

Y8 ART: REPEAT PATTERN

Key Figures



Damien Hirst is an English artist, entrepreneur, and art collector. He is one of the Young British Artists in the UK during the 1990s. He is reportedly the UK's richest living artist.



A Repeat Pattern is **the repetition of lines, shapes, tones, colours, textures and forms.**

SMSC Creative thinkers, Cultural, Reflective learners

Knowledge links:
Technology,
History, Maths,
English

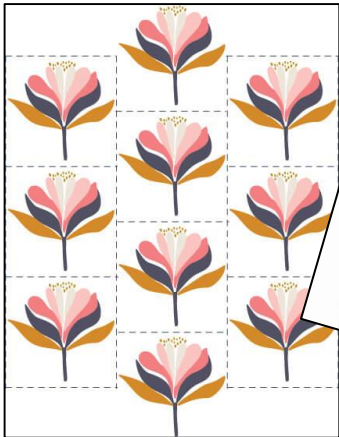


Key Terms

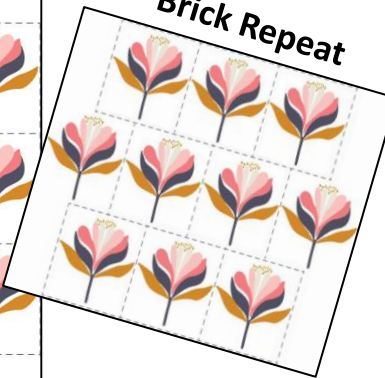
Colour	Colour is what we see when light enters our eyes! Primary, colours can be mixed together to create secondary and tertiary colours.
Composition	Composition is the placement or arrangement of visual elements in a work of art.
Contrast	Contrast is the scale of difference between dark and light areas in images.
Form	A form is a three-dimensional geometrical shape
Line	Lines can be horizontal, vertical, or diagonal, straight or curved, thick or thin.
Mixed Media	A composition that includes multiple types of art materials – often layered together.
Shape	An area enclosed by a line. It can be empty and just be an outline or shaded in
Texture	Texture is the perceived surface quality of a work of art.
Tone	This could be a shade or how dark or light a colour appears
Pattern	Texture is the perceived surface quality of a work of art.

Examples

Half Drop Repeat



Brick Repeat



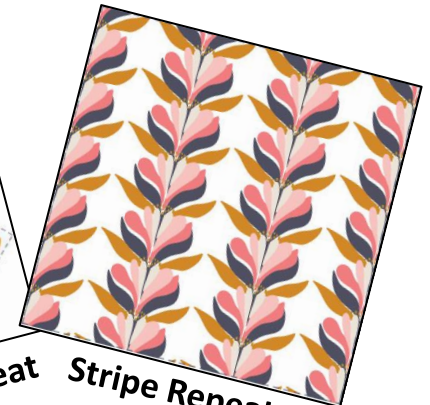
Full Drop Repeat



Diamond Repeat



Stripe Repeat

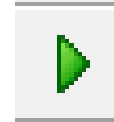


Year 8 - Computing - Game Maker - Knowledge Organiser



Key Words	
Action	The way in which something works or moves. Once an event has occurred, an action is what you want the object to do. For example: Event - When a character collides with a wall - The action would be to stop.
Branding	The promotion of a particular product or company by means of advertising and distinctive design.
Debugging	The process of identifying and removing errors from computer hardware or software.
Event	A single occurrence of a process. These are moments in the game loop where things are made to happen. For example: When a character collides with a wall.
Marketing	The method of promoting and selling of products and it includes, market research and advertising.
Object	A data construct that provides a description of anything known to a computer (such as a processor or a piece of code) and defines its method of operation. Used to build our program from, such as a main character or enemy.
Primary Market Research	Involves finding out new, first-hand information that doesn't exist yet.
Room	A level in Game Maker which can be create with the use of different objects.
Secondary Marky Research	Involves finding out information, but using resources that already exist. For examples websites, social media, old research papers.
Sprite	A computer graphic which may be moved on-screen and otherwise manipulated as a single entity. An image or set of images, to represent how our object will look.
Visualisation Diagram	Shows how a final product will look. A good visualisation diagram could be given to a graphic designer and have enough information for them to make the final product.

Game Maker Tools



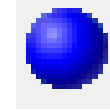
Run Game



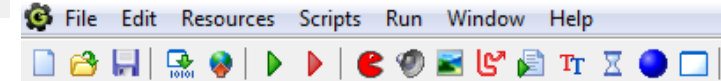
Create A Room



Create New Sprite



Create New Object



Game Maker Rules

Sprites MUST be 32 x 32 in size

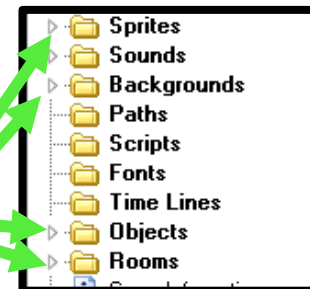
Sprite names MUST start with Spr_
Hint: Spr_MainCharacter

Object names MUST start with Obj_
Hint: Obj_MainCharacter

Visualisation Diagram Top Tips
Remember : **TITLE**

- T = Title
- I = Images
- T = Text
- L = Labels (annotations)
- E = Extras (Logo, barcode, etc.)

Remember to check your folders for any hidden work!



Year 8

Dance

ASDR

ASDR = Action, Space, Dynamics, Relationships

ACTION WHAT THE DANCER IS DOING

- JUMPING, TURNING, TRAVELLING BALANCING
- JUMP – ANY MOVEMENT IN WHICH THE FEET LEAVE THE FLOOR
- TURN – A MOVEMENT WHICH ROTATES THE WHOLE BODY
- TRAVEL – ANY MOVEMENT WHICH MOVES ACROSS OR AROUND THE STAGE
- BALANCE – A POSITION WHICH IS HELD STILL

SPACE WHERE THE DANCER IS MOVING

- LEVELS - HIGH, MEDIUM, LOW
- DIRECTION – FORWARD, BACKWARD, SIDEWAYS. DIAGONALLY, UP, DOWN
- FLOOR PATTERNS – CIRCLES, STRAIGHT LINES, SQUARES, WIGGLY LINES

DYNAMICS HOW THE DANCER IS MOVING

- TIME – QUICK OR SLOW
- WEIGHT – HEAVY OR LIGHT

RELATIONSHIPS WHO THE DANCER IS WITH

SOLO, DUET, TRIO, GROUP

- SOLO – ALONE
- DUET – 2 PEOPLE
- TRIO – 3 PEOPLE
- GROUP – MORE THAN 3



UNISON, CANON, QUESTION & ANSWER

- UNISON – ALL TOGETHER
- CANON – 1 AFTER THE OTHER
- Q & A – 1 PERSON DOES A MOVE THEN THE OTHER PERSON DOES A DIFFERENT MOVE

Key Vocabulary

Action
Jump
Turn
Travel
Gesture
Stillness







Space
Level
Direction
Formation











Dynamics
Speed
Flexible
Direct
Indirect








Relationships
Solo
Duet
Trio
Group
Ensemble
Canon
Unison



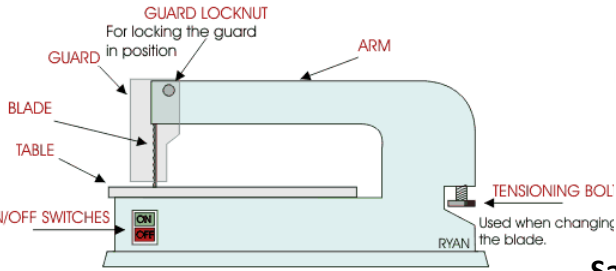
Workshop Tools and Machinery

Cutting and Sawing	
	Hack saw Fine toothed saw for cutting plastic and metal
	Junior hacksaw Smaller version of hacksaw
	Coping saw Can be used to cut plastic especially curved shaped. Will leave rough edge
	Scroll (Hegner) Saw Mechanical version of coping saw
	Tenon saw – used for cutting straight lines in wood
Shaping	
	Files Come in a range of shapes, sizes and roughness <ul style="list-style-type: none"> Used for smoothing and removing excess plastic Cross filing – removing material quickly Draw filing – removing scratches from cross filing

Holding Equipment	
G Clamp- portable clamp used to clamp work to the desk.	
Machine Vice – used with bench/pillar drill. Keeps your fingers away from the drill bit.	
Bench Vice (engineers vice) – bolted to work bench. To hold materials especially when sawing, drilling or filing.	
Pliers – used to hold, grip or pull objects	
Drilling	
Stepped drill Used for drilling through thin plastic and metal	
Counter sink Used to create a v shaped hole. This allows countersunk screws to be flush	
Twist drill – used to drill holes	
Marking out and measuring	
Steel rule Used for accurate measuring and marking out	
Tri square Checking and measuring 90 degree angles	
Digital Vernier: Measure the thickness or diameter of an object with accuracy	

Sanding	
Sandpaper Comes in different grades rough to smooth Wet and dry Very smooth sandpaper often used with water to polish plastic during the final finishing	
Polishing	
Polishing mop High speed rotating fabric wheel is used with a polishing compound to remove scratches	
Abrading	
Dremel Used to smooth and grind away excess material especially from models that have been 3d printed	
Cutting (snipping)	
Wire cutters Often used to remove support structures from 3d printed models	
Extras	
Heat gun Can be used to heat small pieces of plastic	
Glue gun	
Cordless drill More portable than a bench drill but not as accurate	

Fret Saw/Scroll Saw

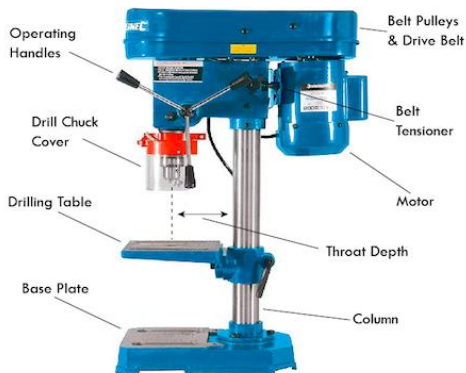


Fret Saw Safety

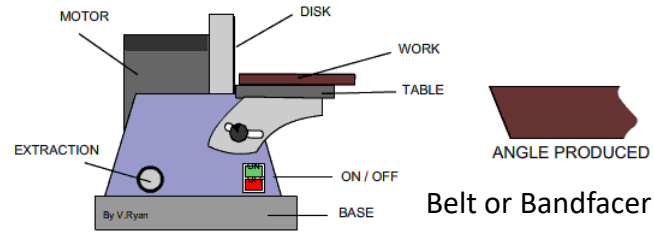
1. Always use the guard. Adjust the guard/foot to the correct height
2. Wear goggles when cutting materials.
3. Use a push stick if you think your fingers are too close to the blade
4. Follow all teacher instructions carefully.



Bench Drill



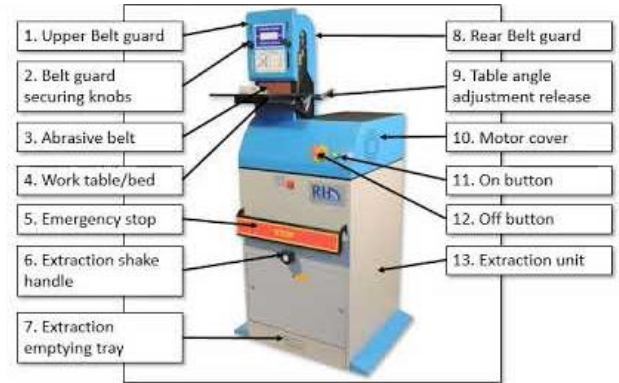
Disk Sander



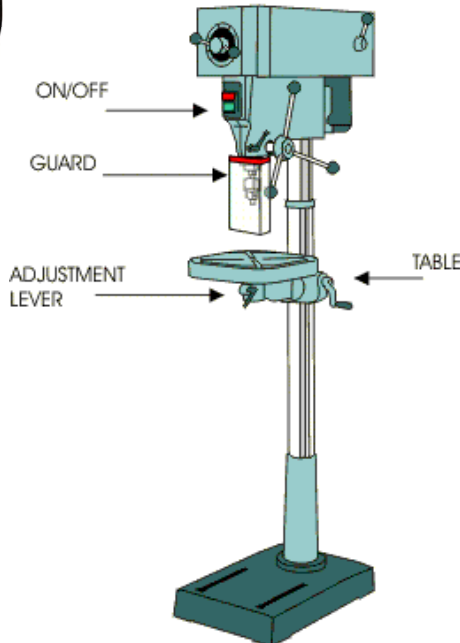
Belt or Bandface Sander

Sander Safety

1. **Always use the guard.** Adjust the belt sander guard to the correct height
2. Wear goggles when sanding materials.
3. Keep fingers well away from the sanding belt or disk
4. Keep the material moving gently from side to side
5. Follow all teacher instructions carefully.



Pillar Drill








Drill Safety

1. Always use the guard.
2. Wear goggles when drilling materials.
3. Clamp the materials down or use a machine vice.
4. Never hold materials by hand while drilling.
5. Always allow the 'chippings' to clear the drill by drilling a small amount at a time.
6. Follow all teacher instructions carefully.



PPE Personal Protective Equipment

Sensible behavior is just one factor that improves safety in the workshop. Using personal protective equipment (PPE) reduces the risk of damage to your sight, hearing, breathing and skin. Each piece of equipment is designed to prevent certain hazards damaging you and to reduce the risk of personal injury.

Apron		Tied at the back. Aprons will prevent chemicals/paints coming into contact with clothes. Will stop loose clothing being drawn into a piece of machinery.
Dust mask		Sanding can produce dust which can be damaging to the lungs. A dust mask will help prevent inhalation of dust particles.
Ear defenders		Prolonged use of loud machinery can cause hearing damage. Ear defenders help to prevent this from happening.
Safety goggles		Particles of wood, metal and plastic can fly off and hit the eyes when sanding, sawing or drilling. Goggles prevent eye damage
Gauntlets (leather gloves with wrist protection)		Certain machinery can get very hot. Gauntlets are designed to prevent burns to hands and fingers.

Sharp Tools

- Point should always face the ground when carrying it around
- Damaged tools should be reported – a blunt tool is dangerous
- Tool should be placed in the centre of table when not being used
- Fingers should always be behind the cutting edge
- Cut away from the body

Holding Equipment

If you are cutting or drilling holding equipment should be used.

Examples include:

- Bench vice
- Bench Hook
- Machine vice
- G Clamp



Hazard, Risk, Prevention Example – Craft Knife

Hazard



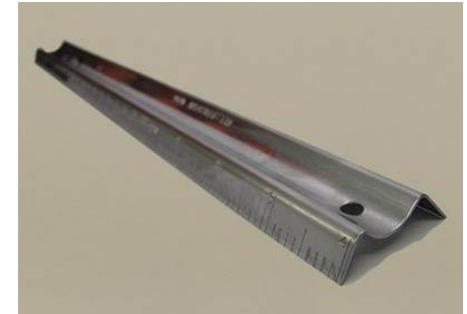
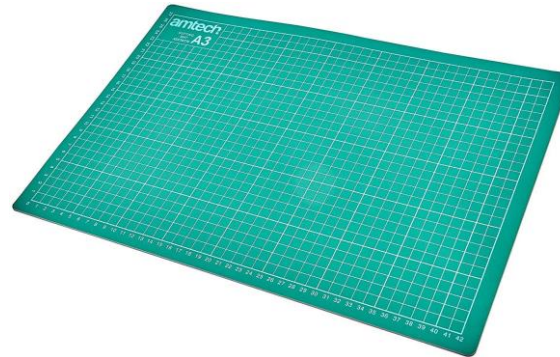
The danger e.g. sharp blade

Risk

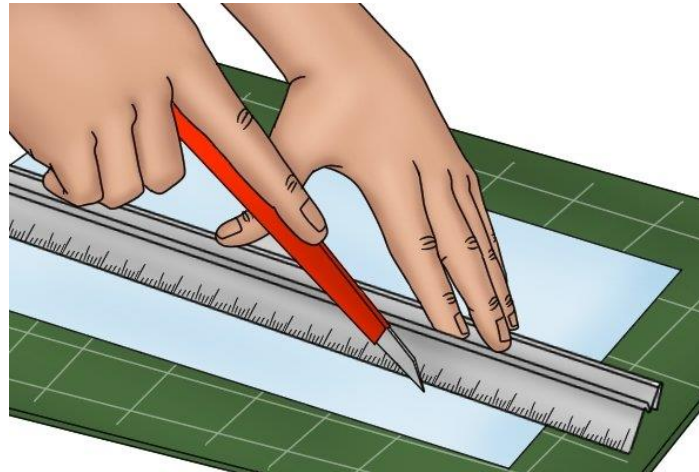


What could go wrong e.g., cut your finger

Prevention



What can we do to **stop** (minimize/reduce) the accident from happening?



- Rubber cutting board/mat to stop the card slipping
- Safety rule to keep fingers out the way of the sharp blade
- Hold the craft firmly with finger on top
- Cut across and not towards the body

Smart Materials

Smart materials react to external stimulus. They react to environmental conditions.

Their properties can be changed by exposure to one or more of the following stimuli:

- Electric and magnetic fields
- Stress
- Pressure
- Moisture
- Temperature
- Light

Examples include:

- Polymorph – thermoplastic with a low melting temperature, can be moulded by hand once heated in hot water
- Nitinol – SMA (shape memory alloy) – a metal that returns to its original shape if it is bent by using heat
- Thermochromic pigments – changes colour with heat e.g. a child's thermometer
- Photochromic dyes – changes colour with strong light e.g. sunglasses

Polymorph

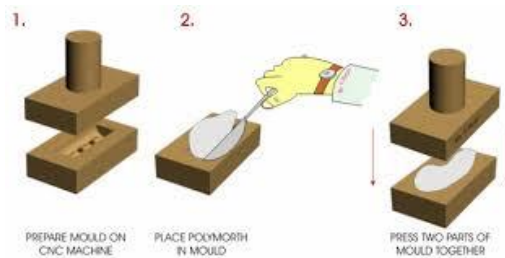
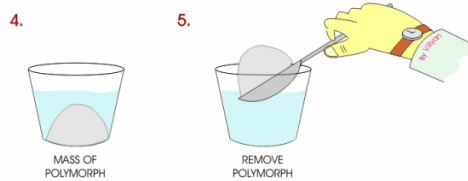
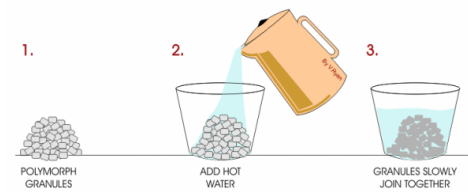
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In the classroom it can be heated in hot water and when it reaches 62 degrees centigrade the granules form a mass of 'clear' material. When removed from the hot water it can be shaped into almost any form and on cooling it becomes as solid as a material such as nylon.






















Although expensive, polymorph is suitable for 3D modelling as it can be shaped by hand or pressed into a shape through the use of a mould.

Useful for forming :

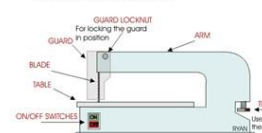
- Ergonomic handles/grips
- Complex shapes
- Prototype patterns for casting or moulding
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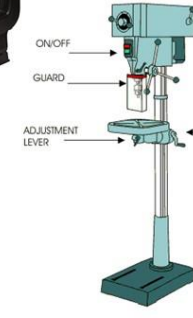
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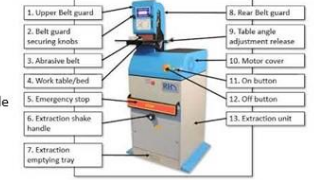
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Risk

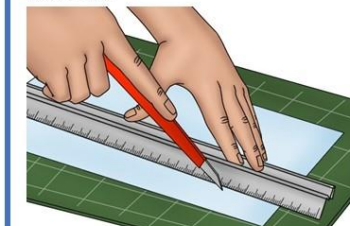


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Useful for forming :

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Y8 Hope in A Ballet Shoe – Non-Fiction Reading KO

Tier 2 Vocabulary

Discord	A disagreement between people.
Prejudice	A preconceived opinion that is not based on reason or actual experience.
Colonialism	the policy or practice of acquiring full or partial political control over another country.
Orphan	a child whose parents are dead.
Coup	a sudden, violent, and unlawful seizure of power from a government.
Genocide	the deliberate killing of a large number of people from a particular nation or ethnic group with the aim of destroying that nation or group.
Rebel	a person who rises in opposition against an established government/leader.
Asylum	The protection granted by state to someone who has left their home country as a political refugee.
Warfare	engagement in or the activities involved in war or conflict.
Refugee	A person who has been forced to leave their country due to war, persecution, or natural disaster.
Trauma	Pain or suffering
Discrimination	The unjust prejudicial treatment of different categories of people.
Superior	A high rank, status, or quality
Diversity	The state of being diverse; showing a great deal of variety; very different.
Ostracised	To exclude from a society or group.
Charitable	The assistance of those in need.
Liberated	Freed from enemy occupation.
Hostility	hostile behaviour; unfriendliness or opposition.
Contention	Heated disagreement

Non-Fiction Writing	A piece of writing which is factual or real: examples are a newspaper article, speech or a letter.
Viewpoint	The views and ideas held by the writer.
Perspective	The particular attitude towards something (can shaped by time/place).
Attitude	The tone the writer adopts to emphasise or convey their ideas.
Methods	The ways in which the writer communicates their views and ideas.

Comparative Connectives

Compare	Contrast
Similarly, ...	On the other hand, ...
In the same way, ...	Whereas...
Equally, ...	In contrast to this, ...
Compared with ...	Unlike...
As with	Alternatively, ...

SQI STRUCTURE

Statement	Answers the question
	A clear point made
Quotation(s)	Precise and embedded
	Might group quotations
Inference	What is suggested/implied

Sentence Stems

Creates an image of...
Literally, this could illustrate...
Symbolically, this could mean...
Perhaps this is done to illustrate that the writer feels...
Emphasises the writer's point that...
Exemplifies the viewpoint that...

PAF

Purpose	Why are you writing? e.g. <i>To entertain, to inform</i>
Audience	Who are you writing for? e.g. <i>Young adults, children, teachers</i>
Form	What type of text are you going to write? e.g. <i>A recipe, an article, a story</i>

This Quotation

Illustrates	Reveals
Indicates	Symbolises
Highlights	Emphasises
Implies	Reinforces
Signifies	Reveals

Writing Techniques

Hyperbole	The use of extreme exaggeration.
Imagery	When the writer provides mental "pictures".
Irony	Like sarcasm, where the opposite is implied.
Juxtaposition	Two ideas together which contrast each other.
List (of three)	A number of connected items (three= effect).
Metaphor	Something is presented as something else.
Oxymoron	Contradictory terms together " <i>bittersweet</i> ".
Pathos	Language used to appeal to the emotions.
Personification	Giving human traits to something non-human.
Repetition	When a word, phrase or idea is repeated.
Semantic Field	A set of words from a text related in meaning.
Simile	Something is presented as like something else.
Symbolism	An idea is reflected by an object/character etc.

Year 8 Of Mice and Men – Knowledge Organiser

Language Subject Terminology

1. Word Classes

Noun	Identifies a person (girl), thing (wall), idea (luckiness) or state (anger).
Verb	Describes an action (jump), event (happen), situation (be) or change (evolve).
Adjective	Describes a noun (happy girl, grey wall).
Adverb	Gives information about a verb (jump quickly), adjective (very pretty) or adverb (very quickly).
Preposition	Describes the location of something, e.g. the pen was found under the table.

2. Sentence Structures

Simple	A sentence with one independent clause. <i>"She went to the shop."</i>
Compound	A sentence with multiple independent clauses. <i>"She went to the shop and bought a banana"</i>
Complex	A sentence with one independent clause and at least one dependent clause. <i>"Sometimes, when she goes to the shop, she likes to buy a banana."</i>

3. Language Techniques

Simile	Something is presented as like something else.
Metaphor	Something is presented as something else.
Imagery	When the writer provides mental "pictures".
Personification	Giving human traits to something non-human.
Alliteration	The occurrence of the same sound/letter at the beginning of words
Repetition	Repeating something to emphasises or reinforce.
Emotive Language	Words/phrases which appeal to the emotions.
Three Rule	Three words/phrases grouped together for effect.
Oxymoron	a figure of speech in which apparently contradictory terms appear in conjunction .
Juxtaposition	the fact of two things being seen or placed close together with contrasting effect.
Pathetic Fallacy	Giving human feelings and responses to inanimate things or animals.

4. Tier 2 Vocab

Juncture	A place where two or more things come together
Recumbent	Lying down; in a position of comfort or rest
Lumber	Move heavily or clumsily
Brusquely	In a blunt direct manner
Fraternal	Relating to brothers, or being friendly like brothers
Elaborate	Intricate or rich in detail
Pugnacious	Ready and able to resort to force or violence.
Gingerly	In a careful or cautious manner;
Apprehensive	Uneasy and worried
Disengage	Uneasy and worried
Profound	Release from something that holds fast or entangles.
Complacently	Showing intellectual penetration or emotional depth.
Poised	Marked by balance or equilibrium.
Cower	To crouch or curl up.
Marginalisation	The act of treating someone or something as if they are not important.
Aloof	Emotionally distant.
Meagre	Deficient in amount or quality.
Crestfallen	Brought low in spirit.
Console	Give moral or emotional strength to.

5. The Author—John Steinbeck

- He wrote the book ' Of Mice and Men' in 1936
- He came from Salinas, California
- Like 'Of Mice and Men' many of his books deal with the lives and problems of working people.
- Many of his characters in his books are immigrants
- who went to California looking for work or a better life.

Of Mice and Men

6. Characters

George	Small and quick, dark of face, with restless eyes and sharp, strong features"
Lennie	"A huge man, shapeless of face, with large pale eyes, with wide sloping shoulders"
Candy	His right hand is simply a stump because he lost his hand in a ranch accident.'
Curley	"He hates big guys. He's all time picking scraps with big guys"
Curley's Wife	She had full, rouged lips and wide-spaced eyes, heavily made up. Her fingernails were red.
Slim	"Slim's as good a skinner as I ever seen"
Carlson	A powerful, big-stomached man came into the bunk house.'
Crooks	"Crooks, the negro stable buck, had his bunk in the harness room"

7. Historical Information

The Roaring 20s
1930s Great Depression
Immigrant Workers
Black Rights Movement
The Wall Street Crash
The American Dream
The Dustbowl

8. Themes

Racism
Prejudice
Hope and Dreams
Loneliness and Companionship
Brutality and Dignity
Class
Gender

Year 8 Geography

Evolving Continents



Make sure you know the 'bare bones' of this unit.

Keywords:

1. Development gap: Difference in standards of living and wellbeing between the World's richest and poorest countries.
2. Development: The progress of a country in terms of economic growth, use of technology and human welfare
3. Ecotourism: Nature tourism usually involving small groups with minimal impact on the environment
4. Famine: Widespread, serious, often fatal shortages of food
5. Human Development Index: A method of measuring development where GDP per capita, life expectancy and adult literacy rates are combined to give an overview.
6. Inequalities: Differences between poverty and wealth
7. Infrastructure: The basic equipment and structures that are needed for a country or region to function properly.
8. Newly Emerging Economies (NEE): Countries that have begun to experience high rates of economic development, usually along with rapid industrialisation

Key facts:

1. More than 4.4 billion people live in Asia
2. There are 48 countries
3. The Yangtze River is the longest on this continent
4. The biggest lake is the Caspian Sea
5. There are more than 2300 languages spoken

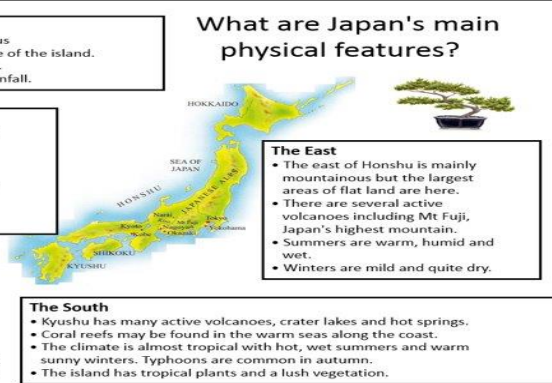


The North

- Hokkaido is remote and mountainous
- Snow capped peaks cover the centre of the island.
- Summers are relatively dry and cool.
- Winters are very cold with heavy rainfall.

The West

- The west of Honshu is mountainous with little flat land.
- The area is cut by deep, narrow valleys with steep sides.
- Short, fast flowing rivers flow down to the sea.
- Summers are warm and wet.
- Winters are cold and snowy.



What are Japan's main physical features?

The East

- The east of Honshu is mainly mountainous but the largest areas of flat land are here.
- There are several active volcanoes including Mt Fuji, Japan's highest mountain.
- Summers are warm, humid and wet.
- Winters are mild and quite dry.

The South

- Kyushu has many active volcanoes, crater lakes and hot springs.
- Coral reefs may be found in the warm seas along the coast.
- The climate is almost tropical with hot, wet summers and warm sunny winters. Typhoons are common in autumn.
- The island has tropical plants and a lush vegetation.

Q. Which of the four islands do you think would be best to live on?
Explain your choice [4]

Tourism in Thailand

1. Positives	1. Negatives
<ol style="list-style-type: none"> 1. Lots of jobs are available in bars, restaurants, hotels and as trekking guides and porters 2. Some villagers make money out of selling traditional cultural items 3. Tourism accounts for around 6% of Thailand's GDP 	<ol style="list-style-type: none"> 1. Modern hotels use lots of water and energy 2. Loss of local traditions as more Westernised tourists visit the area 3. Money paid to package holiday companies stays in the UK

Impacts of poverty on Yemen

- **Hunger and Malnutrition:** The U.N. estimates that approximately 80% of Yemenis are vulnerable to hunger. About 14.3 million need medical assistance to combat malnutrition along with other issues.
- **Water:** Almost 18 million Yemeni citizens simply have no access to clean water. UNICEF reports that only around 30% of the population uses piped drinking water services. Contaminated water results in many infant deaths.
- **Humanitarian Crisis:** The Yemeni rial, the official currency of Yemen, lost 75% of its value in the past four years. With a GDP of around \$27 billion, Yemen must rely on humanitarian aid.
- **Education:** As poverty in Yemen continues to worsen, about 2 million children remain out of school.
- **The Economy:** The World Bank reports that more than 40% of households lost their main source of income, placing people under the poverty line.

Why do some parts of Africa have slow economic development?

- Growth of population
- War and crises: Of the world's 20 war-related conflicts in 2013, 11 alone were fought on the African continent - all in sub-Saharan Africa.
- Climatic conditions: The African continent has been suffering more and more from climate change in recent decades: devastating floods and extraordinary drought periods lead to crop failures.
- Illnesses: Diseases such as AIDS, malaria or Ebola are the cause but also the result of poverty in Africa.
- Inadequate agricultural infrastructure: Roads, wells, irrigation systems, storage facilities, agricultural machinery - in many regions of Africa, agriculture lacks both infrastructure and expertise.

Year 8 Rivers

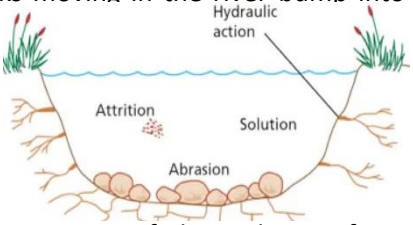
Make sure you know the 'bare bones' of this unit.



Keywords and River Processes

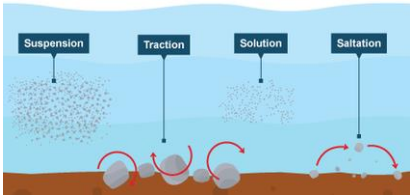
Sediment – rocks/small pieces of material in the river
Erosion – the river water wearing away the land

- Hydraulic Action** – water and air forced into cracks causing small explosions and rocks to break away
- Abrasion** – rocks rubbing off the riverbed /banks
- Solution** – weak acid in the river dissolves rocks
- Attrition** – rocks moving in the river bump into each other



Transportation - movement of the sediment from the upper to lower course

- Traction** – large rocks rolled along the riverbed
- Saltation** – rocks bounced along the riverbed
- Suspension** – smaller sediment floats along
- Solution** – tiny pieces of sediment gets carried in the river



Deposition – the river loses energy and drops the sediment it was carrying. This happens in the **lower course** due to friction between the river and the land.

Drainage Basin

Drainage basin - area of land drained by a river.

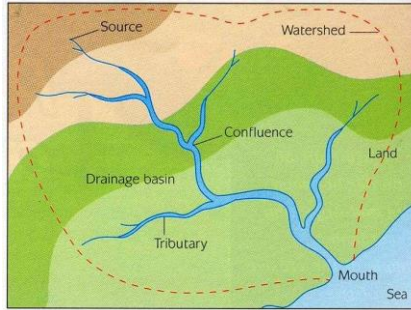
Source - Where the river starts, usually from a stream or spring high up

River Channel - Main dip in the land where the river water flows. The bottom is the river bed and the sides are the river banks.

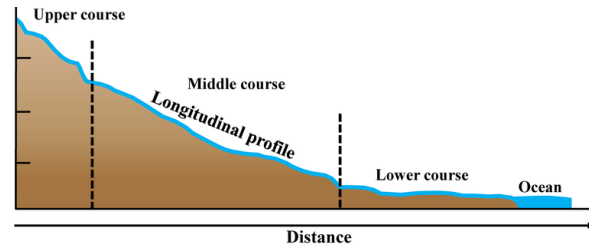
Tributary - A small river that joins the main river channel.

Confluence - The point where the smaller river meets and joins the main river.

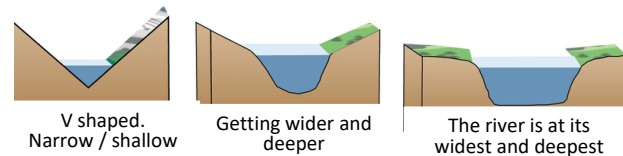
Mouth – end of the rivers journey where the river meets the sea



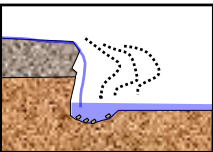
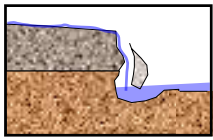
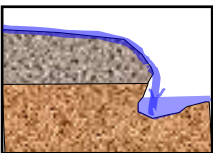
River Long Profile



The **long profile** is the journey the river takes from source to mouth and how the relief of the land changes



The **cross profile** is the shape of the river if you cut it in half



Waterfalls and Gorges

1. In the upper course, the river flows over **hard resistant rock and soft less resistant rock**. The soft rock is eroded by **abrasion and hydraulic action** and a small **plunge pool** forms.

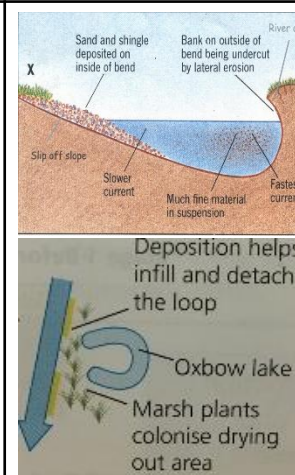
2. The overhanging hard rock is not supported so falls into the plunge pool.

3. The rocks in the plunge pool cause more **abrasion** and the plunge pool gets bigger and the overhang collapses again. Over time the waterfall **retreats** to leave behind a steep sided **gorge** on each side of the waterfall.

Meanders and Oxbow Lakes

Found in the middle course, meanders are a bend in the river. There is more erosion around the outside of the river bend as the river has more energy. There is deposition on the inside of the bend as the river has less energy.

The meander loop becomes tight because of lateral erosion. The river floods and takes a short cut straight across the meander. This repeats, river makes a new straight channel. The meander is cut off by deposited sediment to leave an oxbow lake.



UK Flood: Storm Desmond (2015)

In December 2015, 341mm of rain fell in 24hrs. This led to the flooding of Cumbria and in particular, the town of Cockermouth

Social Impacts:

43,000 homes were left without power
 5,200 homes were flooded

Economic Impacts:

Many businesses suffered through damage to property and stock
 The total cost was £500m

Environmental Impacts:

Heavy rain washed nutrients from soil.
 Vegetation was flooded causing habitat loss.



River Flooding and Management

Physical Causes (natural) – increased precipitation causes the ground to be saturated, there is more surface runoff so water returns to the river.

Human Causes – Urbanisation (towns and cities) are covered in impermeable surfaces causing water to quickly flow back to the river

Hard Engineering



Dams – giant wall across the river to stop / control the river flow

Soft Engineering

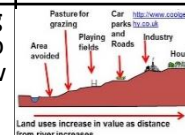


Afforestation- planting trees to absorb and soak up the rainwater

Channel Straightening

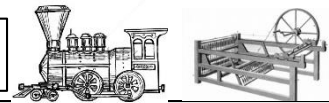


– straight river built to allow the water to flow quicker to reduce flooding



Flood plain zoning – areas near the river that are at risk are not built on

Year 8: The Industrial Revolution



Key Vocabulary	Definitions
Industrial Revolution	A complete change in how things were made. A time when factories replaced farming in the 18 th and 19 th century.
Manufacturing	make something on a large scale using machinery .
Textiles Industry.	A factory that produces a type of cloth or woven fabric.
Exhibition	a public display of works created by industries such as glass, steel, textiles and coal.
Working class	A group of people who are employed for wages , especially in manual or industrial work .
Coal Miners	Workers who dug out coal from underground to use to fuel machines.
Steam engine	A engine that uses steam as a means of power .
Locomotive	An engine used to pull trucks or passengers along a track .
Child labour	the employment of children in an industry considered as exploitative .
Overseer	A man in charge of workers in a factory. Like a manager .
Navvies	Workers employed to build roads, railways, canals and factory buildings.

Why was there an industrial revolution and what changes took place?

Between **1750-1900** the population of Britain exploded, going from 7 million to **40 million!** In 1750, most towns were small and people worked on farms or in their own homes. Peoples lives revolved around what they could grow. If there was a bad harvest your family could starve to death. Most families also made goods in their homes such as clothing and shoes and made little money from this. However, by 1900 the **invention** of better **machinery** saw people move from towns to cities filled with factories.

Factories used machinery that could produce goods at a faster rate than people could in their own homes. As a result, families would have to move from the countryside to new cities to work in factories as there was a promise of **regular work and pay**.

As factory owners started to build houses, churches, shops and inns for their workers, places that were previously tiny, clean towns became huge, dirty and **overcrowded** cities filled with poverty and crime!

What were working conditions like in a 19th Century cotton mill?

Conditions were awful! Factory owners cared about **profit** not safety of their workers. Machines were not fitted properly and were open. Many workers fingers would **be cut off**, or even worse, clothing caught in the machines saw many people get trapped in machines and mangled to death! Factories were so **noisy** that people often went deaf and the dust made people ill. They would be hot, sweaty and smelly as workers were not allowed long breaks and had to go to the toilet in a bucket at the end of each room. **Children as young as 5** would often go to work I factories also, they were **cheap labour** for owners.

Workers could often work **16 hour shifts** Factory owners would punish workers harshly. You could be heavily **fined** if you were saw talking or singing at your machine.



What was it like to work in a coal mine?

Coal was needed more and more after 1750 to heat homes and to power **steam engines**. The need for coal meant the need for more miners to dig deeper for coal. Mining was a **dangerous**

Job, the hours were long and pay was low. There were **many explosions** and accidents from mines caving in which killed thousands of men. Working in a mine was so dangerous that in Scotland, some criminals were given the choice of execution or working down a coal mine! Many miners would develop conditions such as **Black Lung**- coughing up black phlegm, **Nystagmus**- eyes which could not focus due to working in the dark and **Arthritis**.

How did the railway change peoples lives?

Steam engines first appeared in the 1700's. Inventors such as **George Stephenson** saw their chance to create money from the engine. Stephenson created the first locomotive that pulled coal along a track. This made transportation very quick. In **1825**, Stephenson created the first passenger railway line carrying passengers **from Darlington to Stockton**. The speed of the locomotive reached 12mph and people were so terrified they fainted! The railway connected the country together and allowed industries to expand. It created jobs, allowed food to reach across the country quickly, saw new towns develop, post could reach people quicker and even a standard time for the full country was introduced known as **Greenwich Mean Time**.

Easington Colliery

Work in Easington Colliery lasted between 1899 and May 1993. It was a large colliery with a workforce of around 2500 for most of its life. In May 1951, an explosion in the colliery killed 83 miners, the worst British mining disaster in the later twentieth century due to a coal cutting machine igniting gas at the coal face.

Timeline of Key Events

1716-Thomas Newcomen invented the first productive steam engine.

1764 James Hargreaves invented the Spinning Jenny.

1769- James Watt creates the steam engine

1800- 10 million tons of coal mined in Great Britain.

1825-George Stephenson creates steam engine locomotive that ran on rails.

1834 Poor Law created "poorhouse s" for the destitute.

1880 Education Act made school compulsory for children up to age 10

1901 This Factory Act raised the minimum work age to 12 years old.

Year 8 Topic 12 Charts and Averages Student Knowledge Organiser

Key words and definitions

Primary data – data collected first hand, in a survey or experiment

Secondary data – data collected by someone else

Discrete – can only take certain values, usually something you can count

Continuous – data that can be measured, can take any value

Average – a typical value for some data, see mean, mode and median

Distribution – how data is spread out, takes account of average & range

Averages

Mode

Most common

Mean

Sum of values
Number of values

Median

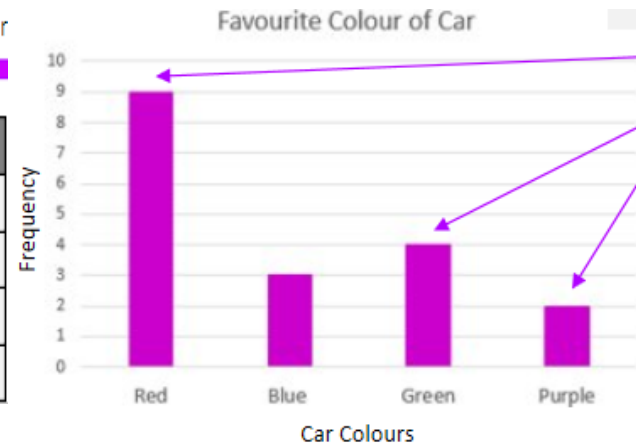
Middle value
in ascending order

Average	Advantages	Disadvantages
Mode	Every value makes a difference	Affected by extreme values
Mean	Not affected by extreme values	May not change if a data value changes
Median	Easy to find. Not affected by extreme values. Can be non-numerical	There may not be one. There may be more than one.

Tally Charts and bar charts

Complete a tally chart for the most popular colour of car
Red, blue, red, green, red, purple, red, green, red, purple, green, blue, red, green, blue, red, red, red

Colour	Tally	Frequency
Red		9
Blue		3
Green		4
Purple		2



The number of red, blue, green and purple cars is the frequency (height of the bars).

IMPORTANT

The bars are the SAME width

The gaps between the bars are the SAME width

Both axes are labelled

The graph has a title

Frequency starts at 0



Range

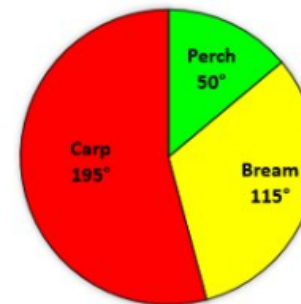
Range

Largest value – smallest value

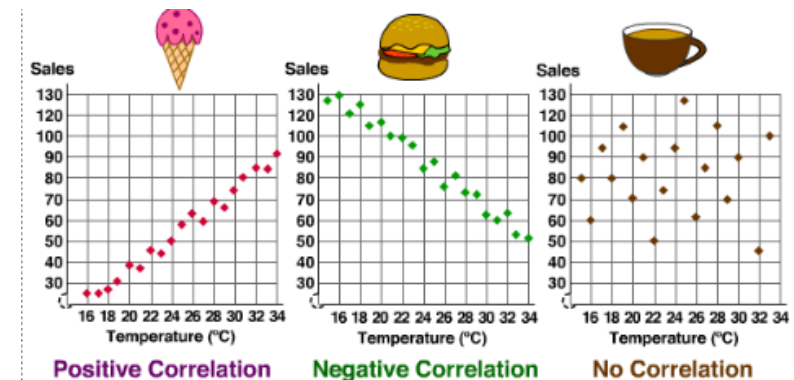
Pie chart

1	Sum (add up) the frequency	
2	$360^\circ \div \text{frequency}$	
	$360^\circ \div 72 = 5$	
3	Multiply each category x5 to find sector size	
Fish	Frequency	
Perch	10	$x 5 = 50^\circ$
Bream	23	$x 5 = 115^\circ$
Carp	39	$x 5 = 195^\circ$
TOTAL	72	360°
	$360^\circ \div 72 = 5$	

Draw an accurate pie chart to show this information.
This table give information about then number of fish in a lake.



Scatter graphs



Hegarty Maths Skills Links

Averages	404, 405, 406, 407, 408, 409, 410, 413
Tally and bar charts	401, 425
Scatter graphs	453, 454
Pie charts	427, 428, 429

Averages

1) Here are fifteen numbers.
10 12 13 15 15 17 19 20 20 20 21 25
25 25 25

- Find the mode.
- Find the median.
- Work out the range.

2) A rugby team played 7 games.
Here is the number of points they
scored in each game.
3 5 8 9 12 12 16

- Find the median.

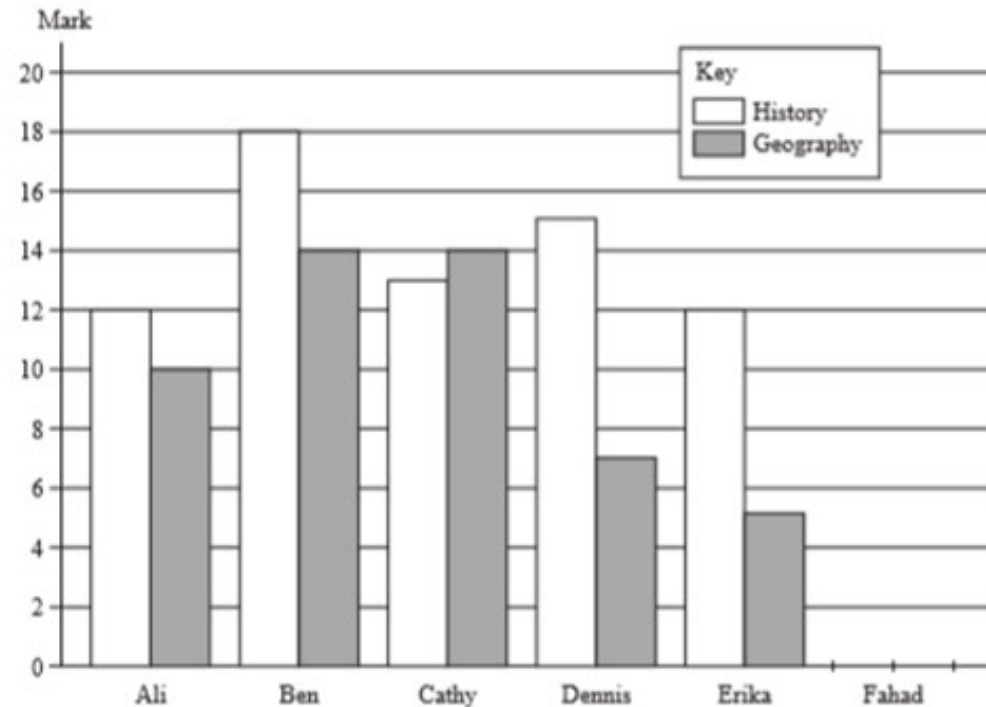
The rugby team played another game.
They scored 11 points.

- Find the median number of points scored in these 8 games.

3) The mean of eight numbers is 41
The mean of two of the numbers is 29
What is the mean of the other six numbers?

Bar Charts

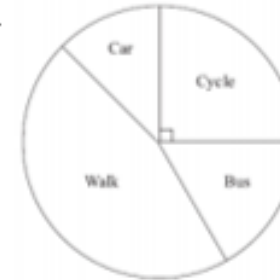
Six students each sat a history test and a geography test.
The marks of five of the students, in each of the tests, were used to draw the bar chart.



- How many marks did Ali get in his history test?
.....
- How many marks did Dennis get in his geography test?
.....
- One student got a lower mark in the history test than in the geography test.
Write down the name of this student.

Pie charts

Harry asked each student in his class how they travelled to school that day.
He used the results to draw this pie chart.

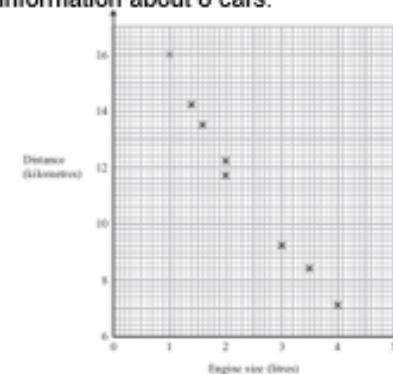


How did most of the students travel to school?

Harry asked a total of 24 students.
Work out the number of students who cycled to school.

Scatter Graphs

The scatter graph shows some information about 8 cars.



What type of correlation does the scatter graph show?

A car has an engine size of 2.5 litres.
Estimate the distance travelled on one litre.

Year 8 Topic 10 Graphs Student Knowledge Organiser

Key words and definitions

Coordinate – used to indicate the position of a point

Gradient – how steep the graph is

Y-intercept- where the graph crosses the y axis

Midpoint- the middle coordinate of the line segment

Axis – a fixed reference line for the measurement of coordinates

Horizontal – parallel to the plane of the horizon at right angles to the vertical.

Parallel- Lines which have the same distance continuously between them.

Coordinates

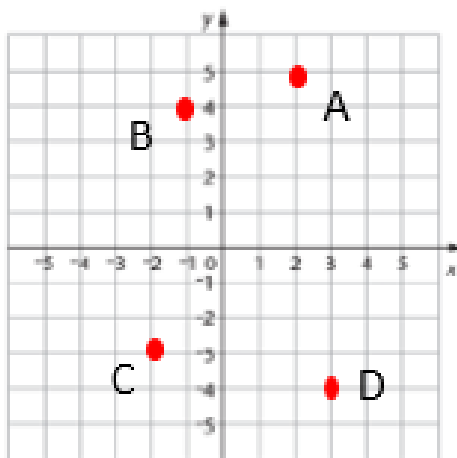
Always **write the X first** (across), then **Y** (up)

A (2 ; 5)

B (-1 ; 4)

C (-2 ; -3)

D (3 ; -4)



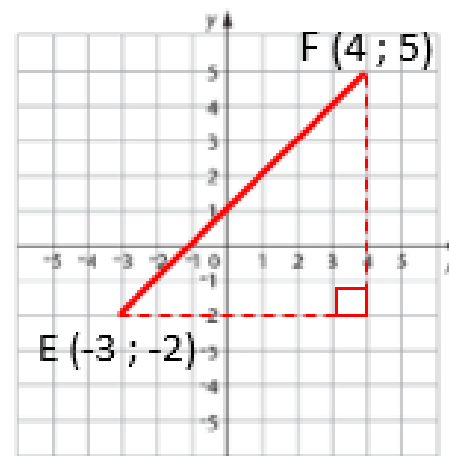
Midpoint

Add the two x values and $\div 2$

Add the two y values and $\div 2$

$$\frac{(-3 + 4)}{2} \quad \frac{(-2 + 5)}{2}$$

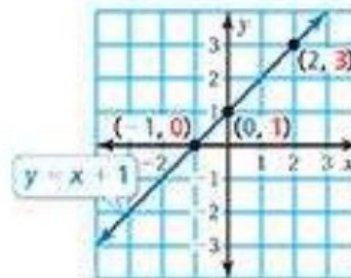
$$= \left(\frac{1}{2} ; \frac{3}{2} \right)$$



Linear graphs

- ▶ A **linear equation** is an equation whose graph is a line.
- ▶ The points on the line are **solutions** of the equation.

x	y	(x, y)
-1	0	(-1, 0)
0	1	(0, 1)
2	3	(2, 3)

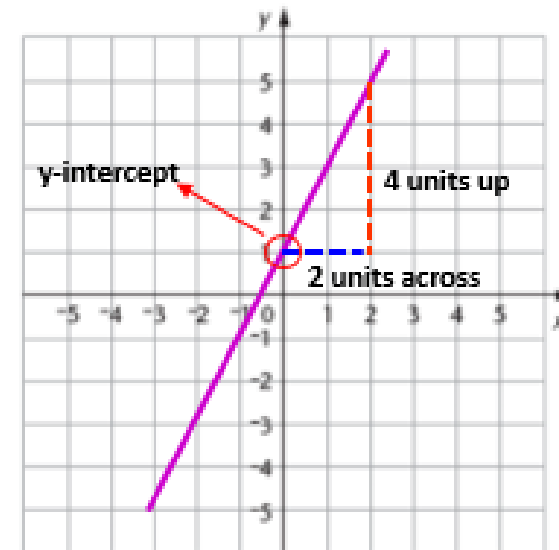


Gradient

$y = mx + c$ is the equation of a straight-line graph

\downarrow \downarrow
Gradient **y-intercept**

$$\text{Gradient} = \frac{\text{change in } y}{\text{change in } x} = \frac{4}{2} = 2$$



Equation is therefore $y = 2x + 1$

Hegarty Maths Links

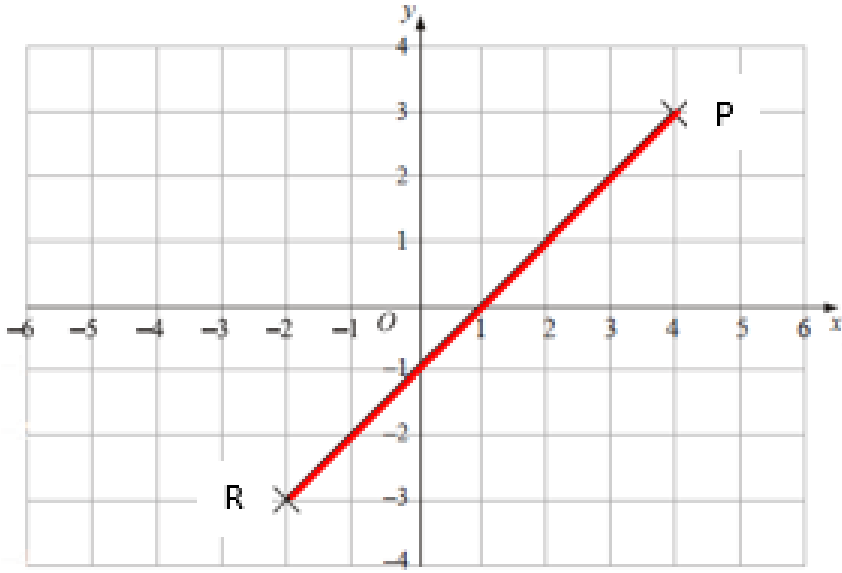
Coordinates - 199 -

Midpoints - 200

Linear graphs = 206, 207, 208, 209

Coordinates and midpoint

- 1a) Write down the coordinate of R and P
 b) Calculate the midpoint of the line segment RP

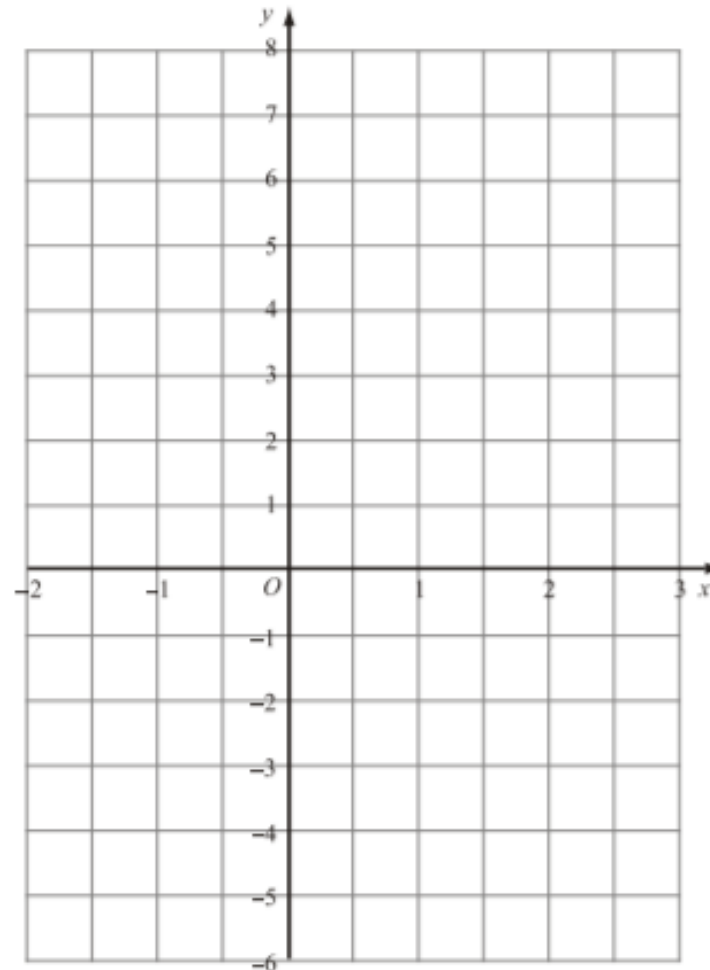


Linear Graphs

- (a) Complete the table of values for $y = 2x + 1$

x	-2	-1	0	1	2	3
y		-1	1			

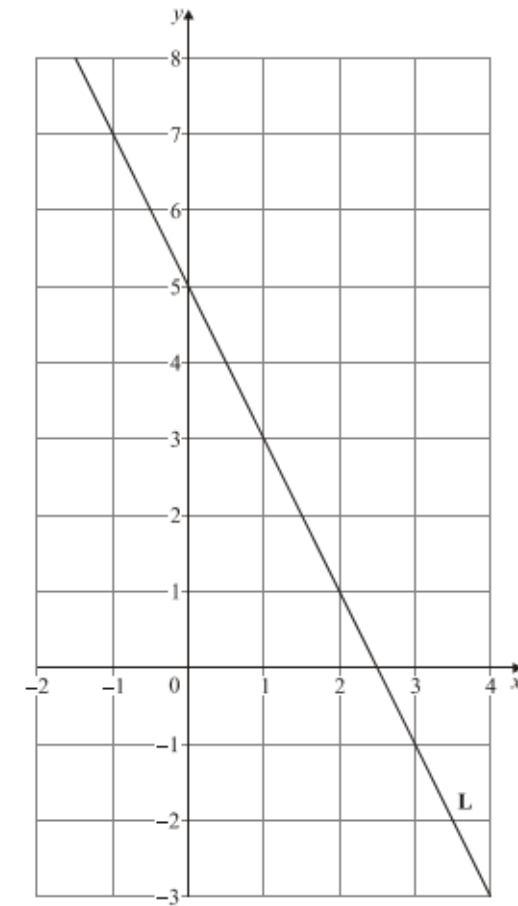
- (b) On the grid, draw the graph of $y = 2x + 1$



Equation of a line

The equation of a straight line is $y = 3x - 2$.

Write down the coordinates of the point where this line crosses the y -axis.



Find the equation of line L

Key words and definitions

Basic trigonometry is used to calculate **angles** and **side lengths** in **right-angled triangles**.

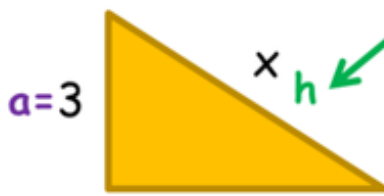
Trigonometry involves **three ratios**: **sine**, **cosine** and **tangent** which are abbreviated to: **sin**, **cos** and **tan**.

Hypotenuse- The longest side of a right-angled triangle. It is opposite the right angle.

Pythagoras – short side

Finding a hypotenuse

Always begin by identifying the hypotenuse. This is the longest side, and is always opposite the right angle.



$a=3$
 $b=5$

$$a^2 + b^2 = h^2$$

$$3^2 + 5^2 = x^2$$

$$9 + 25 = x^2$$

$$34 = x^2$$

$$\sqrt{34} = x$$

You might also want to label the other two sides with a and b (either way round).

Substitute the values then work out the left hand side.

Square root to "undo" the squaring operation.

Pythagoras – long side

Finding a short side



$$a^2 + b^2 = h^2$$

$$x^2 + 4^2 = 7^2$$

$$x^2 + 16 = 49$$

$$x^2 = 49 - 16$$

$$x^2 = 33$$

$$x = \sqrt{33}$$

Make sure you can rearrange formulae confidently!

Label the sides, write down the formula and substitute as before.

Subtract 16 so the left hand side reads $x^2 = \dots$

Square root to "undo" the squaring operation as before.

Trigonometry – Finding a side

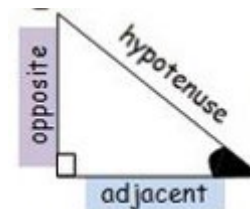
Steps:

1. Label the sides of the triangle (opp, adj, hyp)
2. Identify which trig identity? (sin, cos, tan)

SOHCAHTOA

3. Form an expression

e.g. $\sin \theta = \frac{\text{opp}}{\text{hyp}}$



4. Solve to find the unknown side

Trigonometry – Finding an angle

SOH
 $\sin \theta = \frac{O}{H}$

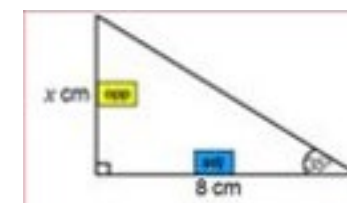
CAH
 $\cos \theta = \frac{A}{H}$

TOA
 $\tan \theta = \frac{O}{A}$

Cover the term you are looking for.

Example:
Using Cos ratio:

To work out 'A', cover A and my calculation is Cos θ x Hypotenuse



$$\tan A = \frac{\text{opp}}{\text{adj}}$$

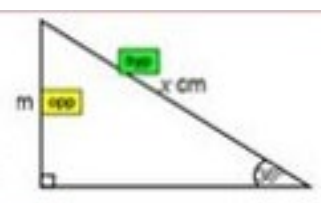
$$\tan 35^\circ = \frac{x}{8}$$

$$8 \times \tan 35^\circ = x$$

$$5.6016603 = x$$

$$5.6 \text{ cm} = x$$

Finding a side



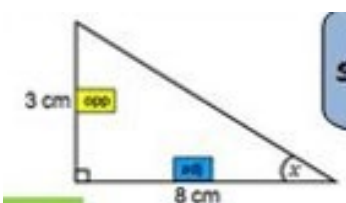
$$\sin A = \frac{\text{opp}}{\text{hyp}}$$

$$\sin 36^\circ = \frac{11}{x}$$

$$x = \frac{11}{\sin 36^\circ}$$

$$x = 18.7 \text{ cm}$$

Finding an angle



$$\tan x = \frac{\text{opp}}{\text{adj}}$$

$$\tan x = \frac{3}{8} = 0.375$$

$$x = \tan^{-1} 0.375$$

$$x = 20.556045$$

$$x = 20.6^\circ$$

Hegarty Maths Links

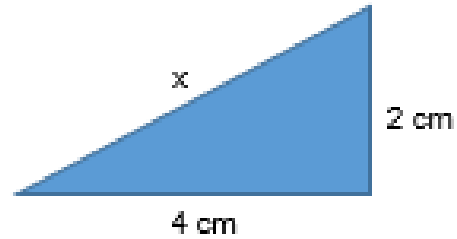
Pythagoras- 497, 498, 499

Trigonometry – 508, 509, 510, 511, 512

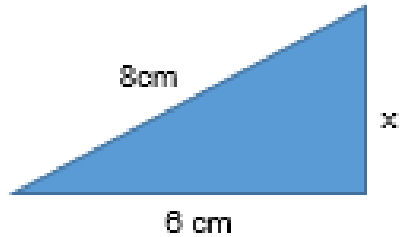
Pythagoras

Calculate the missing side

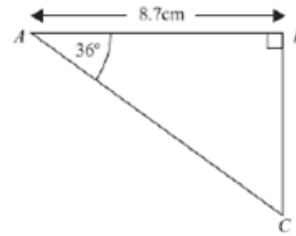
1)



2)



Trigonometry

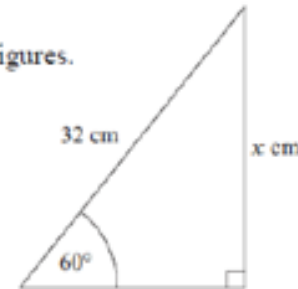


ABC is a right-angled triangle.

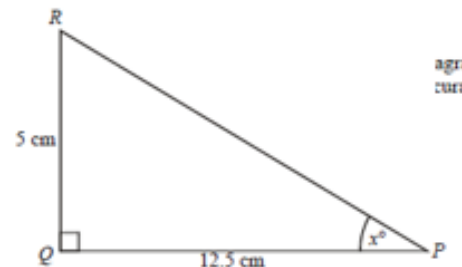
Angle $B = 90^\circ$.
 Angle $A = 36^\circ$.
 $AB = 8.7$ cm.

Work out the length of BC .
 Give your answer correct to 3 significant figures.

Calculate the value of x .
 Give your answer correct to 3 significant figures.



Calculate the value of x .
 Give your answer correct to 1 decimal place.

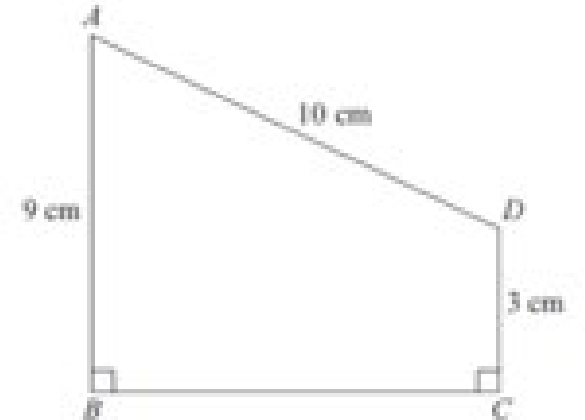


Apply your knowledge

$ABCD$ is a trapezium.

$AD = 10$ cm
 $AB = 9$ cm
 $DC = 3$ cm
 Angle $ABC = \text{angle } BCD = 90^\circ$

Calculate the length of AC .
 Give your answer correct to 3 significant figures.



Year 8 Topic 11 Sequences Student Knowledge Organiser

Key words and definitions

Sequence – A set of quantities ordered in the same manner as the positive integers.

Pattern – a set of numbers or objects in which all the members are related with each other by a specific rule.

nth term – a formula that enables you to find any number in a sequence of numbers.

Position-to-term – a rule that defines the value of each term in a sequence.

Term-to-term – is the difference between the numbers in the sequence

Linear – A number pattern which increases (or decreases) by the same amount each time

Using a term-to-term rule

Find the next term in the sequence 28, 37, 46, 55, 64, ...

① ② ③ ④ ⑤ ⑥

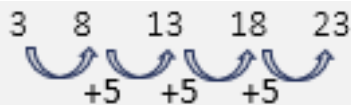
28, 37, 46, 55, 64, 73, ...

+9 +9 +9 +9 +9

← ARITHMETIC SEQUENCE

Answer 73

nth term of a linear sequence



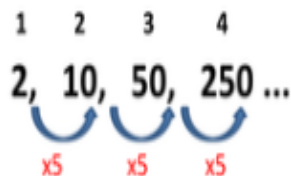
1. Find the *difference* between each term:
5
2. Always put 'n' next to it (n = term number)
5n
3. Add or subtract to get the first term in the sequence?
5 - 2 = 3

The n^{th} term is $5n - 2$

Geometric sequence

A geometric sequence is one where to get from one term to the next you multiply by the same number each time. This number is called the **common ratio, r**.

Eg



r=5

Sequences from patterns



Shape number	1	2	3	4	5	6	7	8	9	10	50
Number of matchsticks	3	5	7	9	11	13	15	17	19	21	101
Function rule	Number of matchsticks = Shape number \times <u>2</u> + <u>1</u>										

Finding missing terms

Find the missing terms and rule for: 48, __, 70, __, 92

48 \rightarrow 70 (2 jumps!) gives us: Add 22

So our rule for **one jump** is half this \rightarrow Add 11 (common diff = +11)

Number after 48 $\rightarrow 48 + 11 =$ **59**

[CHECK: 59 $\rightarrow 59 + 11 = 70!$]

Number after 70 $\rightarrow 70 + 11 =$ **81**

Hegarty Maths Links

Linear sequences from pictures- 196

Term to term rule – 197

Nth term - 198

Geometric Sequences - 264

Year 8 Sentence Builder 8
Technology – describing devices

				cher (expensive)
		grand (big)		haut de gamme (top of the range)
		petit (small)		bon marché (cheap)
	un	nouveau (new)		utile (useful)
J'ai [I have]	[a/an]	vieux (old)	portable [phone]	facile (easy)
Il a [he has]		bon (good)		compliqué (complicated)
Elle a [she has]		mauvais (bad)		pratique (practical)
				vite (fast)
Nous avons [we have]	le meilleur (the best)			lent (slow)
	le pire (the worst)			
				chère (expensive)
J'utilise [I use]		grande (big)		haute de gamme (top of the range)
		petite (small)		bon marché (cheap)
Il utilise [he uses]	une	nouvelle (new)		utile (useful)
Elle utilise [she uses]	[a/an]	vieille (old)	tablette [tablet]	facile (easy)
		bonne (good)		compliquée (complicated)
Nous utilisons [we use]		mauvaise (bad)		pratique (practical)
				vite (fast)
	la meilleure (the best)			lente (slow)
	la pire (the worst)			

Year 8 Sentence Builder 9
Weather and activities

Quand [When]	il pleut [it rains]		jouer [to play]	au foot /au tennis [football/tennis] aux jeux-vidéo [video games]
	il neige [it snows]	j'adore [I love]	faire [to do / to go]	une promenade [a walk] mes devoirs [my homework]
	il fait beau [it is nice]	j'aime [I like]	rester [to stay]	chez moi [at home] dans mon lit [in bed]
	il fait chaud [it is hot]			
	il fait froid [it is cold]	je n'aime pas [I don't like]	aller [to go]	à la plage [to the beach] à la campagne [to the countryside]
	il y a du soleil [it is sunny]	je déteste [I hate]	regarder [to watch]	la télé [the TV] un film [a film]
	il y a du vent [it is windy]		boire [to drink]	un chocolat chaud [a hot chocolate] plus d'eau [more water]
	il y a des nuages [it is cloudy]	je préfère [I prefer]		
	il y a du brouillard [it is foggy]		porter [to wear]	une écharpe [a scarf] un short [shorts]

MUSIC

Year 8 Term 2 - Loops and Samples

What is Hip-hop?



Hip-hop music focuses on rhythm rather than melody and harmony. It is characterised by:

- rapping
- use of samples
- use of programmed beats
- DJing

What is Rapping?



Rapping is rhythmical, rhyming, semi-spoken recitation. Often the lead vocal is joined by another member of the group who:

- doubles the last word of some lines
- adds answering phrases
- adds spoken ad libs

Hip-hop Key Terms

Key Term	Definition
MC	Master of Ceremonies, another term for a rapper.
Sampling	Taking a portion, or sample, of one sound recording and reusing it as an instrument or a sound in a different song.
Beat	The pulse/heart rate of the music.
Bass Line	The low-pitched instrumental part or line played by a low pitched instrument.
Beatboxing	Vocal percussion primarily involving the art of mimicking drum machines with the mouth.

Origins and History of Hip-Hop



• Rap, as it is known today, began in New York. When Jamaican sound system culture arrived there in the late 1970s, it had a history of MCs toasting - speaking over tracks played by the DJ - to entertain the crowd and keep them engaged. From this, a new style of music emerged, known as hip-hop.



• Hip-hop gave the world some of the first popular rappers, along with beats made by DJs scratching and cutting together parts of records.

• A whole culture was created around hip-hop, with graffiti art and B-boys dancing to the music.



• Rappers combined rhymes with beats to make entertaining music for parties. These lyrics would often brag about being the best MC, and rap battles became a way for two MCs to decide who was the crowd's favourite.

• As rap progressed, rappers moved from simple rhymes to more complex lyrical patterns, including poetic techniques like internal rhyming or assonance. Rakim and Big Daddy Kane were some of the first artists to use this more lyrical style, which paved the way for global superstars like Tupac, Biggie Smalls, Nas and Jay-Z.



• Rap broke through into the UK in the 1970s and 80s. The London Posse and the Cookie Crew were two successful early British rap groups.

Key Hip-hop and Rap Artists

Post Malone, Khalid, Drake, Lil Nas X, Travis Scott, Juice WRLD, DaBaby, Cardi B, Lil Baby, Meek Mill, Chris Brown, Lil Wayne, Kanye West, Jay-Z.

Relationships and Consent

Online Safety

Y8 – Personal Safety Knowledge Organiser

P4L

Gambling

Consent is when we agree by choice and have the freedom and capacity to make that choice. People may appear to consent due to force or pressure and this is unacceptable.

There are many verbal and non-verbal cues we can use to give or deny our consent and it is important to recognise these in someone else and stop if that person is uncomfortable.

Keyword	Definition
Cyberbullying	Using digital media to continually harm and humiliate others
Trolling	Provoking others with off-topic and offensive posts on message boards
Malware	Malicious software that damages a device using viruses
Phishing	Illegally acquiring sensitive information by pretending to be trustworthy
Grooming	Establishing an emotional connection with the intention to harm
Sexting	Sending explicit sexual images via digital media.
Spamming	Sending multiple unsolicited messages to a user for advertising.
Happy Slapping	Recording physically assault and putting it online

There are many dangers online. It is important to manage our online behaviour to ensure we keep ourselves and others safe. We need to be aware that we leave a digital footprint behind and that, even with privacy settings, what we share is not always private. This can make us easy to trace and what we share which can impact our safety, future job prospects and relationships.

Gambling is a high-risk activity that is undertaken with the hopes of (normally financial) success. It includes things like the lottery, card games, horse racing and even bets between friends. All gambling activities are illegal if you are under 16. It is easy to become addicted to gambling as it changes the chemistry in our brain to give us a rush. Below are some of the signs that gambling is becoming a serious problem and you should seek support.

- Signs of consent:**
- Nodding head
 - Smiling and laughter
 - Pulling someone closer
 - Direct eye contact
- Signs of no consent:**
- Turning away
 - Pushing away
 - No eye contact
 - Crossing legs

ONLY YES MEANS YES!

Consent is... @kidehelpline

- Mutual** - You both need to agree, every single time
- Freely given** - A choice you make without pressure, guilt or threats
- Informed** - You understand what's about to happen
- Certain and clear** - It's a YES, not a 'maybe' or 'I think so' or 'I guess so'
- Enthusiastic** - You're excited and WANT to do the sexual activity
- Reversible** - You can stop or change your mind at any time
- Specific** - Saying yes to one thing doesn't mean yes to everything
- Ongoing** - You need it before and during the activity, as well as next time

It is also important to be aware of healthy and unhealthy relationship behaviours and seek support if you feel unsafe.

Healthy:
Compliments, enjoying success of others, kindness, respecting opinions, emotional support, loyalty, acceptance of spending time apart.

Unhealthy:
Name calling, constant criticism, breaking things in anger, making decisions for others, not accepting no, mocking interests, jealousy, obsessive behaviours, preventing time with others.

SUPPORT

CHILDLINE
0800 11 11

GAMBLEAWARE
www.begambleaware.org
NSPCC – FGM Helpline
0800 028 3550
Victim Support
0808 16 89 111

S A F E Keep your personal information safe! If you wouldn't say it to a stranger on the street, don't share it with strangers on the internet...Don't forget to check your privacy settings!

M E E T I N G Online games and social media can be a great place for chatting to your friends. Always know who you are talking to. If an adult who you don't know ever asks you to meet up, say no and report it...

A C C E P T I N G Think before you accept something from someone online e.g. a file, a download, a picture etc. It may contain a virus. If you don't know who it's from, and it has an attachment... DELETE IT!

R E L I A B L E Not everyone online is trustworthy. Somebody may be lying about their age and who they are. Be sure you know who you are talking to and use secure sites and services to protect you and your computer.

T E L L Tell a parent, carer or trusted adult if someone, or something makes you feel worried or uncomfortable online. Also, tell someone if a friend of yours needs help online too. Be sure to report inappropriate content.

Gangs and Weapons

There is no law to say you can't be in a gang. However, you are more likely to engage in criminal activity if you are a member of a gang.

Young people join gangs for many reasons including:

- Respect and status
- A sense of belonging or protection
- Escape poverty or for financial gain
- Peer pressured into it, or it is a family tradition

However, there are many consequences including:

- Increased chance of involvement in carrying, selling, and taking drugs.
- Increased chance of serious injury and death
- More likely to go to prison
- Getting a criminal record which can harm future job prospects and travel.

FGM

FGM stands for **Female Genital Mutilation**. It is a harmful procedure that happens to young girls between infancy and 15. It is sometimes referred to as 'cutting' and involves removing or changing part of the clitoris or labia. **It is illegal in the UK and many other countries.** It is also illegal to take a girl from the UK for this procedure. It has no health benefits and is not part of any religion. It is a violation of the human rights of young girls and women. FGM is unsafe and can cause lasting damage to the victim. Victims may not seek support through fear of getting loved ones into trouble or embarrassment, but it is essential that anyone at risk is identified and protected from harm.

Y8 Making Moral Decisions – P4L

How do Christians make moral decisions?

- The Bible:** guidance from God on how to live a good life and will use that for advice when making decisions e.g. 10 Commandments.
- The example of Jesus:** Is a role model; they look at how he acted in the stories in the Bible and try to follow his lead. For example, in a story where a woman was caught in adultery, Jesus forgave her and did not punish her.
- The parables that Jesus taught:** Jesus taught stories called parables which had a message about how to behave, for example 'The parable of the Good Samaritan'. This tells Christians to treat all people equally regardless of where they came from.
- Church leaders:** Priests, vicars etc who are all there to support Christians and offer advice and guidance.
- Prayer:** Is a way of communicating with God. They will often use prayer to ask God for advice.
- The Golden Rule:** Christians believe that Jesus taught that people should 'treat others how they want to be treated'. Christians will try to apply this to their moral decision making.
- Agape – Situation Ethics:** 'selfless sacrificial love'. Christians try to follow Jesus' teaching to 'love one another as I have loved you' and show 'agape' love to others when making moral decisions.
- Conscience:** God has provided an innate (in-built) way of deciding what is right and wrong called a 'conscience'.

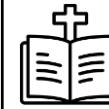
Strengths and weaknesses of theories

Bible: The word of God however doesn't contain advice on modern day issues

The conscience: Accessible to all however there is no evidence the conscience exists

The Church: Centuries of experience however some church teachings are outdated e.g. divorce is wrong

Situation ethics – Agape: The greatest commandment of Jesus however love is subjective



Utilitarianism

- Hedonistic - it is centred around pleasure
- Jeremy Bentham stated you should choose the outcome that best maximises pleasure and minimises pain.
- 'The **greatest happiness for the for the greatest number**'

Humanism

Humanists believe we should use **empathy, compassion, reason, and respect for the dignity of others** to decide for ourselves what is right and wrong

Humanists use a number of **ethical principles** to help guide them when deciding how to act.

- The Golden Rule (Treat others how you want to be treated)
- Avoiding harm
- Maximising happiness and minimising suffering (Utilitarianism)
- Imagining if everyone acted in the same way
- Treating people understanding the consequences of your actions

Key Words

Moral Questions	Questions that ask about whether something is right or wrong.
Utilitarianism	Is a theory of morality that promotes actions that foster happiness and oppose actions that cause unhappiness
Humanism	A non-religious philosophy, based on liberal human values
Situation Ethics	We should follow the rules until we need to break them for reasons of love. We should always do the most loving thing in any situation
Parable	Stories in the Bible; with a message of how to behave
Church	Place of worship for Christians

Y8 Social Injustice – P4L

Social Injustice?

- Injustice occurs when people increase or cause unfairness.
- In some countries people are not allowed to openly express opinions about their governments, not allowed to follow a religion of their choice, breakdown in law in order, terrorism, mass unemployment, huge gap between rich and poor etc.

How do Christians promote social justice?

Parable of the sheep and goats

The sheep are justified because they took care of the vulnerable, whereas the goats are cast into hell because they lacked the compassionate heart of Jesus in caring for the vulnerable.



Christians who have fought for social justice

Martin Luther King: Used non-violent methods. Started the civil rights movement putting an end to segregation and achieving equality.

Mother Teresa: Helped the poor, the starving and unfortunate. She helped contribute towards hospitals and orphanages.

Jesus as a role model

Sermon on the Mount: According to Jesus, God gives his blessing to: the meek – meaning humble people, those who make peace and those who show mercy to others.

Golden Rule: ‘Treat others as you would like to be treated’.

The Good Samaritan: The Samaritans were hated by Jews. Yet the Samaritan still helped. ‘Love your neighbour as yourself.’ ‘love your enemies’

The 10 Lepers: This miracle shows Jesus’ attitude towards people who were marginalised by others in society. Jesus shows no prejudice towards the leprosy sufferers and is willing to heal them.

Human rights

- It has been said, that in order to survive, a human has 5 basic needs: Air | Clean Water | Food | Shelter | Sleep
- There are people who don’t have these 5 basic needs provided for and, people are mistreated and abused for all kinds of reasons: Religious | Political | Monetary Gain
- The United Nations set out, in their Declaration of Human Rights Act, the things that everyone has a right to.

Importance of human rights

- Respect for the equal importance of every human being is the only way the world will have freedom, justice and peace.
- All member countries of the United Nations have promised to work together to respect human rights and freedoms.

Should we stand up for human rights?

- Sends an important message that as a society, we are not willing to tolerate inequality
- Tackles injustice

However

- It could make you a target to others
- Might cause you to go against the law



Wealth and Poverty

Causes of poverty

Climate, natural disasters, debt, war, lack of education, family circumstances etc.



Christian response to wealth and poverty

- *‘... for the love of money is the root of all kinds of evil’.*

Christianity teaches that there is nothing wrong with wealth in itself. What is wrong is desiring or craving wealth.

- *‘I tell you, whenever you did this for one of the least important of these followers of mine, you did it for me!’*

Jesus taught that people should help those in need - whether they are hungry, thirsty, sick or alienated from society. To help those in need is the same as helping Jesus.

- **Parable of the Rich Man & Poor Man**

Worldly and earthly possessions are of no benefit in the afterlife. Those who have suffered on Earth will receive their reward in Heaven

- **Charity work**

Salvation Army and Christian Aid help in practical ways to end poverty e.g. food banks.

Key Words

Social Justice	Ensuring that society treats people fairly whether they are poor or wealthy and protects people’s human rights
Human Rights	The basic rights and freedoms to which all human beings should be entitled
Role model	Someone that people can look up to to help them decide how to behave
Relative Poverty	Relates to what a particular society considers to be poor. For example, someone in the UK might be considered to be relatively poor if they live on less than the average UK income
Absolute Poverty	Is when someone does not have access to basic human needs such as water, clothing, education and shelter

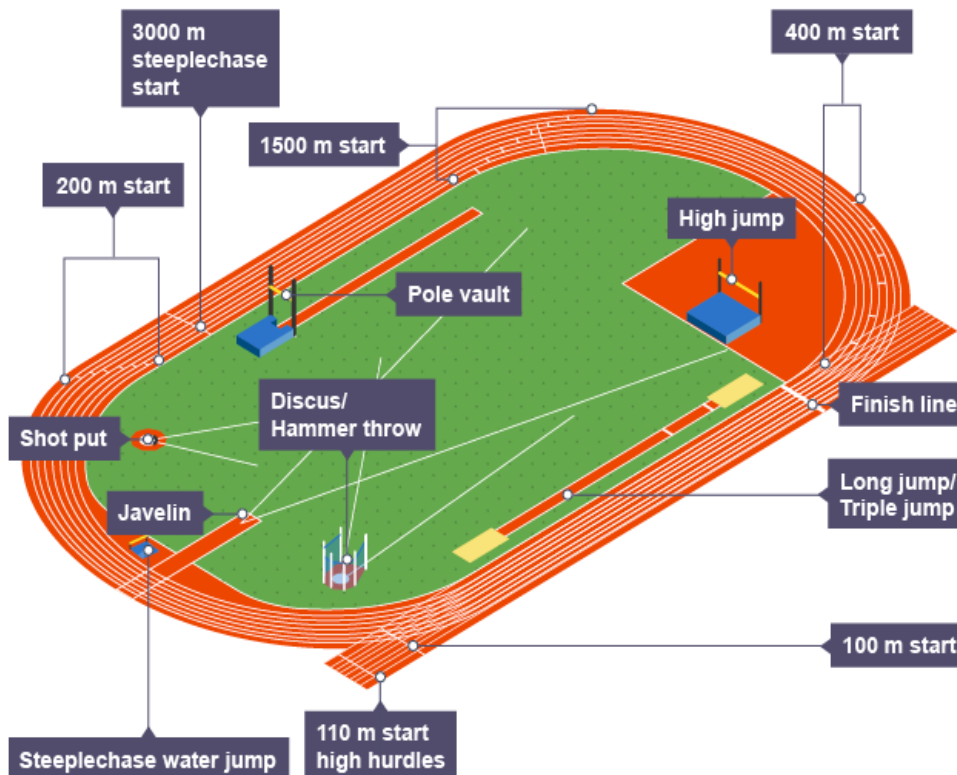
Y8 Subject Knowledge Organiser

Athletics – Competition, Scoring & Officials

Competition

Athletics is a collection of sporting events that consist of the three major areas of running, jumping and throwing. The running events include sprints, middle and long-distance events and hurdling. Jumping events include the long jump, high jump, triple jump and pole vault, while the throwing events include the discus throw, hammer throw, javelin throw and shot put. There are also combined events, such as the decathlon for men, which consists of ten events, and the heptathlon for women, which consists of seven events.

Shown below is a typical competition area for athletics.



Scoring

Success in athletics is judged on times and distances rather than points or goals.

Track events – These races are started with an electronic pistol which is only sounded again on a false start. In races that are very close, officials use a digital line-scan camera across the finish line to give them a photo finish picture. The clock stops when an athlete has passed through the finish line.

Jumping events – These events are measured from the front edge of the take-off board to the first mark made in the sand by the athlete. The distance is always measured to the nearest centimetre and athletes will always be given a minimum of three jumps.

Throwing events – These events are measured from the front edge of the throwing line to the first mark made in the ground by the implement. The distance is always measured to the nearest centimetre and athletes will always be given a minimum of three attempts.

Officials

An athletics competition requires a wide range of officials. These include:

Starter – Starts all track events.

Starter's marshals – Line up competitors in correct order ready for starting.

Timekeepers – Provide official times for all track competitors.

Place judges – Ensure the correct order of positions are given.

Field event judges – Measure, record and let athletes know when it is safe to compete.

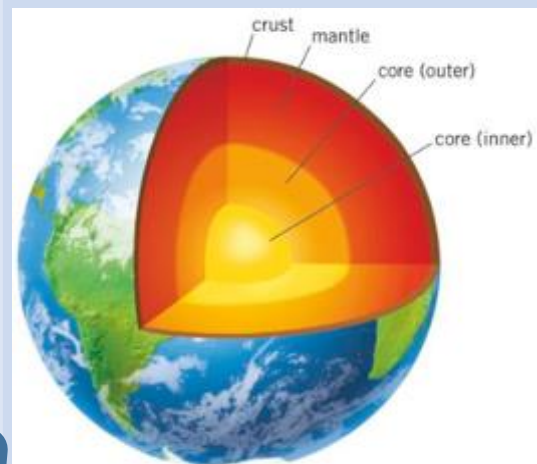
Relay judges – Make sure runners at change-overs are in the correct lane and within the change-over box.

Knowledge Organiser - Year 8 - Earth and Atmosphere

1. Key Words!

- Rock cycle:** Sequence of processes where rocks change from one type to another.
- Weathering:** The wearing down of rock by physical, chemical or biological processes.
- Erosion:** Movement of rock by water, ice or wind (transportation).
- Minerals:** Chemicals that rocks are made from.
- Sedimentary rocks:** Formed from layers of sediment, and which can contain fossils. Examples are limestone, chalk and sandstone.
- Igneous rocks:** Formed from cooled magma, with minerals arranged in crystals. Examples are granite, basalt and obsidian.
- Metamorphic rocks:** Formed from existing rocks exposed to heat and pressure over a long time. Examples are marble, slate and schist.
- Strata:** Layers of sedimentary rock.
- Porous:** Something that allows water to pass through it.

2. Structure of the Earth



The Earth is made of 3 layers:

Crust	Relatively thin outer layer made of solid rock.
Mantel	Mostly solid but deep down it can flow very slowly (like a liquid).
Core	Made from iron and nickel. The outer core is liquid and the inner core is solid.

The Earth's crust, its atmosphere and oceans are the only sources of the resources that humans need.

3. Sedimentary Rocks

Properties: small round grains in layers, porous, soft, scratch easily and may contain fossils.

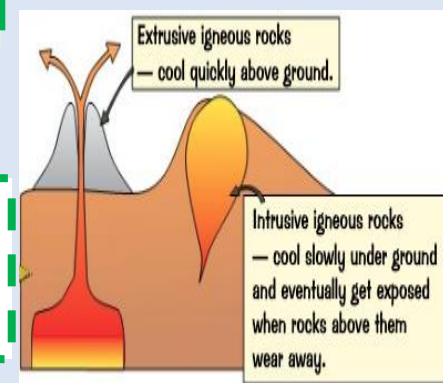
- 1. Weathering:** Rocks are broken down into smaller pieces called sediments.
- 2. Erosion and transport:** Wearing down of sediments and moving away from the original rock.
- 3. Deposition:** Sediments stop moving and settle in one place. Sediments build up and form layers (strata). Fossils can form here.
- 4. Compaction:** The weight of sediments above squashes together the sediments below and water is squeezed out.
- 5. Cementation:** Minerals crystallise gluing grains together.

4. Igneous Rocks

Properties: interlocking crystals in a disorderly arrangement, do not contain any fossils (fossils in the original rock will have melted when the rock melted to form magma), hard and strong/durable.

Formed when molten (liquid) rock called **magma** cools and **solidifies**. The size of the crystals depends on how quickly the molten magma solidifies:

- Lava that **cools quickly** above ground will form an igneous rock with **small** crystals. These are known as **extrusive** igneous rocks e.g. obsidian and basalt.
- Magma that **cools slowly** below ground will form an igneous rock with **large** crystals. These are known as **intrusive** igneous rocks e.g. granite and gabbro.

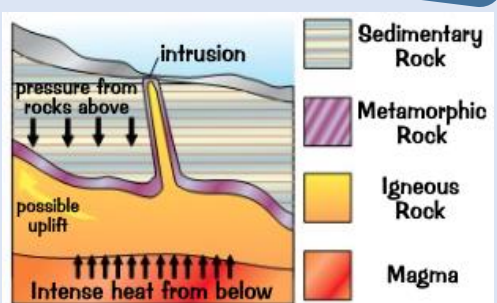


5. Metamorphic Rocks

Properties: tiny interlocking grains arranged in layers, rarely contain any fossils, (would not normally survive the heat and pressure), not porous, dense and hard.

Formed from other rocks that are changed because of **heat or pressure**. They are **not** made from molten rock.

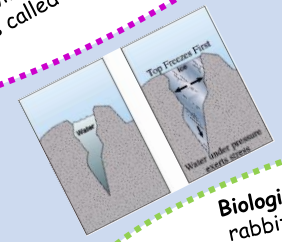
Earth movements can cause rocks to be deeply buried or squeezed. As a result, the rocks are heated and put under great pressure. They do not melt, but the minerals they contain are changed chemically (their particles rearrange).



6. Weathering

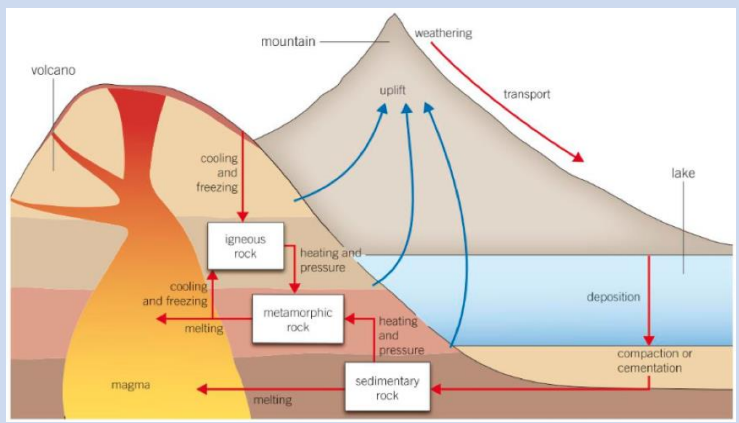
Physical: When it is hot, minerals in rocks expand (get bigger). When they cool they contract (get smaller). This can cause the rock to crack. It can cause sheets of rock to peel off. This is called **onion-skin weathering**. If water gets trapped in rocks it freezes and expands, forcing the rock apart. The water melts and can run further into the crack. If this freezes again, the crack will get bigger and bits may break off. This is called **freeze-thaw action**.

Chemical: Weathering of rocks by chemicals. Rainwater is naturally slightly acidic because CO₂ from the air dissolves in it. Minerals in rocks may react with the rainwater, causing the rock to be weathered. Also caused by acid rain.



7. The Rock Cycle

The Earth's rocks do not stay the same forever. They are continually changing because of processes such as weathering, erosion and large earth movements. The rocks are gradually recycled over millions of years. This is called the **rock cycle**.



Uplift happens when huge forces inside the Earth pushes rock upwards

8. Further Reading

General	https://www.bbc.com/bitesize/topics/z3fv4wx
The Earth	https://www.youtube.com/watch?v=Cn8Rdujngws
Rocks	https://www.youtube.com/watch?v=CeuYx-AbZdo



8. Key Words!

Knowledge Organiser - Year 8 - Earth and Atmosphere

9. Composition of the Atmosphere

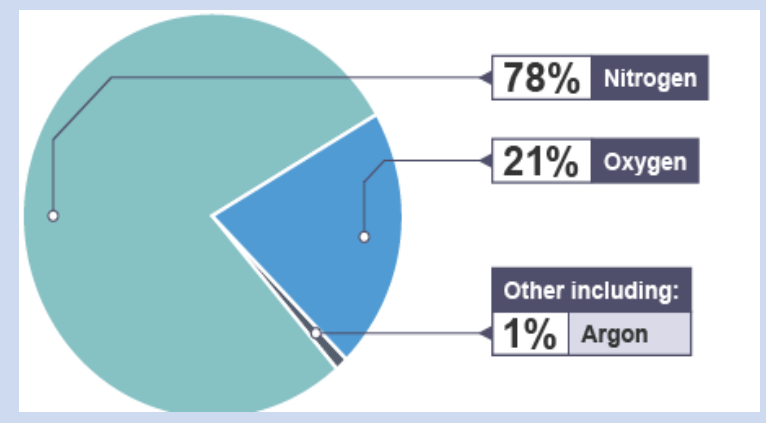
Global warming: The gradual increase in surface temperature of the Earth.

Fossil fuels: Remains of dead organisms that are burned as fuels, releasing carbon dioxide.

Carbon sink: Areas of vegetation, the ocean or the soil, which absorb and store carbon.

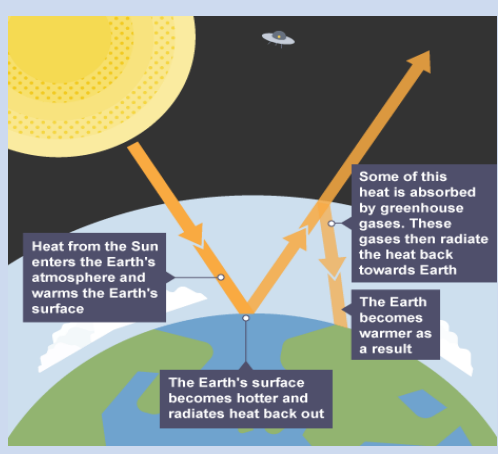
Greenhouse effect: When energy from the sun is transferred to the thermal energy store of gases in Earth's atmosphere.

Natural resources: Materials from the Earth which act as raw materials for making a variety of products.



The Earth's atmosphere is the relatively thin layer of gases that surround the planet. It provides us with the oxygen we need to stay alive.

10. Greenhouse Effect



- 1 The Earth is warmed by light from the Sun.
- 2 The Earth produces infrared radiation.
- 3 Some infrared radiation escapes into outer space. Some is trapped/absorbed by greenhouse gases.
- 4 The Earth maintains a temperature suited to life
- 5 Greenhouse gases in the atmosphere increase.
- 6 More infrared radiation is trapped and the Earth's temperature increases.

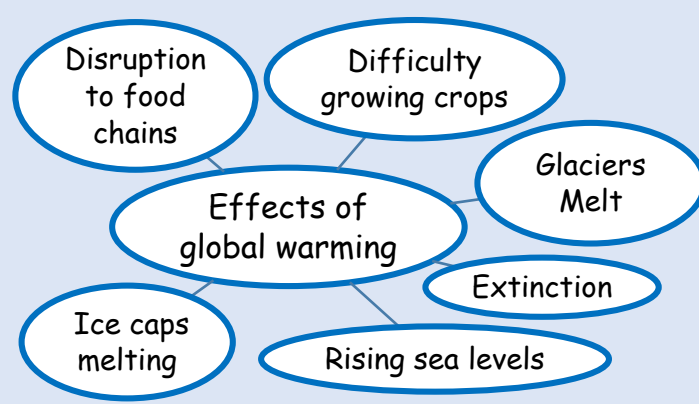
11. Global Warming

Extra greenhouse gases in the atmosphere causes global warming. Global warming can cause:

- Changes changes to local weather patterns
- Increased rainfall and floods
- Droughts and heatwaves leading to crop failure

Humans are contributing to global warming by:

- Burning fossil fuels to generate electricity
- Deforestation to make space for crops and cattle
- Farming animals for products such as meat.



We can reduce these effects by burning fewer fossil fuels and using more renewable energy sources, plant more trees and eating less meat.



12. Climate Change

13. Recycling

Recycling reduces the need to extract resources.

Advantages
Limits the consumption of the Earth's natural resources and uses less energy than obtaining materials from scratch.

Disadvantages
Lorries collecting rubbish burn fossil fuels contributing to global warming and the process is expensive.

Materials are collected and taken to a recycling plant

Items are washed, and labels are removed

Items are compressed and shredded

Melting, cooling and remoulding.

General	https://www.bbc.com/bitesize/topics/z3fv4wx
Carbon Cycle	https://www.youtube.com/watch?v=r75NL3gN5yU
Global Warming	https://www.youtube.com/watch?v=oJAbATJCugs
Recycling	https://www.youtube.com/watch?v=b7GMpjx2jDQ
Extracting Metals	https://www.youtube.com/watch?v=fxBIgbRT8fw

14. Further Reading



1. Key Words!

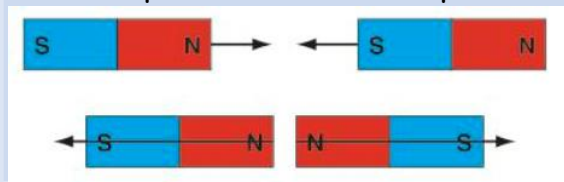
Knowledge Organiser - Year 8 - Magnetism

2. Magnetic materials

- Electromagnet:** A non-permanent magnet turned on and off by controlling the current through it.
- Solenoid:** Wire wound into a tight coil, part of an electromagnet.
- Core:** Soft iron metal which the solenoid is wrapped around.
- Magnetic force:** Non-contact force from a magnet on a magnetic material.
- Permanent magnet:** An object that is magnetic all of the time.
- Magnetic poles:** The ends of a magnetic field, called north-seeking (N) and south-seeking poles (S).

Magnets
A magnet has two magnetic poles, a north seeking pole and a south seeking pole.

- North poles repel north poles
- South poles repel south poles
- North poles attract south poles



Not all metals are magnetic
There are four magnetic materials they are:

- Iron
- Steel
- Nickel
- Cobalt



4. The Earth

The Earth
The Earth has a magnetic field, it behaves as if there is a huge bar magnet inside it. People have used compasses to navigate for thousands of years. The needle on a compass is a magnetic material which points to the north pole.

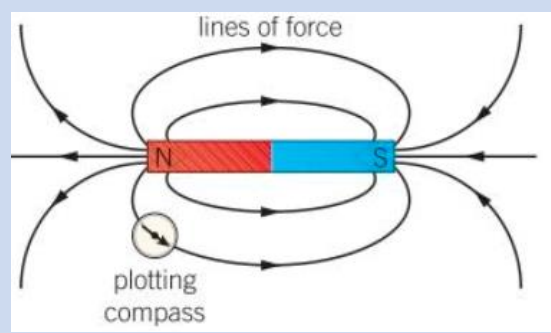


3. Magnetic fields

In a magnetic field there is a force on a magnet or a magnetic field. You can find a magnetic field using a plotting compass or iron fillings. The force experienced depends on:

1. How strong the magnet is
2. How far away from the magnet the object is (the further away the weaker the force).

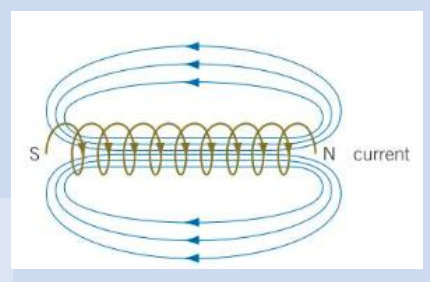
Permanent and induced magnets
A permanent magnet has its own magnetic field and can attract and repel. Induced magnets experience a force when in the magnetic field of a permanent magnet and will **only attract**.



The arrow shows the direction on the magnetic field. It points out of the north and into the south. The field lines are closest together at the poles as this is where the magnetic field is the strongest.

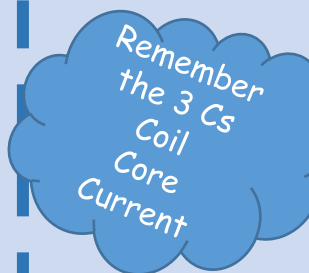
5. Electromagnets

A wire with an electric current flowing through it has a magnetic field around it. The magnetic field around a single loop of wire isn't very strong. You can wind lots of loops together to make a coil, this is called an **solenoid**. If a current flows through a wire it is an electromagnet.

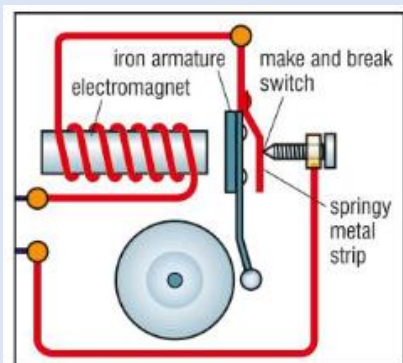


How to increase the strength of an electromagnet:

1. Increase the number of coils
2. Increase the current flowing
3. The core! A magnetic material for the core will make the electromagnet stronger



6. Using electromagnets



When the doorbell is pressed a switch is closed and current can flow through the wire. The electromagnet attracts the iron armature. The armature moves and breaks the circuit and no current flows. As the coil and core are no longer magnetic the springy metal strip returns to its original position and the bell rings once. Now the circuit is complete again and the armature moves again.

7. Further Reading

Electromagnets	
Electromagnetism and magnetism	https://www.bbc.co.uk/bitesize/guides/z3g8d2p/revision/1
Electromagnets and transformers	https://www.bbc.co.uk/bitesize/guides/zg43y4j/revision/1
Current and magnetic fields	https://www.youtube.com/watch?v=oEEYmPY5tY
Brainiac electric fence Magnets	https://www.youtube.com/watch?v=-n1pSHzdahc https://www.youtube.com/watch?v=yXCeuSiTOug

Year 8 - Knowledge Organiser - Light Waves

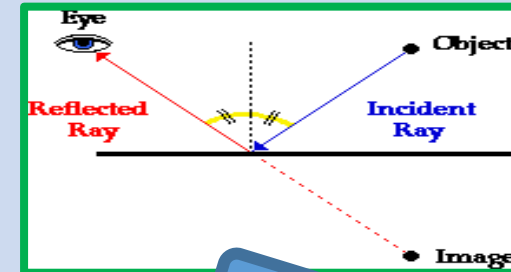
1. Key Words!

- Incident ray:** The incoming ray.
- Reflected ray:** The outgoing ray.
- Normal line:** From which angles are measured, at right angles to the surface.
- Angle of reflection:** Between the normal and reflected ray.
- Angle of incidence:** Between the normal and incident ray.
- Refraction:** Change in the direction of light going from one material into another.
- Absorption:** When energy is transferred from light to a material.
- Scattering:** When light bounces off an object in all directions.
- Transparent:** A material that allows all light to pass through it.
- Translucent:** A material that allows some light to pass through it.
- Opaque:** A material that allows no light to pass through it.
- Retina:** Layer at the back of the eye with light detecting cells and where an image is formed.

Light travels as transverse waves and faster than sound. It can be reflected, refracted and dispersed. Ray diagrams show what happens to light in mirrors and lenses. Eyes and cameras detect light. *When drawing ray diagrams, light travels in **STRAIGHT LINES** so should always be drawn with a **SHARP PENCIL** and a **RULER!!!***

The LAW of REFLECTION!

Angle of incidence = Angle of Reflection

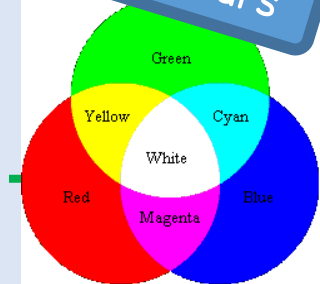


2. Reflection

Good reflectors are...
Light colours
flat
plane
shiny

4. Colours

A red filter absorbs all colours...



White light consists of seven colours (ROYGBIV)
We see colour as 6/7 are absorbed and one is reflected.

Filters only allow certain wavelength (colours) through. The others are absorbed.
Two different filters in front of each other = Black as all light absorbed

6. Vision Problems

Times people may suffer from damage to their eyes and/or sight. Sometimes people are born with these problems and sometimes these problems can develop. Some common eye related problems are: blurred vision (which can be corrected using glasses with lenses, contact lenses or laser eye surgery), age related sight loss, cataracts, colour blindness. Lots of these conditions are treatable, but it is important to remember to protect your eyes where possible for example, not looking directly at bright lights and wearing sunglasses.



8. Further Reading

Colour Spectrum

<https://www.youtube.com/watch?v=Gf33ueRXMzQ>

Reflection and Refraction

<https://www.youtube.com/watch?v=BL2MtP7j-xk>

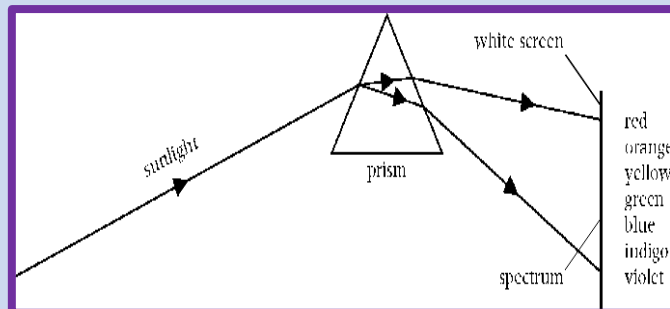
The Eye

<https://www.youtube.com/watch?v=syaQgmxb5i0>

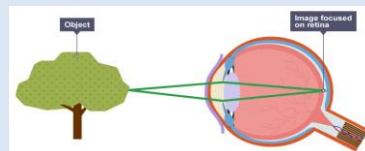
Light waves change speed when they pass across the boundary between two substances with a different **density**, such as air and glass. This causes them to change direction, an effect called **refraction**.

As light enters a more dense medium it slows down and bends **TOWARDS** the normal. As light leaves a more dense medium it speeds up and bends **AWAY** from the normal.

3. Refraction

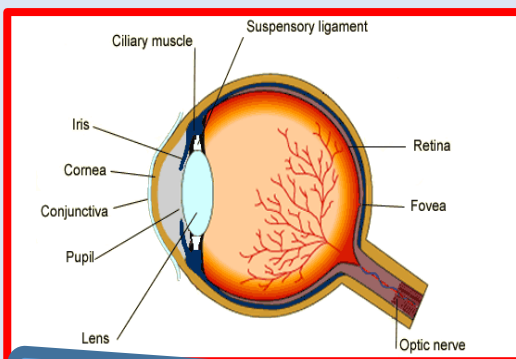


The organ we use for seeing!



We see objects because light reflects from an object **INTO** the pupil.
Coloured part = **IRIS**
PUPIL = black middle bit
LENS focusses light onto the **RETINA**.
Retina consists of **RODS (Shades)** and **CONES (Colours)**

5. The Eye



7. The camera

Cameras are devices that focus light from an object onto a **photo-sensitive material** using a lens. In an old-fashioned camera, the photo-sensitive material was camera film. When the film absorbed light, a chemical change produced an image in the film, called the 'negative'. This was used to produce a photograph on photo-sensitive paper.

In a modern camera or the camera in a mobile phone, the photo-sensitive material produces electrical impulses, which are used to produce an image file. This can be viewed on the screen, or its information sent to a printer.

