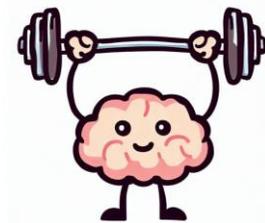


Knowledge Organiser Booklet

Year 8 Autumn Half Term 1



KNOWLEDGE
IS POWER 

Name: _____

Tutor group: _____

Contents

- Home learning timetable
- Instructions on how to use a knowledge organiser
- English
- Maths
- Science
- Humanities
- Land and Environment
- Art
- Music
- MFL
- ICT



Education
Endowment
Foundation



Research carried out by the Education Endowment Foundation proved that: Homework has a positive impact on average of + 5 months, particularly with pupils in secondary schools.

Home learning timetable

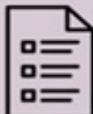
The table below details which days each subject will set home learning on each week. Students will have one week to complete home learning tasks for each subject.

Group	Monday	Tuesday	Wednesday	Thursday	Friday
8N	Science A Art	Maths English	MFL Science B	L&E Humanities	Music
8E	MFL	Maths Science A	English Science B	Humanities	L&E Music
8W	Humanities Art	Maths Science A	English L&E	Music MFL	Science B

Please note you have two science teachers; science home learning will be set by both teachers

These knowledge organisers have been created by your teachers to support your learning both in class and for home learning. They are also a valuable revision tool for you to use independently when preparing for assessments. It is important that you make good use of your knowledge organisers by learning how to use them in different ways.

How to use a knowledge organiser – step by step guide

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



1. Definition:

Dystopia - An imagined state or society in which there is great **suffering** or **injustice**, typically one that is totalitarian or post-apocalyptic.

2. Typical features/plots:	3. Typical characters:
1. Governmental control	1. Dominant controlling leaders
2. Environmental destruction	2. Subservient unquestioning workforce
3. Workforce control	3. Questioning disruptive character
4. Survival	4. Voice of propaganda
5. Loss of individualism	5. Victim of the regime who becomes a catalyst

4. Russian revolution key information

1859 Marx and Engels publish The Communist Manifesto.

1917 March Czar Nicholas II abdicates. A provisional republic is established.

1918 The Communist Party is established.

1918-1920 Red Army, led by Trotsky, defeats Whites in the Civil War.

1924 Lenin grows ill; Stalin and Trotsky compete for power.

1925 Trotsky is ousted and goes into exile.

1928 Stalin crushes revolt by farmers who refuse to surrender their harvests. Animal Farm: Napoleon crushes revolt by hens who refuse to surrender their eggs.

1932 Massive famine in Soviet Union after farm production drops.

1933 Soviets begin limited trading with the West.

1934-38 Great Purge: Stalin uses secret police to eliminate opposition.

1939 Stalin signs Non-Aggression Pact with Hitler.

1940 Germans invade Soviet Union. Russians stop the invasion but suffer heavy losses.

1943 Western leaders, led by Roosevelt and Churchill, meet with Stalin.





5. Key Vocabulary

Term	Definition
Totalitarianism	A political system in which those in power have complete control and do not allow anyone to oppose them
Dictatorship	A country that is run by a leader who has complete power in a country and has not been elected by the people
Communism	A society without different social classes in which the methods of production are owned and controlled by all its members; everyone works as much as they can and receives what they need.
Socialism	A political systems based on a set of beliefs that states that all people are equal and should share equally in a country's money.
Democracy	A system of government based in which power is held by elected representatives.
Manifesto	A written statement of the beliefs, aims, and policies of an organization, especially a political party.
State Control	controlled or paid for by the government of a country
Animalism	Fictional society and belief system in 'Animal Farm' similar to Communism
Propaganda	The systematic spreading of information, especially in a biased or misleading way, in order to promote a political cause or point of view

6. Key Novels and Writers of Dystopian Fiction

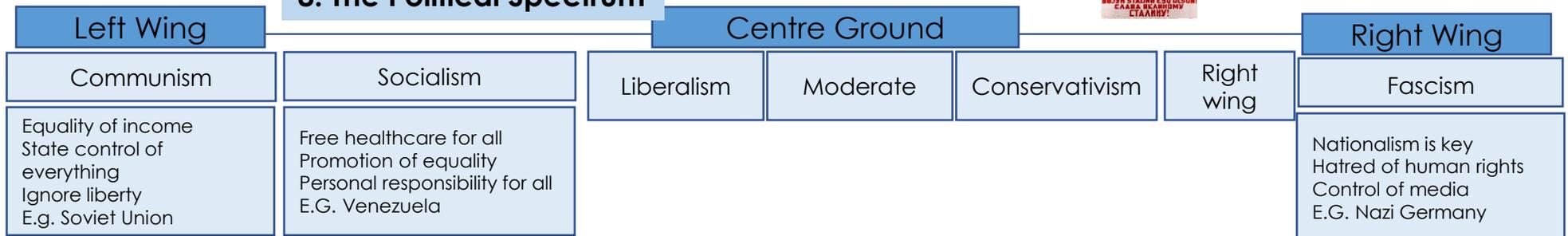
- 'Animal Farm'- George Orwell – 1945
- '1984' – George Orwell – 1948
- 'The Handmaid's Tale' – Maragaret Atwood – 1985
- 'Noughts and Crosses' – Malorie Blackman – 2001
- 'The Hunger Games' – Suzanne Collins – 2008

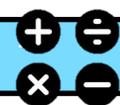
7. Key Themes

- Companionship as solace/comfort
- Change v Tradition
- Chaos v Order
- Circle of Life
- Dangers of ignorance
- Desire to escape

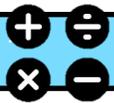


8. The Political Spectrum



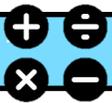


Topic/Skill	Definition/Tips	Example
1. Percentage	Number of parts per 100.	31% means $\frac{31}{100}$
2. Finding 10%	To find 10%, divide by 10	10% of £36 = $36 \div 10 = £3.60$
3. Finding 1%	To find 1%, divide by 100	1% of £8 = $8 \div 100 = £0.08$
4. Percentage Change	$\frac{\text{Difference}}{\text{Original}} \times 100\%$	A games console is bought for £200 and sold for £250. % change = $\frac{50}{200} \times 100 = 25\%$
5. Fractions to Decimals	Divide the numerator by the denominator using the bus stop method.	$\frac{3}{8} = 3 \div 8 = 0.375$
6. Decimals to Fractions	Write as a fraction over 10, 100 or 1000 and simplify.	$0.36 = \frac{36}{100} = \frac{9}{25}$
7. Percentages to Decimals	Divide by 100	$8\% = 8 \div 100 = 0.08$
8. Decimals to Percentages	Multiply by 100	$0.4 = 0.4 \times 100\% = 40\%$
9. Fractions to Percentages	Percentage is just a fraction out of 100. Make the denominator 100 using equivalent fractions. When the denominator doesn't go in to 100, use a calculator and multiply the fraction by 100.	$\frac{3}{25} = \frac{12}{100} = 12\%$ $\frac{9}{17} \times 100 = 52.9\%$
10. Percentages to Fractions	Percentage is just a fraction out of 100. Write the percentage over 100 and simplify.	$14\% = \frac{14}{100} = \frac{7}{50}$



Addition	To find the total, or sum, of two or more numbers	'add', 'plus', 'sum'	$3 + 2 + 7 =$
Subtraction	To find the difference between two numbers. To find out how many are left when some are taken away.	'minus', 'take away', 'subtract'	$10 - 3 = 7$
Multiplication	Can be thought of as repeated addition.	'multiply', 'times', 'product'	$3 \times 6 = 6 + 6 + 6 = 18$
Division	Splitting into equal parts or groups. The process of calculating the number of times one number is contained within another one.	'divide', 'share'	$20 \div 4 = 5$ $\frac{20}{4} = 5$

Topic/ Skill	Definition/Tips	Example
Integer	A whole number that can be positive, negative or zero.	-3, 0, 92
Decimal	A number with a decimal point in it. Can be positive or negative.	3.7, 0.94, -24.07
Negative Number	A number that is less than zero. Can be decimals.	-8, -2.5
Remainder	The amount 'left over' after dividing one integer by another.	The remainder of $20 \div 6$ is 2, because 6 divides into 20 exactly 3 times, with 2 left over.
BIDMAS	An acronym for the order you should do calculations in. BIDMAS stands for 'Brackets, Indices, Division, Multiplication, Addition and Subtraction'. Indices are also known as 'powers' or 'orders'. With strings of division and multiplication, or strings of addition and subtraction, and no brackets, work from left to right.	$6 + 3 \times 5 = 21, \text{not } 45$ $5^2 = 25$, where the 2 is the index/power. $12 \div 4 \div 2 = 1.5, \text{not } 6$
Recurring Decimal	A decimal number that has digits that repeat forever. The part that repeats is usually shown by placing a dot above the digit that repeats, or dots over the first and last digit of the repeating pattern.	$\frac{1}{3} = 0.333 \dots = 0.\dot{3}$ $\frac{1}{7} = 0.142857142857 \dots = 0.\dot{1}4285\dot{7}$ $\frac{77}{600} = 0.128333 \dots = 0.128\dot{3}$



Four Operations

Key Vocabulary

Add

Total

Make

Plus

Sum

More

Altogether

Difference

Leave

Subtract

Difference between

Less

Minus

Take away

Mentally, Orally

Column Addition

Column Subtraction

Estimate

Inverse operation

Solve problems

Number facts

Place Value

Complex

Add and Subtract Whole Numbers

Column Method

	4	5	8	6	4
+	2	3	4	9	7
	6	9	3	6	1
		1	1	1	

Starting with the ones, add each column in turn.

Regroup tens, hundreds, thousands, ten thousands as required.

	3	5	6	13	12
-		3	4	7	6
	3	2	2	6	6

Starting with the ones, subtract each column in turn.

Exchange tens, hundreds, thousands and/or ten thousands as required.

Multiply up to 4-digit by 2-digit

1	3	2	
	1	5	4
×		2	6
	9	2	4
3	0	8	0
4	0	0	4
1	1		

Start with the ones.

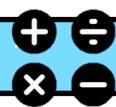
$$154 \times 6 = 924$$

$$154 \times 20 = 3080$$

$$3080 + 924 = 4004$$

Order of Operations

B	Brackets	$10 \times (4 + 2) = 10 \times 6 = 60$
O	Order	$5 + 2^2 = 5 + 4 = 9$
D	Division	$10 + 6 \div 2 = 10 + 3 = 13$
M	Multiplication	$10 - 4 \times 2 = 10 - 8 = 2$
A	Addition	$10 \times 4 + 7 = 40 + 7 = 47$
S	Subtraction	$10 \div 2 - 3 = 5 - 3 = 2$



Short Division

Start from the left.

		4	4	0	5	$5 \div 12 = 0 \text{ r}5$
12	5	⁵ 2	⁴ 8	6	⁶ 0	$52 \div 12 = 4 \text{ r}4$
						$48 \div 12 = 4$
						$6 \div 12 = 0 \text{ r}6$

Common Factors

Factors of 48

1	2	3	4	6	8	12	16	24	48
---	---	---	---	---	---	----	----	----	----

Factors of 30

1	2	3	5	6	10	15	30
---	---	---	---	---	----	----	----

Common factors: 1, 2, 3, 6

Common Multiples

Multiples of 3

3	...	18	21	24	...	39	42
---	-----	----	----	----	-----	----	----

Multiples of 7

7	14	21	28	35	42
---	----	----	----	----	----

Common multiples: 21, 42...

Long Division

		1	2	0	r	3
14	1	6	8	3		
	1	4	0	0		
		2	8	3		
		2	8	0		
				3		

Primes

A prime number has only 1 and itself as factors: 2, 3, 5, 7, 11, 13, 17, 19, 23, 29, 31, 37, 41, 43

A composite number has factors other than 1 and itself.

Squares and Cubes

Square numbers result from a number being multiplied by itself (e.g. $5 \times 5 = 25$):

1, 4, 9, 16, 25, 36, 49, 64, 81, 100

Cube numbers result from a number being multiplied by itself twice ($2 \times 2 \times 2 = 8$):

1, 8, 27, 64, 125

Mental Calculations and Estimation

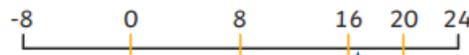
Order of calculations:

$$50 \times 34 \times 2 = 50 \times 2 \times 34 = 100 \times 34 = 3400$$

$$\text{Money: } \pounds 8.99 + \pounds 3.49 = \pounds 12.48$$

Use $\pounds 9 + \pounds 3.50 = \pounds 12.50$ and subtract 2p

Estimate on a number line



Subdivide line to estimate: 17

Reason from Known Facts

$$90 \div 10 = 9 \quad \text{so } 90 \div 20 = 4.5 \text{ and } 90 \div 5 = 18$$

$$16 \times 9 = 144 \quad \text{so } 1.6 \times 9 = 14.4$$

$$4352 \div 17 = 256$$

$$\text{so } 256 \times 18 = 4352 + 256 = 4608$$

$$3786 + 2850 = 6636$$

$$\text{so } 4786 + 2850 = 7636$$

$$\text{and } 2786 + 3850 = 6636$$

$$\text{and } 8636 - 3786 = 4850$$



Enzymes

Enzymes are special proteins that can break large molecules of nutrients down into small molecules.

Enzymes are known as biological catalysts – they speed up digestion without being used up.

Nutrients

A balanced diet is when you have the right proportions of the food groups to keep you healthy

Carbohydrates - main source of energy

Lipids - fats and oils provide energy

Proteins - growth and repair of cells and tissues

Vitamins and minerals - essential in small

Water - needed in all cells and body fluids

Drugs

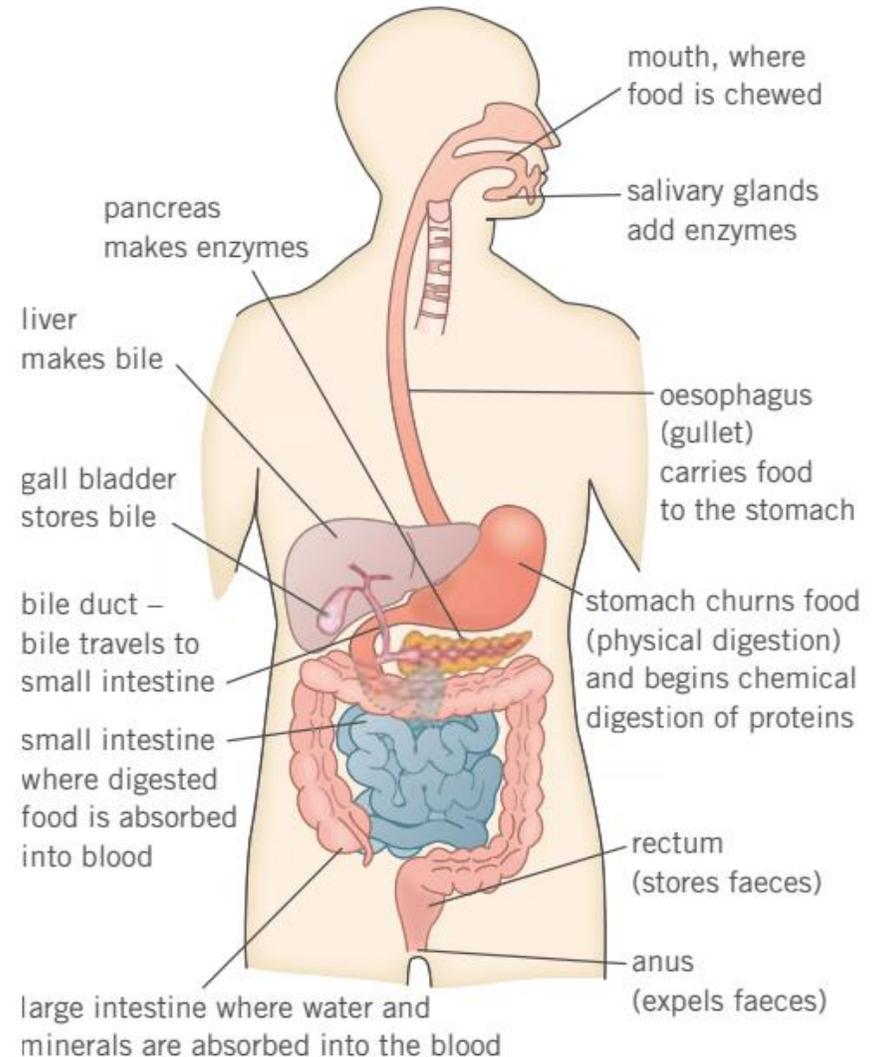
Drugs are any chemicals that affect the way your brain and body work.

Alcohol is a depressant because it slows down your body's reactions.

Cigarette smoke is full of harmful chemicals including:

- tar – clogs the lining of the lungs and alveoli, contains cancer-causing chemicals
- nicotine – an addictive stimulant
- carbon monoxide – stops blood from carrying oxygen.

The digestive system





Mixtures

Mixtures are different substances found together, but not chemically bonded.

This means the different substances can be separated from each other.

In a compound, different substances are chemically bonded together.

Solutions

Solutions are a type of mixture made of two parts:

1 Solvent: the liquid that makes up most of the solution.

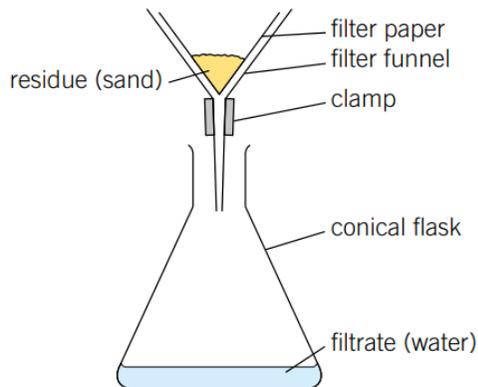
2 Solute: the substance that is added to the solvent and dissolves into it.

The solubility of a solute means how much solute can dissolve in a certain volume of solvent.

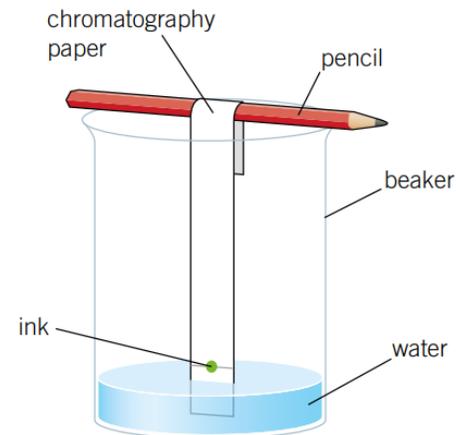
Soluble substances can dissolve, insoluble substances cannot.

When so much solute has been added to the solvent that no more can dissolve, we say the mixture is saturated.

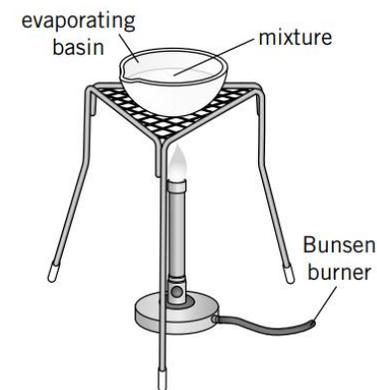
Filtration



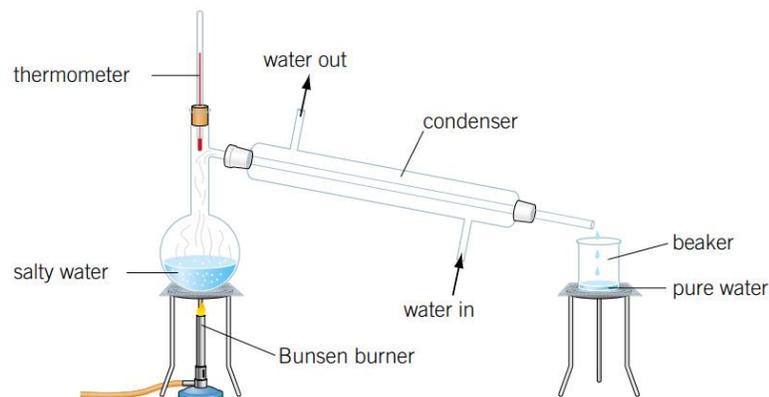
Chromatography

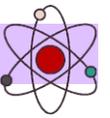


Evaporation



Distillation





Metals

- Normally good conductors of heat and electricity
- Shiny when cut
- Malleable
- Dense
- Sonorous
- Most have high melting points

Non-metals

- Low boiling points, so are gases at room temperature
- Poor conductors of electricity and heat
- Dull in appearance
- Low density
- Brittle
- Not sonorous

H hydrogen																He helium					
Li lithium	Be beryllium											B boron	C carbon	N nitrogen	O oxygen	F fluorine	Ne neon				
Na sodium	Mg magnesium											Al aluminum	Si silicon	P phosphorus	S sulfur	Cl chlorine	Ar argon				
K potassium	Ca calcium	Sc scandium	Ti titanium	V vanadium	Cr chromium	Mn manganese	Fe iron	Co cobalt	Ni nickel	Cu copper	Zn zinc	Ga gallium	Ge germanium	As arsenic	Se selenium	Br bromine	Kr krypton				
Rb rubidium	Sr strontium	Y yttrium	Zr zirconium	Nb niobium	Mo molybdenum	Tc technetium	Ru ruthenium	Rh rhodium	Pd palladium	Ag silver	Cd cadmium	In indium	Sn tin	Sb antimony	Te tellurium	I iodine	Xe xenon				
Cs caesium	Ba barium	La lanthanum	Hf hafnium	Ta tantalum	W tungsten	Re rhenium	Os osmium	Ir iridium	Pt platinum	Au gold	Hg mercury	Tl thallium	Pb lead	Bi bismuth	Po polonium	At astatine	Rn radon				
Fr francium	Ra radium																				

solids
 liquids
 gases at room temperature

Group 1 (the alkali metals)

- Very reactive
- React vigorously (strongly) with water
- Get more reactive as you go down the group
- Lower melting points than most other metals
- Melting points decrease down the group
- Always produce a metal hydroxide and hydrogen gas when reacted with water

Group 7 (the halogens)

- Generally very reactive
- Get more reactive as you go up the group
- Melting points decrease up the group

Rows are called **periods**.

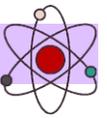
Columns are called **groups**. Elements in a group normally have similar properties.

The chemical properties of an element describe how a substance behaves in terms of its chemical reactions.

The physical properties of an element describe how a substance behaves generally.

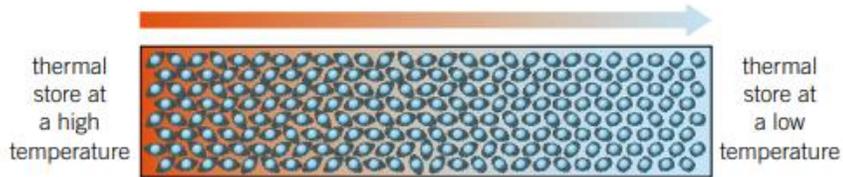
Group 0 (the noble gases)

- Very unreactive
- Low boiling points, so are gases at Room temperature
- Their boiling points increase down the group

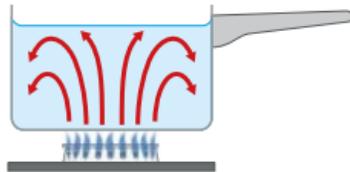


Thermal energy can be transferred by conduction, convection or radiation.

Conduction – Occurs in solids.



Convection - Occurs in liquids or gases.



Radiation - Infrared radiation transfers energy without particles – it is a wave.

All objects emit radiation.

The amount depends on their temperature and the surface (colour and rough/smooth).

Radiation can be absorbed or reflected.

Equilibrium is when objects have the same temperature.

Thermometers measure temperature in degrees Celsius ($^{\circ}\text{C}$).

Law of conservation of energy

energy cannot be created or destroyed, only transferred.
total energy before = total energy after

Food and fuels

Energy is measured in joules (J).
Food and fuels are stores of chemical energy.

Power

Power is measured in watts (W).

It is the rate of energy transfer – how much energy is transferred each second.

1000 W = 1 kilowatt (kW)

Work done

Work done (J) = force (N) \times distance (m)

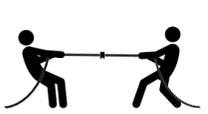
Renewable resources will not run out. For example, wind, tidal, wave, hydroelectric, geothermal, biomass, and solar powers.

Non-renewable resources include the **fossil fuels** coal, oil, and gas. These were formed millions of years ago from fossilised remains. These are non-renewable because you cannot reuse them, and they will eventually run out.

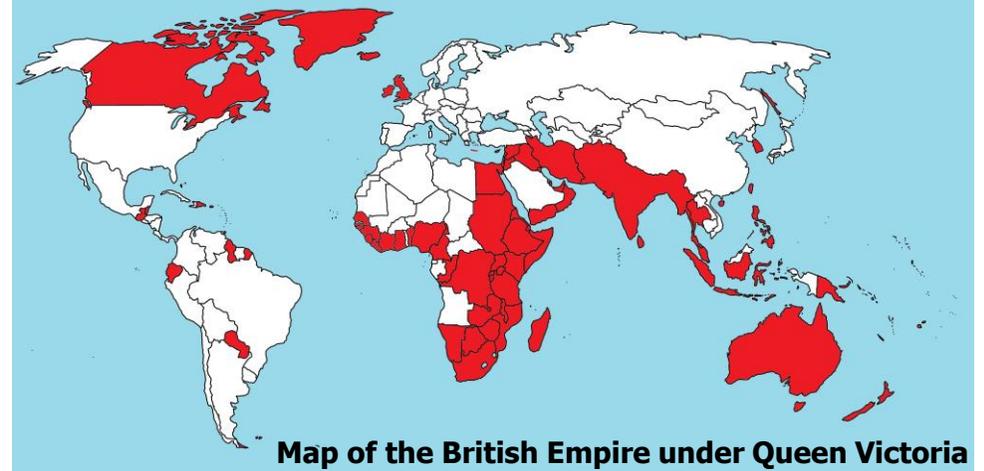


1.1 Why Britain Wanted An Empire

1.1.1 Trade	Britain traded goods all over the world. The East India Company was one of the most powerful trading organisations. Britain colonised many of the countries they traded with e.g. India.
1.1.2. Religion	Britain thought that many countries were 'uncivilised' and sought to civilise them by turning them into Christians.
1.1.3. Exploration	Adventurers were attracted by the idea of finding new lands to add to Britain's empire. Sailors were encouraged to explore the globe.
1.1.4. Competition	Countries in Europe competed with each other to have the biggest empire. Competition for African colonies led to the 'Scramble for Africa' and by 1900, European countries controlled 90% of Africa
1.1.5. Resources	Colonies provided Britain with goods, cheap labour (slave workers), soldiers and a market for goods.



SCAN ME



Map of the British Empire under Queen Victoria

1.2 Empire Key Terms	Definition
1.2.1. Empire	A group of countries or states that are ruled by a sovereign state or monarch e.g. British Empire
1.2.2. Colony	A country that is ruled by another country e.g. Australia ruled by Britain/
1.2.3. Colonialisation	The act of taking over a another country.
1.2.4. Empire Day	This was held on 24 th May each year (Queen Victoria's birthday) to celebrate the British Empire.
1.2.5. East India Company	A British Company 1600-1874 formed to trade in the region of the Indian Ocean.

1497 British explorer John Cabot discovers Newfoundland

1603-1607 King James 1 begins to colonise N America

1775-1783 American Revolution – Britain recognises American independence.



British Empire Timeline of Key Events

1807 UK abolishes slave trade

1863 USA abolishes slave trade

1887 Queen Victoria becomes Empress of India



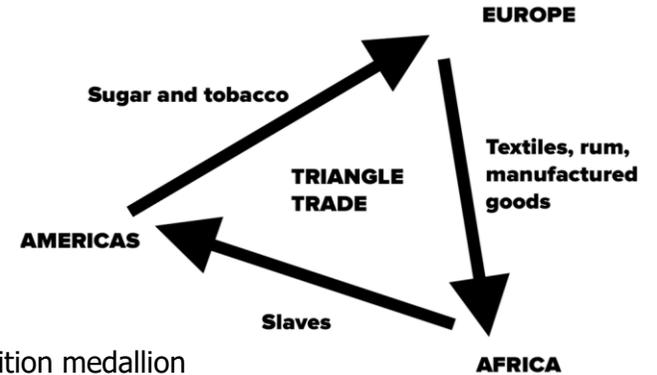
1.3 Slavery Key Terms	Definition
1.3.1. Slave	A person who is forced to work for and obey another and is considered to be their property.
1.3.2. Civilised	At an advanced stage of social and cultural development.
1.3.3. Slave Triangle or Triangular Trade	Weapons, textiles, wine & other cheap manufactured goods were shipped from Europe to Africa, enslaved people from Africa to the Americas and sugar, cotton and tobacco from the Americas to Europe.
1.3.4. Middle Passage	This refers to the middle stage of the slave triangle where people were transported from Africa to the Americas.
1.3.5 Trans-Atlantic	Across the Atlantic Ocean.
1.3.6 Slave Auction	Where Africans were sold to the highest bidder.
1.3.7. Plantation	Large single crop farm where slaves worked. Crops such as cotton, tobacco & sugar were grown there.
1.3.8. Overseer	The overseer supervised the plantation slaves and were responsible for directing their work. He would also punish the slaves for lack of work or not following instructions.
1.3.9. Abolition Movement	An idea that all slaves should be set free.
1.3.10. Emancipation	Freeing someone from control.



SCAN ME



Josiah Wedgwood's abolition medallion



1.4 Key Individuals	
1.4.1. John Newton	He wrote a Chris hymn about the cruelty of slavery.
1.4.2. Thomas Clarkson	Thomas Clarkson was an English abolitionist and a leading campaigner against the slave trade in the British Empire.
1.4.3. William Wilberforce	William Wilberforce was a British politician and a leader of the movement to abolish the slave trade.
1.4.4. Harriet Tubman	Harriet Tubman was an American abolitionist and social activist. After escaping slavery, Tubman made some 13 missions to rescue approximately 70 enslaved people.
1.4.5. Olaudah Equiano	He was a former slave and writer and abolitionist.
1.4.6. Josiah Wedgwood	He was an English potter from Stoke-on-Trent, entrepreneur and abolitionist.
1.4.7. Abraham Lincoln	Former U.S. President who abolished slavery in USA in 1863.



Topic Tent Posts

Vital Trees

Key Vocabulary

- Habitat
- Climate regulators
- Carbon capture
- Deforestation

This is topic is about superhero trees



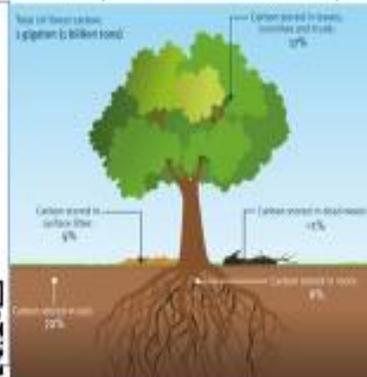
Habitat

Trees host thousands of organisms which depend on them for food and shelter.



Carbon Capture

Trees need carbon to make energy to grow new tissue. It's within this tissue that trees store carbon.



Trees are good

- To regulate the climate
- Improve air we breathe by creating oxygen
- Improve well-being and Mental health by releasing chemicals that calm our nervous system



Deforestation Challenges

1. We lose around 10 million hectares of forest every single year
2. Deforestation contributes about 4.8 million tons of carbon dioxide a year
3. Beef is responsible for 41% of global deforestation
4. Soya plays a big role in deforestation
5. More than 100 countries have pledged to end deforestation by 2030

13 CLIMATE ACTION





Natural forms are objects in nature in their original form. Examples: leaves, flowers, shells, fossils, feathers, pine cones, seed pods, animals – anything you can find in nature!

Painting:
Watercolour, blending, bleeding, wax resist

COLOUR

SHAPE

Drawing:
4B pencil, fineliner, wet wash, monochrome

LINE

Clay:
Pinching, slab building, coil pots

TEXTURE

Medium and Techniques

Paper sculpture:
Curling, scoring, folding, cutting, snipping

PATTERN

Oil pastel:
Blending, directional lines, tone, texture

TONE

Key vocabulary

Tone
Blending
Wet wash
Monochrome
Collage
Wax resist
Primary source
Observation drawing
Still Life
Abstract
Macro
Land Art
Organic forms
Symmetrical

Artists we will study:
Karl Blossfeldt ; Andy Goldsworthy; Rosalind Monks; William Morris; Peter Randall-Page... and Mother Nature!



1. The Musical Elements are the basic building blocks of all music.

Melody		Melody is The tune; high and low pitch notes
Articulation		Articulation Is The way a note is played; staccato (short) or legato (smooth)
Dynamics		Dynamics are how loud or quiet the music is
Texture		Texture is how thick or thin the music is (how many instruments are playing)
Structure		Structure is the building blocks of music (How it is put together)
Harmony		Harmony is the effect of two or more notes sounding simultaneously; chords , bass line
Instrument/ timbre		Timbre is the specific sound an instrument makes
Rhythm		Rhythm is the pattern of long and short notes. Duration is how long or short the note is
Tempo		Tempo is how fast or slow the music is played

2. Note Durations

Semibreve 4 beat note	Minim 2 beat note	Crotchet 1 beat note	Quaver ½ beat note	Semi-quaver ¼ beat note

3. Accidentals

	Sharp	A sharp is the note a half step to the right of a given note on the keyboard.
	Flat	A flat is the note a half step to the left of a given note on the keyboard.

4. Note names on the staff

Right Hand (high notes)

THE TREBLE CLEF

Every Good Boy Does Fine FACE



5. The Blues scale – notes on a keyboard and stave

Legend: = C min. pent. scale

C Blues scale notes: C, Eb, F, Gb, G, Ab, C

Scale diagram labels: Eb, Gb, Bb

Scale diagram labels: C, D, E, F, G, A, C

Scale diagram labels: 1, b3, 4, b5, 5, b7, 1

C Blues scale

5. Keywords

Pulse	Keeps the music in time. You would naturally tap your foot to it when listening to music (beat)
Chord	Two or more notes played at the same time
Chord progression	A series of notes played in a particular order; The twelve bar blues ; CCCC FFCC GFCC
Improvisation	To play something without preparation, to make up on the spot;
Syncopation	Music that emphasises the normally weaker beat: 'off – beat'
Blues scale	C Eb F Gb G Bb C
Typical instruments	Guitar, piano, fiddle (violin), harmonica, bass (string bass), trumpet, saxophone, trombone, drum kit
Call and response	Inspired by the African slaves' field holler to each other when working in the American fields; A melody with question and answer



<p>Name 4 or more pets. Say 4 or more colours.</p>	<p>Les animaux = un chat, un chien, un cheval, un lapin, un oiseau, un cochon-d 'inde, un serpent, une tortue, une araignée. Les couleurs = rouge, jaune, orange, vert, noir, blanc, gris, marron, violet, rose.</p>
<p>Spell out the name of 1 pet. Give the age of 1 pet.</p>	<p>Mon / ma s'appelle Mon/ma a ans Watch this to learn the alphabet: https://www.youtube.com/watch?v=8WnTgEzcgaw Or this(which we sing in class!) https://www.youtube.com/watch?v=7KC6UHDqgKQ</p>
<p>Give 3 ways a pet can be described. Know 5 colours and 2 size descriptors.</p>	<p>Mon / ma est grand, petit, moyen, mignon, adorable, méchant, effronté Mon/ma a les yeux Mon/ma n'est pas</p>
<p>Understand why we need a pet passport. Know the steps to getting a passport for a pet and the key person issuing the passport.</p>	<p>We need a pet passport because To get a pet passport you have to</p>
<p>Know why we need an EHC. Understand the importance of protection from disease</p>	<p>EHC stands for We need an EHC to</p>
<p>Know what the meaning of POAO is. Understand why we regulate this in the commercial world. Name 3 POAOs.</p>	<p>POAO stands for The regulations mean you must 3 exs.....</p>



Local Area Networks

What is a Computer Network?

Two or more computers connected together to share information and resources. This can involve physical or wireless connections, or both.

What is a LAN?

A LAN is a Local Area Network. It is a connected set of computers and other devices. Each device is called a node (e.g. computer, printer, etc.). A LAN is installed on one site, over a small geographical area and the network equipment will be owned by the organisation.

Advantages & Disadvantages of Networking Computers

Advantages	Disadvantages
<ul style="list-style-type: none"> -It allows communication between workers or students -It allows data to be shared -It allows peripherals (e.g. printers) to be shared -It allows computers to be upgraded more easily -It allows distributed processing: the ability for a single program to be run simultaneously at various computers. 	<ul style="list-style-type: none"> -Expertise required to set up and maintain a large network (costly) -Security issues from unauthorised access to data -Measures to secure a network include: <ul style="list-style-type: none"> Passwords – strong passwords use a range of character types Changing passwords frequently Not allowing users to install software With wireless access, use encryption

Devices of a LAN

Image	Equipment
	At least two computers (Nodes)
	Each computer needs a Network Interface Card (either wired or wireless). The NICs convert the data signals from the nodes into data signals that can be transferred across the network.
	Data Transfer Media – the medium through which data is transferred (Wires or Wireless Technology)
	Hub – Connects devices together. Not intelligent – data is sent to all nodes across the whole of the network.
	Switch – Connects devices together. An intelligent device that can send data to the nodes that the data is intended for, which makes networks faster. A LAN needs either a hub or a switch, not both.

Wide Area Networks

A Wide Area Network (WAN) covers a large geographical area – may even be worldwide. Some of the devices in this network may be provided by telecom companies, such as phone lines and satellites.

The Internet

The biggest WAN in the world is 'The internet'. It is a massive network of networks. A ginormous collection of connected computers.

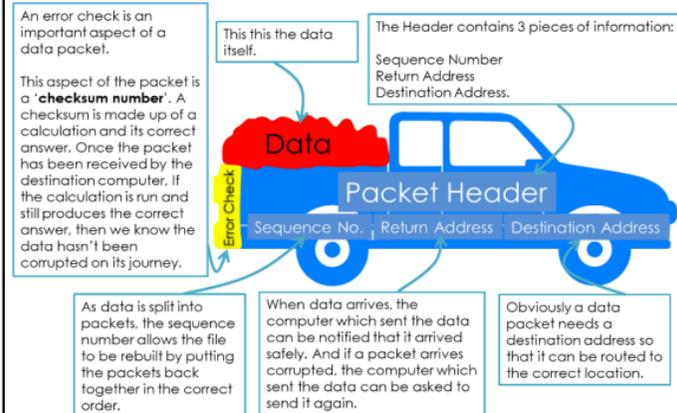
Key Vocabulary

Key Word	Definition
Network	Two or more computers connected together to share data and devices
LAN	A network over a small (local) area (building or site)
Network Interface Card	A piece of hardware which converts computer signals into a form that can be sent over a network (and convert them back when network data is received)
Switch	A device which passes networked data to the correct nodes
Data Packets	These are created from the splitting up of a file when data is sent across the internet. It is reassembled at the receivers' end to reform the file.
WAN	A network over a large (wide) area (town, country, the world)
Internet	The largest WAN – A network of networks spanning the world
Internet Protocol Address	The unique address of a website or computer (written in digits)
Internet Service Provider	The company that provides your connection to the internet.
Uniform Resource Locator	The technical term for a web address.
Domain Name Server	Like a "telephone directory" of the internet's websites.

Data Packets

When files are sent across a network, they are split into millions of data packets. Packets get sent by different routes according to availability so therefore some parts of the file might travel one way around the world and other parts may go in the opposite direction! Packets are reassembled at receiving end.

Data Packet Structure

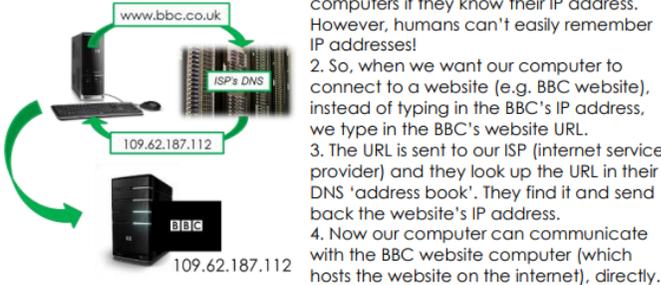


IP Addresses, ISPs, URLs and DNS

There are many acronyms to understand, when studying how the internet works.

Acronym	Description
IP Address	This means INTERNET PROTOCOL ADDRESS. It is a unique number given to every computer on the internet – no two computers can have the same address. E.g. 109.62.187.112. It's just like a postal address – used to identify a house – no two houses have the same address!
ISP	This means INTERNET SERVICE PROVIDER. This is simply the company who provide you with your internet connection. (e.g. BT or Sky)
URL	This means UNIFORM RESOURCE LOCATOR. This is simply a fancy name for a web address, such as: http://www.bbc.co.uk http://www.google.com
DNS	This means DOMAIN NAME SYSTEM. This is the system used to find the computer which hosts the website you are looking for.

How does DNS work?



Network Threats & Preventions

Threats

Threat	Description
Malware	Malware is 'Malicious Software'. Examples of malware are viruses, spyware, adware and scareware. Whereas viruses aim to damage the computer system, spyware, adware and scareware all target the user.
Phishing	Phishing seeks to acquire sensitive information about a user such as their usernames, passwords, bank details etc. The way in which this is done is usually through the form of direct electronic communications (emails / phone calls). These emails or phone calls try to impersonate legitimate companies (such as banks) and ask you to give away sensitive information.
Brute Force Attacks	A Brute Force Attack is where criminals will use trial and error to hack an account by trying thousands of different possible passwords against a particular username.
Denial of Service	This method seeks to bring down websites by using up the web server's resources. This is done by acquiring multiple computers (often through malware) to repeatedly try to access (or log into) a website.

Preventions

Prevention	Description
Penetration Testing	'Penetration Testing' is where a company will invite / employ experts to try to simulate a range of network attacks such as Denial of Service attacks (DoS), SQL injections and Brute Force Attacks.
Anti-Malware	Anti-malware software is dedicated to finding and destroying malware files.
Firewalls	When files are sent across the internet, they are broken down into small packets of data. The part of the computer which receives these packets is made up of 256 ports (you can think of these ports like a country's ports, which manage people in and out of the country). A firewall monitors the data which flows through the ports.
Passwords	Passwords are in place to ensure that a network has no unauthorised access. As seen before, it is important that passwords are strong (long and with a combination of alpha and numeric characters) so that they are harder to crack under a Brute Force Attack.
Encryption	Encryption is where data is scrambled before being sent across a network so that it is unreadable if intercepted.