KNOWLEDGE ORGANISER BOOKLET

YEAR 8 - Spring

Contents

Instructions for Use

For all of your subjects, there are certain **facts** that you **need** to know in order for you to best understand the content you study in lessons.

In this booklet are **Knowledge Organisers** for each subject, which contain the core concepts that you have to know to be successful in your lessons.

How to use this Knowledge Organiser:

Look: read a specific section of the *Knowledge Organiser*;

Cover: cover it over or put it to one side;

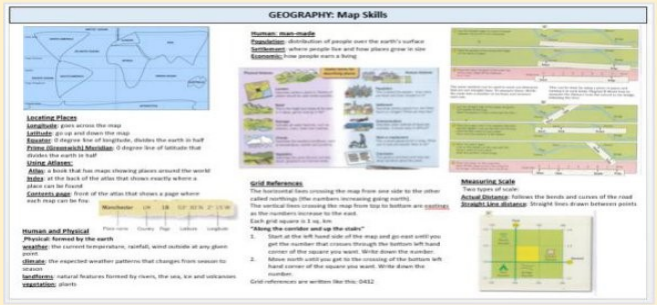
Write: from memory, write out as much of the information as you can remember for that section;

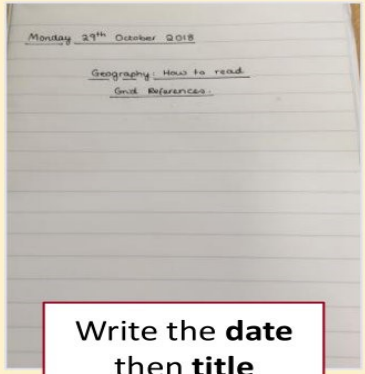
Check: check back with the *Knowledge Organiser*. Anything missing or incorrect, add in green pen;

Review: information you didn't recall the first time by using different format, such as repeating the process or creating your own *flashcards* to revise from.

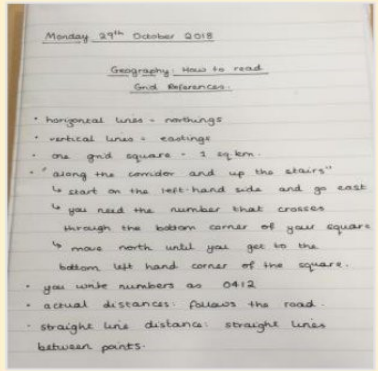
Instructions for Use: Example

1. **LOOK:** carefully read the section of the *Knowledge Organiser* which you are learning.
2. **COVER:** cover it over or put it to one side
3. **WRITE:** write out as many details as you can from memory.
4. **CHECK:** check back over your answer with the *Knowledge Organiser*. Anything which is missing or incorrect, add in green pen.
5. **REVIEW:** if you had significant gaps or parts you didn't understand, repeat the process from Step 1.





Write the **date** then **title** (**subject: focus**)



Sparx Maths

We do not have a knowledge organiser for Maths. This is because the best way to remember and understand mathematics is to practice it. We use the **Sparx Maths** online platform to provide our students plenty of opportunities for practise and to develop their mathematical knowledge.

What should we do each week?

Complete all of your compulsory section of **Sparx** homework and get it 100% correct. Don't worry, there are videos to help if you get stuck.

How long should it take?

Sparx will adjust your homework, so it will take about 1 hour to complete. If you find yourself taking longer than this, you should ask your teacher for support on the topics you find most challenging.

What if I get stuck?

You can watch the videos, ask a friend or parent, or your teacher, in person or by email.

Why do I get different questions to my friends?

Sparx creates custom homework just for you - because you are an individual. This means your maths home-work is designed around your ability and constantly challenges you to make improvements.

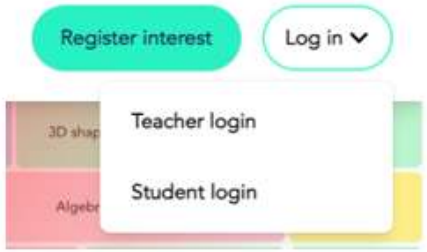
Why do I have to get 100%

We believe you deserve the chance to do really well in Maths. Students who complete all the questions on **Sparx** learn more and get better results. You can also earn rewards.

Sparx Maths

Logging into Sparx Maths

- Visit sparxmaths.com and click log in



- Select your school from the drop-down menu

- Log in using your Sparx Maths username and password

  Or

- Log into Sparx using Microsoft. This will give you option to use your usual school log in to Sparx Maths.

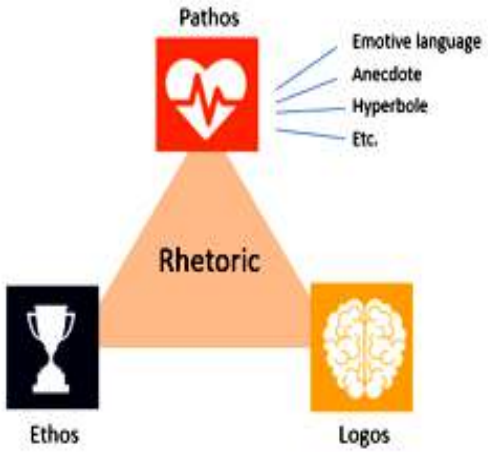
  Make sure you remember to add **@plymstockschool.org.uk** to your username

Discursive Writing: Social Justice and the Art of Rhetoric

Key Vocabulary

Image	Word	Definition
	Rhetoric	The art of persuasive or effective speaking or writing.
	Pathos	An appeal to the emotions of your audience.
	Ethos	Credibility (how much an audience is likely to trust you as a speaker).
	Logos	An appeal to the logic and reasoning of your audience.
	Rhetorical devices	Methods of making writing persuasive or effective.
	Social justice	Fairness in the way people are dealt with in society.
	Inequality	The unfair situation in society when some people have more opportunities, money, etc. than other people.

For additional information about rhetorical devices, including examples, see your self-check worksheet.



Rhetorical Devices

Device	Explanation
Rhetorical question	A question to engage your reader and make them think.
Emotive language	Word choice designed to get an emotional response.
Short sentence	A sentence that is short to give the point weight and impact.
List (of three)	A sequence of three or more words, phrases or sentences.
Imagery	Visually descriptive language (including figurative language e.g. simile, metaphor).
Hyperbole	Exaggeration.
Analogy	A way of describing something by relating it to something else.
Anecdote	A short story about a real event or person.
Figures	The use of numbers.
Facts	A thing that is known or proved to be true.
Quotes	The use of words used said or written by someone else.
Alliteration	The deliberate placing of words beginning with the same sound close together.
Opinion as fact	Stating an opinion in a way that makes it sound like a fact.
Humour	Trying to amuse your reader.
Repetition	Saying something – a word, a phrase, an idea – more than once.
Imperatives	A verb without a subject – used as an instruction or command.
1st Person singular	I, me, my, myself
2nd Person singular	You, your, yours, yourself
3rd person singular	She, he, her, him, hers, his, herself, himself
1st person plural	We, us, our, ours
2nd person plural	You, your, yours, yourself
3rd person plural	They, them, their, theirs

Year 8 Respiration and Photosynthesis

All living organisms respire. Respiration is the process of releasing energy from breaking down glucose sugar.

Word equations for respiration:

Aerobic respiration:
Glucose + oxygen → carbon dioxide + water

Anaerobic respiration:
Glucose → lactic acid *(in humans)*
Glucose → carbon dioxide + ethanol *(in plants and yeast)*

In humans we respire aerobically (using oxygen) all the time.
When we exercise at low levels we have enough oxygen to keep respiring aerobically.

When we exercise at high levels we may not be able to get enough oxygen to respire as quickly as we need to so we begin to respire anaerobically (without oxygen).
This means we begin to produce lactic acid which builds up in our muscles

Comparing 2 types of respiration:

Aerobic respiration	Anaerobic respiration
Requires oxygen (oxygen is a reactant)	Does not require oxygen
Breaks down glucose to release ***lots of*** energy	Breaks down glucose to release ***less*** energy
Produces carbon dioxide and water	Produces lactic acid in human

Word	Definition
Aerobic respiration	Respiration that involves oxygen Oxygen + glucose → carbon dioxide + water
Anaerobic respiration	Respiration that doesn't involve oxygen In animals: glucose → lactic acid In yeast: glucose → carbon dioxide + ethanol
Respiration	Process in living things in which oxygen is used to release the energy from glucose (food)

Anaerobic respiration in yeast is called fermentation. We can use this anaerobic respiration to help us make bread (CO_2 bubbles produced help bread rise) and beer (ethanol produced is alcohol).

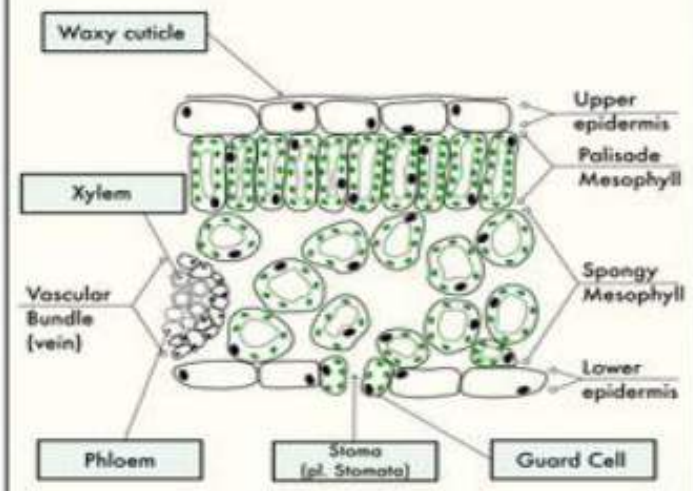
Year 8 Respiration and Photosynthesis

Photosynthesis is making food (glucose) and oxygen from carbon dioxide and water using light energy and the green pigment called chlorophyll which is found in chloroplasts.

We can see where plants have been photosynthesising by testing for starch using iodine solution. Iodine turns from orange to black in the presence of starch.

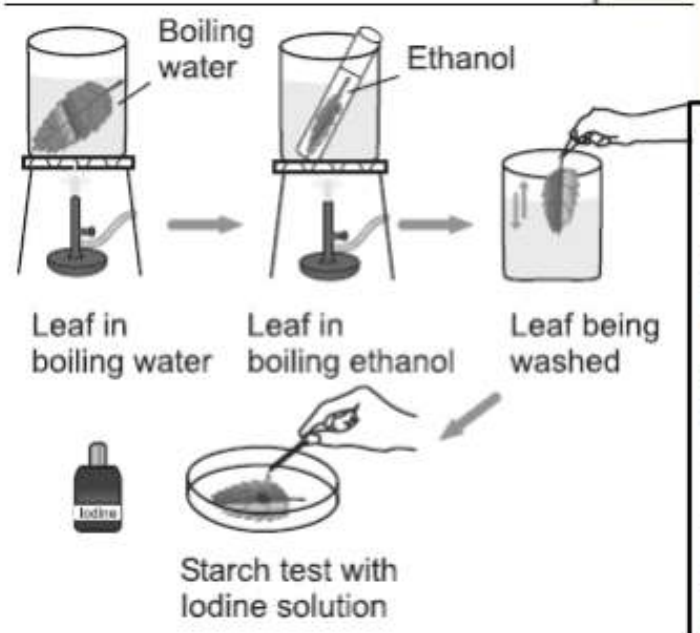
ADAPTATIONS OF THE LEAF TO PHOTOSYNTHESIS

STRUCTURE OF A LEAF



FUNCTIONS OF THE LEAF PARTS

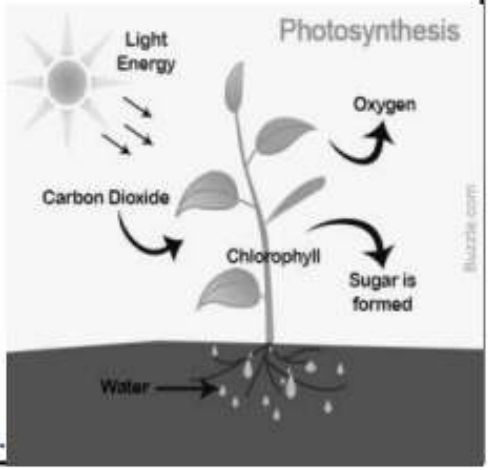
Leaf part	How is it involved in photosynthesis?
Waxy cuticle	Prevents water loss but allows light through
Upper epidermis	Transparent to allow pass through.
Palisade mesophyll	Tall, thin cells packed together, each containing a large number of chloroplasts for maximum absorption of light.
Spongy mesophyll	Large air spaces allow gases to circulate in the leaf – CO_2 has to diffuse to cells for photosynthesis
Lower epidermis	Has pores called stomata to allow CO_2 into the leaf. Guard cells can close stomata to reduce water loss.
Xylem	Transports water to the leaf which is needed for photosynthesis
Phloem	Transports sugars made in photosynthesis to other parts of the plant for use and storage.



Photosynthesis is the opposite reaction to aerobic respiration:
carbon dioxide + water → glucose + oxygen

Only plants and algae photosynthesise.
They need light and so photosynthesis only happens during day time. The more light, the faster the rate (speed) of photosynthesis.
Plants can then store this food as starch for use when they need it for respiration/growth.

Plants need nutrients/minerals such as nitrogen, phosphorus and magnesium from the soil to help them grow and make chlorophyll for photosynthesis.



8C2 Periodic Table Knowledge Organiser

The **Periodic Table** displays the names and symbols of all the **elements** we have discovered which are organised by their **chemical properties** and their **physical properties**.

Physical properties

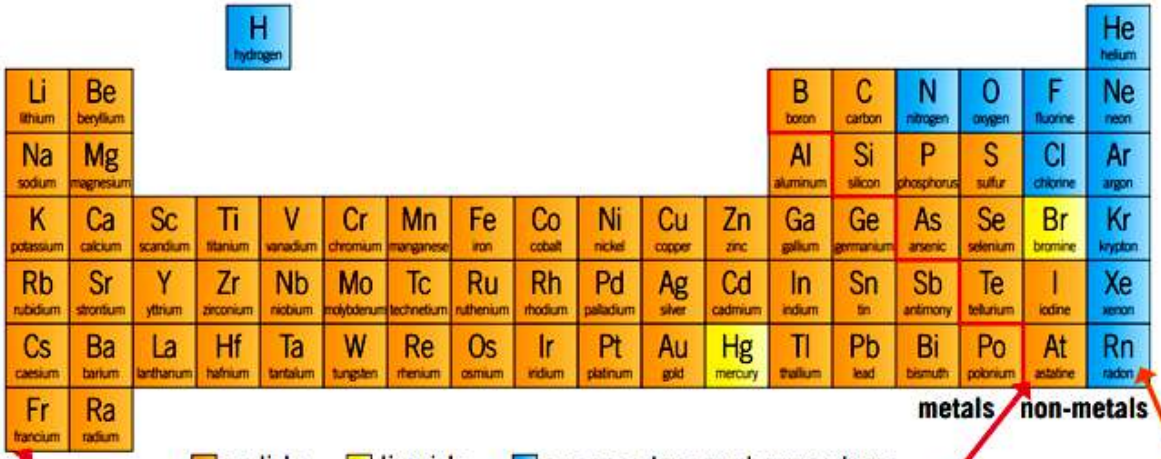
The **physical properties** of an element describe how a substance behaves generally.
(*E.g.*, ***conductor*** *of electricity, dense, conductor of heat, shiny,* ***malleable****, sonorous, high melting and boiling points*)

Chemical properties

The **chemical properties** of an element describe how a substance behaves in terms of its chemical reactions.
For example, how reactive it is, what other substances it reacts with, and the products it forms in reactions.

metals are to the left of the red line

non-metals are on the right



This version of the Periodic Table does not include every discovered element.

- columns are called **groups**
- rows are called **periods**

Elements in a group normally have similar properties, meaning chemists can predict properties of elements based on their group.

Metals

- normally good conductors of heat and electricity
- shiny when cut
- malleable
- **dense** and **sonorous**
- most have high melting points

Non-metals

- often have properties the opposite of metals
- low boiling points, so are gases at room temperature
- poor conductors of electricity and heat
- dull in appearance
- low density
- **brittle** and not sonorous

Group 1

- called the **alkali metals**
- like all other metals but are very **reactive**
- react vigorously (strongly) with water
- get more reactive as you go down the group
- lower melting points than most other metals
- melting points decrease down the group
- always produce a metal hydroxide and hydrogen gas when reacted with water

Group 7

- called the **halogens**
- generally very reactive
- generally the opposite of Group 1
- melting point increases down the group while reactivity decreases.
- take part in **displacement reactions**, where an element from higher up the group takes the place of one from lower down the group in a compound.

For example: *potassium iodide + chlorine → potassium chloride + iodine*

Group 0

- called the **noble gases**
- very unreactive
- low boiling points, so are gases at room temperature
- like the halogens, their boiling points increase down the group

Key terms Make sure you can write definitions for these key terms.

alkali metal **brittle** **conductor** **chemical property** **dense** **displacement reaction** **element** **group** **halogen** **malleable** **metal** **noble gas** **non-metal** **period** **Periodic Table** **physical property** **sonorous** **reactive**

8C2 Metals and Acids Knowledge Organiser

Metals and acids

- If a metal reacts with an acid, it produces a **salt** and hydrogen gas.
- All acid compounds have hydrogen in them.
- When the hydrogen is replaced by a metal, the compound is called a salt.

For example, sulfuric acid has the formula H_2SO_4. Copper sulfate has the formula $CuSO_4$ – it is a salt because the copper has taken the place of the hydrogen in sulfuric acid.

The three main acids are hydrochloric acid, sulfuric acid, and nitric acid.

Metals can react with all of these acids to produce a salt and hydrogen gas.

copper + hydrochloric acid → copper chloride + hydrogen

iron + sulfuric acid → iron sulfate + hydrogen

magnesium + nitric acid → magnesium nitrate + hydrogen

Metals and water/steam

- Very reactive metals like sodium will react with cold water to produce a metal hydroxide and hydrogen gas.

sodium + water → sodium hydroxide + hydrogen

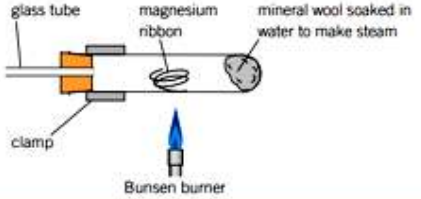
$2Na(s) + 2H_2O(l) \rightarrow 2NaOH(aq) + H_2(g)$

- Other metals like magnesium only react with steam, and produce a metal oxide and hydrogen.

magnesium + steam → magnesium oxide + hydrogen

$Mg(s) + H_2O(g) \rightarrow MgO(s) + H_2(g)$

Magnesium can be reacted with steam using the following experimental set-up.



Testing for hydrogen gas

The gas produced when reacting a metal and a salt can be collected in an upturned test tube, and a test performed to check that the gas is hydrogen.

Insert a lit splint into the upturned test tube – if the gas is hydrogen, there will be a 'pop' sound.

Metals and oxygen

- Many metals will react with oxygen from the air to produce a metal oxide.
- Often, they will need to be heated before they can react.

Metal	Reaction with oxygen
magnesium	burns vigorously
zinc	burns less vigorously
iron	burns
lead	do not burn; when heated, form layer of oxide on surface
copper	
gold	no reaction

Metal displacement reactions

- A **displacement reaction** occurs when a more reactive element takes the place of a less reactive element in a compound.
- In metals, this means that the more reactive metal will become a compound, and the less reactive one an element.

For example, iron is more reactive than copper so:

The reactivity series

State symbols

- Symbol equations have letters in brackets after each substance.
- These tell you the state of matter of each substance, and are called **state symbols**:

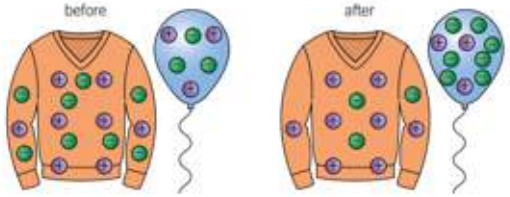
(s) = solid, (l) = liquid, (g) = gas, (aq) = dissolved in water

For example, $H_2O(s)$ is ice, $H_2O(l)$ is water, $H_2O(g)$ is steam, and $NaCl(aq)$ is sodium chloride (table salt) dissolved in water.

8P2 Electricity and Magnetism Knowledge Organiser

Charging up

Static electricity: by rubbing **insulators** together **electrons** are transferred, which gives the objects magnetic charges.



Like charges **repel**, and opposite charges **attract**.

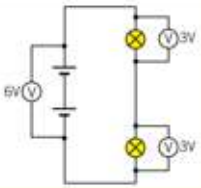
Charged objects have **electric fields** around them. These lines show how a positive charge will act.

Series and parallel circuits

In a series circuit all of the components are connected in one loop. If one component or wire breaks, **current** stops flowing everywhere.

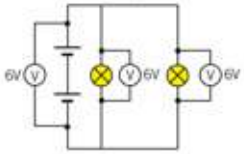
Series circuits

- contain only one loop
- the current is the same everywhere
- the **potential difference** across each component adds up to the potential difference across the battery



Parallel circuits

- contain multiple branches
- currents in all the branches add up to make the total current
- the potential difference across each component is the same as the potential difference across the battery



Resistance

The **resistance** is a measure of how easy it is to pass through a component.

conductors – low resistance

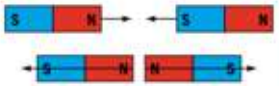
insulators – high resistance

Resistance is calculated by measuring the potential difference and the current.

The unit for resistance is the **ohm (Ω)**.

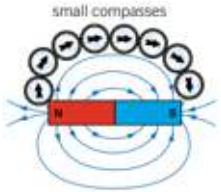
Magnets

- **Magnets** have north and south poles.
- Opposite poles attract, and the same poles repel:



Magnetic fields

- A magnet has a field around it.
- You can see the field around a bar magnet with a small compass or iron filings.
- If the lines are close together the field is stronger.



- The Earth has a magnetic field, which acts like a big bar magnet, with the south pole at the top of the planet.

Circuits and currents

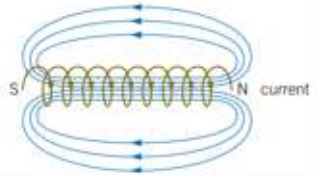
- Current is the amount of charge flowing per second.
- It is measured with an **ammeter** (connected in series).
- The unit for current is the **amp (A)**.

Electromagnets

- **Electromagnets** are only magnetic when they have a flow of current, so they can be turned off.
- They are made by running a current through a coil of wire.
- They usually have an iron core in the middle of the coil, which makes them stronger.

You can make an electromagnet stronger by:

- adding more turns of wire on the coil
- using more current.



Uses of electromagnets

- moving cars or other metal objects
- sorting iron and steel from aluminium
- making motors and speakers
- making levitating trains, which travel much faster as there is no friction

How motors work

Applying a current to a coil of wire makes it electromagnetic.

↓

This causes a force between the coil of wire and the permanent magnet nearby, driving a motor.

Potential difference

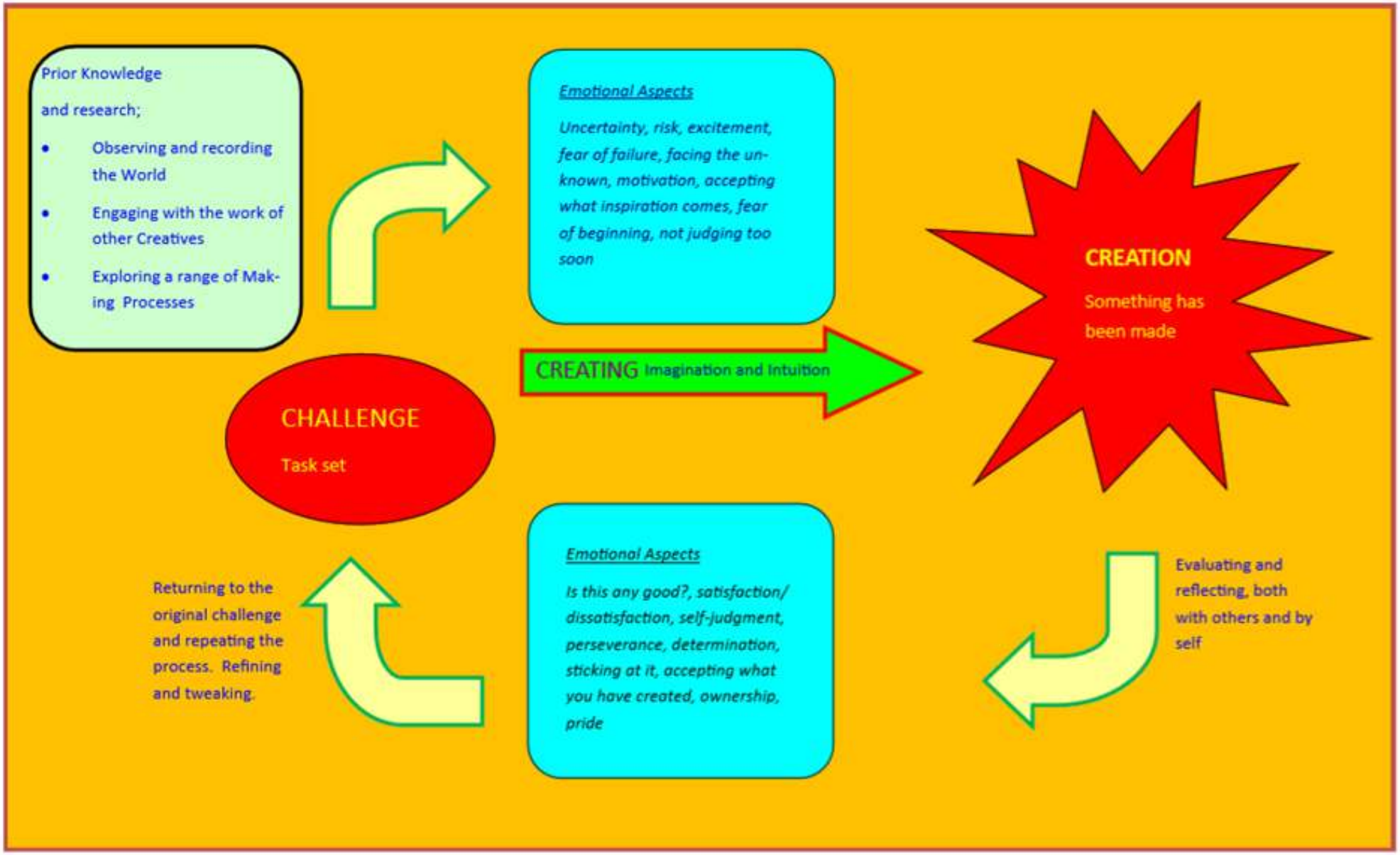
- Potential difference is the amount of energy transferred by the charges in the circuit.
- It is measured with a **voltmeter** (connected in parallel). The unit is the **volt (V)**.

Key terms Make sure you can write definitions for these key terms.

ammeter attract conductor current electron electric field electromagnet insulator repel magnet magnetic field line motor north pole ohm parallel potential difference resistance series static electricity south pole volt voltmeter

ART, CRAFT AND DESIGN - CORE KNOWLEDGE In addition to completing projects exploring a 2-D and 3-D process, and a range of relevant artists, **by the end of Year 8 students will be able to….**	
Creative Process	Name the stages of the Creative Process and identify which stages are happening on each page of their sketchbook.
Drawing	Apply Y7 knowledge to new and more sophisticated shapes dependent upon the topic of the project (e.g. musical instruments, plants). Introduce a background setting to a drawing of an object from the project, and use the basic indications of depth learnt in Y7 to situate that object in space.
Painting	Recall Y7 knowledge of hue, value, intensity and temperature, then practice using and developing these skills to create a final painting. Expand and extend their range and type of brushstrokes.
Critical Understanding and Analysis	Remember and understand the meaning of the following words, and use them when writing about art; *Line, Shape, Form, Tone, Texture, Pattern, Colour* *Colour; Hue, Value, Intensity, Temperature* Use and answer the following key questions when studying the work of other artists; *How did the artist make this piece of work?* *How can we describe and analyse what is happening in this piece using art language?*
Use of a Sketchbook	Students apply Y7 knowledge and sketchbook routines with greater confidence and proficiency. Their writing for their double page of "*Research into Other Creatives*" answers the two questions for Y8 in *Critical Understanding and Analysis* (see above). Students include a short piece of reflective annotation for their final piece, explaining how the outcome connects to the artist(s) studied, their observational work and the making process being used in the project.

The Creative Process



TIME This is essential. Process requires sufficient time to work properly.

Food

Nutrient	Function	Sources
Vitamin A	Helps the immune system to work as it should and with vision.	Liver, cheese, eggs, dark green leafy vegetables and orange-coloured fruits and vegetables.
Vitamin B group	Release of energy from foods	Bread, fish, broccoli, liver, milk, peas, rice
Vitamin C	Helps to protect cells from damage and with the formation of collagen.	Fruit (especially citrus fruits), green vegetables, peppers and tomatoes.
Vitamin D	Helps the body to absorb calcium & helps to keep bones strong.	Oily fish, eggs, fortified breakfast cereals and fat spreads.
Calcium	Helps to build and maintain strong bones and teeth.	Dairy, calcium-fortified dairy-alternatives, canned fish (where soft bones are eaten) and bread.
Iron	Helps to make red blood cells, which carry oxygen around the body.	Offal, red meat, beans, pulses, nuts and seeds, fish, quinoa, wholemeal bread and dried fruit.
Sodium	Helps regulate the water content in the body.	Very small amounts found in foods. Often added as salt.

Vitamins
Vitamins are nutrients required by the body in small amounts, for a variety of essential processes.

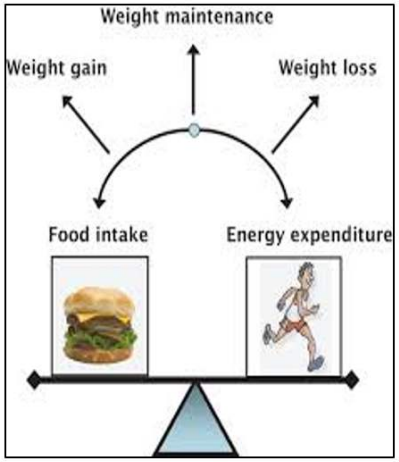
Most vitamins cannot be made by the body, so need to be provided in the diet.

Vitamins are grouped into:
- fat-soluble vitamins (vitamins A, D, E and K);
- water-soluble vitamins (B vitamins and vitamin C).

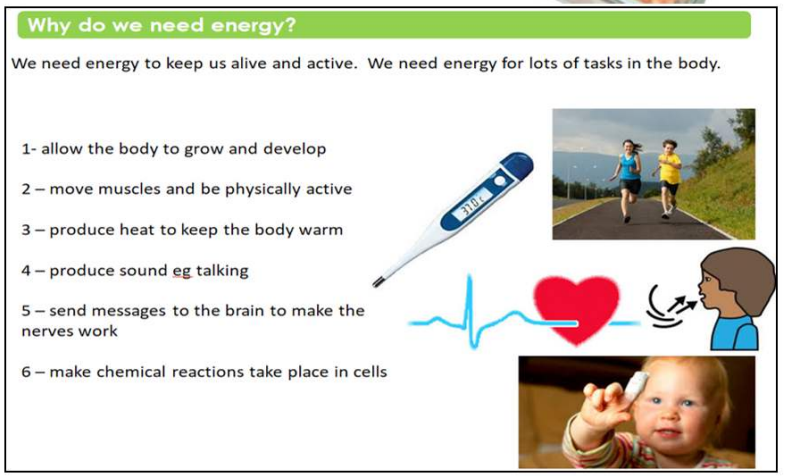
Minerals
Minerals are inorganic substances required by the body in small amounts for a variety of different functions.

The body requires different amounts for each mineral.

Some minerals are required in larger amounts, while others are needed in very small amounts and are called 'trace elements'.



Basal Metabolic Rate is the rate of energy expended by the body when at rest.



Expressionism

A style that emphasises the **inner emotional experience** of the character, rather than the external reality of the situation.

Expressionism often explores the **darker side** of human nature, and can be used to create an atmosphere of suspense or fear.

Expressionist performances often make use of non-naturalistic elements, such as exaggerated gestures or props, to heighten the emotional impact of the piece.

'The Scream' Edvard Munch (1893), an example of expressionistic art.

Key Practitioner - Berkoff and Total Theatre

Berkoff wanted to provoke his audiences by showing **grotesque** images of his characters—he wanted to shine a light on the 'dark side' of human nature, the things we don't normally say, but think or feel. He believed every character had a **'burden'** to explore.

His use of 'Total Theatre' make the audience more than just on-lookers. His performances are fast-paced, with consistent use of **ensemble** work.

Key Vocabulary

Minimalism Little or no set/ props used, allowing the audience to focus just on the actors.

Chorus/ Choral movement/ Choral speech Linked to the Greek Theatre, the use of multiple actors speaking and moving in unison at the same time.

Ensemble All members of the cast work equally together throughout a performance, there are no 'star' actors or roles.

Non-naturalistic Any element of a theatre performance which makes it clear to the audience that they are watching a piece of theatre.

Realism The aim of creating a sense of real life events on the stage occurring in real time.

Expressionism A dream-like form of theatre where feelings are expressed in innovative ways breaking any sense of realism. Often experimental in style and broken into a number of smaller bits.

Total theatre A style of theatre aiming to create an overwhelming experience for an audience which could shock or amuse. All elements of a theatre are used to achieve this—the actor, lighting, sound, set, props.

Grotesque Something which is comically or shockingly distorted from our expectations.

Burden Something which weighs heavily on a character affecting how they act or behave.

Soundscape The actors use of vocal sounds which are combined to create a mood, atmosphere or representation of a specific place or location.

Direct address When the actor speaks directly to the audience.

Fourth wall The audience make up the 'fourth wall' of the stage.

Epic Theatre

A form of **political theatre** emerging in the early to mid-20th century which makes it clear to an audience that they are watching a piece of theatre, forcing them to **see the world as it is** whilst learning or considering an important **social or moral message**.

Key Practitioner - Brecht

Brecht was a German political writer who fled Germany in the 1933 to escape persecution by the Nazis who treated Socialists in the same way that they treated Jewish, gay, Romany and disabled people.

Influenced by **expressionism**, he wanted the audience to actively think and learn through theatre, not just sit and watch, and set about breaking the traditional 'rules of theatre' to disrupt any sense of realism on stage.

Key Vocabulary

Alienation The use of techniques to distance the audience from the action.

Episodic Construction Short scenes which can come in any order (move back and forward through time.)

Linear structure Events happen in a set chronological order of time, start to end.

Narration Speech used to comment on and introduce action to the audience.

Direct address When an actor speaks directly to the audience.

Breaking the fourth wall Acknowledging the audience and making them aware that they are watching a piece of drama.

Tickle and slap A structure in which you relax the audience by making them laugh, only to then hit them with a strong truth.

Gestus The clear use of gesture/physicality to capture a specific moment or feeling.

SPASS Literally means fun. Used to break rising tension to stop the audience from following characters on their emotional journey.

Songs/ Music A device used to break any sense of reality.

Placards Signs containing extra information relevant to a scene to further alienate an audience.

Prologue A way to present ideas that are in the play before the action begins—let's the audience know what they are about to watch.

Epilogue After the conclusion of the play, to emphasize the key lesson from the action. Often includes direct questioning and the use of rhyming couplets.

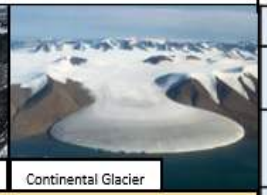
Rhyming Couplet A pair of lines whose last words rhyme.

Third Person Speech An actor breaks character and talks about the character to the audience, using he/she/they, when describing the character they are playing.

Y8 Glaciers Knowledge Organiser

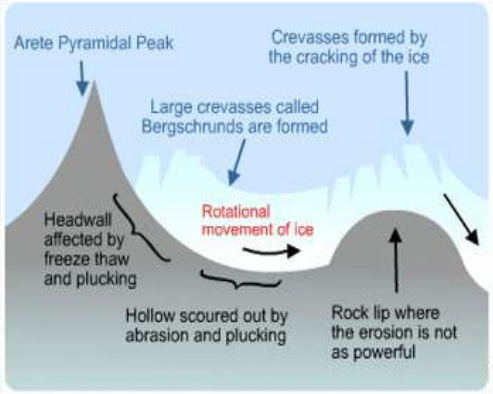
A glacier is a slowly moving river of ice that Is formed in areas that are extremely cold and experience lots of snow. They move because of gravity and they erode the land as they move. To be classed as a glacier they must be over 164 feet thick.

Alpine Glacier

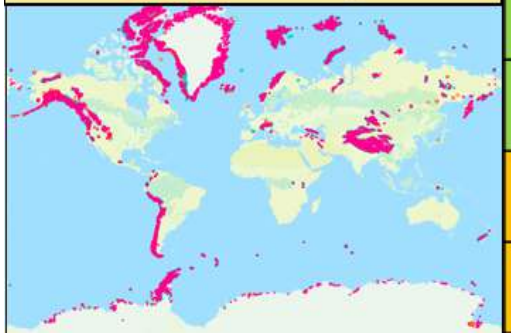


Continental Glacier

How are glaciers born?



Global Distribution of glaciers.



Alpine glaciers are mainly found in upland mountainous areas that receive lots of snow fall because of the high altitude, for example, the Himalayas, Canada and Northern Europe. Continental glaciers are most commonly found in areas of higher latitude (away from the equator) like Greenland and Antarctica.

Key Term	Definition
Abrasion	The scraping away of the valley walls and floor as glaciers drag sediment.
Plucking	The process where the base of glacier freezes to the valley and pulls away rock.
Rotational Slip	The vertical rotation of ice inside a corrie as ice gathers and gravity takes over.
Freeze Thaw	When water freezes inside the cracks of exposed valley sides, breaking away sharp fragments of rock.
Glacial retreat	When glaciers melt and appear to move up the valley as temperatures rise.
Erosional	A feature formed when a glacier breaks away rock.
Depositional	A feature formed when a glacier deposits glacial

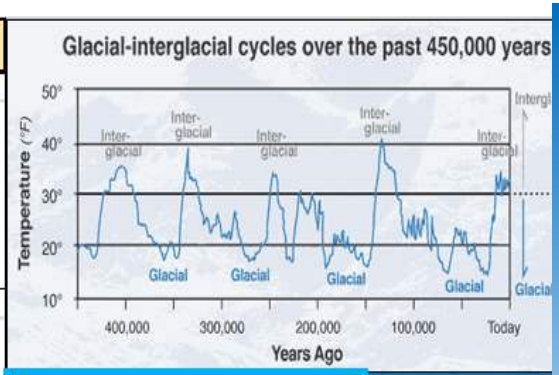
Advantages and disadvantages of glacial retreat.

Outwash plains left by glaciers are perfect places to farm because glacial sediment is very fertile.	Glacier hold about 69% of the worlds fresh water supply and rapid melting leads to fresh water shortages.	Melting glaciers contributes to half of seal level rise globally, leading to coastal flooding.
The new landscapes left by melting glaciers can be also used for tourism and education.	Ice bergs that fall off glaciers can disrupt shipping routes.	When glaciers melt it provides new sources of fresh water.
There is less ice to study, glaciers and ice core samples tell us about our climate's past.	Melting glaciers can also open up new shipping routes.	Land that is not longer frozen and is not exposed can be used for mining natural resources.
Tourism in areas famous for glaciation will lose out of profit.	Avalanches become more common and destroys habitats.	When glaciers melt, new exciting landscapes are revealed and land is free to be used.

Erosional and depositional glacial features.

Evidence of past glaciation in our landscape

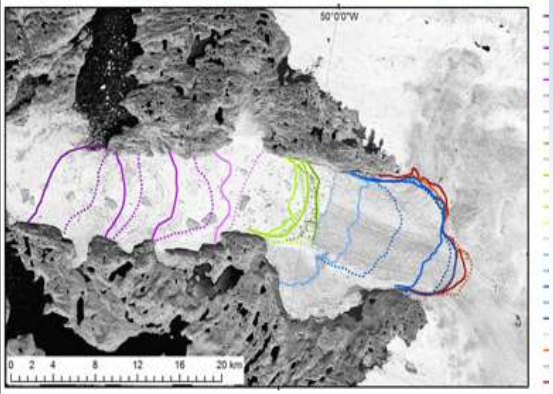
Evidence	Explanation
Seals	Grey seals that have pale coats live in the north of Britain, their pale coats exist from their ability to blend in with ice during our ice age.
Bones	Polar bear skulls have been found in caves in Britain proving their existence in our past.
Raised Beaches	Beaches in Scotland are raised high above sea level this happened because ice pushed the north of Britain inside the earth and when the ice melted the beaches rose back up.
Erratic	Large boulders of unmatched rock types have been found in the Yorkshire dales, these boulders do not match the limestone scenery and are carried by glaciers.



Glacial periods
Times when the earth was colder. When we have ice ages!

Inter-glacial periods
Times when the earth was warmer, most of the ice melts!

About 150,000 years ago the earth was beginning to warm up.
140,000 years ago tropical life would live in Britain and it was about 6℃.
About 40,000 years later (100,000 years ago) the ice age began.
Throughout the ice age glaciers flowed through valleys and polar bears were in Britain.
Until 10,000 years ago the ice age ended and the climate began to warm, polar life left and glaciers melted away.
Today we are left with our new landscape, but pollution and climate change is increasing the worlds temperature at an unnatural rate!



Geography

Activities in glaciated landscapes

Lake District National Park

Walking

- Join a guided walk, from gentle rambles to high fell summits, March - October.
- Take a Winter Skills Course on Helvellyn, December - April.
- Choose a Miles Without Stiles route for an easier-access walk.
- Get inspired with our walking blogs

Walking in the Lake District

Get on the water

Hire a boat, take a boat cruise, or go for a swim.

Lake guide maps for the larger lakes showing towns, boat hire and boat trip locations.

Boat hire and boat trips

Cycling

Bike hire, mountain bike hire, family-friendly cycle routes and taking bikes on buses and boats.

Cycling in the Lake District

Dark skies and stargazing

The Lake District is one of the darkest places in the UK. So after the sun sets, head for a secluded valley or remote fell top, and take in the starry skies above you.

Our best places for Lake District star gazing and top tips to enjoy dark skies

Dark skies and stargazing

Greenland's melting ice sheet.

In one day Greenland once lost 11Billion tons of ice, enough to fill 4million Olympic swimming pools.

From 1979 to 2006, summer melt on the ice sheet increased by 30 percent.

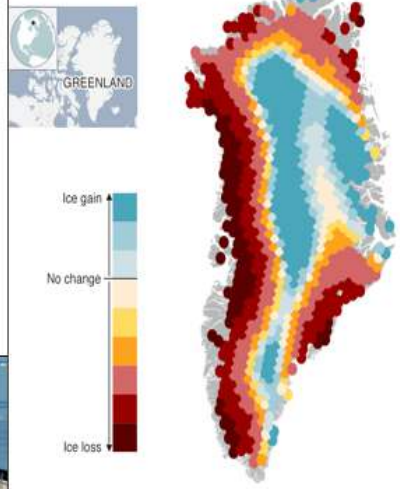
Every year the sea level rises 1mm because of ice melt in Greenland.

Greenland stores so much frozen water that if it melted, it would raise sea levels worldwide by up to 7m.

Greenland is the largest contributor of new water in the Ocean.

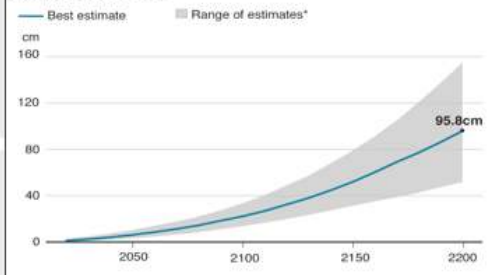
Heaviest ice loss around Greenland's coast

January 2012 to December 2016



Source: National Space Institute, Technical University of Denmark BBC

Greenland's melting ice sheet predicted to raise global sea levels

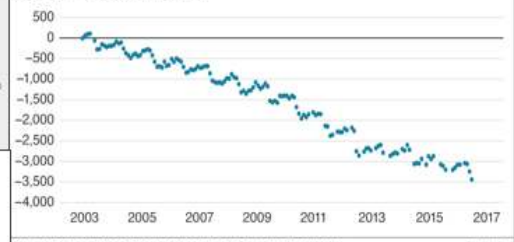


* Two thirds of estimates fall within this range

Source: Aschwanden, A et al. (2019), Science Advances BBC

Greenland's ice sheet has lost three and a half trillion tonnes of ice since 2003

Change in mass of the ice sheet in Gigatonnes (one Gt = one billion tonnes)



Source: National Space Institute, Technical University of Denmark BBC

Who will be affected?

Scientist – UK
Ice sheets act like a a mirror and reflect the suns energy back into space which helps slow global warming, if they melt global warming will happen even faster!

Farmer – Florida
If the ice sheets melt this will cause massive sea level rise (1mm a year) and will eventually flood my farm land and home.

Researcher – Greenland
Glaciers and ice sheets actually store and provide fresh water.

Meteorologist – USA
Ice sheets and glaciers regulate weather around the world and are important for ocean currents without them we will have more extreme weather events.

Ship driver - Russia
When ice sheets melt huge ice bergs can float out into the sea and interrupt shipping routes.

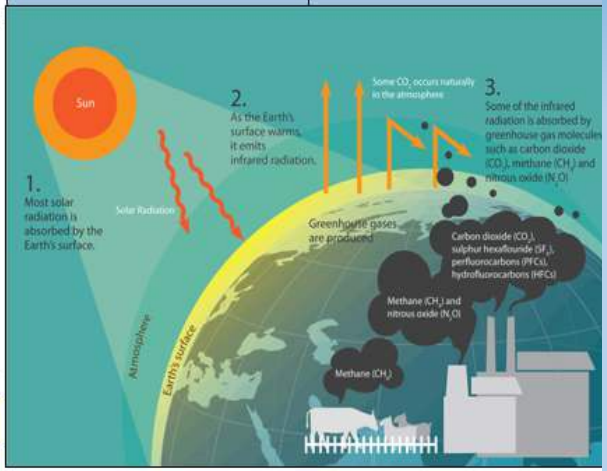
Marine Biologist – Australia
If ice sheets melt ocean temperatures become unstable and can affect marine life.

A carbon footprint is the amount of carbon dioxide that you will produce as a result of your life style. Carbon Dioxide is bad for the environment because it contributes to global warming and climate change.

Other impacts of global w

Global Warming
The process of the earth's atmosphere warming faster due to an excess of greenhouse gases produced by humans. This is also called "The Enhanced Greenhouse Effect"

Climate change
Is a result of global warming, as the atmosphere warms it causes a shift in global climate zones e.g deserts and polar areas. This results in further impacts which we explored in previous lessons.



In Siberia, giant holes are appearing, this is due to climate change. Permafrost is thawing the ground and releasing methane which bubbles underground. These bubbles can explode or pop creating huge holes nearly 20 metres deep and wide. No locals are harmed but this occurrence might affect people in the future.

Coping methods

- Producing drought resistant crops that can grow in hot dry climates.
- Sheltering reservoirs with reflective balls to save water.
- Rehoming people affected by sea level rise.
- Building stronger buildings to withstand extreme weather events.
- Creating defences against storm surges.
- Designing artificial glaciers to provide fresh water for communities.

THE INDUSTRIAL REVOLUTION

When did it happen? Between 1750 - 1900
What changed? Britain was transformed from a mostly rural to an industrial nation through the use of machinery.
Population Boom: Britain's population significantly increased
Agricultural revolution: Farming changed through the use of the seed drill, crop rotation, selective breeding, enclosed fields and an end to strip farming & the three field system.
Industrial Revolution: Factories were built to house the new machines like the weaving loom that produced goods on a large scale. Steam power replaced wind or water power.
Transport Revolution: Better forms of transport included turnpike trust roads, canals and railways.

WHO WERE THE ENTREPRENEURS WHO BROUGHT ABOUT CHANGE?

Jethro Tull: He invented the seed drill which planted seeds more efficiently. While this increased food production, it resulted in high levels of rural unemployment.

Richard Arkwright – He invented machines to such as the Spinning Frame. He was given the nick name 'father of the factory system' and built the famous Compton Mill making cloth.

George Stephenson: he designed the 'Rocket', a steam engine or locomotive that could transport large quantities of raw materials, manufactured goods and passengers.

WHAT WAS LIFE LIKE FOR CHILD LABOURERS IN COTTON MILLS?

Why were children employed? To produce cotton and wool cloth, mills needed a vast workforce which included children. Children were apprenticed at nine and were given lodgings, food and an hour of schooling a week. They worked around 13 hours a day.

Medical records reveal that **accidents** and **disease** were common. Lung conditions, loss of limbs and deformities were common problems faced by child workers. **Punishments** were harsh and consisted of fines and beatings.

YEAR 8 Industrialisation & Imperialism – Part: 1 The Industrial Revolution

PUBLIC HEALTH IN INDUSTRIAL CITIES

Over-crowding: thousands of rural workers migrated to the towns to find work in the factories
Housing: 'Slum houses' were built by rouge landlords who knew workers coming from the countryside needed a home by the factory they worked in. Most houses were back to back and had no toilets, no running water, they were damp. Some even lived in cellars!
Disease: Thousands were killed by diseases such as Cholera, Typhus and TB. People believed that bad air caused disease and the wealthy did not want to pay for public health improvements.

WHAT WAS CHOLERA?

A disease called cholera was one of the most dangerous diseases of industrial cities. It was known as 'King Cholera.

There was a major outbreak of cholera in 1831-2. In 1831-32 cholera killed over 21,000 people. Another major outbreak in 1849-50 killed 50,000.

John Snow was the doctor who proved that cholera was water borne and he did this by removing the water pump handle in Soho's Broad Street. Despite his evidence, people continued to believe bad air spread disease.

WHAT WAS LIFE LIKE IN A VICTORIAN WORKHOUSE?

Workhouses were where poor people who had no job or home lived. They were the poorest citizens and earned their keep by doing jobs in the workhouse. 'Inmates' often worked in silence carrying out repetitive tasks like tying lose ends of rope together which hurt their fingers.
Also, in the workhouses were orphaned (children without parents) and abandoned children, the physically and mentally sick, the disabled, the elderly and unmarried mothers.
The elderly were known as the 'blameless or deserving poor' because they were unable to work and therefore pay rent.

KEY INDIVIDUALS:

PERSON	KEY DETAILS
JETHRO TULL 	He invented the Seed Drill during the agricultural revolution
ROBERT BLACKWELL 	He developed selective breeding techniques to increase the amount of meat produced during the agricultural revolution
RICHARD ARKWRIGHT 	He invented the spinning frame and the factory system. He is famous for building Compton Cotton Mill
GEORGE STEPHENSON 	He won a competition with his 'Rocket' locomotive which pulled goods on railway tracks from Stockton to Darlington. He was known as the 'Father of the Railway'.
JOHN SNOW 	He mapped out cholera cases in Soho London and proved that all deaths were linked to the Broad Street water pump. This proved that cholera was a water borne disease.
EDWIN CHADWICK 	He was a government Civil Servant who investigated health he believed that ill health cost the country by making the work force less efficient. He introduced a Public Health Act which recommended rubbish & sewage removal, better quality water and better ventilation and light in factories.

KEYWORDS

KEYWORD:	DEFINITION:
Agriculture	farming
Industry	How things are made / manufactured
Transport	How people travel
Revolution	A significant change
Entrepreneur	A person who sets up a business, taking a huge financial risk in the hope of a profit
Labour	work
Workhouse	A place where poor people who had no job lived
Urbanisation	The development of towns and cities
Migration	The movement of people from rural areas to the growing industrial cities.
Public Health	The health of the whole community and often refers to the governments involvement / responsibility in keeping the living environment lean and disease free.

KNOWLEDGE CHECKER:

KNOWLEDGE AND UNDERSTANDING	R	A	G
I can describe how Britain changed within the areas of agriculture, industry & transport between 1750-1900			
I can explain the reasons why Britain changed – including the 6 factors that made it possible			
I can describe the contributions of entrepreneurs and inventers such as Jethro Tull, Richard Arkwright & George Stephenson			
I can describe working conditions for child labourers working in a cotton mill			
I explain two consequences of the Industrial Revolution for Britain (Exam skill – consequence Q)			
I can describe the public health problems in the new industrial towns			
I understand the role of the Victorian workhouse			

What it's for:

We can talk about the future by adding a second verb in its long form to the correct part of aller. This creates the idea of what you are **going to do**.

Aller + Infinitive
Saying what you are going to do

Infinitives you know :

écouter - to listen
regarder – to watch
trouver – to find
donner – to give
préparer - to prepare
travailler – to work
porter – to wear
rester – to stay
sortir – to go out

See pages 55-57 for other infinitives.

How it works:

Je vais - *I go/am going*
Tu vas - *You go/are going*
Il va - *He goes/is going*
Elle va - *She goes/is going*
Nous allons – *We go/are going*
Vous allez – *You (all) go/are going*
Ils vont – *They (m) go/are going*
Elles vont – *They (f) go/are going*

Sentence-building words:

parler français
manger le déjeuner
marcher dehors
faire la cuisine
aller à la plage

Verbs

-ER Verbs	
acheter	to buy, buying
aider	to help, helping
aimer	to like, liking
apporter	to bring, bringing
arriver	to arrive, arriving
célébrer	to celebrate, celebrating
changer	to change, changing
chanter	to sing, singing
chercher	to look for, looking for
cocher	to tick, ticking
commencer	to start, starting
créer	to create, creating
coûter	to cost, costing
demander	to ask for, asking for
donner	to give, giving
écouter	to listen to, listening to
emporter	to take, taking away
emprunter	to borrow, borrowing
envoyer	to send, sending
étudier	to study, studying
fermer	to close, closing
expliquer	to explain, explaining
frapper (à)	to knock (at),knocking (at)
gagner	to win, winning
gérer	to manage, managing
habiter	to live, living
lever	to lift, lifting
manger	to eat, eating
marcher	to walk, walking
montrer	to show, showing
organiser	to organise, organising
parler	to speak, speaking
partager	to share, sharing
passer	to spend, spending
penser (à)	to think (about)
peser	to weigh, weighing
porter	to wear, wearing
préférer	to prefer, preferring
préparer	to prepare, preparing
proposer	to propose, proposing
quitter	to leave, leaving
regarder	to watch, watching
reposer	to rest, resting
ressembler (à)	to look like, looking like
rester	to stay, staying
travailler	to work, working
trouver	to find, finding
traverser	to cross, crossing
tuer	to kill, killing
utiliser	to use, using
voyager	to travel, travelling
visiter	to visit, visiting

-RE Verbs	
prendre	to take, taking
apprendre	to learn, learning
attendre	to wait, waiting
comprendre	to understand, understanding
conduire	to drive, driving
décrire	to describe, describing
dépendre	to depend, depending
descendre	to go down, descend
dire	to say, saying
écrire	to write, writing
entendre	to hear, hearing
inscrire	to sign up, signing up
interdire	to forbid, forbidding
lire	to read, reading
répondre	to answer, answering
traduire	to translate, translating

-IR Verbs	
sortir	to go out, going out
partir	to leave, leaving
dormir	to sleep, sleeping
devenir	to become, becoming
venir	to come, coming
revenir	to come back, coming back
choisir	to choose, choosing
finir	to finish, finishing
remplir	to fill, filling
réussir	to succeed, succeeding

devoir/vouloir
to have to/to want +Infinitive

What it's for:

These are called modal verbs and are used to say what you have **to** do and what you want **to** do. They are followed by a second verb in its infinitive (long) form to create this meaning.

Infinitives you know :

écouter - to listen
regarder - to watch
trouver - to find
donner - to give
préparer - to prepare
travailler - to work
porter - to wear
rester - to stay
sortir - to go out

How it works:

Je dois - *I have to*
Tu dois - *You have to*
Il doit - *He has to*
Elle doit- *She has to*

Je veux - *I want*
Tu veux - *You want*
Il veut - *He wants*
Elle veut - *She wants*

Je peux - *I am able*
Tu peux - *You are able*
Il peut - *He is able*
Elle peut - *She is able*

Sentence-building words:

parler français
manger le déjeuner
marcher dehors
faire les devoirs
aller à la plage

Question words	
combien	how much/many
comment	how
où	where
pourquoi	why
quand	when
quel/quelle	which
que/quoi	what
comment ça s'écrit?	how do you spell?

Regular ~er verbs **perfect tense**

What it's for:

The perfect tense is used to talk about things you **did**/**have done** at some point in the past.

This is a really important tense so learn the way regular ~er verbs work below!

Other key verbs:

apporter - to bring
voyager - to travel
utiliser - to use
travailler - to work
jouer - to play
emporter - to take (with)
traverser - to cross
acheter - to buy

How it works:

J'ai	envoyé	I (have)
Tu as		You (have)
Il a		He (has)
Elle a		She (has)
Nous avons		We (have)
Vous avez		You all (have)
Ils ont		They (m) (have)
Elles ont		They (f) (have)

sent

Sentence-building words:

un email
une lettre
une photo
une vidéo

Possessive adjectives

What it's for:

These are little words that show ownership of a thing - words like **my**, **your**, **his**, **her** or **our**.
Because they give information about a noun, they are treated as adjectives. This means they **each*** have a masculine, feminine and plural form to match the gender of the noun.

* Our **only** has a singular and a plural form!

Misconceptions:

You cannot put **ma**, **ta** or **sa** before a noun that starts with a vowel or a silent 'h'. For these nouns, always use **mon**, **ton** or **son**, even if the noun is feminine.

e.g.
mon ami (m)
mon amie (f)

How it works:

	m	f	pl
my	mon	ma	mes
your	ton	ta	tes
his/her	son	sa	ses
our	notre		nos

Examples:

le chien - **mon** chien
la voiture - **ma** voiture
les règles - **mes** règles

le vélo - **ton** vélo
la chemise - **ta** chemise
les parents - **tes** parents

le frère - **son** frère
la sœur - **sa** sœur
les amis - **ses** amis

(**notre** chien - our dog)
(**nos** chiens - our dogs)

Subject pronoun (it)

The **subject** of a sentence is the person or thing **doing** a verb.

The subject can be a **noun**: ***The woman*** *is reading a book.*
The noun can be replaced by a **pronoun**: ***She*** *is reading a book.*

In English, the subject pronoun tells us whether the subject is a male person (he), a female person (she), or a thing (it).

In **German**, subject pronouns tell us the **grammatical gender** of the subject:

er (masculine):	**der** Gutschein ist toll!	**Er** ist toll.	***It*** *is great.*
sie (feminine):	**die** Jacke ist gelb.	**Sie** ist gelb.	***It*** *is yellow.*
es (neuter):	**das** Fahrrad ist groß.	**Es** ist groß.	***It*** *is big.*

So, German has **three** words for '**it**.' The word for '**it**' reflects the **gender** of the noun.

Subject pronoun (they)

To say '**they**' in German '**sie**' is used in all genders:

Die Gutscheine sind toll!	**Sie** sind toll!	***They*** *are great.*
Die Jacken sind gelb.	**Sie** sind gelb.	***They*** *are yellow.*
Die Fahrräder sind groß.	**Sie** sind groß.	***They*** *are big.*

Sie ist gelb. **It is** yellow.
Sie sind gelb. **They are** yellow.

Note that **sie** means both '**it** (feminine)' and '**they**'. The **verb form** tells you what is being talked about.

Plural object pronouns – sie (them)

Plural **subject** pronouns do **not** show the gender of nouns:

Die Lehrer sind super.	Die Farben sind schön.	Die Lieder sind toll.
Sie sind super.	**Sie** sind schön.	**Sie** sind toll.

Plural **object** pronouns do **not** show the gender of nouns, either:

Die Lehrer sind super.	Die Farben sind schön.	Die Lieder sind toll.
Ich mag **sie**.	Ich mag **sie**.	Ich mag **sie**.
I like ***them.***	*I like* ***them.***	*I like* ***them.***

Is it **one feminine thing** or **many things**? Check the **verb**!

Die Farbe ist schön!	**Die** Farben sind schön!
Ich mag **sie**. *I like* ***it.***	Ich mag **sie**. *I like* ***them.***

Mögen – to like – 1st, 2nd and 3rd person singular

Mögen is an irregular verb and means 'to like':

Verb MÖGEN [to like, liking]	
ich mag	I like
du magst	you like
er/sie/es mag	he/she/it likes

Ich **mag** Deutsch. *I* ***like*** *German.*
Du **magst** Musik. *You* ***like*** *music.*
Er **mag** Mathe. *He* ***likes*** *maths.*

To say you don't like something, add ***nicht*** to the end of your statement:

Ich mag Sport **nicht**. *I don't like sport.*

vb	mögen	to like, liking
vb	ich mag	I like
vb	du magst	you like
vb	er mag	he likes
vb	sie mag	she likes
pron	sie	she, it, her (f)
pron	ihn	him, it (m)
nnt	das Deutsch	German
nnt	das Fach	school subject
nf	die Fremdsprache	foreign language
nf	die Kunst	art
nf	die Mathematik	mathematics
nf	die Naturwissenschaft	science

Finden – to find – 1st, 2nd and 3rd person singular

Finden is often used to seek and express an opinion:

Verb FINDEN [to find, finden]	
ich finde	I find
du find**est**	you findest
er/sie/es find**et**	he/she/it finds

Note the extra '**e**' before the '**st**' and '**t**' endings, to make them easier to pronounce.

Finden with object pronouns- singular and plural

Wie findest du ***den*** Lehrer? — Ich finde **ihn** super.
How do you find the teacher? — *I find him super.*

Wie findest du die Schule? — Ich finde **sie** toll.
How do you find the school? — *I find it great.*

Wie findest du das Essen? — Ich finde **es** lecker.
How do you find the food? — *I find it tasty.*

Wie findest du die Spiele? — Ich finde **sie** leicht.
How do you find the games? — *I find them easy.*

Remember: after a verb **der** changes to **den** and **er** to **ihn**

Modal verb *können* and the two verb rule

Können is an irregular verb meaning *to be able to/can*.
To say what you can or cannot do in German, use **können** with a 2nd verb in the infinitive form.

The verb form for '**I**' and '**s/he**' are the same, like mögen.

KÖNNEN [to be able to, can]	
ich kann	I can
du kannst	you can
er/sie/es kann	he/she/it can

Ich **kann** singen. *I **can** sing.*
Du **kannst** hören. *You **can** hear.*
Er **kann** tanzen. *He **can** dance.*

The second verb (infinitve) goes to the end of the sentence.

Ich *kann* Fußball **spielen**. — I can **play** football.
Du *kannst* oft Obst **essen**. — You can often **eat** fruit.
Er *kann* Deutsch **sprechen**. — He can **speak** German.

Note the word order difference here!

How to say cannot/can't in German

With **verbs**, add 'nicht' before the infinitive verb:

Sie kann **nicht** sehen. — *She can't see.*

With **singular nouns**, **use 'kein'** and put the noun before the verb:

Sie kann **kein**en Film **sehen** — *She can't see a film.*
Sie kann **kein**e Katze **sehen** — *She can't see a cat.*
Sie kann **kein** Haus **sehen** — *She can't see a house.*

vb	finden	to find, finding
pron	ein bisschen	a little
nnt	das Essen	food
nf	die Uniform	uniform
vb	gesund	healthy
adj	langweilig	boring
adj	lecker	tasty
adj	leicht	easy
adj	nett	nice
adj	praktisch	practical
adj	schlecht	bad
adj	schwierig	difficult, hard
adj	streng	strict
adj	wichtig	important
prep	zu	too

vb	benutzen	to use, using
vb	essen	to eat, eating
vb	können	to be able , can
vb	ich kann	I can, I am able to,
vb	du kannst	you can, you are able to
vb	er kann	he is able to, he can
vb	sie kann	she is able to, she can
vb	sehen	to see, seeing
vb	tragen	to carry, wear
vb	trinken	to drink, drinking

pron	etwas	something
nnt	das Butterbrot	sandwich
nf	die Hose	trousers
nm	der Hut	hat
nm	der Keks	biscuit
npl	die Leute	people
nnt	das Obst	fruit

Offbeat

Exploring Reggae and Syncopation

A. How did Reggae develop?

REGGAE is one of the traditional musical styles from **JAMAICA**. It developed from :

REGGAE

MENTO	SKA	ROCK STEADY
A form of Jamaican **FOLK MUSIC** like **CALYPSO** popular in the 1950's.	Fast dance music that emerged in the 1950's fusing American R&B with **MENTO** rhythms and featuring **ELECTRIC GUITARS, JAZZY HORN SECTIONS** and characteristic **OFFBEAT RHYTHMS.**	A more vocal style of dance music which used **RIFFS, SIMPLE HARMONIES, OFFBEAT RHYTHMS** and a strong **BASS LINE.**

Reggae was first heard in the UK in the 1950's when immigrants began to settle. During the 1960's, people began importing singles from Jamaica to sell in UK shops. Now, Reggae is known as the national music of Jamaica.

B. Where is Jamaica?

C. What are Reggae Songs About?

Reggae is closely associated with **RASTAFARIANISM** (a religious movement worshipping Haile Selassie as the Messiah and that black people are the chosen people and will eventually return to their African homeland). The **LYRICS** of Reggae songs are strongly influenced by Rastafarianism and are often political including themes such as **LOVE, BROTHERHOOD, PEACE, POVERTY, ANTI-RACISM, OPTIMISM** and **FREEDOM.**

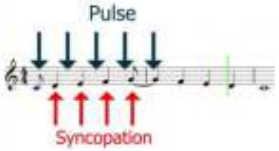
D. Offbeat Rhythms & Syncopation

OFFBEAT RHYTHMS – Rhythms that emphasise or stress the **WEAK BEATS OF A BAR**. In music that is in 4/4 time, the first beat of the bar is the strongest, the third the next strongest and the second and fourth are weaker. Emphasising the second and fourth beats of the bar gives a "missing beat feel" to the rhythm and makes the music sound **OFFBEAT,** often emphasised by the **BASS DRUM** or a **RIM SHOT** (hitting the edge of a **SNARE DRUM**) in much Reggae music.

ONBEAT RHYTHM GRID

OFFBEAT RHYTHM GRID

SYNCOPATION – A way of changing a rhythm by making some notes a bit early, often so they cross over the main beat of the music giving the music a further **OFFBEAT** feel – another common feature of Reggae music.



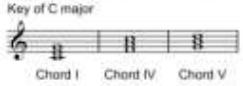
E. Musical Features of Reggae

OFFBEAT RHYTHMS AND CHORDS (see D)
SYNCOPATED RHYTHMS AND MELODIES (see D)
SUNG LYRICS (see C)
LEAD SINGER often with **BACKING SINGERS** sometimes singing in **CALL AND RESPONSE** (see F3) accompanied by a Reggae band which often features: **BRASS INSTRUMENTS** and **SAXOPHONES, ELECTRIC GUITARS, BASS GUITAR, KEYBOARDS, DRUMS AND PERCUSSION INSTRUMENTS.**
VOCAL AND INSTRUMENTAL IMPROVISATIONS (see F2)
MELODIC RIFFS (see F5)
SLOW, RELAXED ('chilled!') **TEMPO**
4/4 METRE/TIME SIGNATURE
Most Reggae songs are structured in **VERSE AND CHORUS/POPULAR SONG FORM.**
SIMPLE HARMONIES (see F4)

THICK TEXTURAL LAYERS (see F9) "The Reggae Trifle" is an example of how many Reggae songs are 'layered'.

F. Reggae Key Words

1. **MELODY** – The main 'tune' of a piece of music, often sung by the **LEAD SINGER.**
2. **IMPROVISATION** – Previously unprepared performance.
3. **CALL AND RESPONSE** – Similar to a "Question and Answer" often the call sung by the lead singer and answered by the backing singers or instruments (the response) – musical dialogue.
4. **SIMPLE HARMONIES** – using a limited number of **CHORDS,** mainly **PRIMARY TRIADS** such as the **TONIC, DOMINANT** and **SUBDOMINANT** chords.



5. **RIFF** – A repeated musical pattern. Often the **BASS GUITAR** played repeated **MELODIC BASS RIFFS** in Reggae songs.
6. **BASS/BASS LINE** – The lowest pitched part of a piece of music often played by the **BASS GUITAR** in Reggae which plays an important role.
7. **CHORD** – 2 or more notes played together in **HARMONY.**
8. **RHYTHM** – A series of long and short sounds.
9. **TEXTURE** – Layers of sound combined to make music.

G. Who was Bob Marley?

BOB MARLEY was a famous reggae singer, **SONGWRITER**, and musician who first became famous in his band The Wailers, and later as a **SOLO ARTIST**. He was born Nesta Robert Marley on February 6th, 1945 in Nine Mile, Saint Ann, Jamaica. Although he grew up in poverty, he surrounded himself with music and met some of the future members of The Wailers. Bob Marley became involved in the Rastafarian movement and this influenced his music style greatly. Bob Marley and The Wailers worked with several famous musicians before becoming famous on their own. His career flourished and he became a cultural icon. He was the first international superstar to have been born in poverty in a Third-World country.

SAMBA

Samba is a musical genre and dance style with its roots in Africa via the West African slave trade and African religious traditions. Samba is an expression of Brazilian cultural expression and is a symbol of carnival. Samba schools formed and compete bringing people together.

A. Key Words and Terms in Samba Music

CALL AND RESPONSE – one person plays or sings a musical phrase, then another person/group responds with a different phrase or copies the first one.
CYCLIC RHYTHM – a rhythm that is repeated over and over again.
IMPROVISATION – making up music as you go along, without preparation.
OSTINATO – a repeated pattern. Can be rhythmic or melodic; usually short.
PERCUSSION – Instruments that are mostly hit, scraped or shaken to produce sound. Samba uses many percussion instruments which together are called a **BATERIA**.
POLYRHYTHM – the use of several rhythms performed simultaneously, often overlapping each other to create a thick texture.
PULSE – a regular beat that is felt throughout music
RHYTHM – a series of notes of different lengths that create a pattern. Usually fits with a regular beat or pulse.
SYNCOPATION – accenting or emphasising the weaker beats of the bar (often a half beat (quaver) followed by a full beat (crotchet)) giving the rhythm an **OFFBEAT** feel.
SAMBISTA – the leader of a Samba band or ensemble, often signalling cues to the rest of the band of when to change sections within the music with an **APITO** (Samba whistle)

B. Form and Structure of Samba

Samba music often starts with an **INTRODUCTION** often featuring **CALL AND RESPONSE RHYTHMS** between the Samba Leader and ensemble. The main Ostinato rhythm of Samba is called the **GROOVE** when all the instruments of the Samba Band play their respective rhythms over and over again **(CYCLIC RHYTHMS)** forming the main body of the piece. The **GROOVE** is broken up by **BREAKS** - 4 or 8 beat rhythms providing contrast and **MID SECTIONS** – one or two instruments change the rhythm of their ostinato and the others stay the same or stop. Sometimes **BREAKS** and **MID SECTIONS** feature a **SOLOIST** who "shows off" their rhythms. The **SAMBISTA** must signal to the group when to change to a different section which is normally done with an **APITO** (Samba Whistle – loud!). A piece of Samba can end (this section is called the **CODA**) with either a **CALL AND RESPONSE** pattern or a pre-rehearsed ending phrase of rhythm. The **FORM AND STRUCTURE** of a piece of Samba may look like the following:

Intro	Groove	Break	Groove	Mid-Section	Groove	Mid-Section	Groove	Break	Groove	Coda

C. Texture of Samba Music

Texture varies in Samba music, often **MONOPHONIC** where a single rhythm is heard as in **CALL AND RESPONSE** sections, sometimes **POLYPHONIC** where sections of the Samba band play different rhythms **(OSTINATOS)** creating **CROSS-RHYTHMS** (when two rhythmic patterns that "conflict" with each other occur simultaneously) creating a thick texture of interweaving and interlocking rhythms – a **POLYRHYHM** or a **POLYRHYTHMIC TEXTURE**.

D. Dynamics of Samba Music

The dynamics of Samba music are normally **VERY LOUD** – it is music designed to be performed outdoors at carnivals and is played by large numbers of instrumentalists and to accompany dancers and processions with large audiences watching and listening. Sometimes, a **CRESCENDO** is used at the end of a piece of Samba music for dramatic effect.

E. Tempo of Samba Music

Samba music is generally **FAST** at around 104 bpm and keeps a constant tempo to assist the dancers or processional nature of the music. Sometimes the **SAMBISTA** (Samba leader) uses **(TEMPO) RUBATO** – tiny fluctuations in tempo for expressive effect.

F. Instruments, Timbres and Sonorities of Samba

SURDO

REPINIQUE

TAMBORIM

CHOCOLO

RECO-RECO

APITO

AGOGO BELLS

CAIXA DE GUERRO

Year 8 PE

- Decision Making
- Communication & Teamwork
- Problem Solving
- Integrity
- Stress Management
- Self-Motivation

To develop an understanding of the impact my actions and attitude can have on others.

To appreciate how I can contribute to a positive learning environment.

Term 2

PHYSICAL ME

Application of physical skills and tactics

	3		4	
1	Gymnastics	TM3	Fitness	EM4
2	Fitness	TM3	Gymnastics	EM4
3	Football	TM3	Badminton	EM4
4	Badminton	TM3	Football	EM4

THINKING ME

Cognitive, creative, evaluative & problem solving skills

EMPLOYABLE ME

Demonstrate person values, behaviours & character traits

- Problem Solving
- Integrity

TM3	Be prepared to fail in order to achieve. Plan - Do - Review in most activities. Find solutions independently (without asking the teacher for help straight away).				
	Above	Excellent	Expected	Working Towards	Concern
	Relishes new challenges and can independently problem sovle very effectively	Is able to take on more difficult challenges, review activities and find effective solutions independently.	Is able to take on challenges, review activities and find solutions independently.	When faced with new challenges is beginning to engage with the plan-review-do model with some success	When faced with new challenges does not engage with the plan-review-do model

EM4	Be honest. Do the right thing, even if no-one is looking. Manage emotions.				
	Above	Excellent	Expected	Working Towards	Concern
	Always models integrity as a player, official or coach at every opportunity	Shows confidence in assuming different roles with integrity within the lesson	Demonstrates integrity within PE by being honest and treats peers fairly in the role of performer and umpire.	Is inconsistent in their use of integrity in lessons in the varity of roles that they undertake	Is dishonest about their own performance and/or whilst undertaking the role of coach/umpire

Aerobic threshold: 60% MHR

Types of training

Anaerobic threshold: 80% MHR

Training Type	Description	Good for improving	Advantages	Disadvantages
Continuous Training	Involves continuous activity that increases heart rate between 50-80% over a sustained period of time. It is slow and steady activities e.g. jogging.	Cardiovascular endurance	• Doesn't require much equipment. • Good for aerobic fitness • Good for losing weight	Disadvantage: • Not useful for game players because it doesn't improve anaerobic fitness. • Can be boring
Interval Training	• Involves periods of intense work followed by rest periods. • Can be short or long intervals.	Speed Muscular endurance Anaerobic fitness	• Good for game players because you can mix aerobic and anaerobic exercise. • Easy to adapt for different activities or fitness levels • No specialist equipment needed	• Can become boring • Need to time rest and work periods carefully
Weight Training	• Involves using free-standing weights or fixed weights attached to weight training equipment • Repetitions are the number of times the weights are lifted • Sets are the number of times a weight activity is carried out	Muscular endurance Speed Power Strength	• Improves muscular strength and tone. • Easy to show progression • Increases muscle size and power • Assist recovery after injury	• Need to have access to a gym which may be costly. • Free-standing weights may cause injury if dropped • Limit on the weight that can be lifted with fixed weights • Specialist equipment needed.
Fartlek Training	Also known as 'speed play' and involves fast and slow running over a variety of terrain or hills. It is useful for individual sports, e.g. athletics and team sports, e.g. football.	Aerobic endurance Anaerobic fitness	• Can be easily adapted for different sports and fitness levels. • Good for sports that require a change of pace	• Difficult to see how much effort is being exerted. • Too easy to skip the hard bits.
Circuit Training	• Involves completing a variety of exercises at stations to exercise different muscle groups • Each exercise is carried out for a set time or number of repetitions before moving on to the next station • Same muscle group should not be next to each other • It can be useful to team sports, e.g. football and racquet sports, and individual sports e.g. running.	Anaerobic fitness Strength Muscular endurance Cardiovascular endurance Speed	• Varied, so doesn't get boring. • Easily adapted • Can include skill stations	Requires a lot of equipment and time to set up.

Training Principles

S **Specificity**- The training should match the demands of the activity and develop the relevant body systems.

R **Reversibility** – If training stops, because of injury for example, then the benefits gained would be lost.

P **Progression** - Training workload should be increased gradually so that the body can adjust to the extra demands.

T **Tedium** – Training should be varied and interesting to prevent boredom.

Thresholds of Training

This is the heart rate needed to ensure that exercise is affecting the body and fitness improves.

Maximum Heart Rate (MHR) is calculated by 220-age.

Aerobic threshold : 60-80% MHR

Anaerobic threshold: 80-90% MHR

Principles of overload

O **Overload** – Making your body work harder than normal in order to make it adapt or improve.

F **Frequency** – The number of training sessions.

I **Intensity** – The number of training sessions.

T **Time** – the amount of time spent in training session

PERSONAL DEVELOPMENT KNOWLEDGE ORGANISER YEAR 8

UNIT 3: RELATIONSHIPS AND SEX EDUCATION

LESSON 8: RACISM

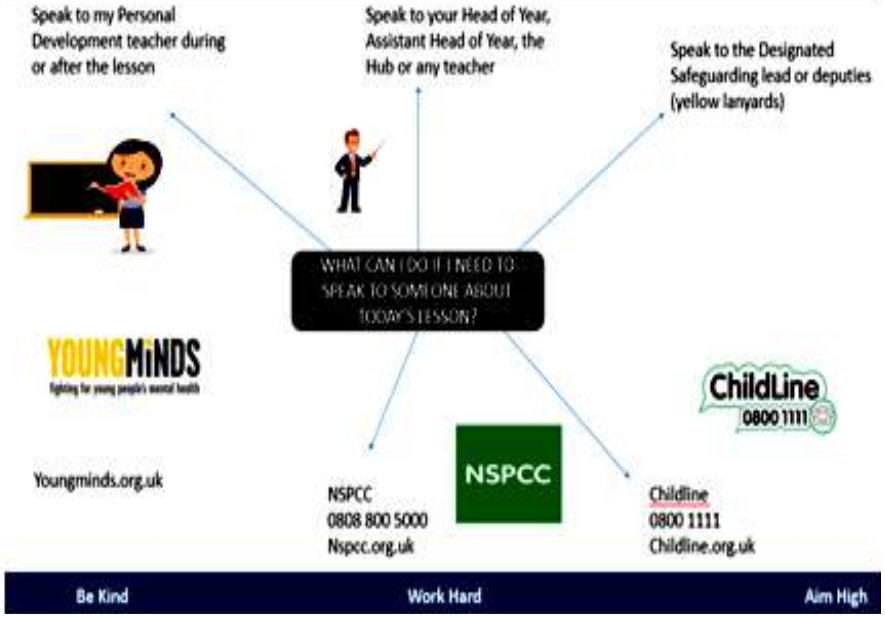
- Racism is prejudice, discrimination, or antagonism by an individual, community, or institution against a person or people on the basis of their membership of a particular racial or ethnic group
- We studied about the history of racism in sport
- According to stophate.co.uk 43% of the hate crime reported to them related to race
- If you are black, you are four times more likely to be stopped by the police.
- We looked at the racially motivated murder of Stephen Lawrence in 1993 which led to the Metropolitan Police being called institutionally racist.

LESSON 9: DISCRIMINATION

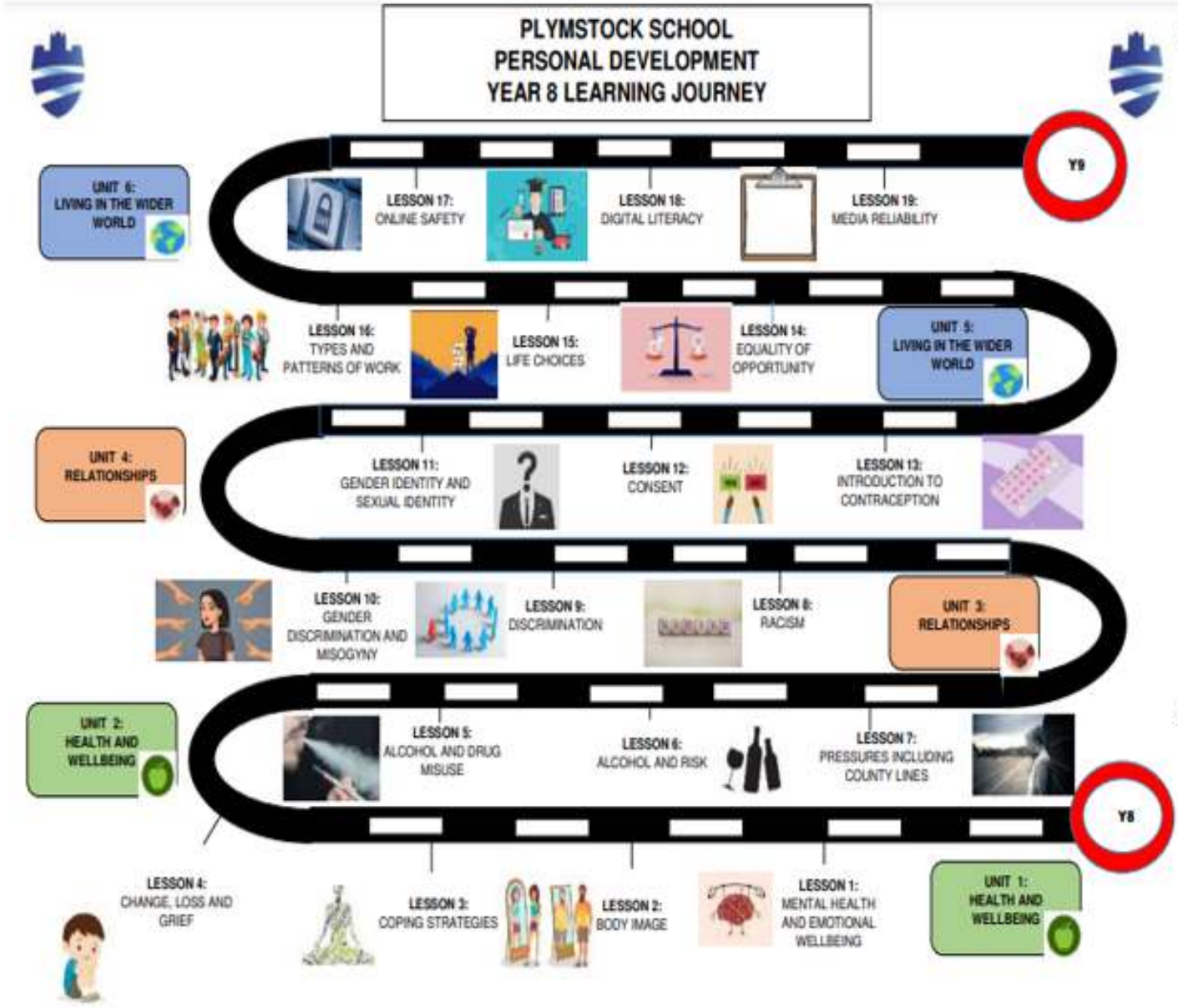
- Discrimination is the unjust or prejudicial treatment of different categories of people, especially on the grounds of ethnicity, age, sex, or disability.
- The 2010 Equality Act protects British citizens from discrimination.
- The 2010 Equality Act mean private, public and voluntary bodies must not discriminate against employees and people that use their services.
- The 2010 Equality Act identifies different types of discrimination: for example; age, disability, race, gender, marriage, religion, sex and sexual orientation.

LESSON 10: GENDER DISCRIMINATION AND MISOGYNY

- Misogyny is dislike of, contempt for, or ingrained prejudice against women.
- We looked at the reasons why some commentators have argued that misogyny has increased in recent years.
- We discussed the rise of Andrew Tate and why his popularity has risen over the past few years.
- Some young men seem to see Tate as a hero figure and associate his wealth with success.



PLYMSTOCK SCHOOL PERSONAL DEVELOPMENT YEAR 8 LEARNING JOURNEY



Be Kind | Work Hard | Aim High

KEY TERMS:

KEY TERM	DEFINITION:
Discrimination	The unjust or prejudicial treatment of different categories of people, especially on the grounds of ethnicity, age, sex, or disability.
Equality Act (2010)	Law which protects British people from discrimination.
Misogyny	Dislike of, contempt for, or ingrained prejudice against women.
Racism	Prejudice, discrimination, or antagonism by an individual, community, or institution against a person or people on the basis of their membership of a particular racial or ethnic group

Plymstock School

For more activities visit the remote curriculum page of the Plymstock school website under the curriculum heading.

Year 8 Remote Curriculum

How do Muslims show submission to Allah?

Topic	Knowledge
Origins	* Muslims believe there is ONE God, it is a monotheistic religion, they can learn about him by reading their **holy book called the Quran**, this guides them on how to live a good life by following the Five Pillars of Islam, these are certain ACTS a Muslim must carry out. * Islam is a peaceful religion with 1.8 billion followers worldwide, **they come together to worship in a Mosque** * They have great respect for **The Prophet Mohammed who started Islam – he was Allah's messenger and helped to spread the word of God.** * Mohammed was born in 570AD in Makkah – where the Kaaba an important temple is. It wasn't a very nice place to live in – it was ruled by bullies and people worshiped so many Gods. Sadly Mohammed's parents died and he was orphaned but despite this he became a shepherd then business man. **One day when he was in a cave he saw an angel and was given the Quran and so he spend the rest of his life teaching about Allah.**
Mosques	* The mosque is a place to gather for prayers, to study and to celebrate festivals. It can also be used as a school and community centre. * Mosques all over the world share a number of similar features; they often have a minaret and a dome, sometimes they are surrounded by an arcade or have a school called a Madrasa. Muslims do not have to perform the Salat in a mosque except on Friday at mid-day. * **Before entering a mosque, Muslims must remove their shoes.** It is normal for men and women to pray in different areas of the mosque. There are no priests in Islam, but most mosques have an Imam. * **The simplest mosque would be a prayer room with a wall marked indicating the direction of Mecca, which Muslims should face when praying.**
The Five Pillars	* **The Five Pillars of Islam are the five acts that every Muslim must do to live a good and responsible life,** they are: **Shahadah**: "There is no God but Allah, and Muhammad is his messenger." Reciting this statement three times in front of witnesses is all that anyone need do to become a Muslim. A Muslim is expected to recite this statement out loud, with total sincerity, fully understanding what it means. **Salat**: Salat is the obligatory Muslim prayers, performed five times each day by Muslims. It is the second Pillar of Islam. All Muslims try to do this. Muslim children as young as seven are encouraged to pray. The prayer ritual, which is over 1400 years old, is repeated five times a day by hundreds of millions of people all round the world. Carrying it out is not only highly spiritual but connects each Muslim to all others around the world **Zakat**: Zakat is the compulsory giving of a set percentage of one's wealth to charity. It is regarded as a type of worship and of self-purification. Zakat is the third Pillar of Islam. Zakat is the giving of 2.5% of one's wealth each year to benefit the poor. **Sawm**: Sawm is fasting. It's the fourth of the Five Pillars of Islam. Muslims are required to fast during Ramadan, the ninth month of the Islamic calendar. During the 29/30 days of Ramadan all adult Muslims must give up the following things during the hours of daylight: - Food or drink of any sort - Smoking, including passive smoking - Sexual activity. Muslims who are physically or mentally unwell may be excused some of these, as may those who are under twelve years old, the very old, those who are pregnant, breast-feeding, menstruating, or travelling.
Hajj	* Once a year, Muslims of every ethnic group, colour, social status, and culture **gather together in Mecca and stand before the Kaaba praising Allah together.** It is a ritual that is designed to promote the bonds of Islam by showing that everyone is equal in the eyes of Allah. * The Hajj makes Muslims feel real importance of life here on earth, and the afterlife, by stripping away all markers of social status, wealth, and pride. In the Hajj all are truly equal. The Hajjis or pilgrims wear simple white clothes called Ihram. During the Hajj the Pilgrims perform acts of worship and they renew their sense of purpose in the world. Mecca is a place that is holy to all Muslims. It is so holy that no non-Muslim is allowed to enter. * For Muslims, the **Hajj is the fifth and final pillar of Islam**. It occurs in the month of Dhul Hijjah which is the twelfth month of the Islamic lunar calendar. It is the journey that every sane adult Muslim must undertake at least once in their lives if they can afford it and are physically able.
Ramadan	* Ramadan is the **holy month of fasting** – when Muslims do not eat or drink during daylight hours – they eat before the sun comes up and after it has gone down. **It is important to them as it helps bring them closer to Allah and become better people by giving to charity and spending more time with friends and family.** Muslims believe that their good actions bring a greater reward during this month than at any other time of year, because this month has been blessed by Allah.

How do Muslims show submission to Allah?

	* **The start of Ramadan is a different day every year as it depends on the course if the Moon.** In the morning they get up early and eat before the sun rise, this meal is called the **Suhur**. During the day Muslims try become better people, they may try to be kind, help others and give to charity. In the afternoon Muslims go to the Mosque and pray, they try to become closer to Allah. After the sun has set they eat their evening meal called Iftar. **The end of Ramadan is called Eid al-Fitr**, Muslims celebrate by having a big family party and dressing in their best clothes
The Quran	* The Quran is the Muslim holy book which contains the word of God, guidance and teachings, there are 114 chapters in the Qur'an, which is written in Arabic. **It was given to The Prophet Mohammed on the Night of Power** – which is celebrated during Ramadan * The Prophet Mohammed was meditating in a cave and praying to Allah for guidance, the angel Jibril appeared in front of him and gave him a scroll with the words of Allah written on it. But Mohammed couldn't read! The angel said to Mohammed three times 'Read! Read! Read!' and a miracle happened, suddenly Mohammed could read and understand the words of Allah. Mohammed's wish had come true, he was guided by Allah and spent the rest of his life receiving direct teachings and recording them, after 23 years he collated them which form the same Quran you can buy today. * The Night of Power is important as it was when Allah chose to reveal the Quran to Mohammed. Muslims also believe it is one of the most holy days of the year when, if they are good Muslims, their wishes may also come true and they could be guided by Allah.
Islamic Dress	* Some Muslim women choose to wear a head or body covering, the main types are Hijab, Niqab, Chador and Burka. They all cover the head but differ in how much of the rest of the body they cover. All coverings are worn in front of male non-family members and in public, they are removed at home. * **Muslim women choose to cover themselves as in the Quran it teaches to dress modestly 'And say to the believing women that they should lower their gaze and guard their modesty; that they should not display their beauty' they are not forced to wear them but do so to express their religion.** * Sadly there are some place in the world who have chosen to go against human rights and the freedom of expression and have banned the burka and other head coverings in public. Such countries include, France, Belgium and Austria.

Key Word	Meaning
Islam	The religion
Muslim	A follower of Islam
Allah	The Arabic word for God
Monotheistic Religion	A religion that believes in one God
Quran	The Islamic holy book
Prophet Mohammed	The human founder of Islam and messenger of God
Prophet	Someone who communicates with God
Mosque	The Islamic place of worship
Five Pillars	The five acts a Muslim must do to live a good and responsible life
Shahadah	The declaration of faith – becoming a Muslim
Salat	Performing ritual prayers in the proper way five times each day
Zakat	Paying a charity tax to benefit the poor and the needy
Sawm	Fasting during the month of Ramadan
Hajj	A pilgrimage to Mecca
Ramadan	Fasting for one month during daylight hours
Fasting	Not eating or drinking
Id-ul-Fitr	Celebrates the end of Ramadan
The Night of Power	When the Quran was given to Mohammed

Hijab	A head covering worn in public which usually covers the head and chest
Chador	A large piece of cloth that is wrapped around the head and upper body leaving only the face exposed
Niqab	A garment that covers the face while leaving the eyes uncovered
Burka	Outer garment which covers the whole body and the face

Quote	Topic
'Say: Allah, he is the one' *Quran*	Allah
'There is no God but Allah, and Muhammad is his messenger.' *Shahadah*	Five Pillars
'Allah knows what is in every heart' *Quran*	Quran
'Show forgiveness, enjoin kindness, avoid ignorance' *Quran*	Quran
'And say to the believing women that they should lower their gaze and guard their modesty; that they should not display their beauty' *Quran*	Islamic Dress