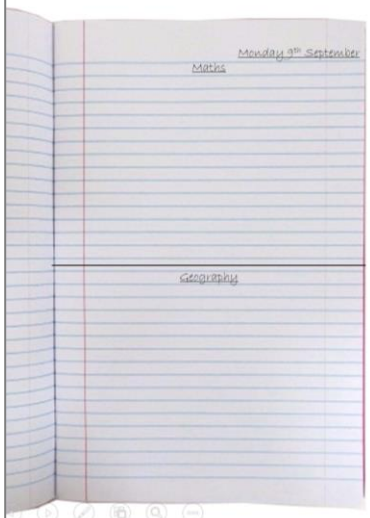
Knowledge Organisers
Year 8 – Term 2

How to complete your Knowledge Organiser Homework

- Learning is an **active process**, just reading the information will not be enough



Each day, in your Knowledge Organiser book, you must write the date at the top and then draw a line to divide the page in half using a ruler.

Use the top half of the page for one subject and the bottom half of the page for the other

You can use some of the techniques you have been taught;

- Look, cover, write, correct, repeat
- Mind maps
- Word Up
- Flashcards

(YouTube channel – Woodrush Online)

Key Points

- Each night you should spend 20 minute learning the information from the knowledge organisers for 2 subjects as set out in your planner
- You should also read your book each night
- You must have evidence of your work in your knowledge organiser exercise book (reading the knowledge organisers is not enough!)
- Your learning of the information will be checked in your lessons
- Your parent/carer must sign your planner each week to confirm that you have been completing your homework
- You may be given option homework to complete but this is not compulsory (but worth lots of achievement points!)

NAME: _____ FORM: _____

English

Power and Conflict

Key Terms

Power	If a person or group has power, this means that they have the ability or authority to influence or control other people.	**Semantic Field**	This is when there is a pattern of words which share a similar meaning or are related to the same topic. For example, words in the semantic field of conflict could include 'pain' 'war' 'violence' and 'clashing.'
Conflict	A conflict involves some kind of disagreement between people with opposing viewpoints. It could also refer to fighting between countries.	**Structure**	The way that a text is organised. Some structural devices are on the next page.
Antagonist	This is a character who creates conflict in a story.	**Allegory**	A story or poem that can be interpreted to reveal a hidden meaning, usually a moral or political one.
Protagonist	Usually the main character, this is the character whose side the audience or reader is on. The protagonist is usually a good character who has to overcome a conflict.	**Adverbials**	An adverbial is a phrase which does the job of an adverb. It explains how, where, when or why the verb is done.

Rhetoric is language which is designed to have a persuasive impact.

This is often used in speeches. For example, politicians will use lots of **rhetorical devices** in their speeches.

You may notice in a novel that rhetorical language is often used by **powerful characters**.

Rhetorical Devices

		Extension Words:	
Triads	Where groups of 3 words or phrases are used together. Also known as *rule of three*. Using this technique can be powerful as it adds emphasis to the point being made.	**Anaphora**	The repetition of a word or phrase at the beginning of successive clauses, e.g. Churchill's famous "**we shall fight** on the beaches, **we shall fight** on the landing grounds, **we shall fight** in the fields and in the streets, **we shall fight** in the hills."
Rhetorical Questions	Using a question in a speech or piece of writing which does not require an answer. Rhetorical questions are used to encourage the reader or listener to consider an idea.	**Anadiplosis**	Anadiplosis is the repetition of the word from the end of one sentence to the beginning of the next: "Fear leads **to anger. Anger** leads to **hate. Hate** leads to suffering."
Emotive Language	Using language that will give the reader or listener an emotional response. For example, charity campaigns might use phrases to make the reader feel upset.	**Counter-argument**	This is when you anticipate the opposition's argument so you can then explain why you disagree with it. *"I know that many people believe that x, but…"*
Hyperbole	Use of exaggeration. For example, "We have been through this **a million times** already." It is not expected to be taken literally by the reader or listener.	**Pleonasm**	Using words which aren't actually needed, but which make the idea richer. For example, instead of "this proposal will make life better for everybody" you could say, "If we said "this proposal will make life better for everybody, rich and poor, young and old."

English

SPaG

Connectives and Discourse Markers

Similarities	Differences	Sequencing	Cause and Effect
Also	However	At first	Therefore
In Addition	On the other hand	Secondly…	Consequently
Additionally	But	Next	As a result
Moreover	Juxtaposing this	Then	Because of this
Furthermore	In contrast	After that	This causes
Likewise	Contrastingly	In due course	This results in
Similarly	Although	Finally	Hence
In the same way	Whereas	Eventually	Thus
Comparably	Alternatively	In the mean time	Accordingly
Along the same lines	On the contrary	Meanwhile	For that reason
Much like	In opposition	Simultaneously	

Structural Terms

Cyclic Structure - when the end of a text links back to the start
Focus Shift - When the writer changes their focus to talk about something new. For example, the character might have moved to a new place, or they might focus on what someone else is doing. These are often between paragraphs
Zoom in/Zoom out - The writer might 'zoom in' to look at something in closer detail. For example, a character's facial expression or an object.
Introduces - when something new is introduced in a text such as a character
Develops - when the writer gives more detail about something which has been introduced For example, we might learn more about what a character is thinking
Concludes - how a text ends
Flashback - when the narrator talks about something that happened at an earlier time
Perspective - Whether 1st person or 3rd person is used

Poetry Terms

Simile

Describing something by comparing it to something else. Uses 'like' or 'as.'

"Your teeth are like stars. They come out at night."

Metaphor

Describing something by saying that it IS something else

Stanza

A verse of a poem. These can be regular (the same) or irregular (different lengths) depending on the pace and content of the poem. Each stanza usually has a new focus.

Rhyme

This can be at the end of a line, or can be internal rhyme

Twinkle, twinkle little star

How I wonder what you are

Sibilance

Deliberately using lots of words with the 's' 'sh' or 'z' sound to create either a soothing or a harsh effect

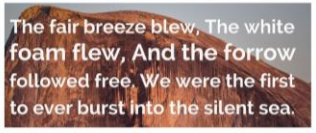
"Seven stealthy bullets streak the silence"

Enjambment

Continuing onto the next line or stanza without using punctuation to create a pause

Alliteration

Beginning words with the same sound



Juxtaposition

Placing two opposing ideas near each other to create a contrast

"Do not go gentle into that good night.
Rage, rage against the dying of the light"

Personification

Giving human qualities to a non-human object or a concept

Two Sunflowers
Move in the Yellow Room.
'Ah, William, we're weary of weather,'
said the sunflowers, shining with dew.
Our traveling habits have tired us.
Can you give us a room with a view?

Rhythm

The 'beat' of the poem. This includes how syllables are used

DOU-ble, / DOU-ble / TOIL and / TROU-ble;
FI-re / BURN, and / CAL-dron / BUB-ble

MATHS

Number – Decimal Calculations

Four operations with decimals

Addition

> Find the decimal
> Line up the decimals
> Fill in empty spots with zero
> Add
> Bring down the decimal in your answer

EXAMPLE

10.5 + 11.74

Rewritten with decimals lined up...

$$\begin{array}{r} 10.50 \\ +\ 11.74 \\ \hline 22.24 \end{array}$$

Subtraction

> Find the decimal
> Line up the decimals
> Fill in empty spots with zero
> Subtract
> Bring down the decimal in your answer

EXAMPLE

12.7 - 9.23

Rewritten with decimals lined up...

$$\begin{array}{r} {\scriptstyle 6\ 10} \\ 12.\not{7}\not{0} \\ -\ 9.23 \\ \hline 3.47 \end{array}$$

Rules of Decimals

Multiplication

> The number with most digits goes on top
> Decimals do not have to line up
> Multiply like normal
> Count how many places in first number the decimal is moved over
> Count how many places in 2nd number the decimal is moved over
> This is how many places you move the decimal in your answer

EXAMPLE

$$\begin{array}{rl} 1.201 & \text{< 3 DECIMAL PLACES} \\ \times\ .25 & \text{< 2 DECIMAL PLACES} \\ \hline 6005 & \\ 24020 & \\ \hline .30025 & \text{< 5 DECIMAL PLACES} \end{array}$$

Division

> Divisor can not have a decimal
> Move the divisor decimal so it is a whole number
> Move the same amount of places in dividend
> Place a decimal straight up where you write your answer, rewrite problem
> Divide like normal

EXAMPLE

DIVISOR > $0.3\overline{)1.41}$

$$\begin{array}{r} 4.7 \\ 3\overline{)14.1} \\ -12 \\ \hline 21 \\ -21 \\ \hline 0 \end{array}$$

Decimal calculations in real life

Albert is calculating how many times he will orbit the Earth during his 114.1 hour stay on the International Space Station. It orbits the Earth every 0.7 hours, so how many times will he complete an orbit?

Can you calculate the number of times he orbits earth?

Recurring decimals and fractions

A decimal number that will after a certain point, repeat itself indefinitely.

Written with a little dot above the number/s

$0.\dot{6} \longrightarrow 0.6666666666666\ldots$

$0.21\dot{3} \longrightarrow 0.2133333333333\ldots$

$0.\dot{8}4\dot{1} \longrightarrow 0.841841841841\ldots$

Be in a position to eliminate the Decimal numbers

$$0.20\dot{5}$$

$(\times 100)\quad 0.20\dot{5} = x \quad (\times 100)$

Move recurring decimal up to the decimal point

$$\begin{array}{rr} 100x = 20.\dot{5} & \\ (\times 10) & (\times 10) \\ 1000x = 205.\dot{5} & \end{array}$$

Be in a position to eliminate the Decimal numbers

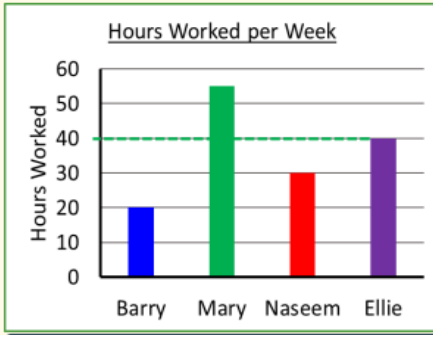
$$\begin{array}{rr} 1000x = 205.\dot{5} & \\ -\ 100x = & 20.\dot{5} \\ \hline 900x = & 185 \end{array}$$

$$x = \frac{185}{900} = \frac{37}{180}$$

MATHS

Statistics and probability

Bar Charts



Title | Axes | Scales | Labels

Bars
(equal width)
(equal gaps)

Read off bars
Ellie = 40 hours

Pie Charts

Nationality	Guests	Angle
Spanish	30	150°
British	24	120°
French	10	50°
German	8	40°
Total	72	

Find degrees per value
$(360° \div total)$

$1\ Guest = \frac{360°}{72} = 5°$

Averages from a frequency table

Cars	Frequency	fx
0	4	0
1	11	11
2	12	24
3	7	21
4	6	24
Sum	40	80

Median

Median = Middle value
(Numbers written in order)

$Location = \frac{n+1}{2}$

$Location = \frac{40+1}{2} = 20.5$

The median lies between 20th and 21st value

Cars	Frequency	
0	4	4
1	11	15
2	12	27
3	7	
4	6	
Sum	40	

Median = 2

Mean

Mean = $\frac{Total\ of\ all\ values}{number\ of\ values}$

Mean = $\frac{Total\ of\ fx\ column}{Total\ frequency}$

$Mean = \frac{80}{40} = 2$

Mode

Mode = Most common value/item

The category with the highest frequency

2

Range

Range = Largest - Smallest

$4 - 0 = 4$

Averages

Mean = $\frac{Total\ of\ all\ values}{number\ of\ values}$

3, 3, 4, 5, 5, 8, 9, 15

$Mean = \frac{52}{8} = 6.5$

Collect it all together and share it out evenly

Median = Middle value
(Numbers written in order)

3, 3, 4, 5, 5, 8, 9, 15

Median = 5

Finds the middle value

Mode = Most common value/item

3, 3, 4, 5, 5, 8, 9, 15

Mode = 3 *and* 5

Average usually used for qualitative data

Range = Largest - Smallest

3, 3, 4, 5, 5, 8, 9, 15

Range = 15 − 3 = 12

Reveals how close/far apart the values are

Hey diddle diddle, the Median's the middle; you add and divide for the Mean. The Mode is the one that appears the most, and the range is the difference between.

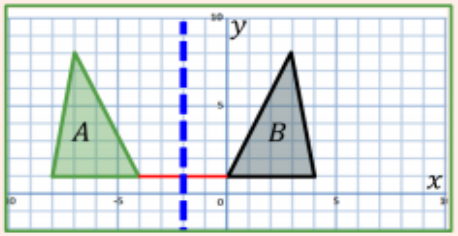
MATHS

Transformations

Reflection

Reflection: the replacement of each point on one side of a line by the point symmetrically placed on the other side of the line.

Need a mirror line



Reflection in the line $x = -2$

Rotation

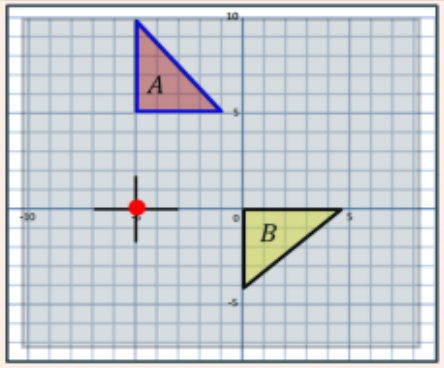
Rotation: the action of rotating a shape about an axis or central point.

Need a Centre point

Need a Direction

Need a measure of turn

Use of tracing paper



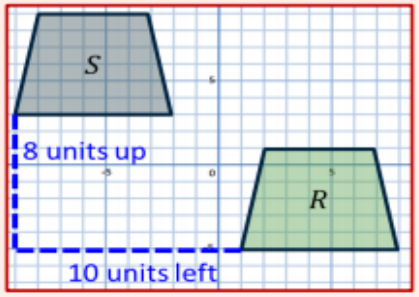
Rotation | 90° Clockwise | About $(-5,0)$

Translation

Translation: the action of 'sliding' a shape to a new position.

Described using Vector Notation

$\begin{pmatrix} x \\ y \end{pmatrix}$ x → Direction along; y → Direction up/down



$R \rightarrow S =$ Translation $\begin{pmatrix} -10 \\ 8 \end{pmatrix}$

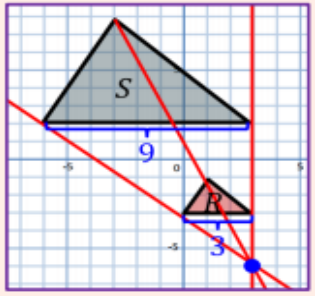
Enlargement

Enlargement: the action of resizing a shape to the scale factor given from a specific point.

Need a Centre point

Need a scale factor

$\frac{New\ shape}{Original\ shape}$



$R \rightarrow S$

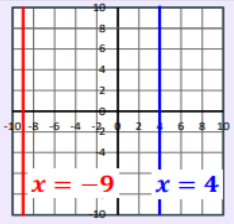
Use projection lines

Enlargement | Scale factor 3

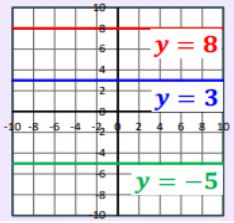
From $(3,-6)$

Horizontal and vertical lines

Vertical lines → x =?



Horizontal lines → y =?



Co-ordinate review

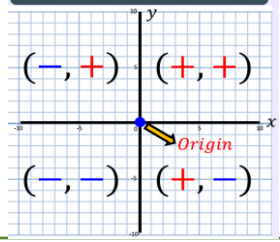
(x, y)

Direction along the x - axis → Along the corridor

Direction up/down the y - axis → Up, Down the stairs

Start from a central point (0,0) - Origin

Four Quadrants



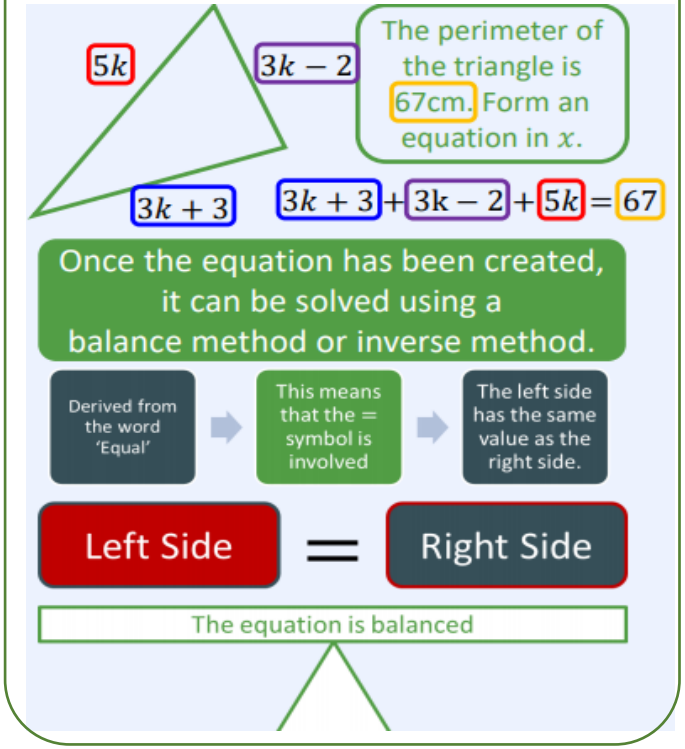
MATHS

Equations

Key terms

Variable	An unknown number that is represented by a letter	**Simplify**	An expression that can be reduced or shortened by collecting like terms	**Balance**	A method of solving equations by doing the same to both sides.
Equation	Will always have an equals sign are in balance	**Solve**	Find the value of the unknown letter in an equation	**Inverse**	Opposite operations. E.g. add and subtract
Expression	A combination of numbers and letters called terms				

Forming and solving equations



Solving equations

Expand brackets and simplify (collect like terms)

If x is on both sides, eliminate smallest value

Eliminate excess number

Divide and solve for x

ORDER

$$3(x+1) = 2(x+2)$$

$$3x + 3 = 2x + 4$$
$$-2x \quad -2x$$

$$x + 3 = 4$$
$$-3 \quad -3$$

$$x = 1$$

Solving equations with fractions

Equations where fractions are involved

Fractions are divisions and can be eliminated by multiplying

$$\frac{x}{2} = 5 \qquad x = 10$$
$$\times 2 \quad \times 2$$

Remove variable from denominator

$$\frac{2y}{(3-y)} = 4 \Rightarrow 2y = 4(3-y)$$
$$\times (3-y) \quad \times (3-y)$$

Cross-multiplying allows us to move terms in a fraction from one side of an equation to the other

$$\frac{x+1}{3} = \frac{x}{2} \Rightarrow 2(x+1) = 3x$$

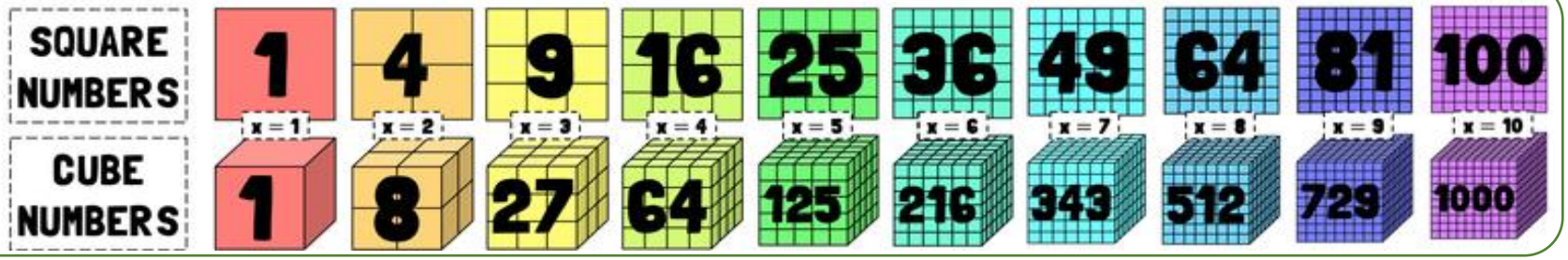
MATHS

Powers and roots

Key terms

Power	The power of a number says how many times to use the number in a multiplication.	**Square**	To **square** a number: just multiply it by itself.	**Square root**	A square root of a number is a value that, when multiplied by itself, gives the number.
Base	The number that gets multiplied when using a power	**Cube**	The result of using a whole number in a multiplication three times	**Cube root**	The cube root of a number is a special value that, when used in a multiplication **three times**, gives that number.

Square and cube numbers



Index laws

$x^a \times x^b = x^{a+b}$

$z^3 \times z^7 = z^{10}$

When multiplying powers with the same base – Add the powers

$x^a \div x^b = x^{a-b}$

$s^2 \div s^5 = s^{-3}$

When dividing powers with the same base – Subtract the powers

$(x^a)^b = x^{a \times b}$

$(e^4)^3 = e^{12}$

When raising the power (brackets) – Multiply the powers

Powers

$4 \times 4 \times 4 = 4^3$ *Power*

Base

$8^4 = 8 \times 8 \times 8 \times 8$

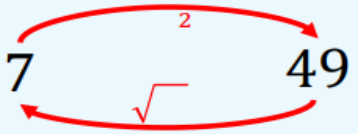
$\left(\frac{2}{3}\right)^2 = \frac{2^2}{3^2} = \frac{2 \times 2}{3 \times 3} = \frac{4}{9}$

Anything to the power of 1 is just itself

$5^1 = 5 \qquad 28^1 = 28$

Roots

Roots are the inverse operations to powers



$\sqrt[3]{Cube\ root}$

$\sqrt[4]{Fourth\ root}$

MATHS

Pythagoras and construction

Key triangles to draw

Side, Side, Side	Side, Angle, Side	Angle, Side, Angle	Right, Hypot, Side
All three sides of one triangle are equal to the corresponding sides of the other triangle.	Two sides and the included angle are equal to the corresponding sides and included angle of the other triangle	Two angles and one side of a triangle are equal to the corresponding angles and side of the other triangle	Each triangle contains a right angle, the hypotenuses are equal in length as well as another equal comparative side.

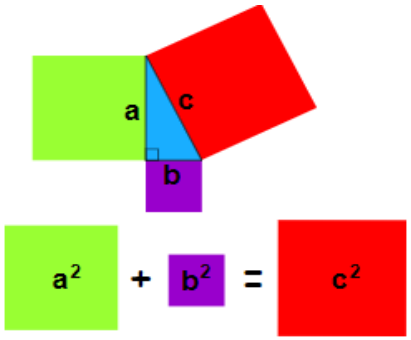
Pythagoras theorem

In a right angled triangle the square of the long side is equal to the sum of the squares of the other two sides.

It is stated in this formula:

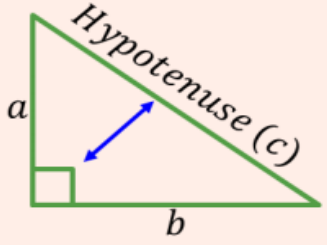
$a^2 + b^2 = c^2$

The long side is called the hypotenuse.

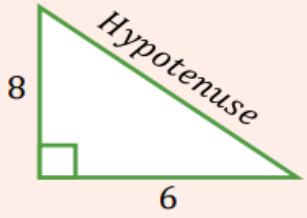


Finding the hypotenuse

If you know the lengths of the **two shorter sides**, you can calculate the length of the hypotenuse.



- Square the two sides
- **Add** them
- Square root for answer



$c^2 = 8^2 + 6^2$

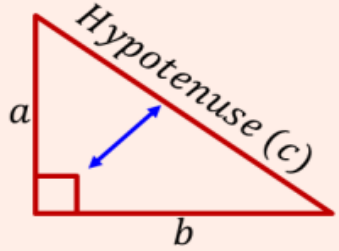
$c^2 = 64 + 36$

$c^2 = 100$ $(\sqrt{\ })$

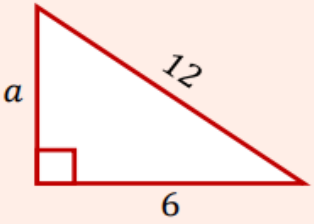
$C = 10$

Finding a shorter side

If you know the **Hypotenuse** and a **shorter side**, you can calculate the length of the other shorter side.



- Square the two sides
- **Subtract** them
- Square root for answer



$c^2 - b^2 = a^2$

$12^2 - 6^2 = a^2$

$144 - 36 = a^2$

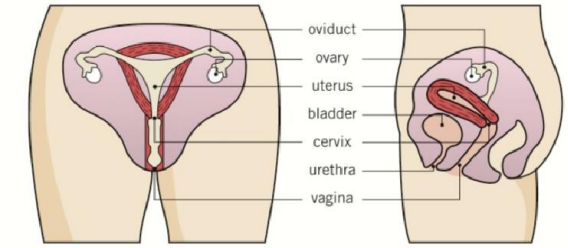
$108 = a^2$ $(\sqrt{\ })$

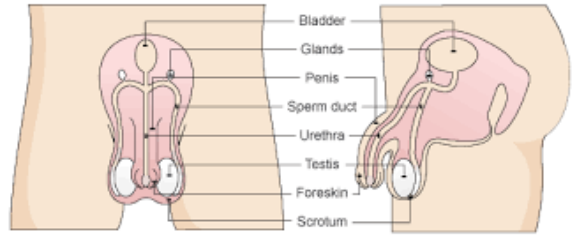
$10.39 = a$

Science

B3 Health

Gamete: The male gamete (sex cell) in animals is a sperm, the female an egg.
Fertilisation The process where the nucleus of a sperm cell joins with the nucleus of an egg cell.
Ovary: Organ which contains eggs.
Testes: Organs where sperm are produced.
Menstruation: Loss of the lining of the uterus during the menstrual cycle
Foetus: The developing baby during pregnancy.
Ovulation: The release of an egg from an ovary

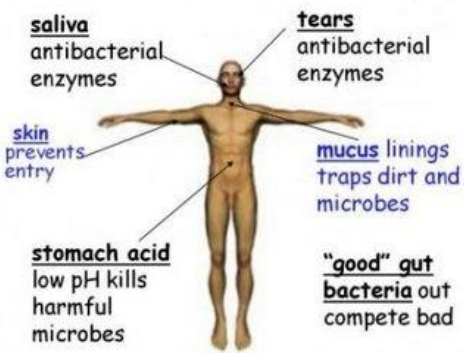


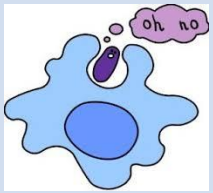
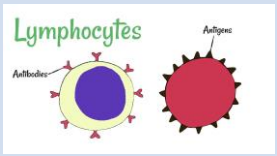


Type of pathogen	How it affects the body	Examples
Bacteria	Releases toxins (harmful chemicals)	Food poisoning, tonsillitis, cholera
Virus	Affects the DNA of cell	Flu, colds, HIV
Fungi	Penetrate skin and cause damage	Athletes foot
Protozoa	Are often parasites (live on organism and cause harm)	Malaria

Type of drug	Effect on the body
Stimulant	Increase alertness and speed up nervous system
Depressant	Slow down nervous system
Hallucinogen	Alter how you see and feel
Painkiller	Reduce pain

First Lines of Defence



Phagocyte	Lymphocyte
Engulf and digest pathogens 	Produce antibodies 

Nutrient	Use in the body	Good sources
Carbohydrate	To provide energy	Cereals, bread, pasta, rice and potatoes
Protein	For growth and repair	Fish, meat, eggs, beans, pulses and dairy products
Lipids (fats and oils)	To provide energy. Also to store energy in the body and insulate it against the cold.	Butter, oil and nuts
Minerals	Needed in small amounts to maintain health	Salt, milk (for calcium) and liver (for iron)
Vitamins	Needed in small amounts to maintain health	Fruit, vegetables, dairy foods
Dietary fibre	To provide roughage to help to keep the food moving through the gut	Vegetables, bran
Water	Needed for cells and body fluids	Water, fruit juice, milk

Science

C4 Environmental Chemistry

Keywords

Monomer	A small molecule that can be joined to form a polymer
Polymer	A large chain of monomers joined together
Landfill	A place where rubbish is put before being buried
Incineration	Disposal of rubbish by burning it
Recycling	Converting waste into a new material or product
Limestone	A rock used to make bricks, cement, mortar and glass
Quarrying	Mining for rocks
Fossil fuel	A fuel made from dead plants and animals that have decayed over millions of years
Air pollution	The release of harmful gases into the atmosphere
Smog	Air pollutants that cause acid rain
Soot	Small air pollution particles that are harmful when breathed in
Carbon monoxide	A poisonous air pollutant
Greenhouse gas	A gas that traps heat from the sun
Global warming	The Earth getting warmer as a result of too many greenhouse gases like carbon dioxide
Filtration	Passing a mixture through a filter
Sedimentation	Clumping small particles together so that they sink
Chlorination	Adding chlorine to water to kill bacteria
Distillation	Purifying water by boiling it and then condensing the vapours

Disposal of waste

There are 3 main ways of **disposing** things when we are done using them.

1.Dumped in a **landfill** (until we run out of space)

2. **Incineration,** to produce electricity (and pollution)

3. **Recycled** into a new product (though the new product usually isn't as good)

Important groups

3 methods of disposing of rubbish: Landfills, incineration, recycling

The 3 fossil fuels: Coal, crude oil and natural gas

3 air pollutants: Smog, soot, carbon monoxide

3 steps used to purify water: Filtration, sedimentation, chlorination

Global Warming

The **Greenhouse Effect** is when certain gases called **greenhouse gases** help to trap heat from the Sun, to keep Earth warm enough for us to live.

When humans burn fossil fuels, we release a greenhouse gas called **carbon dioxide (CO_2).**

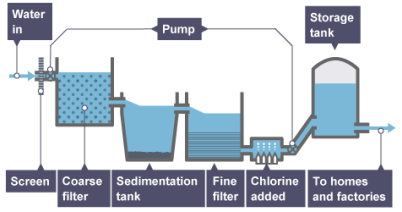
Global warming is when too much CO_2 causes the Earth to get warmer.

Problems: ice caps melt, sea levels rise, some plants and animals go extinct

Water Purification

We purify our water in 3 steps:

1. **Filtration:** To remove big insolubles
2. **Sedimentation:** To remove smaller insolubles by clumping them together.
3. **Chlorination:** To kill bacteria



Salt can't be removed by these steps because it is **soluble.**

We purify salt water by **distillation**.

Science

P2 Energy and Space

Keywords

Electrostatic	a build up of charge, like in a storm cloud
Nuclear	Energy store found in radioactive substances and the sun
Gravitational potential	Energy store an object has at a height
Elastic potential	Energy store an object has when it is bent or stretched
Thermal	Heat energy
Chemical	Energy store in a battery or a fuel
Kinetic	Energy of movement
Mechanical work	Any time a force is applied
Radiation	Light, sound, infrared and any other wave
Heating	Movement of heat through particles
Electrical work	The flow of electricity
Power	The rate of energy transfer
Non-renewable	A source of energy that will run out
Renewable	A source of energy that will not run out
Hydroelectric	Generating electricity from the flow of water (usually by building a dam)
Biofuels	Generating electricity by burning dead plants and animals
Geothermal	Generating electricity using the Earth's heat
Solar system	The sun and the planets and dwarf planets that orbit around it
Heliocentric	The planets all go around the sun (as opposed to the sun going around the Earth)

Energy transfer diagrams

Energy transfers can be described using a diagram.

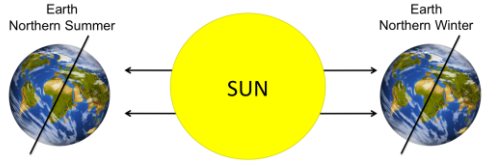
Store → Transfer → Store

Gravitational potential energy → *Mechanical work* → *Kinetic energy*

Days and seasons

The Earth **spins on its axis.** This is why we have **night and day.**

The Earth is **tilted** on its axis. The half of the Earth tilted **towards the Sun** has **summer.** The half of the Earth tilted **away from the Sun** has **winter.**



Important groups

The 8 stores of energy: Magnetic, electrostatic, nuclear, gravitational, elastic, thermal, chemical, kinetic (**MEN GET CK**)

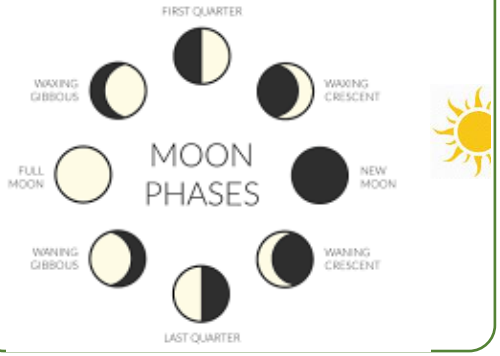
The 4 ways of transferring energy: Mechanical work, radiation, heating, electrical work **(MR HE)**

The 3 fossil fuels: Coal, crude oil and natural gas

5 Renewable resources: Solar, Wind, Hydroelectric, biofuels, geothermal

The 8 planets in our solar system (in order): Mercury, Venus, Earth, Mars, Jupiter, Saturn, Neptune Uranus

Phases of the moon



History

The Road to the Second World War

The Terms of the Treaty of Versailles:

At the end of the First World War, Germany was forced to accept the Treaty of Versailles in 1919. It made many Germans really angry and was one of the things that the Nazis wanted to change when they came into power in 1933.

Category	Terms
Land	Germany **lost all of it's overseas empire**. It also **lost a chunk of East Germany** which was given to Poland, while the area of **Alsace-Lorraine was given to France.**
Army	Germany's army was **limited to 100,000 men**. They were allowed **no tanks, no submarines, no aeroplanes and only 6 battleships**. Their military was **not allowed into the part of Germany nearest France, the Rhineland**.
Money	Germany was **forced to pay reparations (fines) of 132 billion Gold Marks** (equivalent to £6,600,000,000).
Blame	Germany was **forced to accept blame for the outbreak of the First World War**.

Arguments for or against Appeasement:

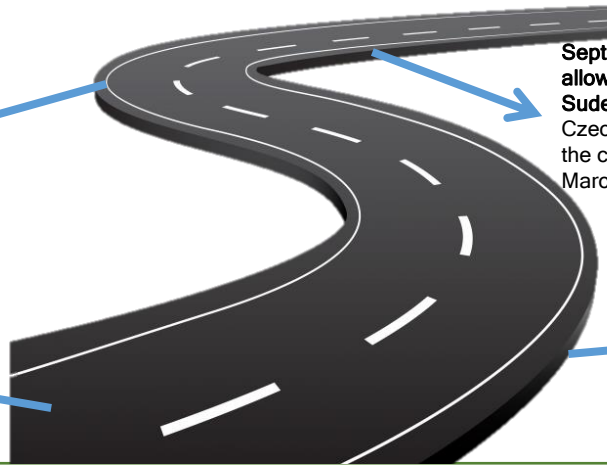
Hitler came to power in 1933 and it became quite clear from early on that he wanted to overturn many aspects of the Treaty of Versailles. However, Britain and France did not go to war with Germany immediately, instead they followed a policy called Appeasement where they let Hitler have his way in order to avoid war. Ultimately, this didn't work, and Historians have been arguing about it ever since.

Arguments for Appeasement	Arguments against Appeasement
• The **British Government was afraid of Communism** and Hitler was standing up to it.	• Every time Britain and France gave Hitler what he wanted, it **encouraged him to keep demanding more.**
• **No one wanted another world war** after the devastation of the First World War.	• Appeasement **encouraged Hitler to become more aggressive.**
• **Britain's army was in no condition to fight another war-** it was too small and badly armed.	• Appeasement **meant that Britain trusted that Hitler wouldn't keep demanding for things-** it was a gamble that Hitler could be trusted. The gamble failed.
• **Britain could not count on the support of the Empire, Commonwealth or USA** in another war.	• Appeasement **allowed Germany to grow into a strong nation with a strong army, which was more powerful than Britain's,** something the Treaty of Versailles had attempted to stop.
• **Britain was struggling financially** and another war would be expensive.	• Appeasement **showed that Britain and France wouldn't stop Hitler in his fight against communism** which worried the Soviet Union.
• **Many Britons felt that the Treaty of Versailles was too harsh** and thought Germany was right for wanting to change it.	

Key Events in the road to war:

Anschluss (March 1938) Austria is occupied and becomes part of Germany (something which was banned under the Treaty of Versailles).

Remilitarisation (1933-39) Hitler began to build up Germany's armed forces secretly, but then began to rearm openly from 1935.



September 1938- Germany is allowed to take over the Sudetenland, part of Czechoslovakia. The rest of the country is taken over in March 1939.

1st September 1939, the German Army invaded Poland. On the 3rd September Britain declared war on Germany. The Second World War began.

Remilitarisation of the Rhineland (1936)- the German Army enters the part of Germany nearest the French border. This was banned under the Treaty… but Hitler wasn't stopped.

Key Terms	Definition
Appeasement	Giving into demands to avoid conflict
Reparations	A debt or a fine
Versailles	A place in France where the peace treaty ending the First World War was signed in 1919.
Rearmament	When the Nazis began to rearm Germany during the 1930s, breaking the Treaty of Versailles.

History

The Second World War

The War at Home:

Rationing: food supplies were desperately short as we relied on food from overseas before the war. The German's sank cargo ships bringing food over in the Atlantic. As a result, **rationing was introduced to make sure there was enough food for everyone, regardless of wealth**. **Meat, eggs, sugar and dairy products were rationed**. People were also **encouraged to grow their own vegetables** wherever possible, leading to campaigns such as **Dig for Victory.**

Women: just as in the First World War, **women were central to the war effort**. They joined the **armed services**, working in support roles; worked in **factories** producing munitions; joined the **Land Army** to provide help on farms; some even joined the Special Operations Executive (SOE) as **Secret Agents**.

Evacuation: In September 1939 millions of people from across the UK were **evacuated from the cities to the countryside due to the dangers of bombing**. Most of these were **children** but it also included the **disabled, pregnant women** and some **elderly**.

The Blitz: between September 1940 and May 1941, the **German Luftwaffe led a bombing campaign against British cities in an attempt to destroy morale and our ability to produce weapons**. In the end, **43,000 people were killed**.

Allies	Axis

Key Figures

Neville Chamberlain
Prime Minister of the UK from 1937 to 1940.

Winston Churchill
Prime Minister of the UK from 1940 to 1945.

Joseph Stalin
Leader of the Soviet Union from 1924 to 1953.

Franklin D. Roosevelt
President of the United States of America from 1933 to 1945.

Adolf Hitler
Leader of Nazi Germany from 1933-1945.

Benito Mussolini
Leader of Italy from 1922 to 1943 (though he controlled parts of northern Italy until 1945)

Emperor Hirohito
Emperor of Japan from 1926 until 1989.

Key Terms	Definition
Soviet Union	A collection of communist countries, dominated by Russia (existed between 1917-1991).
Luftwaffe	German Airforce
Evacuation	When you leave a dangerous place for a safer one.
Rationing	Dividing supplies up so there is enough to go around.

History

The Second World War

Key events of the Second World War:

D-Day (June 6th 1944)- Allied troops invade Nazi occupied France.

Dunkirk (June 1940)- British and French troops were evacuated off the beach at Dunkirk, away from the advancing Nazi Army.

Battle of the Atlantic (1939-1945)- German submarines attempted to sink British cargo supplies in order to starve Britain into surrender.

Pearl Harbour (December 7th 1941)- Japanese Fleet attack the American fleet at it's base in Hawaii. This meant America entered the war on Britain's side.

El Alamein (Oct-Nov 1942)- Britain's first major land victory against German forces in the Desert of North Africa..

Italian Campaign (1943-44): Allied troops invaded Italy, taking valuable resources away from the German invasion of the Soviet Union.

Battle of Stalingrad (August 1942-February 1943)- Germany's first major defeat in Russia resulting in the loss of around 650,000 to 800,000 men.

Battle of Berlin (April-May 1945)- the last major battle in Europe in which Hitler killed himself, leading to the German surrender on the 8th May 1945.

Siege of Leningrad (1941-44)- German troops surrounded the Soviet City for 2.5 half years leading to heavy Russian losses.

Operation Barbarossa (June 1941)- The German invasion of the Soviet Union.

Invasion of Poland (September 1st 1939) German forces invaded Poland which led to Britain and France declaring war on Germany. About 1/5 of all Poles would die in the war.

Atomic Bombings of Hiroshima and Nagasaki (August 1945)- pressured Japan into surrendering to the Allies, leading to the end of the war.

Chinese Campaign (1937-1945)- Japan invaded China aiming to take their resources. Around 20 million Chinese civilians were killed.

Burma Campaign (1942-45)- a brutal land battle between British and Empire troops against the Japanese, aiming to stop them from advancing into India.

NB. The Holocaust will be studied as a separate topic and will have it's own knowledge organiser in Term 3.

Geography

Violent planet: UK climate, Tropical storms and Wildfires

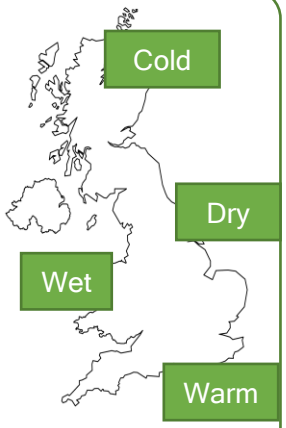
UK climate

Weather- Refers to short-term changes in the atmosphere, each day.

Climate- Describes what the weather is like over a long period of time in a specific area Two things to remember

Extreme weather- includes, unusual, unpredictable, severe or unseasonal weathe

The West is wetter than the East
The South is warmer than the North



Wildfires causes

HUMAN-
Slash and burn- trying to remove rainforest for farming by burning the trees.

Arson- deliberately setting fires

Cigarette butts, campfires and **burning debris**

NATURAL-
Drought- a period with very little rain/ **lightning**

Some argue that climate change is also to blame!

The Amazon Wildfires

Total fires	Over 40,000
Cost	Unknown- but huge!
Date(s)	January 2019 – ongoing
Burned area	906,000 hectares (1 hectare is approx one football pitch)
Cause	Slash and burn deforestation and climate change
Land use	Agricultural development

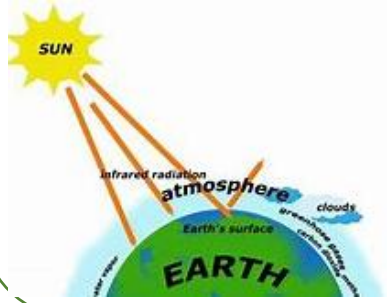
How does the greenhouse effect lead to extreme weather?

1) When we release CO_2 it makes our atmosphere thicker, just like giving it an extra blanket!

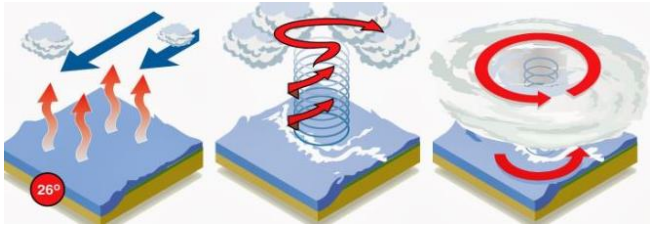
2) This means that some of the suns radiation is trapped instead of escaping into space.

3) This leads to Our ice caps melting which leads to flooding and an increase in storms.

4) Furthermore, the extra heat may be responsible for wildfires too!



How do Tropical storms form?



1. To form a tropical storm the sea needs to be 50 metres deep, there needs to be wind and the water temperature needs to be 27 degrees!
2. Warm water is evaporated to form large clouds
3. Low pressure and winds form a central column
4. As pressure in the eye (middle) of the storm decreases, the wind speed around the storm increases

How are storms measured?

Facts about a tropical storm

Hurricane Katrina (Cat 4)	Typhoon Haiyan (Cat 5)
25-31st Aug 2005	3rd-11th Nov 2013
1833 deaths	6300 deaths,
Louisiana, USA	Philippines

Geography

Our developing world: Part 1

Key terms

Life Expectancy- The average age a countries population is expected to live for

GDP- Gross domestic product- The value of goods made by a country each year.

GDP per capita - Gross domestic product- The value of goods made by a country each year divided by the population of that country

Infant Mortality- The number of babies who die before their first birthday/ per 1000

HDI index- A way of measuring development that includes literacy rate, life expectancy and wealth.

Literacy rate- The % of people in a country who can read and write.

Fair Trade-Trade between richer and poorer countries where a fair price is given for goods.

Debt Relief- When a rich country reduces the debt owed by a poorer country

Primary economy- Goods sold by a country that involve taking raw materials out of the ground eg Farming, mining or fishing.

Secondary economy- Goods that are manufactured (produced in a factory) and then sold.

The Geography of Malawi

- Malawi is located in South East Africa, between the Equator and the Tropic of Capricorn.
- It is a landlocked country that has no access to the sea.
- Malawi is approximately half the size of the UK
- Malawi has a tropical climate with September to April being very warm and wet. There are some dry, cooler months between May and August
- The population of Malawi is 18.5 million people.
- Malawi has a mainly Primary based economy. It's main exports (sales) are Tobacco, Sugar and Vegetables. Most revenue (money) is made through farming.

- Malawi is located in South East Africa, between the Equator and the Tropic of Capricorn.
- It is a landlocked country that has no access to the sea.
- Malawi is approximately half the size of the UK

- Malawi's capital city is Lilongwe.
- Lake Malawi is a large lake the runs to the East of the country
- The centre of Malawi is mountainous and contains various national parks.

Geography

Our developing world: Part 2

Why is Malawi under-developed?

COLONIALISM: Malawi was controlled by the British until 1965 so was exploited by the British government.

LANDLOCKED COUNTRY: With no access to the sea, Malawi struggles to trade with countries outside of Africa.

DISEASE: Malawi has over 1 million orphaned children due to AID's which means few get opportunities to make money. There is only one doctor for every 50000 people.

EDUCATION: 30% of children in Malawi do not start primary school which means they gain few qualifications.

NATURAL DISASTERS: Times of little rainfall lead to drought and times of too much rainfall lead to flooding. This affects farming which affects peoples food supply.

Development: Malawi vs China vs UK

	MALAWI	CHINA	UK
Life expectancy	61 yrs.	76 yrs.	82 yrs.
Infant Mortality	83/1000	12/1000	4/1000
Literacy rate	65%	95%	99.5%
GDP per capita	$ 515	$ 7750	$ 42, 500

How can we help Malawi develop?

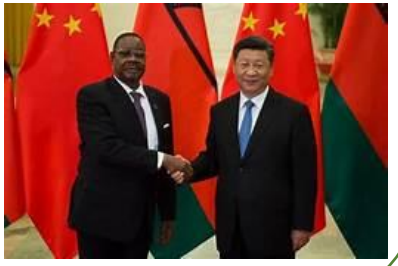
TOURISM-Lake Malawi has opportunities for beach holidays and the national parks could be used for safaris. This will provide jobs in construction and as tour guides, lifting people out of poverty.

AID- Charities and governments can provide tools for work, medicine for disease and loans to start small businesses. This would enable more people to work more effectively.

FAIR TRADE- If the UK offers a fair price for Malawi's sugar. The extra money could be used to help farmers grow their business and pay workers a fair wage.

IMPROVED TECHNOLOGY- Ploughs for farmers and small dams for irrigation would enable higher yields when farming for crops. This means more profit .

INVESTMENT FROM CHINA- China has been allowed to move some of its business into Malawi. In exchange, Chinese companies can provide employment for young Malawians.



Religious Studies

Hinduism

Key Terms

Atman	A person's true Self or underlying vital force
Dharma	Truth, teaching, or religion.
Karma	Impact of previous deeds (usually in former lives) on one's current circumstances.
Brahman	The one supreme God.
Moksha	Liberation from the cycle of rebirth, which is believed to be the ultimate goal of life.
Ramayana	Very popular Hindu epic that tells the story of the virtuous hero Rama who rescues his beloved Sita from the evil demon king.
Vedas	Collection of Hindu scriptures regarded as sacred and authoritative by all Hindus.

How do Hindu's worship?

Puja

Hindu worship of gods and goddesses is called **Puja**. Puja is usually performed every day

During worship, Hindus use many items, which are kept on a **Puja tray**. The items include a bell, a pot of water, a diva lamp, an incense burner, a pot of kum kum powder, and a spoon.

Puja involves offering light, **incense**, flowers and food to the deities (the gods).

During Puja the worshippers will chant **mantras**, which are prayers and verses from the Hindu holy books.

Kumbh Mela

The most famous Hindu **pilgrimage** is the **Kumbh Mela**, which takes place at the **River Ganges** in India.

Up to 40 million people come to purify themselves in the water, the biggest gathering of people on Earth.

People travel from all over to bathe in this symbolic water, usually for only a few seconds despite waiting for hours.

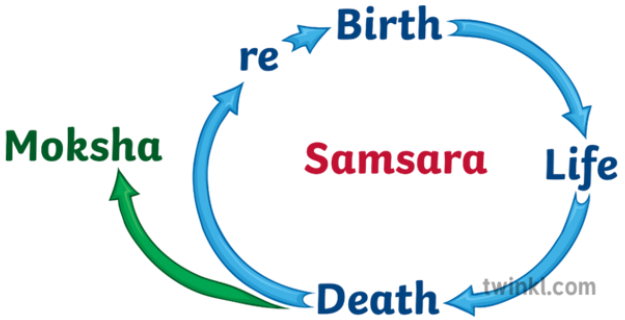
Hindus believe the water gets rid of any sin and helps them avoid evil in the future. Some also believe that the water can cure illness and disease.

What is the Hindu way of life?

For many Hindus there are four goals in human life (**purusharthas**);

Moksha

- The release of the soul (**Atman**) from the cycle of rebirth.
- The individual soul (Atman) unites with Brahman the universal soul.



Artha

- The pursuit of material gain by lawful means.

Karma

- Through pure acts, knowledge and devotion, you can **reincarnate** to a higher level/caste. Bad acts achieve the opposite result.

Dharma

- The code for leading one's life.
- Respect for elders is considered important and many consider marriage to be a religious duty.

Samsara

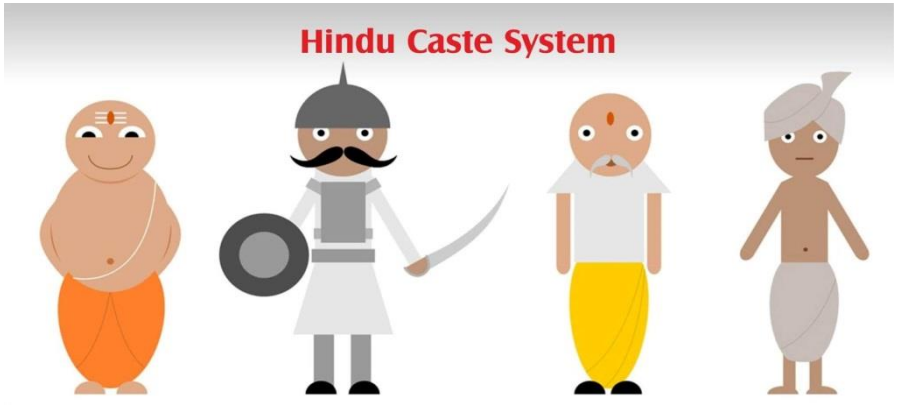
Samsāra is the state of perpetual **reincarnation** or rebirth, in which all beings are ensnared until the achieve Moksha

Religious Studies

Hinduism

What is the Caste System?

The caste system is a social hierarchy in India that divides Hindus based on their karma and dharma. Many scholars believe the system dates back more than 3,000 years.



Brahmin
The intellectual and spiritual leaders

Kshatriyas
The protectors and public servants of society

Vaisyas
The skillful producers

Shudras
The unskilled labourers

The "**Untouchables**" are a class of citizens that are outside the caste system and considered to be in the lowest level of the social hierarchy.

Today, the caste system still exists in India but is loosely followed. Many of the old customs are overlooked, but some traditions, such as only marrying within a specific caste, are still embraced.

Where do Hindu's worship?

Hindu worship, which is known as "**puja**," typically takes place in the **Mandir** (temple). Followers of Hinduism can visit the Mandir any time they please.

The Mandir is not primarily considered a place for communal worship but the home of God, or the particular Deity.

Hindus can also worship at home, and many have a special **shrine** dedicated to certain gods and goddesses.

What do Hindus believe?

Central to Hinduism is the belief in a supreme God **Brahman**. Brahman is present everywhere and there is a part of Brahman in everyone.

Brahman takes many forms. Especially three forms called the **Trimurti**.

Brahma *is the creator of the world and all creatures. He is usually shown with four heads.*

Shiva *is the destroyer of the universe. Shiva destroys the universe in order to re-create it. Shiva has blue skin, a third eye and carries a trident.*

Vishnu *is the preserver of the world. His role is to return to the earth in troubled times and restore the balance of good and evil. He has blue skin and four arms.*

What are Hinduism's holy books?

Hinduism does not have a single holy book, but many ancient texts and scriptures.

- **The Vedas** - a collection of hymns praising the Vedic gods. Veda means 'knowledge'.
- **The Ramayana** - long epic poems about Rama and Sita.
- **The Mahabharata** - which includes the Bhagavad Gita.
- **The Puranas** - a collection of stories about the different incarnations and the lives of saints.

Spanish

My Free Time

Model Text:

1	En mi tiempo libre, salgo con mis amigos.	In my free time, I go out with my friends.
2	Generalmente, salgo los fines de semana.	Generally, I go out at the weekend.
3	Me encanta salir con mis amigos porque es muy lúdico.	I love to go out with my friends because it is very fun.
4	El sábado voy a ir al cine con mi mejor amigo.	On Saturday, I am going to go to the cinema with my best friend.
5	¡Va a ser fenomenal!	It is going to be amazing!
6	Lo que más me gusta es jugar al fútbol	What I like the most is playing football
7	yo juego desde hace cinco años	I've been playing for 5 years.
8	El fin de semana pasado hice la equitación y fue asombroso.	Last weekend I did horse-riding and it was amazing.

Lines 1-2:

¿Qué haces en tu tiempo libre?		
En mi tiempo libre,	**veo la televisión** (I watch TV)	**todos los días.** (every day)
	escucho música (I listen to music)	**a menudo.** (often)
	salgo con mis amigos (I go out with my friends)	**a veces.** (sometimes)
	voy al cine (I go to the cinema)	**de vez en cuando.** (from time to time)
	voy a la ciudad (I go into town)	**después del colegio.** (after school)
	voy al gimnasio (I go to the gym)	**una vez a la semana.** (once a week)
	voy a la piscina (I go to the swimming pool)	**dos veces a la semana.** (twice a week)
	voy de compras (I go shopping)	**tres veces a la semana.** (three times a week)
	bailo (I dance)	**los lunes / martes / jueves.** (on Mondays / Tuesdays / Thursdays)
	hago ciclismo (I go cycling)	**los fines de semana.** (at the weekends)

Line 3:

Opinion	Activity	Because	Opinion phrase	Adjective
Me gusta (I like)	**ver la televisión** (to watch TV)	**porque** (because)	**pienso que es** (I think that it is)	**increíble** (incredible)
Me encanta (I love)	**escuchar música** (to listen to music)	**ya que** (because)	**creo que es** (I believe that it is)	**genial** (great)
Prefiero (I prefer)	**salir con mis amigos** (to go out with my friends)		**opino que es** (I'm of the opinion that it is)	**lúdico** (fun)
Suelo (I usually)	**ir al cine** (to go to the cinema)			**divertido** (fun)
No me gusta (I don't like)	**ir a la ciudad** (to go into town)			**guay** (cool)
Odio (I hate)	**ir al gimnasio** (to go to the gym)			**fácil** (easy)
Detesto (I detest)	**ir a la piscina** (to go to the swimming pool)			**sano** (healthy)
	ir de compras (to go shopping)			**aburrido** (boring)
	bailar (to dance)			**terrible** (terrible)
	hacer ciclismo (to go cycling)			**difícil** (difficult)

Spanish

My Free Time

Lines 4-5:

Time phrase	What you are going to do	It is going to be ...	Adjective
El sábado (On Saturday)	**voy a ir al cine** (I am going to go to the cinema)	**Va a ser** (It is going to be)	**fenomenal** (amazing)
El domingo (On Sunday)	**voy a escuchar música** (I am going to listen to music)		**interesante** (interesting)
El fin de semana (At the weekend)	**voy a salir con mis amigos** (I am going to go out with my friends)		**genial** (great)
	voy a ir a la ciudad (I am going to go into town)		**aterradora** (scary)
	voy a ir al gimnasio (I am going to go to the gym)		**aburrida** (boring)
	voy a jugar a los video juegos) (I am going to go to play video games)		**mala** (bad)
	voy a ir de compras (I am going to go shopping)		**tonta** (Stupid)
	voy a ir a una fiesta (I am going to go to a party)		
	voy a hacer deportes (I am going to do sports)		

Lines 6-7:

Sophisticated opinion	verb	sport	verb + desde hace	time phrase
Lo que más me gusta es (what I like the most is)	**jugar al** (playing)	**fútbol** (football)	**Yo juego desde hace**	**cinco años** (five years)
Lo que menos me gusta es (what I like the least is)		**tenis** (tennis)	(I've been playing for)	**diez años** (ten years)
Lo que me encanta es (what I love is)		**rugby** (rugby)		**un trimestere** (a term)
Lo que detesto es (what I hate is)		**baloncesto** (basketball)		**un mes** (a month)
		billar (snooker)		**seis meses** (six months)
		hockey sobre hielo (ice hockey)		**una semana** (a week)
		tenis de mesa (table tennis)		**quince días** (a fortnight)
		voleibol (volleyball)		
	hacer (doing)	**la equitación** (horseriding)	**Yo hago desde hace**	
		la natación (swimming)	(I've been doing it for)	
		la gymnasia (gymnastics)		
		el ciclismo (cycling)		
		la escalada (rock climbing)		
		el atletismo (athletics)		

Line 8:

Time phrase	Verb in past tense	sport		adjective
El fin de semana pasado (last weekend)	**jugué al** (I played)	**fútbol** (football)	**y fue** (and it was)	**asombroso** (amazing)
El mes pasado (last month)		**tenis** (tennis)		**lúdico** (fun)
La semana pasada (last week)		**rugby** (rugby)		**fácil** (easy)
El año pasado (last year)		**baloncesto** (basketball)		**increíble** (incredible)
Anoche (last night)		**billar** (snooker)		**guay** (cool)
Ayer (yesterday)		**hockey** sobre hielo (ice hockey)		**sano** (healthy)
el sábado (on Saturday)		**tenis de mesa** (table tennis)		**difícil** (difficult)
		voleibol (volleyball)		**aburrido** (boring)
	hice (I did)	**la equitación** (horseriding)		
		la natación (swimming)		
		la gymnasia (gymnastics)		
		el ciclismo (cycling)		
		la escalada (rock climbing)		
		el atletismo (athletics)		

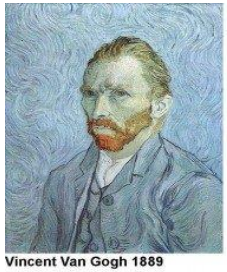


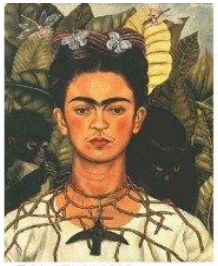


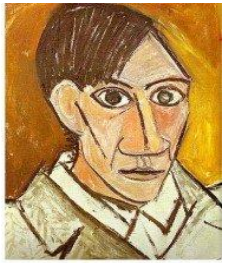
Art

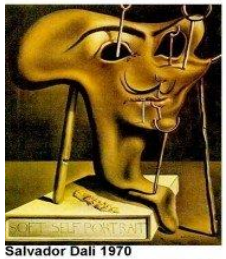
Contextual Understanding

Analysing an Image


Vincent Van Gogh 1889


Frida Khalo 1940


Pablo Picasso 1907


Salvador Dali 1970

SELF-PORTRAIT WORKSHEET

Look carefully at all the self-portraits in this page. And in the attached piece of paper draw a table with one box for each image (the dates next to the names of the artists correspond to the year of the development of the portraits). Then answer the following questions for each box.

1. What can you see in the picture ?

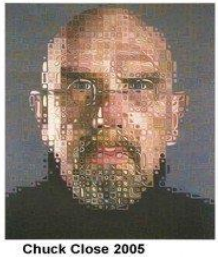
2. What do you think each artist is trying to tell us in this painting?

3. How did the artist use the principles and elements of art?

4. Describe the character of each of the artists portraits in 5 words .

5. Choose two of this portraits. How is each artwork different from the others.

6. Which is your favourite picture? Why?

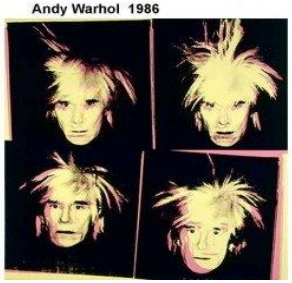

Chuck Close 2005


Albert Durer 1500


Jeremy Kyler 2000

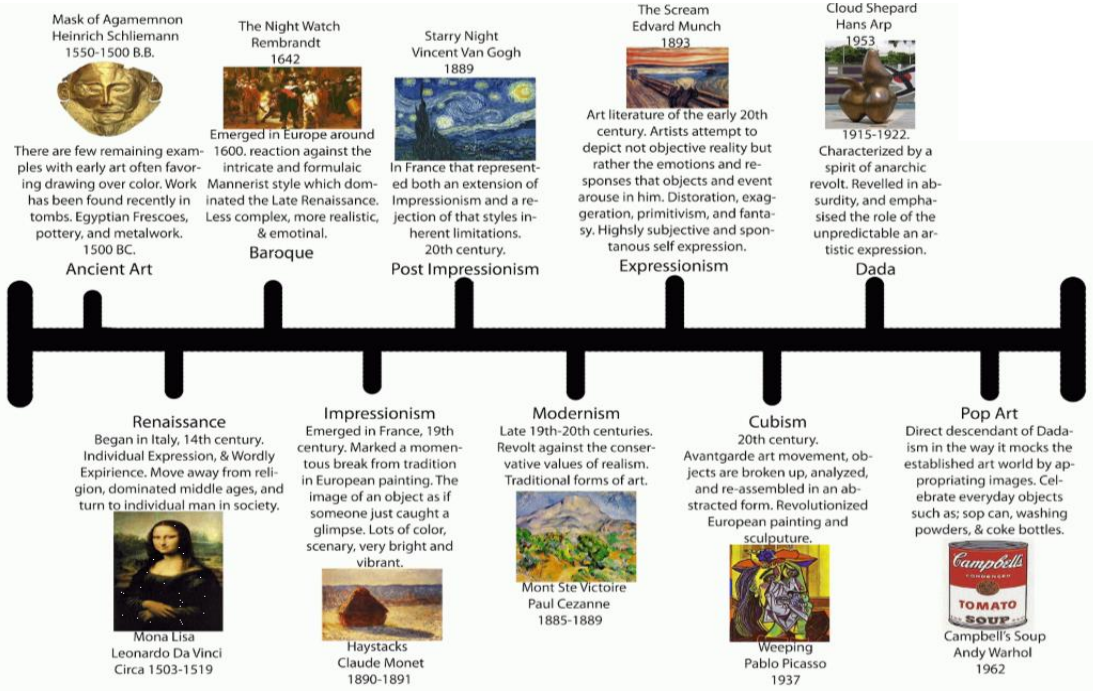
Rembrandt Van Rijn 1628

Andy Warhol 1986



Francis Bacon 1972

A Brief History of Art



Practicing Skills

Select an Art period from the timeline above..

Research a PORTRAIT artist from that period that interests you.

Have a go at copying a section of their work in appropriate media.

Now have a go at creating you own inspired by the style of the artist.

Keywords

Media
The material and tools used by an artist, composer or designer to create a work of art.

Content
What is the main focus or subject of the work. What can you see?

Visual Elements
Include, Line, Shape, Tone, Colour, Pattern, Form.

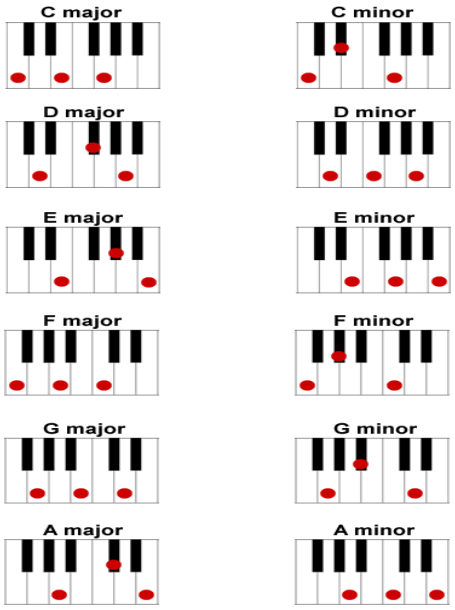
Mood – How does the work make you feel? What is the artists trying to show?

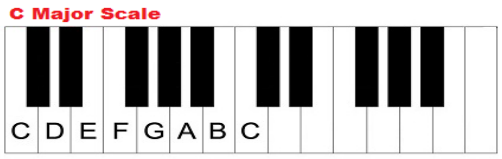
Music

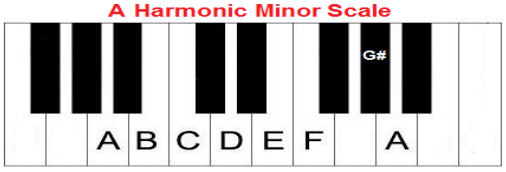
Programme Music

Composing to a story - chords and scales

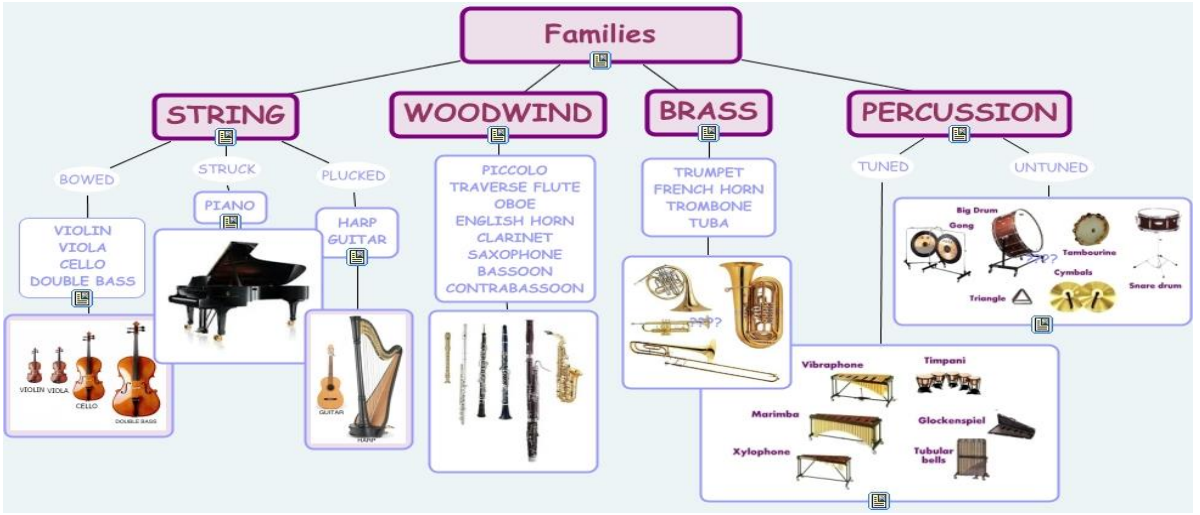
Major (positive) and Minor (negative) chords







Instruments of the Orchestra



Key Words

Programmatic	Telling a story
Instrumental Music	Music with no words or lyrics
Absolute Music	Instrumental music that does not tell a story
Motif/Theme	A short musical idea
Leitmotif	A short musical idea that represents a character, place, object or idea
Romantic Period	Music composed between the years of 1810 & 1910
Orchestral colour	Using instruments of the orchestra to create a certain mood

Programme Music Composers

Camille Saint-Saens
1835 - 1921

Sergei Rachmaninov
1873 - 1943

Modest Mussorgsky
1839 - 1881

Hector Berlioz
1803 - 1869

Drama

Greek Theatre

What is Greek Theatre?

- Greek theatre is one of the oldest forms of theatre known to date.
- It started off as festivals to celebrate the god Dionysus.
- Theatre was so important in Ancient Greece that the state would pay for poor people to attend performances.
- All the actors were men. They wore masks that exaggerated facial features and emotions.
- Greek plays were either comedies or tragedies. Tragedies were often about the past, whereas comedies tended to be about current and everyday life. Actors in comedies wore bright colours. Actors in tragedies wore dark colours.
- Plays were either spoken or sung in rhyme.

Performance Tips

	Face the audience all the time. No one wants to see the back of your head!
	Stay in role! Try not to laugh or come out of character.
	Project!
	Know what you're doing! Practice means confidence.

Amphitheatres

- The theatres were built on hillsides and could hold more than 18,000 spectators.
- The theatres were open air and built in a semi-circular shape with rows of tiered stone seating around it.
- The shape of the theatres gave everyone in the audience excellent viewing and also meant they could hear the actors well too.

The Importance of the Chorus

The **chorus** in Classical **Greek drama** was a group of actors who described and commented upon the main action of a play with song, dance, and recitation. **Greek** tragedy had its beginnings in **choral Chorus**, in drama and music, those who perform vocally in a group as opposed to those who perform singly.

Drama

Commedia dell'Arte

Characters

Pantalone

Il Dottore

Il Capitano

Arlecchino

Zanni

These characters are known as stock characters. Stock characters are stereotypical characters that the audience will always recognise in different pieces of theatre. They move the story along.

Performance Tips

	Face the audience all the time. No one wants to see the back of your head!
	Stay in role! Try not to laugh or come out of character.
	Project!
	Know what you're doing! Practice means confidence.

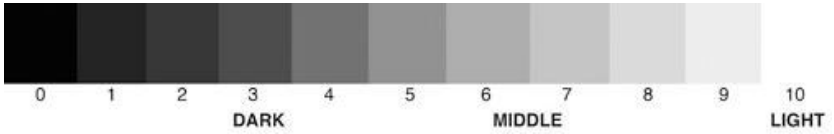
What is Commedia?

- Commedia dell'Arte is an Italian style of theatre that uses masks to portray different characters.
- Commedia started on the streets in Italy and was around between 16th and 18th century.
- Commedia uses a lot improvisation to create simple storylines. It also uses a lot of gibberish language rather than real words.
- Commedia had simple sets to allow for their theatres to travel to different towns.
- Commedia had a collection of memorised lazzi which were stock jokes they could use whenever they needed them.

Improvisation

Improvisation is where you create drama on the spot. This means the work has been scripted and actors make it up as they go along. It's important to accept all ideas when improvising so the scene can keep going.

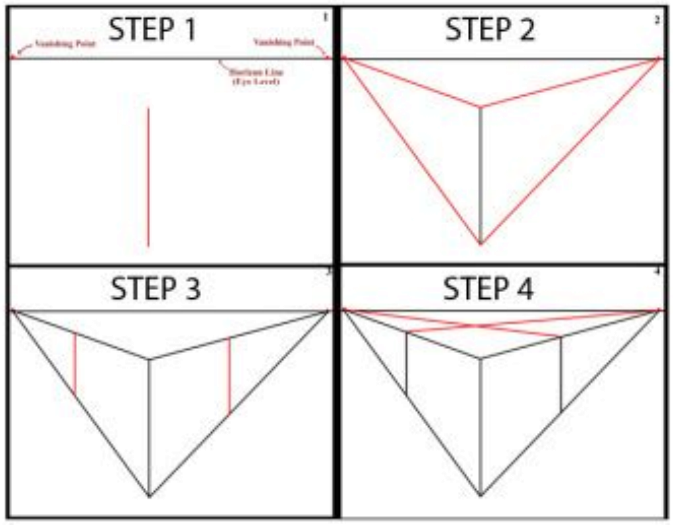
Graphics



Year 8

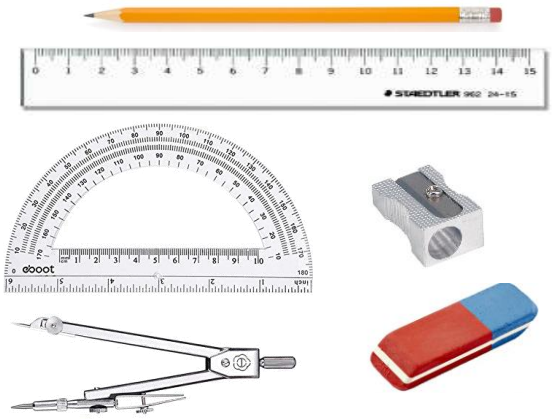
Graphics Techniques

2 Point Perspective



Useful tools for InkScape

Key Equipment



Keywords

Perspective	**Perspective** is what gives a three-dimensional feeling to a flat image such as a **drawing** or a painting
Illustration	An **illustration** is a decoration, interpretation or visual explanation of a text, concept or process.
Tone	Tone refers to how light or dark a colour or shade is.
Construction Lines	Lines which are lightly added to a drawing to help guide you to create the correct angles.
Typography	The style and appearance of writing.

Careers: Architecture

Architects create designs for new construction projects, alterations and redevelopments. They use their specialist construction knowledge and high-level drawing skills to design buildings that are functional, safe, sustainable and aesthetically pleasing.

The average **salary** for **Architect** jobs is £77,500.

Frank Miller

As a Graphic Designer, Miller began his career creating illustrations for comics. Marvel has worked for Marvel and DC. He has a distinct style creating powerful images using silhouettes. His art stands out against other graphic designers.
Miller's distinct style, world-building, and elevation of the anti-hero have awarded him every major comic book industry award and a global following.

Food & Nutrition

The nutrients & healthy eating

The eight healthy eating guidelines

1. Base your meals on starch carbohydrates
2. Eat lots of fruit and vegetables
3. Eat more fish
4. Cut down on saturated fats
5. East less salt
6. Drink plenty of water
7. Do not skip breakfast
8. Get active and try to maintain a healthy weight

Food in the news

Poor diet quality was directly responsible for 11 million deaths world wide in 2017

In April 2019 a report was published that stated 'more people world wide are dying due to poor diet, than smoking and high blood pressure.' I t went on the say that ' we spend too much time looking at what we shouldn't eat, when we should be focused on what we should eat.'

Measurements

G = grams

kg = kilograms - 1kg = 1000g

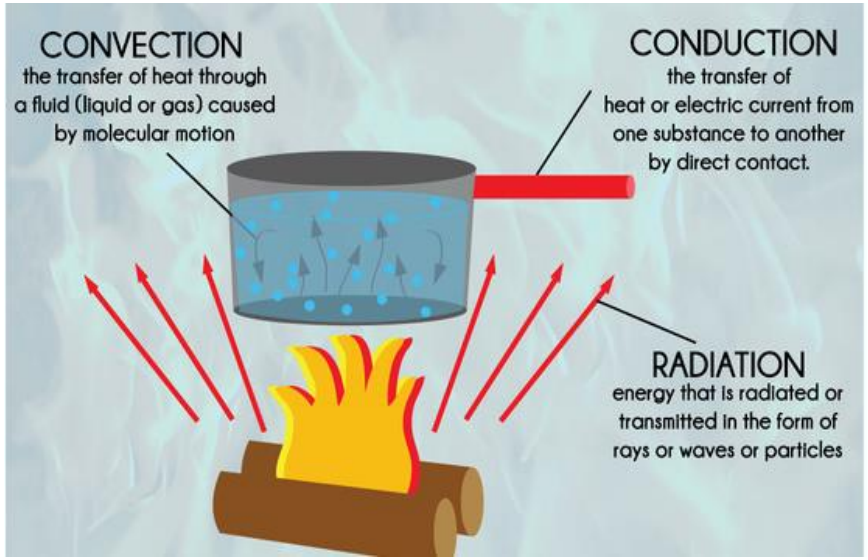
ml = millilitre

L= litre - 1 litre = 1000ml

Tsp = teaspoon = 1 tsp = 5g

Tbsp = tablespoon = 1 tbsp = 15g

Methods of Heat Transfer



Key Words

Macronutrient	Nutrients required by the body in larger amounts. Carbohydrates, protein & fats
Micronutrient	Nutrients required by the body in smaller amounts. Vitamins & minerals
Viscosity	The thickness of a liquid
Gelatinisation	The thickening of a liquid due to the swelling of starch grains when heat is applied
Maillard reaction	A chemical reaction between a protein and a carbohydrate in the presence of dry heat

Textiles

Pencil Case Project

Textile Techniques

Applique

Pieces of fabric sewn on to a larger piece to form a picture or pattern.

Seams

A line where two pieces of fabric are sewn together on a product.

Tie-dye

Produce patterns in on fabric by tying parts of it to shield it from the dye.

Stiches

Running Stitch

Back stitch

Blanket stitch

Key Equipment

Fabric Scissors are sharper than paper scissors in order to cut fabrics. You must not use them for paper as it makes them blunt.

The sewing machine is used to sew materials together to make garments and interior products.

You can also use it to add decoration to fabric.

Sewing Machine Keywords

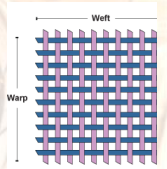
Bobbin	A small cylinder wound with thread that is placed in the bottom of the sewing machine in order to make stitches.
Presser Foot	This keeps the fabric in place when sewing. The presser foot **must always** be put down on the fabric before sewing.
Hand Wheel	This is located at the side of the machine and moves the needle up and down.
Stitch length	The dial that controls the stitch length will make your stitches longer or shorter depending on what you are sewing.
Stitch width	The dial that controls the stitch width will make your stitches go from straight to wide meaning that you can product zig-zag stitches.

Fibres and Fabrics

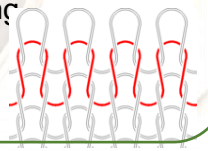
Natural Fibres - sourced from plants and animals

Synthetic fibres - fibres that are man-made

Woven Fabric - warp and weft interlacing threads



Knitted Fabric - warp and weft interlocking loops



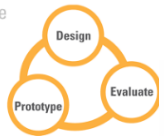
Designers

Prinkie Roberts is a stitch textile artist who is inspired by the world around her. She uses complementary colours and creates abstract scenes.

Gareth Pugh is a fashion designer his known for fashion-as-performance-art work. He uses mostly black and white geometric shapes.

Jenny Rolfe is a quilt artist who uses nature as her source of inspiration. She makes her own fabrics for her work.

Product Design



Innovative
Sustainable
Functional

Year 8

What is Product Design and why is it important?

The role of **design** is to create a marketable **product** from an innovation. Design is often the deciding factor in the success of a product. Many customers make purchasing decisions based primarily on product design, because good product design ensures **quality**, **appearance**, **performance**, **ease of use**, and **reliability**.

Inclusive and exclusive designs

Inclusive design is about Ensuring that products and Systems can be used by Everyone, or as many People as possible.

Exclusive design is when Products are designed for a particular group of people.

Identifying the equipment


Sliding bevel


Digital Vernier callipers

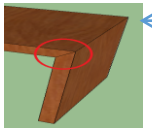

Tenon saw


Mitre saw

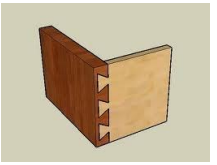

Coping saw

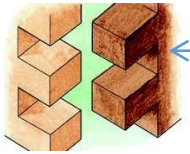
Precision	Being exact and accurate when marking and cutting out.
Tolerance	An allowable amount of variation of a specified quantity, especially in the dimensions of a machine or part e.g. +/- 0.25mm.
Aesthetics	The look and/or feel of a product and how this is incorporated into the design.
Ergonomics	Human factors and ergonomics is the application of psychological and physiological principles to the design of products, processes, and systems
Stakeholders	A person with an interest or concern in something, especially a business.

Shaping and joining

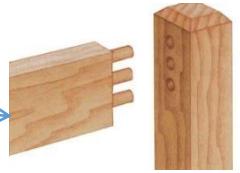

Mitre joint

Dovetail joint




Box joint/comb joint

Dowel joint



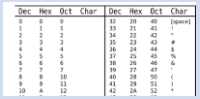
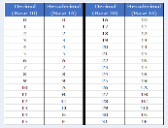
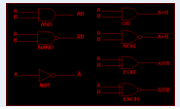
Famous Designers

-Marc Andrew Newson CBE is an **industrial designer.**
-His style uses smooth **geometric lines**, **translucency**, strength, transparency, and tends to have an absence of sharp edges.
-Marc Newson has been described as the most **influential** designer of his generation.
- Mark Newson's current stakeholders include Nike (trainers), Jaegar (clocks), Mont Blanc (pens), Louis Vuitton (kitchen ware) and Ferrari (automotive), Pentax (camera).

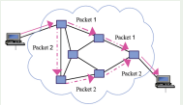
Computing

Data representation & Networks

Key Words - Data Representation

ASCII 	American Standard Code for Information Interchange" encoding of characters. This character set uses 7 bits to represent 127 characters.
Binary 	A base 2 numbering system in which there are only two possible values for each digit: 0 and 1.
Bit	Short for "Binary Digit". It is one digit's location in a binary number, ie 1 or 0.
Nibble	is a digital unit of measurement that refers to four binary digits or half a byte (4 bits).
Byte	is a digital unit of measurement that refers to 8 binary digits (8 bits).
Hexadecimal 	is a base-16 number system. Using characters 0-F. It is a convenient way to store Binary numbers.
Hex Code	three-byte hexadecimal number used in HTML, CSS, SVG, and other computing applications to represent colours. The bytes represent the red, green and blue components of the colour.
Logic Gate 	Logic gates are the basic building blocks of any digital system. It is an electronic circuit having one or more than one input and only one output.

Key Words

The internet:	a global computer network providing a variety of information and communication facilities, consisting of interconnected networks
Packet switching: 	a mode of data transmission in which a message is broken into a number of parts which are sent independently, over whatever route is optimum for each packet, and reassembled at the destination.
Internet	The global system of interconnected computer networks
IP address 	A unique string of numbers separated by full stops that identifies each computer using the Internet Protocol to communicate over a network.
Broadband: 	a high-capacity transmission technique using a wide range of frequencies, which enables a large number of messages to be communicated simultaneously.
WAN	Wide area network
LAN	Local area network.
Topology:	the way in which computers are arranged on a network
Router: 	a device which forwards data packets to the appropriate parts of a computer network.
Firewall	A network security system that monitors and controls incoming and outgoing network traffic based on predetermined security rules
Encryption 	The process of encoding a message or information in such a way that only authorized parties can access it.
Search Engine	A program that searches for and identifies items in a database that correspond to keywords or characters

P.E.

Badminton and Football

Badminton

Core Skills
Service – high, low & flick (forehand or backhand).
Overhead – clear & drop (forehand and backhand).
Underarm – clear, drive & drop (forehand and backhand).
Net play
Smash

Tactics (Tactics, Strategies & Compositional Ideas):
- A: AWAY keep the shuttle away from your opponent.
- B: Play on their weakness usually their BACKHAND.
- C: Keep the shuttle in the COURT but play to the COURT boundaries.
- D: Hit DOWN so your opponent has to hit up

Select shots that are appropriate for defending and attacking.
Select simple shot combinations which move your opponent out of position.

Rules:
- There are three basic things to remember for scoring singles badminton:
- After each rally a point is scored.
- You keep serving until you lose a rally, the serve will then go over to your opponent.
- You serve from the Left if your score is Odd. You serve from the Right if your score is Even. This is the 'LORE of the SCORE'.

Football

Core Skills
Passing/receiving – either foot.
Dribbling/moving with the ball – either foot.
Shooting
Heading.
Tackling, jockeying, closing down and marking.

Tactics (Tactics, Strategies & Compositional Ideas):
Attacking and Defending principles:

Attacking:
- Pace
- Depth
- Width.
- Make the pitch as big as possible
- Support: Angle and Distance.

Defending:
- Deny the opposition time and space.
- Make the pitch as small as possible.
- Use of the offside .
- Support: Angle and Distance