cylinder used to flatten dough into sheets.
	**Stick Blender**	Also referred to as an immersion blender. Is immersed (placed into) the liquid and then blends/purees the ingredients together.
	**Flour shaker**	Sprinkle out some flour to lightly dust your workbench. Especially useful when making doughs to stop them sticking.
	**Handle protectors**	A silicone cover which slots on the pan handle to protect your hands from the heat.
	**Bench protectors**	A silicone circle or wooden triangle which protects the bench from burning by hot pans.
	**Colander**	Used to drain pasta. Then sit the colander in the empty pan so any further drips are contained.

Making a roux sauce base with cheese

- Melt 25g margarine in pan on low heat.

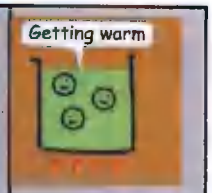
- Stir in 25 g flour until makes a paste.

- Gradually add 250 ml milk getting rid of any flour lumps as you do.

- Put back on low heat. Stir continuously until the liquid has thickened.

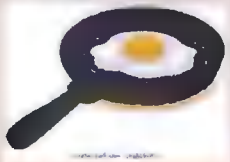
- Add 50-100g grated cheese and it will melt into the sauce.

The process of gelatinisation thickens our sauce

Heat starch granules (from flour) in liquid (milk and melted margarine).	
Starch granules becomes swollen.	
Starch granules burst.	
Liquid thickens and gelatinises	

Year 8 Food (2)

How we cook food

Baking and Roasting		• Cakes • Meat • Vegetables	• In an oven. • Hot air surrounds food. • Dry heat convection
Boiling and simmering		• Eggs • Potatoes • Pasta • Rice	• On the hob. • In water. • Hot water surrounds the food. • Wet heat convection
Steaming		• Vegetables • Fish	• Water and food are separated. • Food heated by steam above the water.
Frying		• Steak • Eggs • Chips	• On the hob. • Direct contact with food. • Conduction
Grilling		• Fish • Burgers • Sausages • Tomatoes	• Under a grill, in a toaster or on a BBQ. • Radiation
Microwaving		• Fish • Baked beans • Ready meals • Vegetables	• Microwaves are radiated and penetrate the food. • Radiation

Cooking Food is to prepare food for eating using heat.

Cooking pasta

1. Fill a pan approx half full with cold water.
   - Add a pinch of salt (optional).
   - Put hob on a high neat and bring water to the boil (bubbling vigorously).
2. Pour in your pasta using a sieve to prevent splashing.
   - Leave for approx 2-3 mins.
3. Turn down the hob to a medium heat.
   - Let the pasta simmer for approx. 10 mins.
4. Put a colander in the sink.
   - Pour the pasta and water into the colander to drain.

Why we cook food

1. To kill pathogenic bacteria and toxins making the food safe to eat.
2. To soften the food making it easier to chew and swallow.
3. To make the food easier for the body to digest.
4. To improve and intensify the flavours of the food.
5. To help the food look more attractive and appealing.
6. To allow ingredients to work together.
7. To keep us warm in colder weather.
8. To provide variety to our meals.

Year 8 Food (3)

Functions of ingredients in our muffins and swirls

Flour	Provides the structure. When the proteins in the flour are hydrated they interact with each other forming gluten which expands and stretches with gases.
Baking powder	Raising agent. Helps the food rise well. Sometimes self raising flour is used instead.
Sugar	For flavour, sweeter taste and appearance.
Fruit	Vitamins and minerals (5 a day).
Cinnamon	Flavour.
Egg	Helps the flour with the structure and raising. The balance between the flour and egg is very important. It helps with the height and texture.
Milk	Hydrates the proteins in the flour. Moisture.
Oil	Moisture.

Kneading

- Stretches and develops the gluten strands in the dough.
- If not kneaded enough the dough will not hold its shape and lack strength.

Raising agents

Raising agents include anything that **causes rising** within foods, and are usually in baked goods.

They are added to baked products during the preparation stage and create **gas**, **air** or **steam**, which **expands when heated and causes the food to rise.**

Chemical raising agents

Biological raising agents

- Yeast is a **microorganism (a tiny living thing)** which can be used in bread, pizza bases and doughnuts.
- When the yeast dough is proving a process called **fermentation** occurs.
- This is when **carbon dioxide is trapped in the dough causing it to rise**.

Mechanical raising agents

- Something we **'do'** in the baking process e.g. whisking, beating, folding, sieving, rubbing in, creaming, kneading.

Year 8 Food (4)

Vitamins

Vitamins

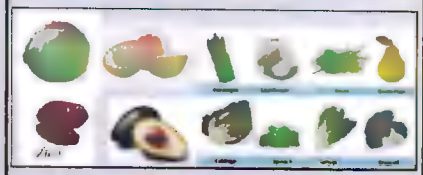
Our bodies need vitamins in **small quantities**. They are needed by the body to work as **builders**, **defenders** and **maintenance workers**.

Water soluble (C & B)

- These vitamins **dissolve in water or liquids**.
- They are found in the watery parts of fruit, vegetables and grains.
- They can move around our bodies easily using the blood plasma.

Lipid (fat) soluble (K,A,D,E)

- These vitamins are **dissolved in fats** such as dairy, butter and oils.
- They need the help of proteins (acting as a taxi) to help them move around the body as they find it more difficult.

Vitamin	Function	
C (CARE)	• Boosts immune system. • Heals wounds. • Helps absorb iron.	
B (BOUNCE)	• Helps release energy from foods and uses it. • B9 & B12 help create red blood cells.	
K (KLOT)	• Helps blood clot.	
A (AYESIGHT)	• Promotes good vision. • Helps with growth. • Helps shape and maintain teeth and bones.	
D (DIG)	• Helps bones and teeth. • Gathers calcium (absorbs and deposits).	
E (EXECUTE/EVIL)	• Antioxidant (removes toxins/bad things from the body. • Maintains healthy skin.	

Cushion Project

5. Care Labels

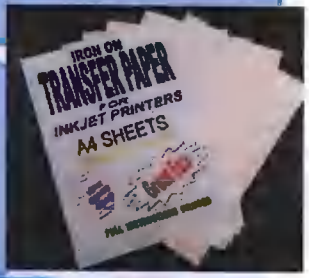
- **Washing Label-** will usually have a max. temp number included
- Hand Wash only
- Do not wring out
- Tumble Dry
- Iron on low heat. The more dots the higher the heat setting
- Do not bleach

Textile techniques

- **Hand stitching**
- **Applique** - pieces or patches of fabric in different shapes and patterns are sewn or stuck onto a larger piece to form a picture or pattern. The technique is created either by hand stitching or machine
- **Fabric Pens**
- are marking paint pens that can be used for any of the paintings, drawings, markings, letterings on any fabric.

ICT Transfer Paper

Iron On Transfer Paper is commonly referred to as 'T-shirt paper' because it is often used to transfer images, text or a combination onto fabrics. Applications however are not limited to T-shirts and the paper can be used on aprons, cotton bags, pillowcases, tablecloths and even on hard surfaces such as wood.



Mood Boards

Many textile products are designed with a theme or mood as an important starting point. Mood or theme boards help the designer develop design ideas and colourways.

Product Research

Product research is work that's done before designing, to get valuable information before a new product goes to market. Researching products that already exist in shops or online.

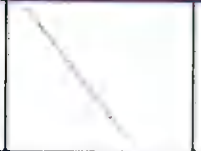
The 6 R's

The 6 Rs are an important checklist. They are used by designers to reduce the environmental impact of products. They can also be used to evaluate the environmental impact of other products.
The **hierarchy of sustainability** places the strategies that are best for the planet about those that have a greater negative impact on the environment.

Textiles

Equipment & Key Terms

Year 8 – Textiles Knowledge organiser

Needle		Used to hand sew fabric and creating embroidery designs. The 'eye' of the needle is where the thread is fed through.
Pins		Used to hold fabrics in place when sewing, with an 'in/out' motion.
Machining Thread		Used to sewing fabrics together, either by hand or with a sewing machine.
Fabric Shears		Used to cut fabrics and threads only, not paper.
Embroidery Scissors		Used to cut delicate work into fabrics and trim threads.
Embroidery Thread		Comes with 6 threads intertwined that can be 'split' to reduce the thickness. Used to create decorative stitches on products.
Sewing Machine		A electrical product that is used to sew fabrics together securely. The machine can produce a range of stitches including straight & zig-zag.
Tape Measure		Used to measure fabrics and the human body to help make patterns accurate to the desired size.

Over locker		A electrical machine that neatens the edge of fabric to prevent fabric from fraying.
Dyes		Cold water dyes used to apply colour to a fabric, fixed with salt. These dyes are used in tie dying and dip/ plain dying
Pattern		Used as a template for cutting out pieces of a textile product.
Seam Allowance		Added to pattern to ensure that the products ends up in the correct size.
Fabric		Used to create a range of different products, including toys & clothing. Comes in a range of different lengths, widths, colours, finishes & patterns. Can be either Natural or Man-made.
Ironing/ Pressing		Method of removing creases from fabrics to give products a better finish.
Design		A process that is completed to communicate your ideas clearly.
Colour Wheel		Using knowledge of colour to make your product stand out and appeal to others.