Year 8 Term 3
Knowledge Organisers

Contents

Subject

Art
Citizenship
Computing
Drama
English
Food Technology
Geography
German
History
Music
PE
Religious Studies
Science

How to use the Knowledge Organisers

1. You can create quizzes to test yourself and your peers.
2. You can create flash cards to help you remember important information and essential vocabulary. By repeating the number of times you read this essential vocabulary, you will be more likely to use it and remember it.
3. Creating mind maps helps us organise the knowledge that is important to us. This allows us to make connections to our prior knowledge and to help us make links to future learning.

Art – Write Like An Artist – Content, Form, Process & Mood

What is Content, Form, Process & Mood?

Content, Form, Process & Mood, is the structure we use to analysis artwork, we can any break down any piece of art into the four areas below:

Content - What is it?

Form - How have the formal Elements been used?

Process - How has the work been made?

Mood - Looking at the communication of moods and feeling?

Content - What is it?

- What is in the work?
- What exactly can you see?
- What is happening?
- What is it about?
- What is the theme of the work?

Example Sentence: In this painting there is a portrait of a man sat looking towards the artist.

Content – Keywords

Landscape	Moment	Journey	Memory	Event
Surreal	Fantasy	Abstract	Realistic	Portrait

Form - How have the Formal Elements been used?

- Texture - What is the surface like? What textures can you see?
- Pattern - What patterns can you see?
- Colour - What colours have the artist used? How and why?
- Shape - What kind of shapes are there?
- Line - What kind of lines and marks?
- Tone – What is the light like in the work?

Example Sentence: The artist has painted themselves wearing cool and cold blues and greens, to create a sense of sorrow and sadness.

Form – Keywords

Dark	Scale	Light	Blended	Smooth
Bold	Geometric	Dull	Dark	Soft

Process - How has the work been made?

- What materials and tools have been used?
- What is the evidence from the painting?
- Might the artist have made supporting studies sketches, photographs, maquettes, collages and stencils, for example?
- Was the work executed rapidly or did it evolve slowly over a long period?

Example Sentence: The artist uses an impasto technique, where they have applied thick layers of oil paint onto the canvas.

Process – Keywords

Painted	Drawn	Woven	Sewn	Constructed
Collage	Layered	Cast	Sketched	Stitched

Mood - Looking at the communication of moods and feeling?

- How does the work make you feel? Why do you feel like this?
- Does the colour texture, form or theme affect your mood?
- Can you imagine what the artist's feelings were while producing the work?
- What do you think the artist is saying? Why?
- What message is the work/artist trying to communicate? Why

Example Sentence: The painting gives a sense of dread and sadness, making us question why the artist has painted this self portrait in this depressed state of mind.

Mood – Keywords

Quiet	Relaxed	Thoughtful	Hopeful	Peaceful
Sorrowful	Reflective	Pensive	Disturbed	Soothing

Art - Year 8: Our Landscape – Artists 1 & 2

Liz Ackerely

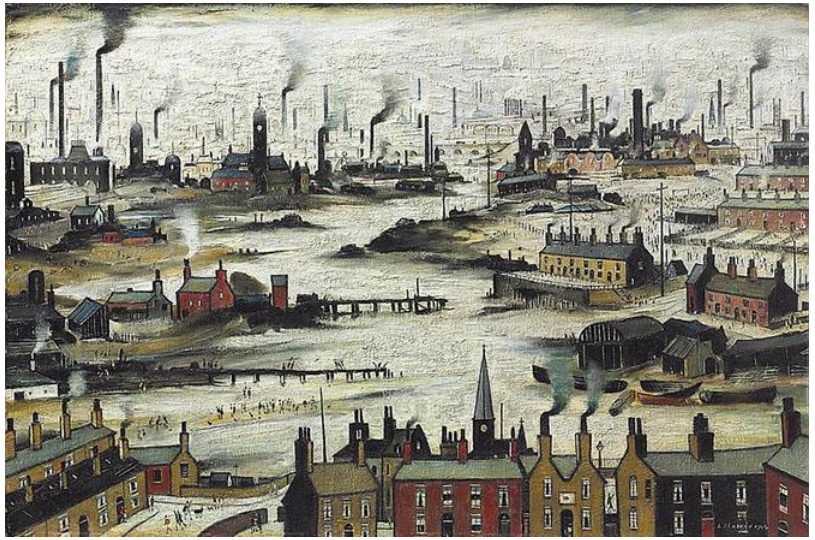
Long Hot Summer

I am continually inspired by the breath-taking wild landscapes, and places that surround me. Specifically, I am fascinated by what makes these places unique. Transitions in the landscape catch my attention as well as the dynamics, and unique energies of different places. My drawings and paintings express my feelings about those places, their identity.

The marks of the landscape (the lines, dots, smears, patterns), the shapes and colours; in different weathers and seasons, are a visual and physical language of 'them'. My expressive mixed media work on location and back in the studio, explores how to capture and translate these experiences into multi-layered dynamic abstract paintings. Collage, paint and other media are combined to create rich textural works with a sense of the place and a reflection of the passage of time.

I grew up surrounded by heathland and the nurture of nature and landscape was my first love! A connection to, and relationship with the landscapes that surround me has perhaps been the one continuum in a varied career path.

LS Lowery



Industrial Landscape, 1955

Laurence Stephen Lowry (*LAO-ree*; 1 November 1887 – 23 February 1976) was an English artist. His drawings and paintings mainly depict Pendlebury, Greater Manchester (where he lived and worked for more than 40 years) as well as Salford and its vicinity.

Lowry painted scenes of life in the industrial districts of North West England in the mid-20th century. He developed a distinctive style of painting and is best known for his urban landscapes peopled with human figures, often referred to as "matchstick men". He painted mysterious unpopulated landscapes, brooding portraits and the unpublished "marionette" works, which were only found after his death. He was fascinated by the sea, and painted pure seascapes, depicting only sea and sky, from the early 1940s.

His use of stylised figures which cast no shadows, and lack of weather effects in many of his landscapes led critics to label him a naïve "Sunday painter".

Lowry holds the record for rejecting British honours—five, including a knighthood (1968). A collection of his work is on display in The Lowry, a purpose-built art gallery on Salford Quays. On 26 June 2013, a major retrospective opened at the Tate Britain in London, his first at the gallery; in 2014 his first solo exhibition outside the UK was held in Nanjing, China.

Unit 3—Python Programming

Turtle Graphics in Python:

We need to use specific commands when we write programs. To use the Turtle graphic we need to import the commands that work with the Turtle before the program can understand the instructions.

Always start with **import turtle**

CODE	What does it do:
turtle.pendown()	Puts the pen on the paper.
turtle.pencolor("red")	Changes your pen to a red one.
turtle.forward (100)	Moves the turtle forward by 100 pixels.
turtle.right (90)	Turns the turtle by 90 degree clockwise.
turtle.penup()	Lifts the pen off the paper.
turtle.pensize(20)	Changes the pen to a thickness of 20
t.fillcolor("green")	Sets the colour you want to fill a shape with.
t.begin_fill()	Starts the fill command.
t.end_fill()	Ends the fill command.

Functions turn purple and **Keywords** turn orange. When they are correct!

Iteration:

Is used to repeat code:

```
for i in range(4):
    t.forward (100)
    t.right (90)
```

i is just a number, we could use any letter or name. –it is a **VARIABLE**

The **range** is how many times we want to repeat our indented code.

Selection:

Used to allow the program to complete certain lines of code if a condition is true.

```
age=23
if age>17:
    print("you are an adult")
else:
    print("you are a child")
```

Outputs:

To output in Python we use the command:

print ("Hello")

Remember:

- The command print is ALL lowercase.
- Text needs to be inside " " and ( )
- Numbers need to be inside ()

Mathematical Operators:

Mathematical Operator:	Python code:
8 ÷ 5 =1.6	8/5
8+5=13	8+5
8x5=40	8*5
8-5=3	8-5
8 ÷ 5 =1 remainder 3 Just give the whole number	8//5
8 ÷ 5 =1 remainder 3 Just give the remainder	8%5
8 to the power 5=32,768	8**5

Variables and Data Types:

Variable named and stored:	Data type:
age= 15	**Integer:** a whole number
height=1.65	**Float:** a decimal number (also called Real)
name="Samuel"	**String:** Any letters, symbols, numbers—an alphanumeric piece of data.
Initial="E"	**Character:** One letter.
Adult="True"	**Boolean:** True or false

Comparison Operators:

Mathematical Operator:	Python code:
Greater than	>
Less than	<
Greater than or equal to	>=
Less than or equal to	<=
Equal to	==
Not equal to	!=

Errors:

Errors that need to be fixed are called syntax errors, When we have an error we should try to **FFF: Find -the-Fault -Fix it!**

Unit 3 – Python Programming

Key Word	Definition
Programming	The process of giving something instructions to do something
Syntax	The rules of a programming language that must be followed when writing code.
IDLE	Pythons **Integrated Development and Learning Environment.** The software we use to write our code.
Variables	**Stores** a single piece of data within a program, the storage location is given a **name.** The contents **can change** e.g. a players health.
Shell	The window your program is executed in so it shows your program running. You can only write one line of code at a time here.
Editor	The window you **write all the lines of your code in.**
iteration	A programming construct used to **repeat** code.
Sequence	A programming construct telling us programs are completed in order.
Count controlled iteration	A programming construct used to repeat code **a specific number** of times.
Condition controlled iteration	A program construct used to repeat code **WHILE** a specific condition is met.
FFF	Remember: if the program doesn't work it's something with your code! **Find** those **faults** and **fix** them before asking for help!

NOTES: Assessment will be a TEAMS assessment .

WWW:

EBI:

Key Word	Definition
Run	The command you select to let your program be executed by the computer.
Selection	Selection allows us to **make decisions** about which lines of code we want to run. The decision is based on a CONDITION.
Indentation	When we use selection the lines of code we want to run following a condition need to be **PUSHED** in—this is indentation.
Efficiency	To make programs efficient we use iteration to reduce the number of lines of code.
Assignment	When we tell a program to store a variable we ASSIGN a name for it with the equals sign.

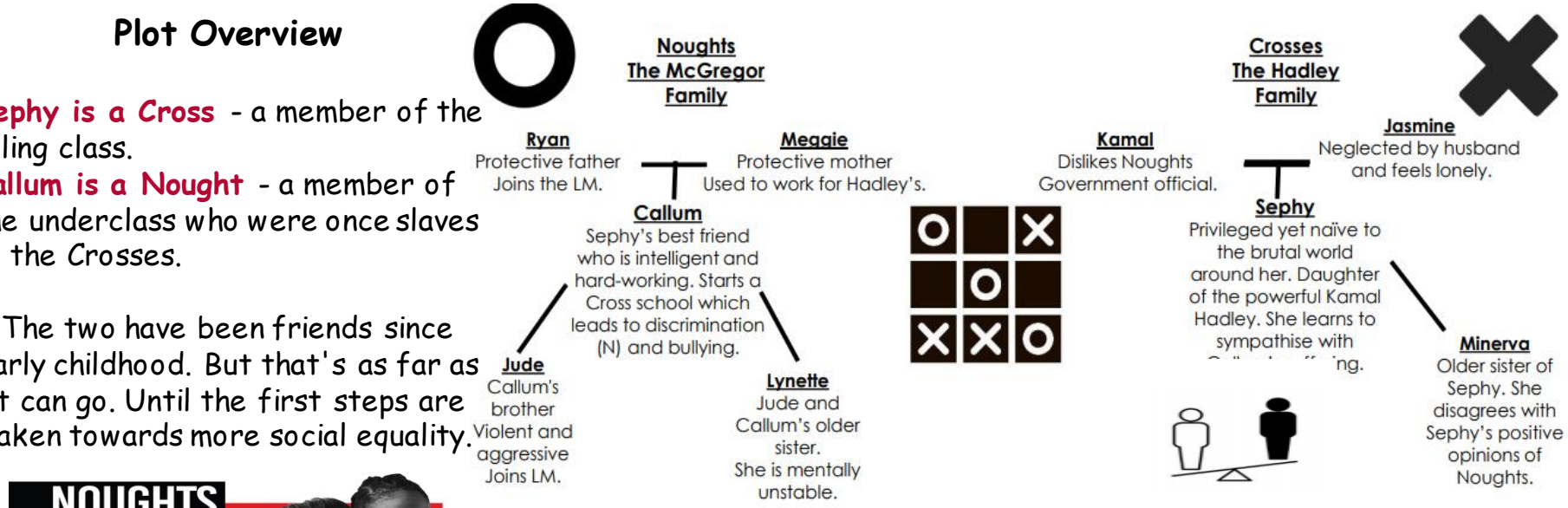
Year 8- Noughts and Crosses by Malorie Blackman

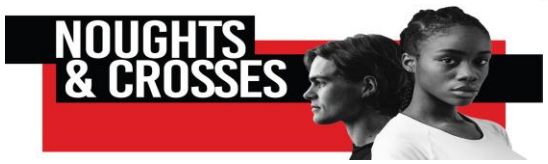
Dystopian: An imagined society where there is great suffering and injustice.

Plot Overview

Sephy is a Cross - a member of the ruling class.
Callum is a Nought - a member of the underclass who were once slaves to the Crosses.

The two have been friends since early childhood. But that's as far as it can go. Until the first steps are taken towards more social equality.





Discrimination — Racism

Many of the hardships that Callum faces are based on real events in our own society. For example, when he is abused when he is one of the first white students allowed into an all-black school: he only learns about black historical figures in class: and he is constantly put down by Crosses.

Inequality — Justice

Callum and Sephy both want justice for Noughts; they want a world where everyone is equal, and they can be together. But when members of Callum's own family get caught up in the process of the law, it becomes clear that the legal system is rigged against them.

Conflict — Forbidden Love

Noughts and Crosses is a tragic love story. Like Romeo and Juliet, Callum and Sephy are torn apart by the warring sides to which they each belong. Their forbidden love and resistance takes place in a world of conflict.

Liberation Militia — Terrorism

The "Liberation Militia" is a secretive group of Noughts who fight for equality by planting bombs and murdering Crosses. Their terror tactics are like those of the IRA in the latter half of the 20th century. As Callum becomes more upset and confused by the way he and his family are treated. He begins to relate to the LM.

Themes

Racism
Friendship
War
Prejudice
Love

English Year 8: Unit 5 & 6 Dystopia & War

The Fertile Question

How has the development of English Language and Literature made an impact on the world and those who have accomplished greatness?

Key Knowledge

The central themes of dystopian novels generally fall under these five categories:

1. Environmental destruction: Dystopian novels often occur in inhabitable places on Earth or settings preparing for collapse. Climate dystopia is a subcategory of dystopian fiction that explores the effects of climate change and global warming.
2. Government control: Government plays a significant role in dystopian literature. Generally, there is either no government or an oppressive ruling body.
3. Loss of individualism: Many dystopian futures depict the dangers of conformity and explore how the needs of society as a whole compare to individual needs.
4. Survival: The oppressive powers and destruction in dystopian worlds often leave the inhabitants to fend for themselves.
5. Technological control: Advanced science and technology in dystopian works go beyond tools for improving everyday life—technology is often depicted as a controlling, omnipresent force and is often a fear-mongering tactic.

The Dystopian Protagonist

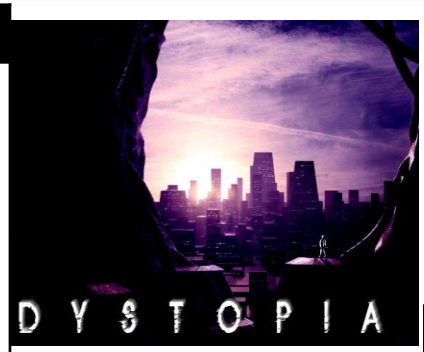
- **often feels trapped and is struggling to escape.**
- **questions the existing social and political systems.**
- **believes or feels that something is terribly wrong with the society in which he or she lives.**
- **helps the audience recognizes the negative aspects of the dystopian world through his or her perspective.**

Link: Apply your knowledge:

If you were writing your own dystopic short story, what would be a good structure to use. Epistolary? Bildungsroman?
Using Freytag's structure create an exposition for a dystopic narrative.

What is Dystopia?

Dystopian Literature explores the darkest facets of the human mind and human nature.
An imaginary place or condition in which everything is as bad as possible." The easiest way to think about Dystopian Literature and dystopias is to consider that a dystopia is often the result of a society's arranging its government and laws around good qualities for a perfect society, such as order, equality, and obedience, and taking those qualities to the absolute extreme.



Link: Show your understanding
Which of the extracts that we have read do you feel are the best examples of dystopia and why?

Wilfred Owen

Wilfred Owen, who wrote some of the best British poetry on World War I, composed nearly all of his poems in slightly over a year, from August 1917 to September 1918. In November 1918 he was killed in action at the age of 25, one week before the Armistice.

Links with War

Dystopian Literature, while fiction, can also spookily echo our own past, present, and future. Dystopian Literature is one of the best genres to understand man's inhumanity to his fellow men.

Link: Show your understanding
How might war poetry and the experiences of those in war have influenced the dystopian genre?

Misconceptions

The dystopian genre was forged outside of science fiction by non-science fiction writers. As the science fiction genre itself was still very young at the time of the dystopian creation the two groups were lumped together. It was almost all non-writers of sci-fi that really propelled the genre forward as we know it today.

Examples

The Handmaid's Tale	An example of a dystopia in literature is The Handmaid's Tale by Margaret Atwood which cautions society about the consequences of an unrestrained patriarchy. This book contains a strong and totalitarian central authority, feelings of fear and hopelessness for the handmaids, and extreme oppression and injustice.
Fahrenheit 451	Fahrenheit 451: Fahrenheit 451 by Ray Bradbury, written in 1953, follows a fireman whose job is to burn books. Because of the censorship of books, this future society has increased interest in technology and entertainment—and an inability to think freely and creatively.
Big Brother	1984: In George Orwell's 1984, the world is under complete government control. The fictional dictator Big Brother enforces omnipresent surveillance over the people living in the three inter-continental superstates remaining after a world war.

Link: Apply the knowledge, master the skill.
Consider 'The Book Thief' - how does Fahrenheit 451 link with some of the central themes and ideas?
How does the destructive nature of war impact humanity and influence writers to write about it?

Essential Vocabulary

Totalitarian (adj) (n) A government system that has full control over society.

Conflict (n) a serious disagreement or argument

Dystopia (n) an imagined state or society in which there is great suffering or injustice, typically one that is totalitarian or post-apocalyptic

Motif (noun) an idea, object or symbol that repeated and reinforced within a story

Rebellion (noun) – a person or group resisting authority and control of a leader or government by using protests or violence.

Abandonment (noun) the act of leaving a person or thing permanently and completely.

Utopia (n) an imagined place or state of things in which everything is perfect.

Trope (n) a significant or recurrent theme; a motif.

Dehumanising (v) deprive of positive human qualities

Sibilance (n) repeated use of 's' sound

Personification (n) the attribution of a personal nature or human characteristics to something nonhuman

Empowerment (noun) the process of becoming stronger and more confident, especially in controlling one's life and claiming one's rights.

Propaganda (noun) information, especially of a biased or misleading nature, used to promote a political cause or point of view

Link: Show your understanding of key vocabulary

- Put together sentences using a range of your essential vocabulary. This will help you remember how to use the word accurately
- Create flashcards with the essential vocabulary on one side and the definition on the other.

ANTARCTICA KNOWLEDGE ORGANISER

Map and Overview

-Antarctica is the world's southernmost continent. It is the location of the geographic South Pole.

-Antarctica is the fifth largest continent by size – it is 14.2 million km² about twice the size of Australia.

-About 98% of Antarctica is covered by ice – this averages about 1.9km in thickness.

-Antarctica is the coldest, driest and windiest continent, with the highest average elevation.

-The population is only around 2,000 people, who are temporary scientists and research teams (this fluctuates between summer-winter).

Places in Antarctica

Largest Settlements in Antarctica

1. McMurdo Station (USA)
2. Frei Station (Chile)
3. Amundsen-Scott (USA)
4. Mirny – (Russia)
5. Esperanze – (Argentina)

There are no countries in Antarctica, and no permanent residents. Antarctica is divided into foreign-run 'territories.'

Largest Territories in Antarctica

1. Australia – 5.9 million²
2. Norway – 2.7 million²
3. United Kingdom – 1.7 million²
4. Argentina – 1.5 million²
5. Chile – 1.3 million²

Antarctic Peninsula

The Antarctic Peninsula is the northernmost area of land on Antarctica. It is a part of Western Antarctica, and protrudes about 1,300km north towards South America. The northernmost tip of the peninsula is only about 1,000km away from the southernmost part of South America. Some sections contain little/ no sheet ice, the only place in Antarctica.

The South Pole

The South Pole is the most southerly place in the world, and is one of two places in the world upon which the earth's axis is centred. The South Pole was first reached by Norwegian Roald Amundsen and his team on December 11th, 1911. They were followed a month later by UK explorer Robert Scott and his team. The USA's permanently-manned Amundsen-Scott station is positioned at the pole.

Drake Passage

The Drake Passage is the body of water between the northernmost part of the Antarctic Peninsula and the southernmost tip of South America. It is known to be the quickest route to Antarctica from other land, but contains incredibly rough seas. Many ships have been destroyed here.

Victoria Land

Vitoria Land is the first known point at which man set foot on Antarctica. This was probably by Captain James Clark Ross in 1841. The region includes the Transatlantic Mountains, the Labyrinth flatlands, and also the McMurdo Valleys. It is situated just to the west the Ross Ice Shelf.

Longest Rivers

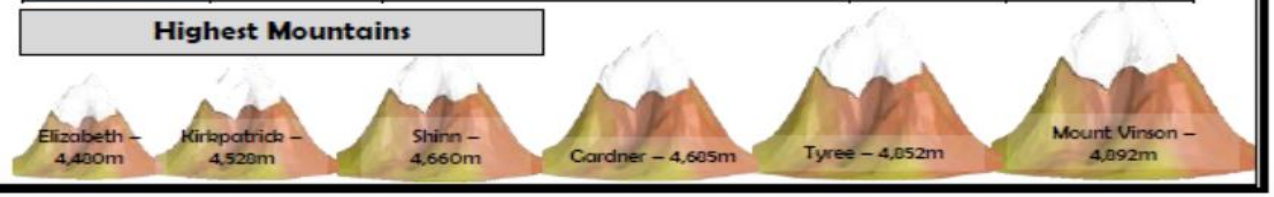
Human Geography Features

Race to the South Pole	 	In late 1911, Robert Scott's British team and Roald Amundsen's Norweigian team were in direct competition to reach the South Pole first. Amundsen's team won the race by 33 days. Amundsen landed at the Bay of Whales on the Ross Ice Shelf, whereas Scott landed at McMurdo – this gave Amundsen's team a shorter route by 95km. Amundsen had also mastered using sled dogs to make his journey quicker. Scott and his team died on their return from the pole, freezing to death in their tents.	**When?** At around 3pm on the 14th December 1911, Scott raised the Norweigian flag at the South Pole. Scott was disappointed to learn the race was lost upon reaching the pole on 17th January 1912.	**Key Fact:** Both teams were widely celebrated, with Amundsen receiving telegrams from the American President and British King. The Amundsen-Scott station at the pole is named after them.
Melting Ice		Antarctic ice has been rapidly melting over recent years, as a consequence of global warming. In recent years, even the ice in East Antarctica, the coldest area in the world, have begun to show signs of warming.	**What?** This is alarming news as it would raise sea levels, drowning low-lying countries	**Key Fact:** Some studies have shown the rate of melting has increased 280% in 40 years.
McMurdo Station		The McMurdo research station is the largest research centre in Antarctica. Situated on the southern tip of Ross Island, it is capable of housing 1,250 people. It is the largest of three US Antarctic research stations.	**Why?** The station takes its name from its geographic location – McMurdo Sound.	**Key Fact:** All trips to the Amundsen-Scott research centre pass through here.
Antarctic Treaty		The Antarctic Treaty was declared to end disputes over territory in Antarctica. The current claims are now fixed, and no country can claim any area south of 60° of latitude.	**When?** The treaty was signed in 1961.	**Key Fact:** Any treaty-state has legal access to the whole of Antarctica.

Physical Geography Features

Weather Extremes		Antarctica is the coldest place on earth. In the mountains, temperatures regularly drop below -60°C in the winter. It is slightly warmer around the coastal areas, but only rarely exceeds 0°C.	**Where?** It is coldest on mountain ridges. -93.2°C was once measured.	**Key Fact:** Precipitation is hard to measure, as it always falls as snow!
Ice Sheet		The Antarctic Ice Sheet is the largest on earth. In winter, it extends beyond the continent, growing from 3 million km² to 18 million km².	**Where?** Growth occurs mainly at coastal ice shelves.	**Key Fact:** The Ross and Ronne Ice Shelves grow the most.
Animals		Despite its hostile climate, including freezing temperatures, gale force winds, and perpetual winter darkness, Antarctica is home to many specially adapted animals. Emperor penguins are one of the best-known, and one of the only animals to remain on Antarctica throughout winter. A number of whale species live in the seas around Antarctica, whilst seals and many birds also call the coastal areas home.	**How?** All of the animals that live in and around Antarctica are specially adapted for the cold climate, with thick fur, feathers, or blubber to keep them warm.	**Key Fact:** There is far more life on the Antarctic Peninsula and around the coast than there are in the more central areas. There is almost no life on the mountains.
Southern Ocean		The Antarctic is surrounded by the Southern Ocean. It is a relatively deep ocean (up to 4,000m - 5,000m deep in places)	**What?** It is also known as the Antarctic Ocean.	**Key Fact:** The Southern Ocean is all ocean on earth below 60° south.
Mount Vinson		Mount Vinson is the highest mountain in Antarctica, at 4,892m above sea level. It is a part of the Vinson Massif, and lies in the Ellsworth Mountains. It overlooks the Arctic peninsula. It was not officially seen until 1958.	**When?** Vinson was first climbed in 1966 by a US team, led by Nicholas Clinch.	**Key Fact:** The Eastern route is so difficult to climb that it was not climbed until 2001.

Highest Mountains

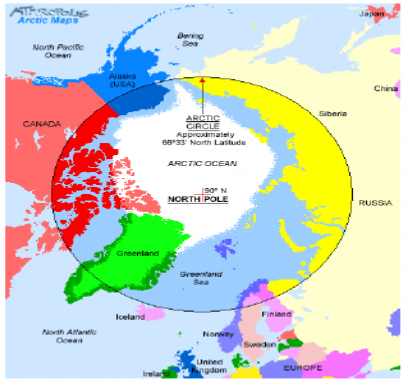


Knowledge Organiser

Geography of the Arctic

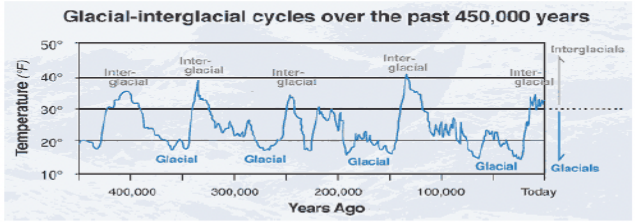
THE BIG QUESTION: Will the Arctic ever be the same again?

Where is the Arctic?



The Arctic Circle is located 66° north of the Equator. There are 8 countries which can be found here: Canada, USA, Russia, Iceland, Greenland, Norway, Sweden and Finland. 4 million people live in this region.

Ice Age Arctic



During the Quaternary period, the most recent geological period which started 2.56 million years ago, the Earth has had a fluctuating climate which flipped from Ice Ages and interglacials, which is a period of warmer temperatures. We are still in an Ice Age today as there is still ice present on Earth. Ice Ages are caused by changes to the Earth's orbit around the sun causing changes in the amount of radiation which reach the earth making the temperature warmer or colder.

The Woolly Mammoth

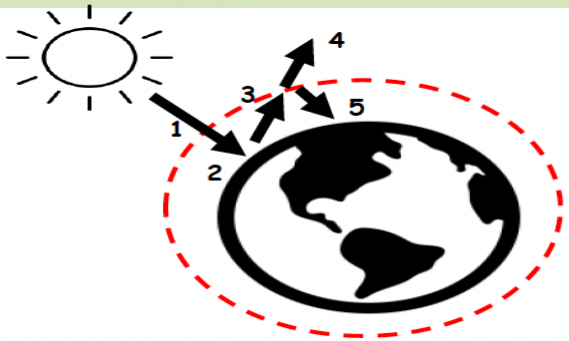
The Woolly Mammoth is the iconic Ice Age animal. These animals were around 3m tall and were covered in thick hair to keep them warm as the temperature plummeted. These animals died out as their habitat reduced as the ice age ended and were hunted by humans for their fur, tusks and meat.

Climate Change in the Arctic

The Greenhouse Effect

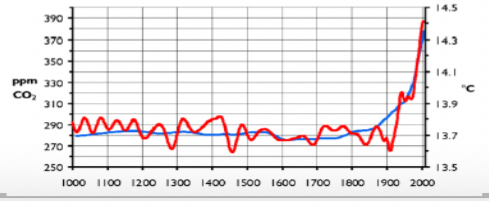
The Greenhouse Effect is vital for life on Earth. The diagram below breaks down the key ideas:

1. The sun's radiation is
2. This heats up the land and atmosphere of the Earth.
3. The radiation is then reflected by Earth.
4. Some of this reflected radiation passes through the atmosphere and back into space
5. Greenhouse gases, such as carbon dioxide and methane trap heat within the atmosphere increasing the earth's temperature. The amount of greenhouse gases in the atmosphere has increased due to humans burning fossil fuels. This is enhancing the greenhouse effect and heating the world further.



The 'Hockey Stick' Graph

This graph shows us how the temperature has increased since the 1900s as has the amount of carbon dioxide in the atmosphere.



Impact on Animals

Climate change in the Arctic will have huge impacts upon animals in the Arctic. The interrelationship between animals in the food web having huge consequences. Polar Bears are one Arctic animal that will be impacted. The sea ice that Polar Bears use for hunting Is melting. This means that bears have to find food on land rather than the abundant food sources in the sea. This has lead to many Polar bears starving across the Arctic.



Permafrost

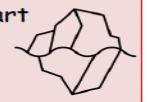
Permafrost is any ground that remains completely frozen for at least two years. In the Northern Hemisphere, permafrost covers 25% of land. As the climate warms, the permafrost is melting which is having a huge impact upon the environment. Coastal erosion is becoming more common, ecosystems will be affected and man made infrastructure, such as bridges, pipes and roads, will be affected. To add to this, permafrost has vast reserves of carbon dioxide and methane, which are released as the ice melts. These gases will enhance the greenhouse effect can cause further heating of the planet.

People

Climate change is having a huge impact upon the lives of the 4 million people who live in the Arctic. These people rely on the ice and the environment to sustain their lives, though as the ice melts change they must adapt. Dog sleds can no longer be used for hunting.

Key Terms

Arctic
The **Arctic** is a polar region located at the northernmost part of Earth.



Ice Age
A long period of cold temperatures which cause ice to develop at the poles.

Climate Change
A change in global or regional climate patterns caused by the increased levels of atmospheric carbon dioxide produced by the use of fossil fuels.

Geopolitics
politics, especially international relations, as influenced by geographical factors

Natural Resources
materials or substances occurring in nature which can be exploited for economic gain

Inuit
indigenous people of northern Canada and parts of Greenland and Alaska

CORE KNOWLEDGE – Year 8 HT5

Was ist los? - What is wrong?

Mir geht's sehr gut	It's going very well
Mir geht's gut	I'm feeling good/well
Mir geht's nicht schlecht	I'm feeling not bad
Mir geht's nicht so gut	I'm feeling not so good
Mir geht's schlecht	I'm feeling bad

denn	because
aber	but

ich bin	I am
entspannt	relaxed
glücklich	happy
gesund	healthy
gestresst	stressed
krank	ill
müde	tired
traurig	sad

Subject and verb	Noun	Connective	Subject	Noun	Verb
Ich nehme (I take)	**Aspirin**, (asprin) **Hustensaft**, (cough medicine) **Halsbonbons**, (throat sweets) **Ohrentropfen**, (ear drops)	**wenn** (when/if)	**ich** (I)	**Kopfschmerzen** (headache) **einen Husten** (a cough) **Halsschmerzen** (a sore throat) **Ohrenschmerzen** (earache)	**habe.** (have.)
Ich gehe (I go)	**zum Zahnarzt**, (to the dentist)			**Zahnschmerzen** (toothache)	

Wo wohnst du? - Where do you live?

Wo wohnst du?	Where do you live?
Ich wohne gern	I like living
Ich wohne nicht gern…	I don't like living
Ich wohne lieber	I prefer living
Ich wohne am liebsten	Most of all I like living
am Stadtrand	on the edge of town
auf dem Land	in the countryside
an der Küste	on the coast
in der Stadt	in town
in einem Dorf	in a village
in den Bergen	in the mountains
in einem Bungalow	in a bungalow
in einem Doppelhaus	in a semi-detached house
in einem Einfamilienhaus	in a detached house
in einem Reihenhaus	in a terraced house
in einer Wohnung	in a flat
auf einem Bauernhof	on a farm

Time phrases

seit gestern	since yesterday
seit drei Tagen	for a three days
seit einer Woche	for a week

Intensifiers

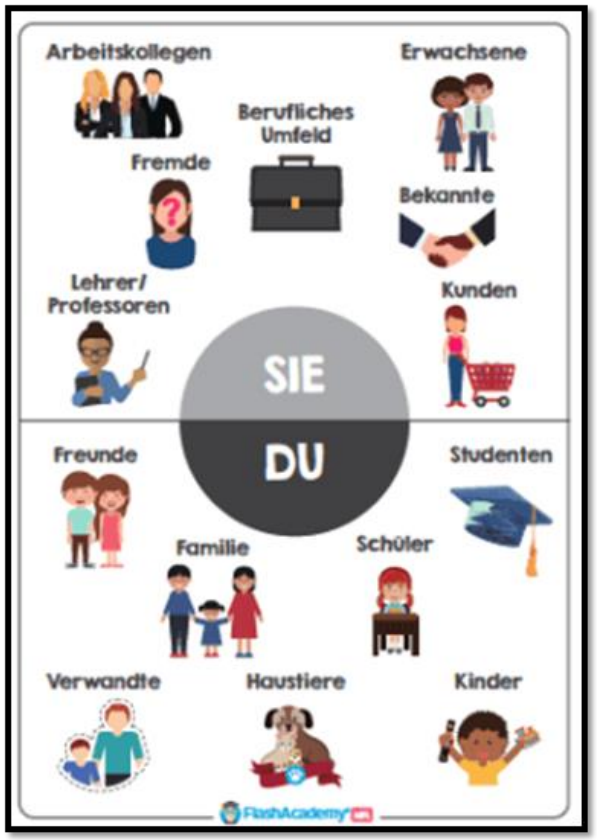
sehr	very
wirklich	really
total	totally
ziemlich	quite
ein bisschen	a bit
gar nicht	not at all

Connectives

und	and
aber	but
denn	because
auch	also
weil ➡	because
obwohl ➡	although

Adjectives

grün	green
interessant	interesting
groß	big
touristisch	touristic
schön	nice / beautiful
toll	great
klein	small
praktisch	practical
ruhig	quiet
furchtbar	awful
langweilig	boring
laut	loud / noisy



Key verbs

wohnen	to live	haben	to have	sein	to be
ich wohne	I live	Ich habe	I have	ich bin	I am
du wohnst	you (singular) live	du hast	you (singular) have	du bist	you (singular) are
Wohnst du ...?	Do you live ?	Hast du ...?	Do you have ?	Bist du?	Are you ?
er /sie wohnt	he / she lives	Er /sie hat	he / she has	er / sie ist	he / she is
wir wohnen	we live	Wir haben	we have	wir sind	we are
ihr wohnt	you (plural) live	Ihr habt	you (plural) have	ihr seid	you (plural) are
sie wohnen	they live	Sie haben	they have	sie sind	they are

Role play – question words

Wie?	How?
Wer?	Who?
Wann?	When?
Was?	What?
Warum?	Why?
Wo?	Where?

Phonemes

ä	ai in air	ch	h in human
ü	oooooo	z	ts in tsunami
ei	i in mice	eu	oi in noise
ie	ee in bee	v	f in fair
en	en in engaged	au	ou in loud
ß	ss in boss	sch	sh in shine
g	g in guitar	j	y in yes
th	t in top	pf	pf

CORE KNOWLEDGE – Year 8 HT5

Wie ist das Wetter? - What is the weather like?

Wie ist das Wetter?	What is the weather like?
Es ist…	It is…
sonnig	sunny
windig	windy
wolkig	cloudy
neblig	foggy
frostig	frosty
kalt	cold
warm	warm
heiß	hot
schön	nice
Es regnet	It rains / It is raining
Es schneit	It snows / It is snowing
Es friert	It freezes / It is freezing
Es donnert und blitzt	It is thundering and lightning

Intensifiers

sehr	very
wirklich	really
total	totally
ziemlich	quite
ein bisschen	a bit
gar nicht	not at all

Connectives

und	and
aber	but
denn	because
auch	also
weil ➡	because
da ➡	because
obwohl ➡	although
wenn ➡	if / when

Meine Stadt – My town

Was gibt es in deiner Stadt?	What is there in your town?
Es gibt	There is
Es gibt keinen / keine / kein	There is no
In meiner Stadt gibt es	In my town there is
einen Flughafen	an airport
einen Tiergarten	a zoo
einen Supermarkt	a supermarket
einen Marktplatz	a market square
einen Bahnhof	a train station
eine Post	a post office
eine Kirche	a church
eine Mauer	a wall
eine Brücke	a bridge
eine Apotheke	a chemist
eine Bibliothek	a library
eine Bank	a bank
ein Kino	a cinema
ein Museum	a museum
ein Schwimmbad	a swimming pool
ein Theater	a theatre
ein Stadion	a stadium
ein Schloss	a castle
ein Restaurant	a restaurant
ein Einkaufszentrum	a shopping centre

Was kann man in deiner Stadt machen? – What can you do in your town?

In meiner Stadt	In my town
In meinem Dorf	In my village
kann ich	I can
kann man	you can
werde ich	I will
zum Tiergarten gehen	go to the zoo
Einkaufen gehen	go shopping
ins Kino gehen	go to the cinema
ins Restaurant gehen	go to the restaurant
ins Theater gehen	go to the theatre
Fußball spielen	play football
das Schloss besuchen	visit the castle
ein Picknick machen	do a picnic
eine Radtour machen	do a bike tour
Kaffee trinken	drink coffee
im Sportzentrum schwimmen	swim in the sports centre
Souvenirs kaufen	buy souvenirs

Was möchten Sie? – What would you like?

Was möchten Sie?	What would you like?
Kann ich Ihnen helfen?	Can I help you?
Ich möchte	I would like
Ich hätte gern	I would like to have
einmal	one portion of
zweimal	two portions of
dreimal	three portions of
viermal	four portions of
die Bratwurst	fried sausage
der Hamburger	hamburger
die Pizza	pizza
die Pommes	chips
der Salat	salad
das Eis	ice cream
die Cola	cola
das Mineralwasser	mineral water
der Tee	tea
mit Ketchup	with ketchup
mit Mayo(nnaise)/Majonäse	with mayo(nnaise)
mit Senf	with mustard
Was kostet das?	How much does it cost?
Das macht €8.	That's €8.
Das kostet zusammen €10	That costs altogether €10.
Ich esse … gern.	I like eating …
Ich trinke … gern.	I like drinking …

Was hast du in deiner Stadt gemacht? – What did you do in your town?

Ich habe	I have
du hast	you have
er hat	he has
sie hat	she has
wir haben	we have
ihr habt	you have
sie haben	they have
eine Radtour gemacht	done a bike tour
Karate gemacht	done karate
Minigolf gespielt	played minigolf
Rugby gespielt	played rugby
Federball gespielt	played badminton
eine Jacke gekauft	bought a jacket
eine Jeans gekauft	bought a a pair of jeans
Souvenirs gekauft	bought souvenirs
Musik gehört	listened to music
Apfelsaft getrunken	drunk apple juice
Cola getrunken	drunk coke
heiße Schokolade getrunken	drunk hot chocolate
Pommes gegessen	eaten chips
Pizza gegessen	eaten pizza
einen Film gesehen	watched a film
eine Band gesehen	watched a band
ein Konzert gesehen	watched a concert

Wo bist du in gegangen? – Where did you go?

Ich bin zum Tiergarten gegangen	I went to the zoo
Ich bin Einkaufen gegangen	I went shopping
Ich bin ins Kino gegangen	I went to the cinema
Ich bin ins Restaurant gegangen	I went to the restaurant
Ich bin ins Café gegangen	I went to the café
Ich bin ins Theater gegangen	I went to the theatre
Ich bin schwimmen gegangen	I went swimming
Ich bin Skateboard gefahren	I went skateboarding
Ich bin mit dem Bus gefahren	I went by bus.
Ich bin mit dem Auto gefahren	I went by car

Adjectives

irre	amazing
interessant	interesting
faszinierend	fascinating
touristisch	touristic
teuer	expensive
toll	great

klein	small
praktisch	practical
ruhig	quiet
furchtbar	awful
langweilig	boring
laut	loud / noisy

Topic 5 – What were the key events of WW1?

Why did men sign up for war?

Patriotism- Many wanted to protect Britain and the Empire.	Pals Battalions- Some men signed up with their friends or workplaces
Adventure- Many had never been further than their villages they were born in	Guilt- Many were guilted into going to war. Women handed out white feathers to men who had not signed up.
Conscription- This was where men were made to sign up for war from 2nd March 1916,	

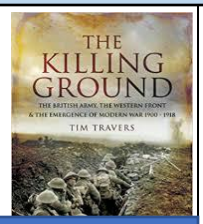
What was Trench Warfare like?

- There were four lines of trenches
- There were many regiments in Trenches from different parts of the British Empire
- The trenches were unsanitary; rats were a problem as was Trench Foot
- Many soldiers suffered from something called 'Shell Shock'
- Weapons were used on the front line such as: flamethrowers, tanks, machine guns, rifles and bombs.

Remembrance of WWI

There were many ways in which the First World War has been remembered. These are such as: Statues, the tomb of the Unknown Warrior, Remembrance Sunday and the last Post in Ypres.

Professor Gary Sheffield- Field Marsal Haig deserves to be treated as more than a pantomime village. It makes little sense to compare him to any other previous generals because war changed so much during WW1. He was a war manager, as much as anything else. He supported his wife in setting up a poppy factory in Edinburgh in Scotland. He also helped funds for War Veterans after WW1.



What do the historians think about Douglas Haig?

Professor Tim Travers- Haig's previous battle experience in the wars of Sudan and South Africa did not prepare him well for the nature of war on the Western Front. His personality intimidated other men. As a cavalryman, Haig did not fully appreciate that technology had become central to warfare. He thought warfare was fixed and had a strategy which he did not change for each battle.

Timeline of World War I

28th June 1914–Franz Ferdinand is assassinated

4th August 1914- Britain joins WW1

6th September 1914- First Battle of Marne

22nd April 1915- second battle of Ypres

7th May 1915- The Lusitania is attacked by German U-boats

21st February 1916- Battle of Verdun

31st May 1916- The British and German fleet meet off the coast of Jutland

1st July 1916- First Battle of the Somme begins

15th March 1917- Tsar Nicholas II abdicates the throne of Russia after riots in St Petersburg

6th April 1917- The USA declares war on Germany

11th November 1918- The Armistice is declared

11th November 1920- The Cenotaph and the Tomb of the Unknown solider are unveiled in London for Remembrance

Key Term Box

- Patriotism: being proud and devoted to your country
- Recruitment: The action of men signing up to the armed forces.
- Conscription: Where you are made to join the armed forces. This is compulsory.
- Pals Battalions: A group of men who were friends or colleagues, who went to war together.
- Trench Warfare: A type of combat where opposing troops sight from trenches facing each other.
- Remembrance: The action of memory and remembering something.
- Propaganda: Information used to promote a political cause or a particular point of view
- Artillery: large guns used in warfare on land
- Ypres: A town in Belgium. It was destroyed in WW1 then rebuilt in remembrance of the war.
- Shell Shock: psychological disorder caused by a lot of exposure to active warfare.

Year 8 Topic 6 - Was the American Dream a reality for all?

USA – Land of the Free?

- USA is a republic. It started off as 13 British colonies.
- Wars of Independence ended in 1783.
- USA expanded 'manifest destiny' and came into conflict with Native Americans.
- Slavery abolished in 1865. Some African Americans still can't vote by 1920.
- Women over 21 can vote by 1920.
- American Population in 1920 = 106.5 million

Causes of the boom in the 1920s

'a return to normalcy' – President Warren Harding, 1920.

Economic boom in the 1920s – prosperity and big business.

- Credit available – Americans buy now pay later. Better access to luxury goods e.g. refrigerators, vacuum cleaners.
- By 1929, 70% of homes had electricity.
- Presidents Harding and Coolidge used tariffs on non-American goods.
- Lower taxes meant people had more money to spend on goods and products.
- Mass production like Henry Ford's assembly line made goods quicker and cheaper.
- By 1929, Americans owned 23 million cars.

America in WW1

- Wanted isolationism when war started in Europe.
- Lusitania sunk in 1915 by German U-boat.
- Zimmerman telegram 1917 – Mexico & Germany
- USA help bring German defeat and Treaty of Versailles, 1919.
- President Wilson's 14 points – League of Nations set up but USA don't join.

The "Roaring Twenties"

- Better technology; telephones, washing machines. Liberated women?
- 'Flapper' movement – young women who rejected Victorian values.
- Radio and the growth of Hollywood.
- Jazz music and the nightclub.
- Cinema and film – 80 million attending cinemas a week by 1929.
- Advertisements and mass production
- Prohibition 1920 – speakeasies, bootleggers

Who suffered in the 1920s?

Farmers – increase in machinery saw job losses on the farms. Dustbowl.

African Americans – Harlem slums – high poverty, low wages, poor housing. Revival of the Ku Klux Klan, lynching and racial attacks.

Poor - 5% of Americans owned a 1/3 of wealth. 42% living in poverty.

Women – still expected to stay at home. Many sacked in favour of men.

America in Depression – 'The Hungry Thirties'

- Wall Street Crash – October 1929. 26,000 businesses failed. Millions of families lost savings as banks collapsed.
- **Great Depression** 23% unemployed by 1933. Hoovervilles established as many lose their homes.
- New Deal, 1933 started by President Roosevelt. Relief, Recovery Reform. Public Work's Programmes got people back to work.

Keywords and concepts

Republic
A country that doesn't have a king or queen. Usually has a President.

Isolationism
Staying out of wars and being on your own.

Zimmerman Telegram
A letter that uncovered a plan between Mexico and Germany to invade the USA.

Prosperity
Lots of wealth and money to spend.

Credit
Paying for something over time.

Tariffs
Increasing taxes on non-American products to encourage people to buy cheaper American products.

Mass Production -
Making lots of goods at once.

Flapper
Young women who wore short skirts, short hair.

Victorian values
The idea that women should stay at home, be a mother and not vote.

Prohibition
Alcohol made illegal in the USA in 1920

Ku Klux Klan
Racist anti-African-American hate group

Hoovervilles
Shanty towns made during the Great Depression for the homeless.

Great Depression
A period during the 1930s were many Americans lost their jobs and homes.

1914	1917-1918	1920	1923	1926	1927	1928	1928	1929	1929-1933	1933
World War One begins in Europe	The USA enter World War One	Prohibition makes alcohol illegal in USA. Women get the vote.	President Harding dies. Calvin Coolidge takes over.	700,000 Radio stations in USA	First talking movie *The Jazz Singer* premieres	Amelia Earhart is first women to fly over Atlantic Ocean	First Mickey Mouse cartoon	Wall Street Crash	The Great Depression	FDR elected New Deal Prohibition ends

Music Year 8: Unit 4 Melody, Form & Structure (Popular Music)

Core Knowledge - Melody, Form & Structure

Melody
Melody is very important within Popular music. You will consolidate your understanding of melody from previous units and also add in new melodic key terms to your understanding (riff).

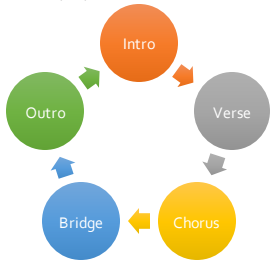
Form
Form is the overall arrangement of a musical piece. Throughout this topic we will look at three forms in Popular Music: Verse-Chorus form, 32-bar form and Strophic form and listen to various examples of each form.

Verse-Chorus Form			
Verse	Chorus	Verse	Chorus

32-Bar Form			
A (verse)	A (verse)	B (chorus)	A (verse)

Strophic Form			
A (verse)	A (verse)	A (verse)	A (verse)

Structure
We will also look into the different sections that you can have in a piece of popular music and how they are significant.



Link: Apply your knowledge:
- Listen to some famous riffs in popular music, see if you recognise any of them.
- Find a piece of popular music in verse-chorus, 32-bar and strophic form

Context

Popular Music

Popular music (or "pop music") references the most popular music that people enjoy listening to. Pop music's style changes depending on the most influential music from the era it is in. Pop music originated from the Rock and Roll movement of the early 1950s. In the 1960s, it was established by bands such as The Beatles and in the 70s and 80s it took influence from soul, disco and new wave. During the 1990s, the most popular music was rock and grunge, with bands such as Nirvana becoming household names. By the 21st Century, R&B artists were seen as the popular music. Examples being Rihanna, Beyonce and Usher. Most recently, we have seen a blending of pop and hip hop. Artists such as Stormzy and Nicki Minaj have been successful at doing this.

Link: Show your understanding
- Research one of the artists listed above. Write a short biography on their life.

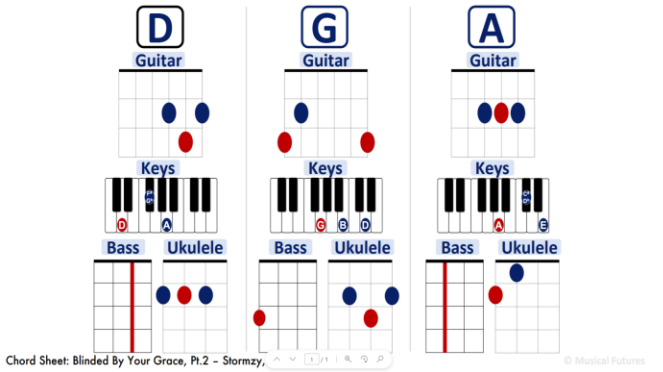
Core Knowledge - Popular Music

Throughout this unit, you will be required to listen to various pieces in popular music and identifying the key features that they all have in common. You will have to recall some other key melodic features that you have looked at in previous units also (e.g. melisma and syllabic from musicals).

You will listen to different genres of Popular music, identifying key musical features that are significant to that era. As popular music is a vast spectrum of music, you will listen to many different pieces.

Performance Skills - Popular Music

In this unit, your performance skills will be assessed through ensemble-based work. You will be expected to contribute to an ensemble or 'band' performing different songs in Popular Music. You will all have roles such as melody, bassline or chords and you will be able to demonstrate these roles on instruments such as keyboards, ukuleles, guitars or using your own voice.



Chord Sheet: Blinded By Your Grace, Pt.2 - Stormzy,

Link: Apply the knowledge, master the skill.
- Listen to a piece of Popular Music. Identify its key features and any structural or melodic elements in your key vocabulary list.
- Compare this unit with the previous one. Are there any similarities in the pieces of music you are listening to?

Key Vocabulary

Melody	The main tune or idea in a piece of music.
Form	The overall arrangement of a piece.
Structure	How the music is built.
Intro	An introduction to a song.
Verse	A section in music where the melody is the same but the lyrics change.
Chorus	A section in music where the melody and lyrics stay the same. Usually sung after the verse.
Bridge	A contrasting section that connects two other sections.
Outro	The final section of a piece of pop music.
Verse-chorus form	A form that is made up of verses and choruses
32 bar form	A form that is in 32 bar sequences, usually labelled AABA.
Strophic form	A song that has only verses.
Riff	A short repeated pattern in popular music.
Chords	Three or more notes played at the same time, usually on a guitar or piano.

Link: Show your understanding of key vocabulary
- Familiarise yourself with the different sections of a song (verse, chorus etc.) and understand their functions.

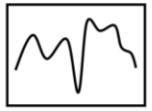
Music Year 8: Unit 4 Melody & Texture (Minimalism)

Core Knowledge – Melody & Texture

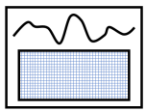
Melody
Melody plays a crucial part within Minimalism. We will look how motifs (short melodic phrases) are used and developed within Minimalism.

Texture
We know texture as how thick or thin a piece of music is. Texture can also mean how the music is layered. We looked at this briefly in Y7, but you will gain a deeper understanding of the element in this unit. There are three types of texture we will look at: monophonic, homophonic and polyphonic. Each texture can be used effectively in Minimalism. We will listen to, perform and compose in these three types of textures.

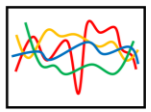
Monophonic



Homophonic



Polyphonic



Monophonic Texture
A monophonic texture is a single melody line on it's own. It can be one instrument or many instruments. As long as they are all playing the same melody line.

Homophonic Texture
A homophonic texture is a melody line with a harmonic accompaniment. Many popular songs use a homophonic texture. It can also be parts moving together in harmony to create a series of chords.

Polyphonic Texture
A polyphonic texture is multiple melodies played at the same time. There can be an accompaniment added to a polyphonic texture also. Minimalist music regularly uses a polyphonic texture.

Link: Apply your knowledge:
- Listen to three pieces of music. One with a monophonic texture, one with a homophonic texture and one with a polyphonic texture.
- Listen to some famous piece of minimalist music. See if you can spot the textures used.

Context

Minimalism

Minimalism is a form of music that uses limited or minimal musical materials. It is a way of composing using simple ideas which is repeated many times. This simple idea may be a melodic or rhythmic pattern. The idea behind minimalism is for the listener to focus on the intricate patterns and motifs heard within the piece of music.
Minimalist music became popular in the 1960s and 1970s. Some notable composers of minimalist music are Steve Reich, Phillip Glass and Mike Oldfield. Even though it is made up of simple parts, overall, Minimalism can sound complicated and can almost have a hypnotic effect on the listener.

Link: Show your understanding
- Research one of the artists listed above. Write a short biography on their life.

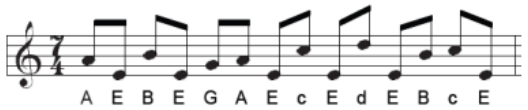
Core Knowledge – Minimalism

Throughout this unit, you will be required to listen to various pieces of minimalist music and identify the key features that they all have in common. You will have to recall some other key melodic features that you have looked at in previous units also (e.g. drone).

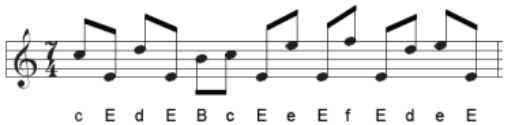
Performance Skills – Minimalism

In this unit, your performance skills will be assessed through ensemble-based work. You will all have a different part to perform. Whether that is the melody, harmony, chords or bass line. You will also be expected to layer your parts as a group changing and developing the texture within your performance.

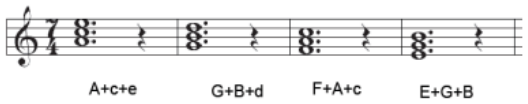
MELODY PART



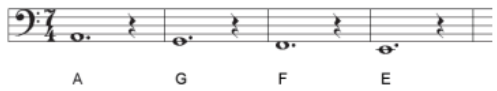
HARMONY PART



CHORDS PART



BASS LINE



Link: Apply the knowledge, master the skill.
- Listen to Tubular Bells by Mike Oldfield. Write a review of the piece as if you were a music journalist.
- Listen to Tubular Bells again, see if you can identify different elements of DR PITTS through your listening.

Key Vocabulary

Motif	A short musical phrase that can be repeated and developed.
Layering	Combining different lines of music to create a certain texture.
Monophonic	A single melody line on its own.
Homophonic	A main melody with an accompaniment.
Polyphonic	Multiple melodies played at the same time.
Phase-shift	A technique in minimalism where the same parts are played at different times.
Augmentation	Extending the length of a note.
Diminution	Reducing the length of a note.
Ostinato	A repeated musical pattern.
Drone	A low, continuously-held note.

Link: Show your understanding of key vocabulary
- Remind yourselves of different types of texture (monophonic, homophonic and polyphonic).

Physical Education - Year 8 Cricket

Cricket

Cricket is a striking and fielding game played 11v11. All players bat but not all players bowled. The objective is to score as many runs as you can in a certain amount of overs when you bat and to get the opposition out for less runs than you scored.

How the game is played……

A cricket game consists of one innings. Both teams' bat and field. The winning team is the team with the most runs at the end of the game.
You can score by running between the wickets, hitting a four or a six.

You are also given runs for a wide bowl or a no ball.

When batting you are out off the following deliveries:
Bowled
Caught
Leg before wicket
Stumped
Run out

Link: Apply your knowledge:

Cricket is a striking and fielding game. Can you name any others.

Bowling – Overarm bowling

- Hold the ball in your dominate hand, gripped by the fingers along the seam and held by the thumb.
- Run up to the wicket
- Side on position
- Lead with your non- bowling arm
- Hold your bowling arm straight and release the ball at its highest point getting close your head
- Follow through action running down to the side of the wicket

Fielding- catching

- Watch the flight of the ball .
- Point your fingers down
- Cup your fingers when catch the ball
- Watch the ball all the way into your hands.

Fielding- One handed pick up

- Watch the pitch of the ball.
- Attack the ball
- One hand pick up in line with your front foot
- Scoop the ball up ready to throw.
- Underarm throw at the stumps
- Follow through your run to the target

Batting stance and grip

- Stand side on facing the bowler
- Ensure you have two hands on the bat creating a V shape
- Back lift straight and above the wicket
- Make sure your feet are splitting the crease
- Keep your head still when you are watching the ball
- Identify where the pitch of the ball lands
- Move feet to the ball and make the right choice of shot whether attacking or defending.

Bowling Rules

- A ball has to be bowled with a straight overarm
- Bowled balls must be bowled before the crease line
- There is a six bowls in an over as.
- A wide ball is when the ball is too wide for the batter to hit.
- A no ball is considered when the ball is either bowled above the waist without bouncing or bounces more than once.

Link: Show your understanding
Research what equipment is needed for Cricket. Make an equipment checklist that can be used at the start of each lesson.
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Forward Drive

- Identify the pitch of the ball
- Keep your head still
- Bat ready with back lift
- Step forward to the ball
- Ensure bat is close to your front leg so there is no gap.
- Follow through shot keeping your head over the ball
- Create a number 9 with the ball

Rules

- Six balls an over- unless a no-ball or wide ball
- A batter is out when bowled, caught, stumped, run out or LBW
- A run is scored by running when you hit the ball and run between the wicket, hitting a four or six.
- Can you think of another rule?

Key Vocabulary

Catching
Throwing
Bowling
Batting forward drive
Batting grip
Side on
Pitch of the ball
One handed pick up
Fielding
Sportsmanship

Physical Education - Year 8 Rounders

Rounders

Rounders is a bat-and-ball game played between two teams. Rounders is a striking and fielding team game that involves hitting a small, hard, leather-cased ball with a rounded end wooden, plastic, or metal bat. The players score by running around the four bases on the field.

How to score rounders

- Batters can score a half a rounder when they strike to ball and run to 2nd base without stopping.
- Batters can score a full rounder when they strike to ball and run to 4th base without stopping.
- A batter can score a half a rounder if they do not strike the ball but manage to get all the way around to 4th base without stopping.
- A batter can score a half a rounder if the bowler performs 2 consecutive no-balls.
- A batter can score half

Link: Apply your knowledge:

A batting team receive 3 full rounders when striking the ball, they also receive half a rounder for obstruction, they then receive half a rounder for a batter getting to second base after striking the ball. The bowler also did 2 consecutive no balls.

What is the team's total score?

Short Barrier

A short barrier is a fielding technique. It is a quick way of stopping the ball, picking up a ball and throwing it quickly to a desired target through the air.

Technique

- Move forwards towards the rolling ball.
- Bend your knees to kneel on the floor.
- Your knee and your other non-kneeling foot should be side by side
- Leave no gap in the middle (creating a short-barrier)
- Retrieve the ball and return over/underarm depending on the situation.

Out when

- Caught
- Foot over front/back line of batting square before hitting or missing a ball
- Running inside post (unless obstructed)
- The post you are running to is stumped
- You overtake another batter on the track
- You obstruct (you have right of way on track only)
- Deliberately throw or drop bat
- If ordered to make and maintain contact with the post and refuse to do so
- You lose contact with the post;
- When the bowler has the ball and is in the square (except on an over run)

Link: Show your understanding

Batting Rules – recall the batting rules learnt in year 7. Make a poster of the rules that we can use to help our new year 7's to learn them.

Long Barriers

The Long Barrier is a fielding technique used by a fielder to prevent the ball going past them. This involves the fielder stopping the ball with their hands, by positioning their body in line with the ball just in case they miss the ball with their hands.

Technique:

- Move forward quickly to meet the rolling ball.
- Bend knees to kneel with one knee on the floor.
- Your knee and your other non-kneeling foot should be side by side but your body twisted sideways towards the ball.
- Leave no-gap between your foot and your knee
- Keep your hands in front of your knee and heel to collect the ball. With your fingers pointing down.
- Important: Don't get into a long barrier position to quickly: get as close to the moving ball as possible.
- Retrieve the ball and return over/underarm depending on the situation.

Link: Show your understanding

In year 7 we leant about batting technique. Describe the correct technique for a batter in rounders.

Think about body position, grip and where the batter should be facing.

What should the batter do the they strike the ball.

Key Vocabulary

Short Barrier
Long Barrier
Speed
Accuracy
Bowling
Accuracy
Co-ordination
Obstruction

Physical Education - Year 8 Athletics

Title

Athletics is a collection of sporting events across a number of disciplines, including running, jumping and throwing events.

Athletics is often associated with the Olympics. However, it is not just for elite athletes. Athletes also compete at national, county, school or club level events which can be held indoors or outdoors.

Historical evidence of the first ever Olympics held in Ancient Greece show events that are very similar to today.

Track

The definition of running: An action to move quickly with correct technique using arms and legs as effectively as possible. These events predominately relies on a persons power, speed and aerobic/anaerobic endurance.

Sprinting (running fast with maximum effort)

- 60m (indoor)
- 100m
- 200m
- 400m
- 100m Relay
- 100m/ 400m Hurdles

Middle Distance running events

*400m
* 800m

Long Distance running events

*1500m
* 3000m
* 5000m
* 10,000m

Link: Apply your knowledge:

- Research one of these events and produce a report on the current world record holder. Include aga, nationality, interesting facts

Throwing events (field)

The definition of throwing: The ability to propel an object through the air as far as possible. This relies on a person's strength, power and coordination.

- Shot put (23.5m)
- Javelin (104.8m)
- Discus (74m)
- Hammer (86.7m)

Jumping events (field)

The definition of jumping: The technique to propel the body into the air to either distance, height or both. This relies on the persons power, strength and speed.

- High jump (2.45m)
- Long jump (8.95m)

Scoring track

Timed: All Running events otherwise known as track events are timed using stopwatches therefore, we want to know how fast the athlete has run.

What is speed: Speed tells us how fast something/ someone is travelling. You can find the average speed of an object if you know the distance travelled and the time it took.

The formular for speed is speed = distance divided by time.

Scoring field

Measured: All throwing and jumping events otherwise known as field events are measured using a tape measure.

Key Vocabulary

Sprint
Endurance
Pacing
Power
Speed
Aerobic
Anaerobic
Acceleration
Deacceleration
Fatigue
Coordination
Takeoff
Point of release
Baton

Many athletic events involve aerobic and anaerobic aspects. The definition of the two terms are below.

Aerobic Exercise	An activity that raises the heart rate and breathing rate and requires oxygen to sustain over time
Anaerobic Exercise	An activity that pushes the performer to the maximum physical limits without oxygen, leading to fatigue.

Link: Apply the knowledge, master the skill.

1. Make a table with the two headings Aerobic (with oxygen and Anaerobic (Without oxygen).
2. Decide if the following events are Aerobic or Anaerobic types of exercise.

100m / 200m/ 400m/ 800m/ 1500m/ shot put/ javelin/ discus/ hammer

Athletics in Oldham

Every summer there is a school's competition in Oldham held at Radcliffe school. We will pick a team to represent BCA based on ability and attitude in lessons.

Oldham & Royton Harriers & athletics club is the local athletics club that you may wish to join and develop as a track or field athlete.

Year 8 Topic 3: Who has authority in religion?

The world Jesus knew.

Jesus lived in a time of inequality, with wealth and power largely belonging to a few. At the time of Jesus's birth much of the world was controlled by Rome. Their empire spanned over 1.6 million square miles. This included where Jesus was born and raised. Israel was the promised land of the Jews but had been invaded and was now controlled by the Romans. They wanted freedom and believed that a special leader, a saviour known as the Messiah would come a rid them of their enemies.

The Pentecost

50 days after the **resurrection** of Jesus. The disciples were celebrating the Jewish festival of **Shavuot**, a kind of harvest festival.

The disciples and Mary the Mother of Jesus were hiding together in the upstairs of a house. They were afraid of what life was going to be like without Jesus and did not know how they were going to complete the **mission** he had set them.

For many Christians this is the "**birthday of the Church**" and the beginning of the disciples taking on their mission and travelling the world spreading the word of God.

Persecution

The early Christians used the Roman Empire to help them travel and spread the word of God to people. In performing this mission they came across many problems, one of which was the Roman opinion of their religion.

Conversion of St Paul

The conversion of St Paul is one of the most important moments in the history of Christianity. Paul had a lot of worries about the early Christians, especially those communities he could not be with. His letters not only gave instructions but both warned and taught on issue that he considered important. These sometimes involved activates that he felt might turn people away from God, distract them or dilute Christianity.

The name Christianity is an 'umbrella term'. This means that is covers many different people and many different groups. These different Churches are called **denominations**. These denominations shared many beliefs and practices but started to differ over time.

Sunni Muslims have two main sources of authority; the Qur'an and the Hadith. Hadith are the sayings and teachings of the Prophet Muhammad (pbuh).

Shi'a Muslims do not recognise the same Hadiths as Sunni Muslims. Shi'a Muslims follow the idea of Imamate. These are the Imams that have been chosen by Allah to lead. The Imams have the authority to interpret the Qur'an and offer guidance to the entire Shi'a community.

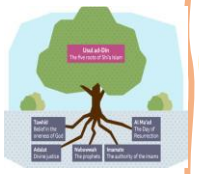
The word **'sharia'** means **'straight path'**. Sharia law is the law of Islam. It sets the code of law for Islamic living. Both **Sunnis** and **Shi'ahs** have similar interpretations of Sharia law.

Sharia law is based on both the **Qur'an** and the **Sunnah**. These are its main sources. Sharia law governs a Muslim person's whole life as it is based on revelation from God.

For Muslims, Sharia law applies the insight of the Qur'an to new situations and it explains to them how to properly obey **Allah**.

Many people, including Muslims, misunderstand Sharia. It's often associated with the amputation of limbs, death by stoning, lashes and other medieval punishments. Because of this, it is sometimes thought of as draconian. Some people in the West view Sharia as archaic and unfair social ideas that are imposed upon people who live in Sharia-controlled countries.

Many Muslims, however, hold a different view. In the Islamic tradition Sharia is seen as something that nurtures humanity. They see the Sharia not in the light of something primitive but as something divinely revealed. In a society where social problems are endemic, Sharia frees humanity to realise its individual potential.



Scripture

''Go and make disciples of all nations.''	"A woman should learn in quietness and full submission. I permit no women to teach or have authority over men, she is to keep silent. " 1 Timothy 2:9-12	"The spirit of the Lord is on me, because he has anointed me to proclaim the good news to the poor. He has sent me to proclaim freedom for the prisoners and recovery of sight for the blind, to set the oppressed free, to proclaim the year of the Lord's favour". (Luke 4: 18-19)
"Women…be subject to your husbands." Ephesians 5:22-23	1 Corinthians 25:5 – God exalts His people by blessing them with many children. When married couples contracept, they are declaring "not your will God, but my will be done."	Do you not know that wrongdoers will not inherit the kingdom of God? Do not be deceived! Fornicators, idolaters, adulterers, sodomites, thieves, the greedy, drunkards, robbers— none of these will inherit the kingdom of God.
"Do not be divided".	Romans 1:26-27 – sexual acts without the possibility of procreation is sinful. Self-giving love is life-giving love, or the love is a lie.	"For the wife does not rule over her own body, but the husband does; likewise the husband does not rule over his own body, but the wife does".
"Learn that every Muslim is a brother to every Muslim and that the Muslims constitute one brotherhood"	"And verily this Ummah of yours is one Ummah and I am your Lord and Cherisher, therefore fear Me and no other." (Quran 23:52)	*"You are the best community (Ummah) raised up for (the benefit of) humanity; enjoining what is right and forbidding what is wrong and believing in God…" (Quran 3:110)*
"…This day have I perfected your religion for you, completed My Grace upon you, and have chosen Islam for you as your religion…"	"And hold fast by the covenant of Allah all together and be not disunited, and remember the favour of Allah on you when you were enemies, then He united your hearts so by His favour you became brethren; and you were on the brink of a pit of fire…" [Quran, 3:103]	"I leave behind me two things, the Quran and my example, the Sunnah, and if you follow these you will never go astray"

Aquinas concluded that God gave us pre-loaded tools that we were born with to know what was good and achieve our purpose! All we had to do was use our rational thinking (reason) to know what was good and bad.

David Hume is a Scottish philosopher who presented the is-ought idea to show that Aquinas was wrong in his model of natural law. Hume argued that *'it is fallacious to assume that just because something is a certain way, that means it ought to be that way'.*

Hume argued that we often look at things like nature and make the assumption that because they are a certain way, that means they are good. For example, all creatures have the instinct of survival. Does that mean it is good? What if they kill something else to survive? We could also look at the idea of reproduction and consider why this is considered good. Sexual drives could lead people to commit crimes such as rape. What if someone decided that they did not want to reproduce, does this mean they are doing something bad?

Key Term Box

Mission: The need that Christians feel to go and spread the word of God (a calling to spread the word).

Persecution: The poor treatment of people based on their beliefs

Doctrine: Systems of belief. The doctrines of the church are the teachings of Christianity.

Denomination: A branch or small group created from larger group.

Diversity: When there are many different types of things or people included in something.

Schism: A split or division between strongly opposed sections or parties, caused by differences in opinions and beliefs

****Source of Authority: What a person uses when they need help trying to find out or understand something, or when making decisions about what to do.**

Jahiliyyah: The conditions of ignorance, often a term used to describe the people of Arabia before Islam.

Ummah: The whole community of Muslims bound together by the ties of Islam.

Sunni Muslims: The largest sect of Islam, followers believe in the leadership of Abu Bakr.

Shi'a Muslims: The second largest sect in Islam, followers believe in the leadership of Imam Ali.

Natural Law theory : An idea presented by St Thomas Aquinas stating that some ideas of good and bad are innate and God Given.

Year 8 Topic: Non-Religious Beliefs

What is Atheism?

Atheism is the absence of belief in any Gods or spiritual beings. The word Atheism comes from a, meaning without, and theism, meaning belief in god or gods. Atheism is a belief that people started to hold as people began to seek evidence for beliefs, as opposed to just believing things based on faith.

Atheists don't use God to explain the existence of the universe.
Atheists say that human beings can devise suitable moral codes to live by without the aid of Gods or scriptures.

Reasons for non-belief

- People are atheist for many reasons, among them:
- They find insufficient evidence to support any religion.
- They once had a religion and have lost faith in it.
- They live in a non-religious culture.
- Religion doesn't interest them.
- Religion doesn't seem relevant to their lives.
- Religions seem to have done a lot of harm in the world.
- The world is such a bad place that there can't be a God.

David Hume	**If something is to be true we have to experience it through our senses. Religion is based on faith not experiences.**
Aristotle	**The world is flawed in its design so it cannot have a perfect designer who people believe is God.**
Charles Darwin	**Animal and Human life have evolved over time they were not created in one day by God.**

The problem of evil

The Problem of Evil is an argument that people might use to explain why they do not believe in God.
The argument says that there is clear evidence that evil and suffering exist in the world – we have empirical evidence of this e.g. war.

If God is omnibenevolent, He wouldn't want us to suffer. If God is omnipotent, He has the power to stop suffering. Therefore, this demonstrates that God does not exist or is not the God that people think.

Richard Dawkins

Richard Dawkins is a famous biologist and is also an atheist. He is a great supporter of the theory of evolution.

One of his main arguments is that if the world had been 'designed', as some people claim, then who designed the designer?

For Dawkins, Darwin's theory on natural selection solves the question of where humans come from. As he does not believe in God, Dawkins argues that evolution does not need help from a higher being.

What do Humanists believe?

1. Humanists believe that humans are responsible for all the things we know. They have not been given by a god.
2. They reject the idea of knowledge given to human beings by gods, or in special books. This means they are atheists.
3. They believe we only live this life - there is no after-life, and no such thing as reincarnation, Heaven and Hell.
4. Human beings can live good lives and be 'good', 'moral' people without religious beliefs.
5. Science provides the only reliable ideas about the universe.

Humanists do not believe in a God or in religion. They believe in people and their ability to use reason to find out the information needed.

Humanists believe we should be focused on living this life in the best way possible. You can live a good and moral life without religion telling you what to do.

Humanists believe you only have one life. There is no heaven, hell, judgement or afterlife. This life is important so ending other people's lives is wrong.

Humanists still have rules that guide how they act and treat people. Some of these might be the same as religions but they are not done for religious reasons. They focus on showing kindness to others.

Humanists think that only knowledge (information) you can trust is from science. Humans find out information through tests and using their mind. No God has given it to them.

Humanist principles

Treating people as ends rather than means:
Every human life is valuable. We shouldn't use other people for our own happiness or for the happiness of others. We should respect their rights and dignity as human beings.

Imagining if everyone acted the same:
When considering moral dilemmas we should think about what the world would be like if everyone acted in the same way.

Maximising happiness:
Think about the consequences of your actions. Act in the way that leads to the maximum overall happiness and minimum pain and suffering for everyone involved.

Avoiding harm:
We should always try to act in a way that does not harm others.

The Golden Rule:
Treat others as you would like to be treated yourself. Do not treat others in a way you would not like to be treated.

Humanist Rites of Passage

Weddings

Humanists do not believe that couples should have to get married and many choose not to.
The love and support of other people in our lives is therefore of particular importance to humanists.

Humanist Naming Ceremony

Human beings are special and human life is valuable and so a new life should be celebrated
Celebrate with the community of family and friends. Their love and support is really important
Every new human being has the potential to lead a happy and fulfilling life.
Every new human being has the potential to improve the lives of others and possibly everyone.

Humanist Funerals

Funerals can celebrate a life that has been lived as well as acknowledge sadness at saying goodbye
Funerals are an event for the living, since the dead person is no longer exists
Often there are poems, readings, music and a time for silent reflection

Key Term Box

Atheist - A person who believes that God does not exist.

Empiricism – The belief that all we know is because of what we have sensed and experienced.

Problem of Evil – The question of why people go through evil and suffering when God is meant to be omnipotent, omnibenevolent and omniscient.

Humanism – A system of thought attaching main importance to humans rather than divine (God/s) or supernatural matters.

The Buddha – The enlightened one; one who is awake (the title given to Siddhartha Gautama).

Enlightenment – When a person realises the truths of the universe and how to remove suffering.

Meditation – A practice to focus the mind on one thing.

Anicca – The Buddhist belief that nothing is permanent and everything is constantly changing.

Aristotle – A Greek philosopher who believed that we should gain knowledge through our senses.

Richard Dawkins – A scientist and an atheist who believes we don't need religion because science provides answers instead.

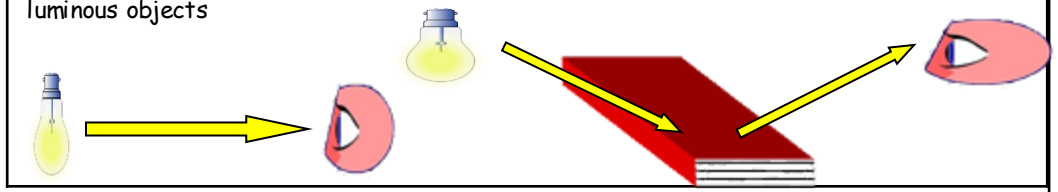
5K's- 5 physical symbols worn by Sikhs who have been initiated into the Khalsa

Science Year 8: 8.6 Light — Core Knowledge

1. Light Waves

Light waves travel in straight lines.
Light travels extremely fast, faster than sound.
Shadows form because light cannot bend round corners.
Shadows form where the light cannot get to.

Luminous objects give out their own light, e.g. stars (like our Sun), light bulbs, candles.
Non-luminous objects do not give out their own light, they absorb and reflect light from luminous objects

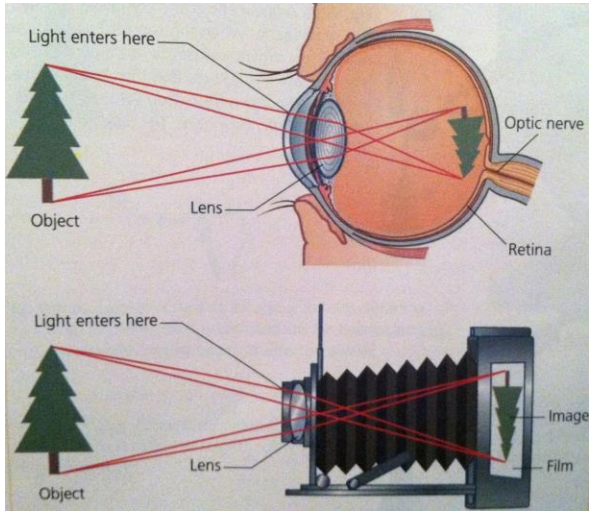


2. The Human Eye

Light waves travel from the object, through the pupil of your eye, through the lens and land on the back of your eye (the retina).

This image is upside down and the information is transmitted down the optic nerve to the brain.

The brain interprets the image and turns it the right way up.
Cameras work in a very similar way.

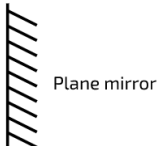


Iris – coloured part of the eye, controls the size of the pupil.
Pupil – Black part of the eye, an opening to let light in.
Lens – Focuses the image onto the retina.
Retina – Has the light receptor cells to help you see the image. This image is upside down.
Optic nerve – Carries the information from the retina to the brain. The brain turns it into an image and turns it the right way up.

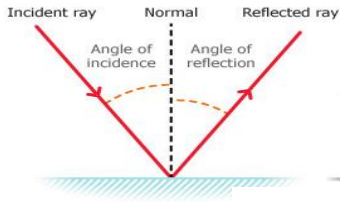
3. Reflection

A plane mirror reflects light and produces a clear image. This is the same size as the real object (and appears to be behind the mirror), the same distance away, and the right way up, but it is back to front (left is right etc.). This is called lat

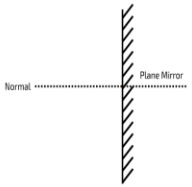
Shiny side for reflecting



Law of Reflection:-
Angle of incidence = Angle of

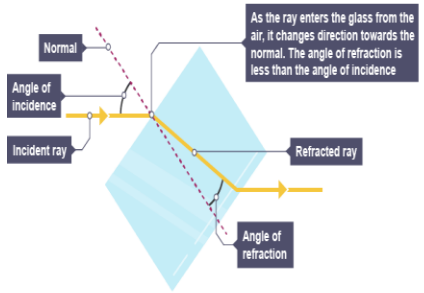


The normal line is a line drawn 90 degrees from the mirror. It is an imaginary line we use for measuring angles.



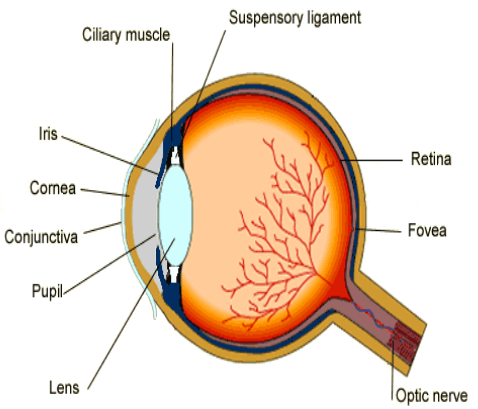
4. Refraction

As light waves travel through a more dense material, the light wave changes speed and turns.
When the light wave exits the material, it changes speed and turns again. The light wave exits in a different path. This is called refraction.
As light waves travel through air, when they hit glass (which is more dense), they slow down. As they slow down, they turn towards the normal line.
As the light wave exits the glass, the air is less dense, so it speeds up and turns away from the normal.



Essential Vocabulary

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.

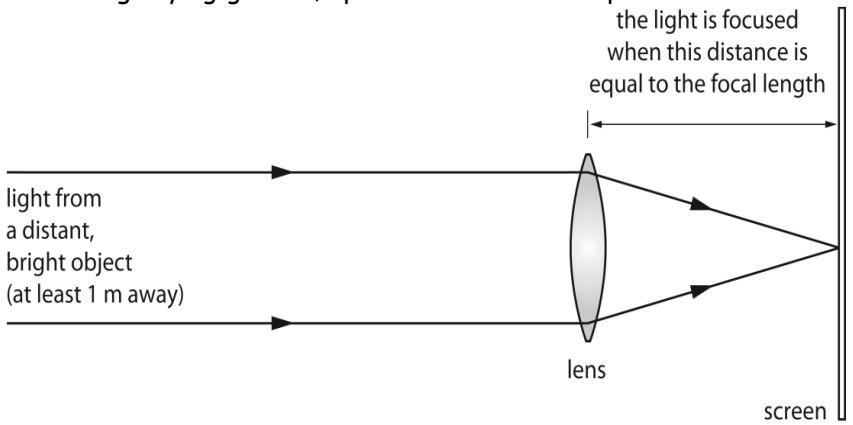


Science Year 8: 8.6 Light Core Knowledge

5. Lenses=

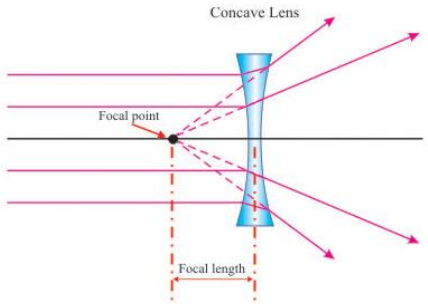
The convex lens

A convex lens is made from a transparent material that bulges outwards in the middle on both sides. It can focus light so that appears to meet at a single point, called the focal point. Light is refracted as it passes into, then out of, the lens. Convex lenses are found in magnifying glasses, spectacles and telescopes.



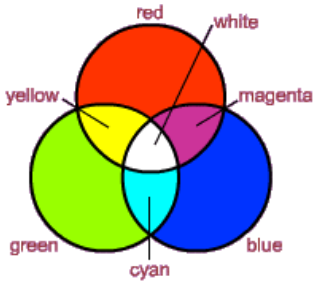
The concave lens

A concave lens is thicker at the edges and thinner in the middle. This is used in doors as a tiny windows called peepholes so you can see who is on the other side.

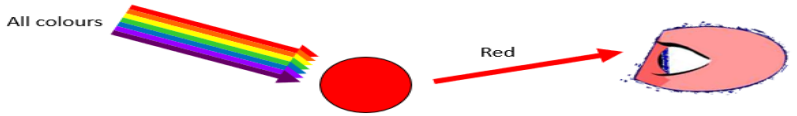


6. Colour

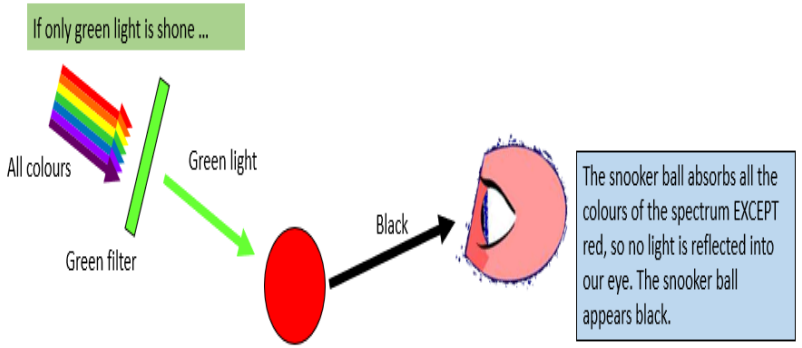
There are three primary colours. These are red, blue, green. We can add these colour lights to produce the secondary colours. The secondary colours are yellow, magenta, cyan.



Remember white light is made of a spectrum of colours.



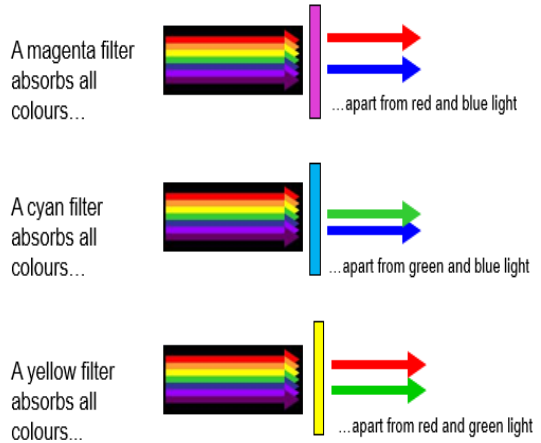
The snooker ball absorbs all the colours of the spectrum EXCEPT red, so red light is reflected into our eye. The snooker ball appears red.



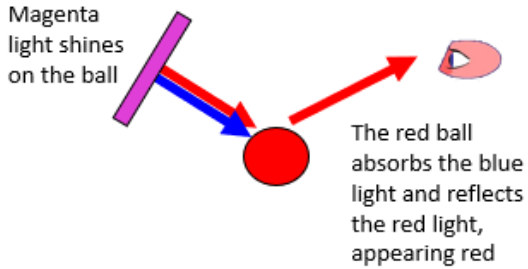
Essential Vocabulary

Concave lens:	A lens that is thinner in the middle which spreads out light rays.
Convex lens:	A lens that is thicker in the middle which bends light rays towards each other.
Opaque:	A material that allows no light to pass through it.
Translucent:	A material that allows some light to pass through it.
Transparent:	A material that allows all light to pass through it.

7. Filters



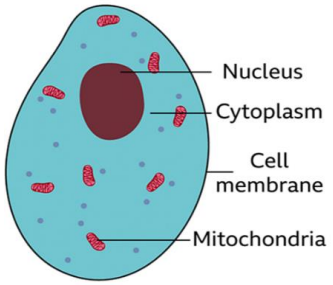
What does a red ball appear like in magenta light (mix of red and blue)?



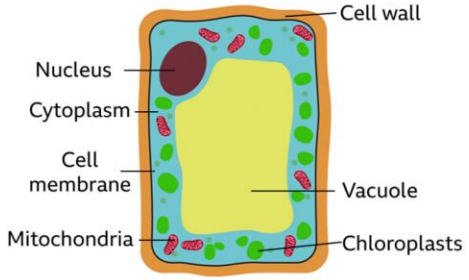
Science Year 8: 8.8 Cells Core Knowledge

1. Animal and Plant Cells

Animal Cell Structure



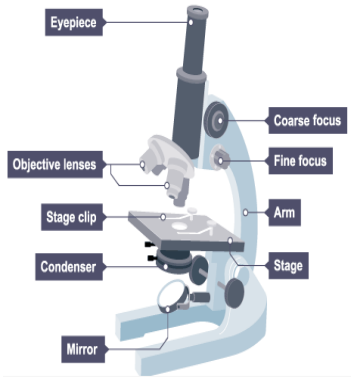
Plant Cell Structure



2. Using a Microscope

Using a Light Microscope

1) Move the stage (the flat ledge the slide sits on) down to its **lowest** position.
2) Place the glass slide onto the stage. Be careful pushing it under the clips that the cover slide **doesn't move or crack**.
3) Select the **lowest power** objective lens.
4) Turn the **coarse focus knob slowly** until you are able to see the cells.
5) Turn the **fine focus knob slowly** until the cells are in focus and you can see them clearly.
6) Repeat steps 1-5 using the **higher power magnification** to see the cells in more detail.



Calculating magnification

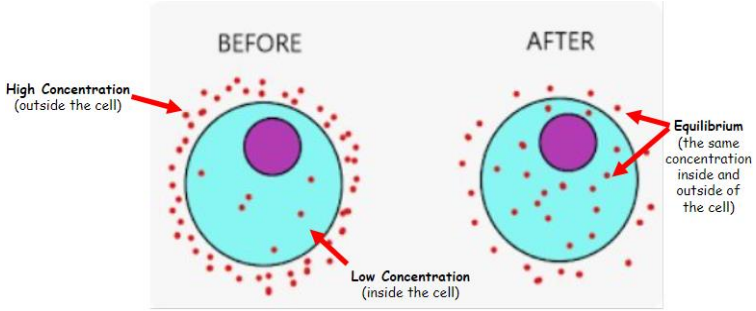
To see an object, the eye piece lens and the objective lens magnification are multiplied together to give the total magnification.

Total magnification = eye piece lens magnification × objective lens magnification
For example: 10 × 20 = 200
Magnification = 200

4. Diffusion in Cells

Diffusion is the spreading out of particles from an area of high concentration to an area of low concentration.

- Diffusion happens naturally and so does not require energy.
- Substances like **oxygen**, **carbon dioxide** and **glucose** move in and out of cells by diffusion.
- Because diffusion is the movement of particles from a higher to lower concentration, we call this down the concentration *gradient*.



Link: Show your understanding
Which two states of matter are able to move by diffusion?
Why is the third state of matter not able to move by diffusion?

Essential Vocabulary

Cell: The basic building block of life.

Uni-cellular: Living things made up of one cell.

Multi-cellular: Living things made up of many types of cell.

Cell membrane: Surrounds the cell and controls movement of substances in and out.

Nucleus: Contains genetic material (DNA) which controls the cell's activities.

Vacuole: Area in a cell that contains liquid, and can be used by plants to keep the cell rigid and store substances.

Mitochondria: Part of the cell where energy is released from food molecules.

Cell wall: Strengthens the cell. In plant cells it is made of cellulose.

Chloroplast: Absorbs light energy so the plant can make food.

Cytoplasm: Jelly-like substance where most chemical processes happen.

Diffusion – The spreading out pf particles from an area of high concentration to an area of low concentration.

Structural adaptations: Special features to help a cell carry out its functions.

5. Unicellular and Multicellular

A unicellular organism is a living thing that is just one cell. There are different types of unicellular organism, including:

- Unicellular fungi
- Protozoa
- Bacteria

These organisms have adaptations that make them well suited for life in their environment.

Multicellular organisms are living things that are made up of more than one cell. These organisms have **organ systems** with **organs** that carry out specific functions.

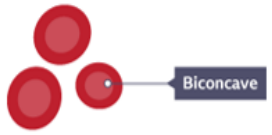
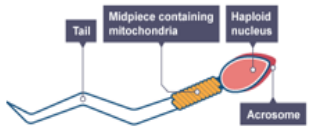
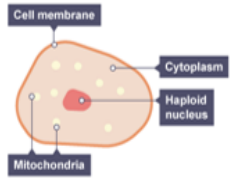
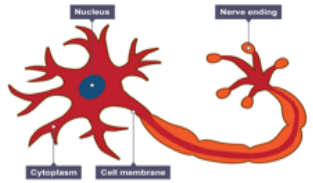
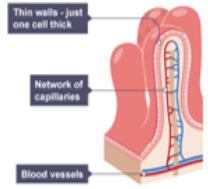
Science Year 8: 8.8 Cells Core Knowledge

3. Specialised Cells

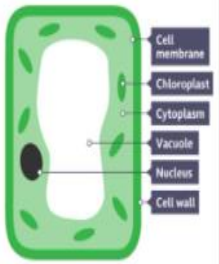
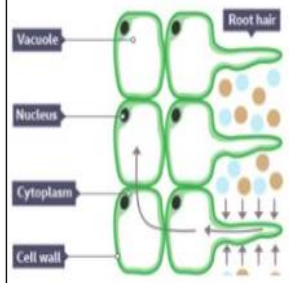
Specialised animal cells have components that allow them to complete a specific purpose.

- Specialised animal cells include red blood cells, sperm, eggs, nerve cells, muscle cells, ciliated cells, and villi.
- Specialised plant cells include root hair cells, palisade cells, xylem cells and phloem cells.

Specialised Animal Cells

Cell name	Cell Image	Cell Adaptations
Red Blood Cell		• They contain *haemoglobin*, which carries oxygen molecules. • They don't have a nucleus, allowing more space to carry oxygen. • They are a flat disc shape with dips on both sides (biconcave). This gives them a large surface area, and the best chance of absorbing as much oxygen as they can in the lungs.
Sperm Cell		• A tail moves them towards an egg cell. • Many *mitochondria* release energy for movement. • Part of the tip of the head of the sperm, called the acrosome, releases enzymes to digest the egg membrane to allow fertilisation to take place. • The nucleus contains the genetic material for fertilisation. • Sperm are produced in large numbers to increase the chance of fertilisation.
Egg Cell		• The egg cell's cytoplasm contains nutrients for the growth of the early embryo. • The nucleus contains genetic material for fertilisation. • The *cell membrane* changes after fertilisation by a single sperm so that no more sperm can enter.
Nerve Cell		• They are thin, and can be more than one metre long in your spinal cord. This means they can carry messages up and down the body over large distances very quickly. • Nerve cells have branched connections at each end. These join to other nerve cells, allowing them to pass messages around the body. • They have a fatty (myelin) sheath that surrounds them. The fatty sheath increases the speed at which the message can travel.
Villi		• They have a large surface area. • They have thin walls which are only one cell thick. • The cells of the lining have tiny hairs to absorb more food and water.

Specialised Plant Cells

Cell name	Cell Image	Cell Adaptations
Palisade Cell		•They are towards the tops of leaves to absorb light energy •They have lots of chloroplasts to maximise photosynthesis
Root Hair Cell		• Do not contain chloroplasts as they are found under the ground • Have tiny 'hairs' which poke into the soil which increases the surface area for the root hair cell to absorb more water and minerals.

Science Year 8: 8.11 Human Reproduction Core Knowledge

1. Male Reproductive System

Male and female reproductive systems allow human reproduction.

Male Reproductive System

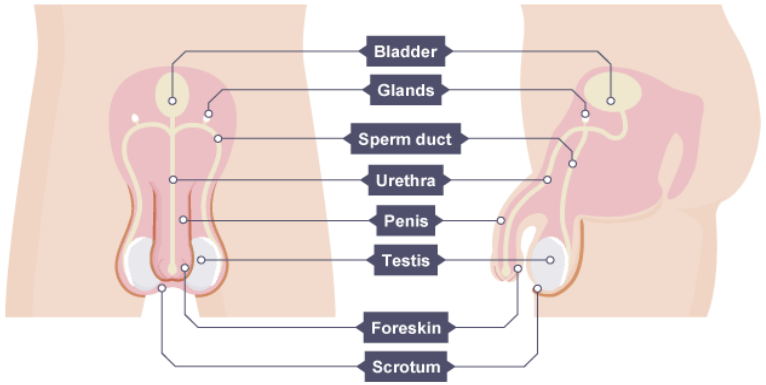
The function of the male reproductive system is to produce sperm cells - male gametes - and release them inside a female.

The male reproductive system has two testes (singular: testis). These are contained in a bag of skin called the scrotum. The testes have two functions:

- To produce millions of sperm
- To make male sex *hormones*, which affect the way bodies develop.

During ejaculation the sperm pass through the sperm ducts and mix with fluids produced by the glands. The fluids provide the sperm cells with nutrients. The mixture of sperm and fluids is called semen. This passes out of the penis.

Urine also passes from the body through the penis but not at the same time. The urethra is the tube inside the penis that can carry both urine or semen. A ring of muscle makes sure that there is no chance of urine and semen getting mixed up.



1. Female Reproductive System

Female Reproductive System

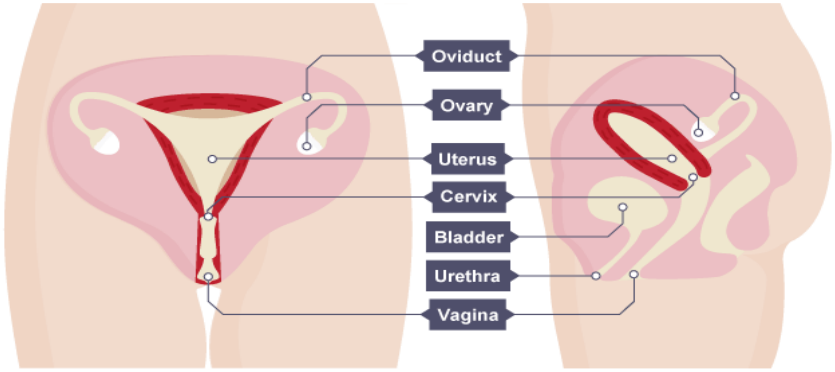
The female reproductive system has two ovaries (singular: ovary). These have two functions:

- They contain undeveloped eggs (plural: ova, singular: ovum). These are present from birth.
- To make female sex hormones, which affect the way bodies develop and also regulates the menstrual cycle.

Each ovary is connected to the *uterus* by an *oviduct*.. The oviduct is lined with cilia, which are tiny hairs on cells. As part of the menstrual cycle, an ovum develops, becomes mature and is released from an ovary. The cilia move the ovum along the oviduct and into the uterus.

The uterus is a muscular bag with a soft lining. The uterus is where a baby develops until birth. The cervix is a ring of muscle at the lower end of the uterus. It keeps the baby in place during pregnancy.

The vagina is a muscular tube that leads from the cervix to the outside of the body. A penis goes into the vagina during sexual reproduction. This is also where menstrual blood leaves the body and where a baby exits during birth.



Essential Vocabulary

Gamete: The male gamete (sex cell) in animals is a sperm, the female an egg.

Fertilisation: Joining of a nucleus from a male and female sex cell.

Ovary: Organ which contains eggs.

Testicle: Organ where sperm are produced.

Oviduct, or fallopian tube: Carries an egg from the ovary to the uterus and is where fertilisation occurs.

Uterus, or womb: Where a baby develops in a pregnant woman.

Ovulation: Release of an egg cell during the menstrual cycle, which may be met by a sperm.

Menstruation: Loss of the lining of the uterus during the menstrual cycle.

Reproductive system: All the male and female organs involved in reproduction.

Penis: Organ which carries sperm out of the male's body.

Vagina: Where the penis enters the female's body and sperm is received

Foetus: The developing baby during pregnancy.

Gestation: Process where the baby develops during pregnancy.

Placenta: Organ that provides the foetus with oxygen and nutrients and removes waste substances.

Amniotic fluid: Liquid that surrounds and protects the foetus.

Umbilical cord: Connects the foetus to the placenta.

Science Year 8: 8.11 Human Reproduction Core Knowledge

2. Gametes and Fertilisation

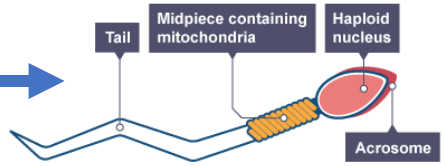
Gametes and Fertilisation

Humans reproduce through sexual reproduction. This produces offspring that are genetically unique because half of their genetic material - *DNA* - comes from each parent.

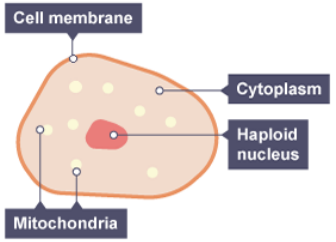
Gametes are the male and female sex cells:
- *ova* are female gametes
- sperm are male gametes

In sexual reproduction, a male and female gamete can join together. This is fertilisation. These gametes are *specialised cells* which have adaptations to increase the chances of fertilisation and successful development of a baby.

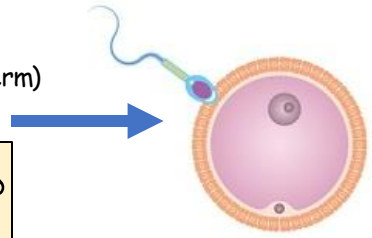
The male gamete (a sperm cell)



The female gamete (an ova/egg cell)



Fertilisation (the fusing of the ova and sperm)



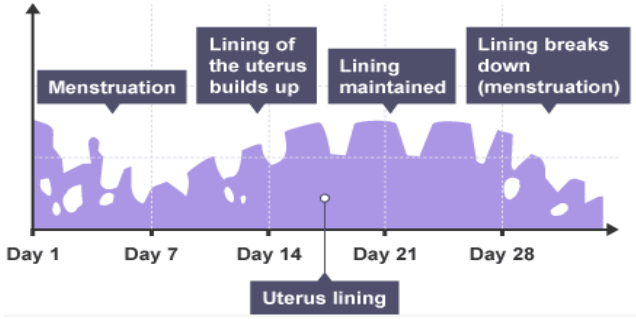
Link: Show your understanding
What is a specialized cell?
What are the **adaptations** of the gametes?

3. Menstruation

Changes during puberty

The menstrual cycle begins at puberty. It is an approximately 28 day cycle that prepares for pregnancy. The cycle stops during pregnancy.
Most females begin puberty between the ages of eight and 14. Puberty takes about four years during which the following physical changes occur:
- underarm hair grows
- pubic hair grows
- body smell gets stronger
- hips widen
- breasts develop
- ovaries release ova during the menstrual cycle

The menstrual cycle is an approximately 28 day cycle that prepares the female body for pregnancy.
Hormone levels change during the cycle.

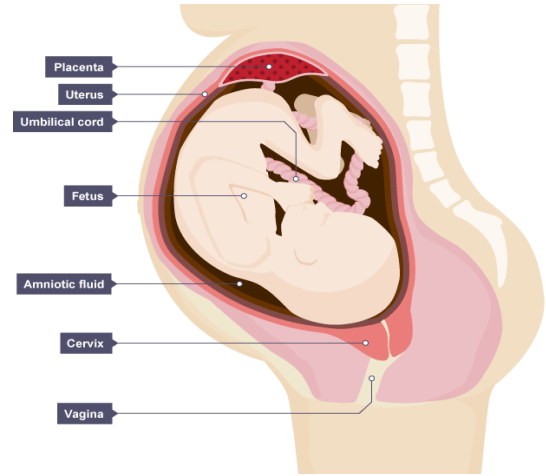


Day (approx)	Event
1	Bleeding from the vagina begins. This is caused by the loss of the lining of the uterus. This is called menstruation or having a period.
5	Blood loss stops. The lining of the uterus begins to re-grow and an *ovum* starts to mature in one of the ovaries.
14	*Ovulation* occurs. The ovum travels through the oviduct towards the uterus.
28	If the ovum does not join with a sperm cell in the oviduct, the lining of the uterus begins to break down again and the cycle repeats.

5. Pregnancy and The Developing Foetus

Gestation and Birth

A fertilised ovum divides to form a ball of cells called an embryo. The embryo attaches to the lining of the uterus. It begins to develop into a *foetus* and then becomes a baby when it is born. It takes about 40 weeks for a foetus to develop in the uterus. This time is called gestation.



The fetus relies upon its mother for:
- protection against knocks/bumps/temperature changes
- oxygen for *respiration*
- nutrients - food and water
- removal of waste substances

Health and lifestyle

Other substances can also pass through the placenta, including recreational drugs and alcohol. Drugs can affect the fetus - slowing the growth of the fetus, reducing the amount of oxygen and causing bleeding - which can be life threatening.
Drinking alcohol or smoking while pregnant are also dangerous and can increase the risk of stillbirth, premature birth and long-term health conditions.

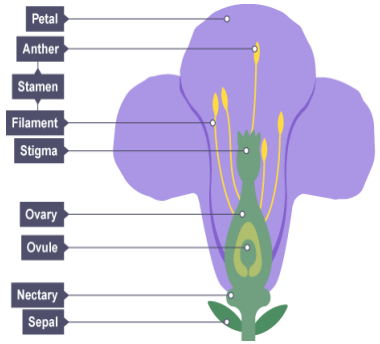
Science Year 8: 8.12 Plant Reproduction Core Knowledge

1. Structure of a Flower

Flower structure

Flowering plants reproduce sexually through a process called *pollination*. The flowers contain male sex organs called **stamens** and female sex organs called **pistils**. The male and female sex cells produced from the male and female sex organs must meet for reproduction to begin.

'Flowering plants' includes fruit plants and trees which produce flowers as well as fruit.

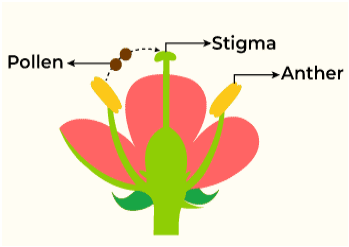


2. Pollination

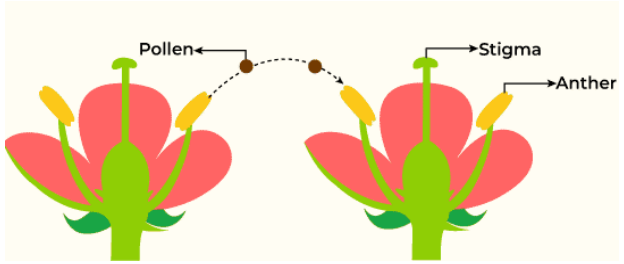
Pollination

Pollination is the act of transferring pollen grains from the male anther of a flower to the female stigma. The aim of most living *organisms*, including plants, is to produce offspring for the next generation. One of the ways that plants can produce offspring is by making seeds. Seeds contain the nutrition and all the genetic instructions to grow into an adult plant.

There are two types of pollination:



Self-pollination: The pollen grain lands on the same flower it originated from.



Cross-pollination: The pollen grain lands on a different flower to the one it originated from.

Essential Vocabulary

Pollen: Contains the plant male sex cells found on the stamens.

Ovules: Female sex cells in plants found in the ovary.

Pollination: Transfer of pollen from the male part of the flower to the female part of the flower on the same or another plant.

Fertilisation: Joining of a nucleus from a male and female sex cell.

Seed: Structure that contains the embryo of a new plant.

Fruit: Structure that the ovary becomes after fertilisation, which contains seeds.

Carpel: The female part of the flower, made up of the stigma where the pollen lands, style and ovary.

Link: Show your understanding
How is pollination similar to human reproduction?
How is it different?

2. Wind and Insect Pollination

Wind and Insect Pollination

As plants cannot move and need help for pollination to occur.

- **Wind-pollinated plants**: let their pollen blow in the wind and hope that their pollen grains reach another plant for pollination.
- **Insect-pollinated plants:** use insects and other animals to carry their pollen grains to other plants.

Feature	Insect-pollinated	Wind-pollinated
Position of stamens	Enclosed within the flower so insects must make contact	Exposed so that wind can easily blow pollen away
Position of stigma	Enclosed	Exposed
Type of stigma	Sticky, so that pollen attaches to insects	Feathery, to catch pollen blown from wind
Colour of petals	Brightly coloured to attract insects	Dull, usually green
Nectaries	Present as reward for insects	Absent
Pollen grains	Larger, sticky	Smaller, smooth, inflated

3. Seed Dispersal

Seed dispersal

- Seed dispersal is the transport of seeds from the plant to another area in order to grow.
- Seeds must be dispersed or spread away from each other and from their parent plant. This is to reduce competition between one another and increase their chances of survival.

The image shows some of the ways seeds can be dispersed.