Knowledge Organiser Booklet

Year 8 Autumn Half Term 2

> " The beautiful thing about **learning** is that no one can take it away from you.
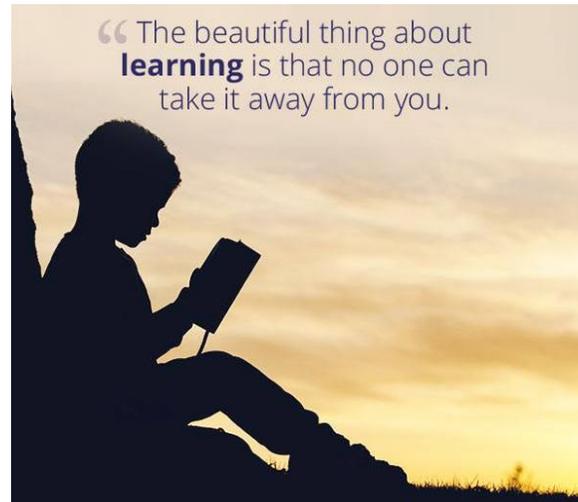
Name:_____   Tutor group:_____

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

+5 months

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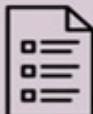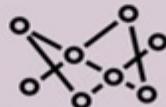
Home learning timetable
The table below details which days each subject will set home learning on each week. Students will have one week to complete home learning tasks for each subject.

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

The History of Rhetoric

Rhetoric began 2500 years ago as **the study of the forms of communication and argument essential to public, political and legal life in Ancient Greece.**
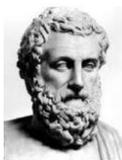
Aristotle: essentially established the discipline—Rhetoric.

The Aristotelian Triad:

Ethos: Appeal of personality or character. Establishes the author's credibility. - Good will - Good character - Expertise

Logos: Appeal to reason. Establishes a logic argument. - Statistics/Facts - Citing authority - Data - Benefits

Pathos: Appeal to the emotions of the author's audience. - Fear - Duty - Hope - Patriotism

Rhetorical Devices / Techniques: DAFOREST

Technique	Explanation	Example
Direct Address	Addressing the reader directly using pronouns e.g. "we" or "you".	"You can stop the spread of coronavirus by staying at home"
Anecdote	A short personal story that provides an example related to the topic	"The crime rate in Amsterdam dropped significantly when they legalised cannabis"
Facts	Something which can be proven true	"'E' is the most common letter in the English language."
Opinions	A belief which cannot be proven true – someone's ideas.	"Exeter City is the greatest football club of all time"
Rhetorical Question	A question which does not require a response.	"Do you want to pass your exams?"
Emotive Language	Words which provoke an emotional response from the audience.	"This ludicrous idea will result in utter catastrophe."
Statistics	Numerical facts and data used to support a point.	"12% of people worldwide have never used the internet"
Three (rule of)	List of three things in a sentence.	"Smoking is a filthy, selfish and costly habit"

Common text types and purposes of using rhetoric

Speech: Speaking formally to an audience. A speech will open using a powerful image, anecdote or pose a question to the audience. The most effective speeches end with a powerful message.

Article: A news article discusses current or recent news. This can be general news that will appeal to most readers, or on a specific topic for a particular audience.

Letter: A written form of communication sent to a specific person or group. These are usually a formal way of outlining an issue, applying for a job or writing in response to share your opinion.

Action: The purpose of a piece of writing could be to demand that action be taken to change or stop something happening.

Injustice: If something feels unjust, it means it is unfair or undeserved. It ay be that a person has chosen to use rhetoric to highlight the poor treatment of a particular group of people.

Motivation: Motivating people is to make them feel enthusiastic or driven to believe an idea, or to take action.

Change: Sometimes, speakers or writers are highlighting key issues in such a way that they provide ways in which these issues could be resolved.

PERSUASIVE WRITING

Structuring an Argument…

HOOK

Make the introduction as engaging as possible. Use an anecdote or rhetorical question to get attention.

MAIN POINT

Put your most persuasive point first. Make it believable by supporting with facts, statistics and emotive language.

BUILD

Develop your first point with another. Make sure it links securely and is persuasive, using different techniques.

COUNTER ARGUE

What would someone who disagrees with you say? Why are they wrong? Use this section to be really emotive.

CONCLUDE AND SUMMARISE

End as persuasively as you started with a tripartite list, rhetorical question or anecdote. The best answers will use cyclical structure.

PERSUASIVE SPEAKING

The Five Parts of Oratory	Features of effective orators
1. **Invention** – Ideas! Think what you are going to say 2. **Arrangement** – Put ideas in logical and powerful order 3. **Style** – Select methods for impact (ethos, logos, pathos – what language choices do you need to make?) 4. **Memory** – Good orators do not read their speeches, they memorise or use brief notes 5. **Delivery** – Perform speech for impact (body language, tone, pace, volume, emphasis etc.)	✓ Confident body language ✓ Make eye contact ✓ Speak loudly and clearly ✓ Vary pitch, tone and volume ✓ Have a well-planned speech with good ideas and knowledge to convince their audience ✓ Formal register ✓ Range of high-level vocabulary to be precise about ideas and views ✓ Use rhetorical (persuasive) techniques to convince ✓ Connect with their audience emotionally, considering the views and feelings of others.

Sentences to Impress

IMAGINE + 3
Imagine a world where…, where… and where…
Imagine… Imagine… Imagine…

EPISTROPHE – repetition at the end
The internet tells us to look better, eat better, sleep better, act better…

TRICOLON
Every selfie that is edited, every filter that is applied, comment that is posted slowly erodes our mental health.
Destructive, damaging, desolating: social media…

HYPOPHORA – asking and then answering a question
When will we be satisfied? Perhaps never.

METANOIA – correcting yourself for emphasis
I think – no, I know – that something has to change.
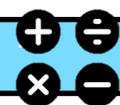
3 NEGATIVES + QUESTION
Bullied, isolated afraid – is this how we want school pupils to feel?
Abused, unwanted, abandoned – when will it stop?
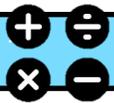
PROLEPSIS – answering an objection
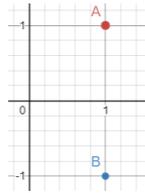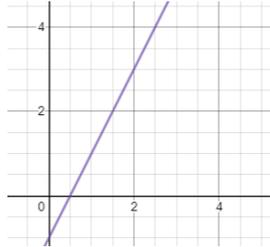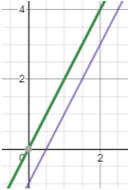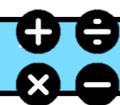Might some people might argue…? Those people are mistaken.

POLYSYNDETON – extending a list using 'and'
Children should be climbing trees and riding bikes and swimming in the river and playing chase.
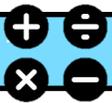
Multiplication Index Law	When multiplying with the same base (number or letter), add the powers. $$a^m \times a^n = a^{m+n}$$ This only works with the same base number!	$7^5 \times 7^3 = 7^8$ $3^2 \times 4^2$ *can't be* *simplified* $a^{12} \times a = a^{13}$ $4x^5 \times 2x^8 = 8x^{13}$	Watch out for expressions that can't be simplified: $5^2 \times 5^3 =$ $a^8 \times a =$ $a^3 \times b^3 =$ $3x^2 \times 4x^5 =$
Division Index Law	When dividing with the same base (number or letter), subtract the powers. $$a^m \div a^n = a^{m-n}$$	$15^7 \div 15^4 = 15^3$ $x^9 \div x^2 = x^7$ $20a^{11} \div 5a^3 = 4a^8$	$15^{17} \div 5^3 =$ $x^9 \div x^2 = x^7$ $20a^{11} \div 5a^3 = 4a^8$
Brackets Index Laws	When raising a power to another power, multiply the powers together. $$(a^m)^n = a^{mn}$$ If there is a co-efficient inside the bracket then that is raised to the power, not multiplied.	$(y^2)^5 = y^{10}$ $(6^3)^4 = 6^{12}$ $(5x^6)^3 = 125x^{18}$	$(a^3)^4 =$ $(8^2)^5 =$ $(4x^2)^3 =$
Notable Powers	$p = p^1$ $p^0 = 1$	$99999^0 = 1$	$300^1 =$ $42^0 =$

Topic/Skill	Definition/Tips	Example
Co-ordinates	Co-ordinates are written (x, y) 'Along the corridor and up the stairs'	A: (1 , 1)　　　B: (1 , -1)
Straight Line Graph	The normal equation of a linear graph is $$y = mx + c$$ where m is the gradient and c is the y-intercept. The equation can look different; if m or c are zero, or if the equation has been rearranged	$$y = 2x - 1$$ Different examples: $x = y$ $y = 4$　　　$x = -2$ $y + x = 10$ $$2y - 4x = 12$$
Plotting Straight Line Graphs	Method : Table of Values Construct a table of values to calculate coordinates.	Find some coordinates of the line $y = x + 3$ <table><tr><td>**x**</td><td>-3</td><td>-2</td><td>-1</td><td>0</td><td>1</td><td>2</td><td>3</td></tr><tr><td>**y= x +3**</td><td>0</td><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td></tr></table>
Parallel Lines	Parallel lines have the same gradient	The lines $y = 4x + 2$ and $y = 4x - 1$ are parallel because they have the same gradient

Fraction of an Amount	Divide by the bottom, multiply by the top	Find $\frac{2}{5}$ of £60 $$60 \div 5 = 12$$ $$12 \times 2 = 24$$
Adding or Subtracting Fractions	Find the Lowest Common Multiple of the denominators to find a common denominator. Use equivalent fractions to change each fraction to the common denominator. Then just add or subtract the numerators and keep the denominator the same.	$$\frac{2}{3} + \frac{4}{5}$$ Multiples of 3: 3, 6, 9, 12, 15.. Multiples of 5: 5, 10, 15.. $$\frac{2}{3} = \frac{10}{15}$$ $$\frac{4}{5} = \frac{12}{15}$$ $$\frac{10}{15} + \frac{12}{15} = \frac{22}{15} = 1\frac{7}{15}$$
Multiplying Fractions	Multiply the numerators together and multiply the denominators together. Simplify if you can.	$$\frac{1}{2} \times \frac{1}{2} = \frac{1}{4}$$ $$\frac{3}{8} \times \frac{2}{9} = \frac{6}{72} = \frac{1}{12}$$
Dividing Fractions	Multiply by the reciprocal Keep the first fraction the same Flip the second fraction upside down Change the divide to a multiply Multiply by the reciprocal of the second fraction.	$$\frac{1}{2} \div \frac{1}{2} = \frac{1}{2} \times \frac{2}{1} = \frac{2}{2} = 1$$ $$\frac{3}{4} \div \frac{5}{6} = \frac{3}{4} \times \frac{6}{5} = \frac{18}{20} = \frac{9}{10}$$

Examples

Order the following in ascending order:

$$\frac{3}{5} \quad 62\% \quad 0.67 \quad \frac{7}{10} \quad 0.665$$

Fraction

Numerator ÷ denominator

Write over 100

Decimal ⟷ Percentage

×100

÷100

$\times 20 \downarrow$ $\frac{60}{100}$

$\times 100$

$\times 10 \downarrow$ $\frac{70}{100}$

$\times 100$

60% 62% 67% 70% 66.5%

$$\frac{3}{5} \quad 62\% \quad 0.665 \quad 0.67 \quad \frac{7}{10}$$

Key Concepts

A **fraction** is a numerical quantity that is not a whole number.

A **decimal** is a number written using a system of counting based on the number 10.

Thousands Hundreds Tens Ones . Tenths Hundredths Thousandths

8 7 6 5 . 4 3 2

A **percentage** is an amount out of 100.

Key Concepts

$$\frac{x}{y} \longrightarrow \begin{array}{l}\text{Numerator} \\ \text{Denominator}\end{array}$$

Equivalent fractions have the same value as one another.

Eg. $\frac{1}{4} = \frac{2}{8} = \frac{3}{12}$

Key Concept
FDP equivalence

F	D	P
$\frac{1}{100}$	0.01	1%
$\frac{1}{10}$	0.1	10%
$\frac{1}{5}$	0.2	20%
$\frac{1}{4}$	0.25	25%
$\frac{1}{2}$	0.5	50%
$\frac{3}{4}$	0.75	75%

Fraction of an Amount	Divide by the bottom, multiply by the top	Find $\frac{2}{5}$ of £60 $$60 \div 5 = 12$$ $$12 \times 2 = 24$$

Adding or Subtracting Fractions	Find the Lowest Common Multiple of the denominators to find a common denominator.
	
	Use equivalent fractions to change each fraction to the common denominator.
	
	Then just add or subtract the numerators and keep the denominator the same.
		$$\frac{2}{3} + \frac{4}{5}$$ Multiples of 3:
		  3, 6, 9, 12, 15..
		Multiples of 5:
		  5, 10, 15..
		$$\frac{2}{3} = \frac{10}{15}$$ $$\frac{4}{5} = \frac{12}{15}$$ $$\frac{10}{15} + \frac{12}{15} = \frac{22}{15} = 1\frac{7}{15}$$

Multiplying Fractions	Multiply the numerators together and multiply the denominators together. Simplify if you can.	$$\frac{1}{2} \times \frac{1}{2} = \frac{1}{4}$$ $$\frac{3}{8} \times \frac{2}{9} = \frac{6}{72} = \frac{1}{12}$$
Finding percentages of amounts	Find 10%, 25%, 50%, 1% 20% and 75% without a calculator. Find any amount with a calculator.	10% of £50 $= 50 \div 10 = £5$ $25\%\ of\ £40 = 40 \div 4 = 10$ $50\%\ of\ £60 = 60 \div 2 = £30$ $1\%\ of\ £4000 = 4000 \div 100 = £4$

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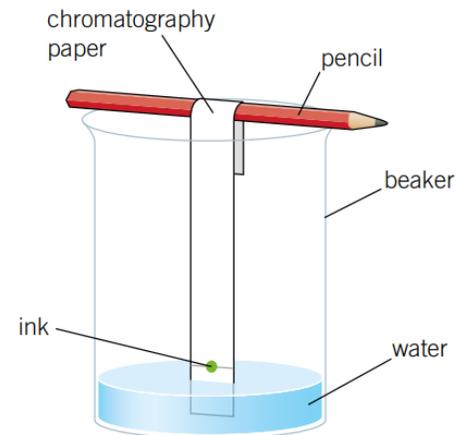The solubility of a solute means how much solute can dissolve in a certain volume of solvent.

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.
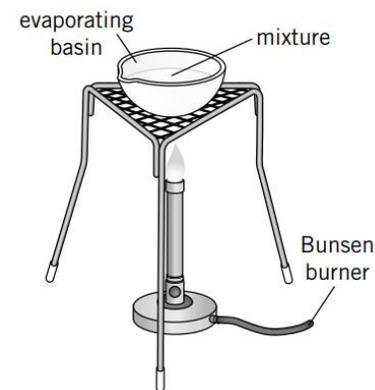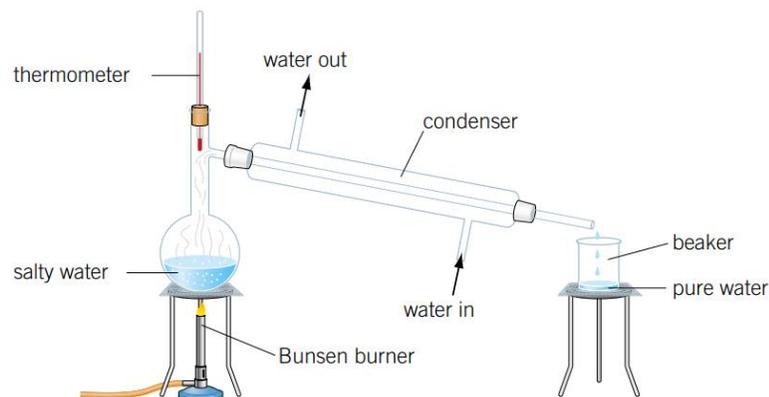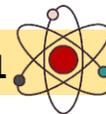
Filtration
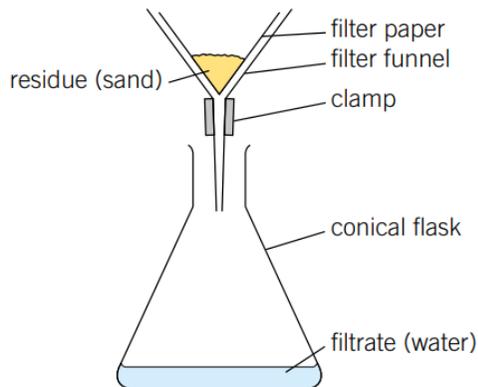
Chromatography

Evaporation

Distillation

Acids – All acid compounds have salt in them. The three main acids are hydrochloric acid, sulfuric acid and nitric acid.
Salts – When the hydrogen in an acid is replaced by a metal, the compound is called a salt.
Acid + Metal → Salt + Hydrogen
Metal oxides – Many metals will react with the oxygen in the air to produce a metal oxide.
Metal + Oxygen → Metal oxide
Metal hydroxide – Very reactive metals react with cold water to produce a metal hydroxide and hydrogen.
Metal + Water → Metal hydroxide + Hydrogen

Types of salt
Hydrochloric acid produces chlorides (e.g. sodium chloride)
Sulfuric acid produces sulfates (e.g. copper sulfate)
Nitric acid produces nitrates (e.g. potassium nitrate)

Testing for hydrogen
Collect in an upside down test-tube.
Insert a burning splint – there will be a 'squeaky pop' sound.

State symbols
(s) Solid   (l) Liquid
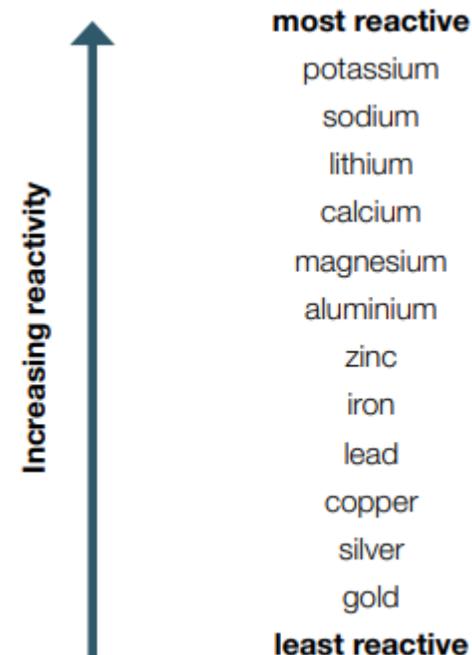(g) Gas
(aq) aqueous = dissolved in water

Reactions with oxygen
Magnesium – burns vigorously
Zinc – burns less vigorously
Iron – burns if heated strongly, when cold will slowly form a layer of oxide on surface (rust)
Lead & Copper – Do not burn, when heated will form a layer of oxide on the surface

Displacement reactions – a more reactive element takes the place of a less reactive element in a compound.
The more reactive metal becomes the compound, the less reactive one becomes an element.

Increasing reactivity →

most reactive
potassium
sodium
lithium
calcium
magnesium
aluminium
zinc
iron
lead
copper
silver
gold
least reactive
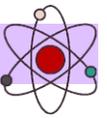
Thermal energy can be transferred by conduction, convection or radiation.

Conduction – Occurs in solids.

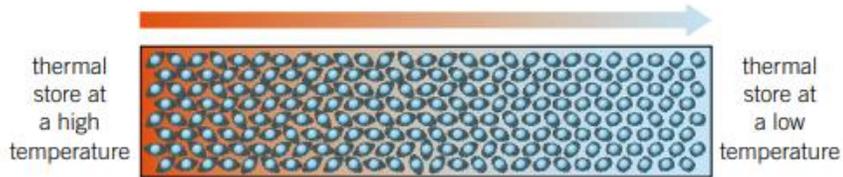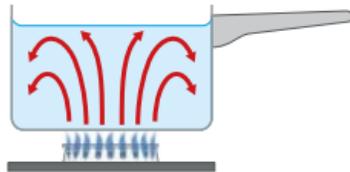**Convection -** Occurs in liquids or gases.

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 (°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) × 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.
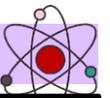
Speed is how far something moves in a certain time.
Speed (m/s) = Distance travelled (m) ÷ Time taken (s)

Speed can be measured in miles per hour (mph),
metres per second (m/s) or kilometres per hour (km/h)

A **distance – time** graph shows when an object is stationary
(horizontal line) or moving (angled line).

Moments are the turning effect of a force.
Moment (Nm) = Force (N) x Perpendicular distance from the pivot (m)

The law of moments
When an object is in **equilibrium** all the **clockwise**
moments added together **equal** all the **anti-clockwise**
mome

500 N   1 m   0.5 m   1000 N

pivot
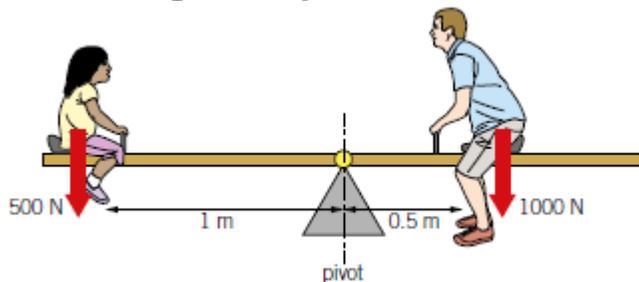
Pressure is how much force in a certain area.
Pressure (N/m²) = Force (N) ÷ Area (m²)
Pressure is measured in newtons per metre squared (N/m²),
or newtons per centimetre squared (N/cm²).
1 N/m² is also called 1 pascal (Pa)

Solids and **Liquids** are **incompressible.** This is because all
the particles are touching.
Pressure can be transmitted **through a liquid**. This is used in
hydraulics.
Pressure **increases with depth** in a **liquid**.

Gases can be compressed. This is because there are gaps
between the particles.

Atmospheric Pressure decreases with height above sea level.

Collisions between gas molecules and their
container produce **gas pressure.**
If you compress a gas there will be more
frequent collisions and so a higher pressure.
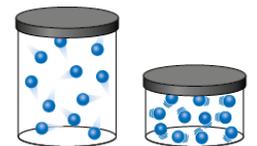
If you heat a gas the particles move
faster, there will be more frequent
collisions and so a higher pressure.

2.1 KEY TERMS

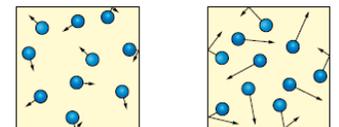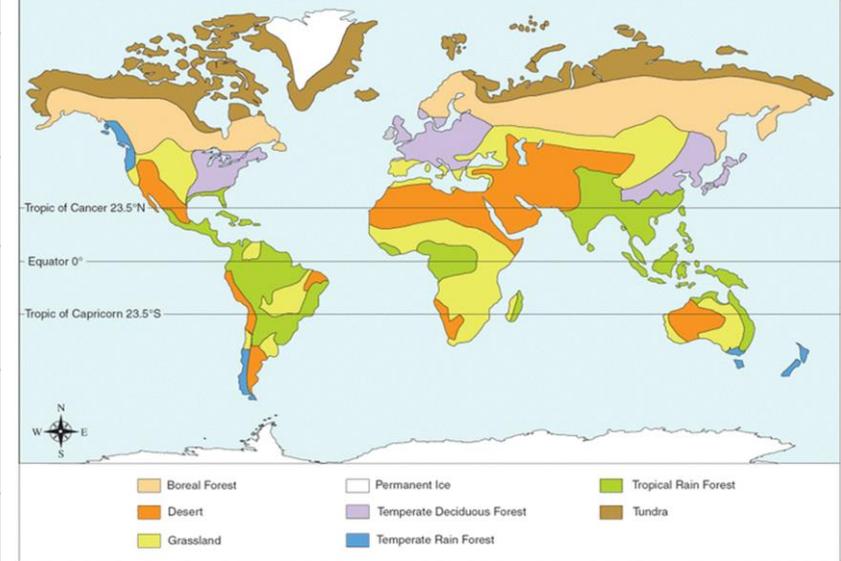|	
2.1.1. Ecosystem	An area where plants, animals, and other living organisms, as well as weather and landscape, work together to form a bubble of life.
2.1.2. Biomes	A biome is a large area of distinctive plant and animal groups, which are adapted to that particular environment e.g. polar.
2.1.3. Temperature	How hot a location is at a specific time and in a specific place. This is measured in °C.
2.1.4. Climate	Average temperature taken over a ten year period.
2.1.5. Precipitation	Rain, snow, hail or mist .
2.1.6. Climate Graph	A visual representation of average temperature and average rainfall.

2.2 DIFFERENT BIOMES

2.2.1. Tropical Rainforest	A hot, moist biome centered between the tropics of Cancer & Capricorn where it rains all year long. It is known for its dense canopies of vegetation.
2.2.2. Hot Deserts	Covering one fifth of the world's surface these biomes experience less than 250mm annual rainfall each year.
2.2.3. Polar	Located in the Arctic and Antarctic they experience extreme dry and cold temperatures which can fall below -50°C.
2.2.4. Mediterranean	These biomes enjoy hot, sunny and dry summers with mild winters e.g. Greece, Spain, California and parts of Australia.
2.2.5. Tundra	Cold areas such as Canada Northern Europe and Siberia (in Russia) where land is permanently frozen.

2.3 FEATURES OF A HOT DESERT

2.3.1. Hot Desert Climate	Hot air rises from the Equator forming a persistent belt of high pressure. This explains the lack of cloud cover, high daytime temperatures and lack of rainfall.
2.3.2. Hot Desert Locations	They can be found between 30°N and 30°S and tend to be located in dry continental interiors although there are some coastal deserts e.g. the Atacama Desert in South America.
2.3.3. Plants and animal adaptations	Plants tend to have very thin leaves or spines to reduce water loss and some very long roots to reach deep underground water.

Boreal Forest	Permanent Ice	Tropical Rain Forest
Desert	Temperate Deciduous Forest	Tundra
Grassland	Temperate Rain Forest	

2.4 FEATURES OF A TROPICAL RAINFOREST

2.4.1. Rainforest Temperature	Temperature: Hot all year 25-30°C. Rainfall: very high over 2000mm/year.
2.4.2. Distribution of Tropical Rainforests	Tropical rainforests are centered along the Equator between the Tropic of Cancer and Capricorn. Rainforests can be found in South America, central Africa and South East Asia.
2.4.3. The Amazon	The Amazon is the world's largest rainforest and takes up the majority of northern South America, encompassing countries such as Brazil and Peru.
2.4.4. Emergent Layer	Emergent Highest layer with trees reaching 50 metres.
2.4.5. Canopy Layer	Most life is found here as It receives 70% of the sunlight and 80% of the life.
2.4.6. Buttress Roots	Large roots coming out from the sides of rainforest trees to support them in the shallow soils.
2.2.7. Drip Trip Leaves	They allow the rain to drip off them quickly so the rain doesn't damage them.
2.2.8. Deforestation	Large scale removal of tropical rain forest.
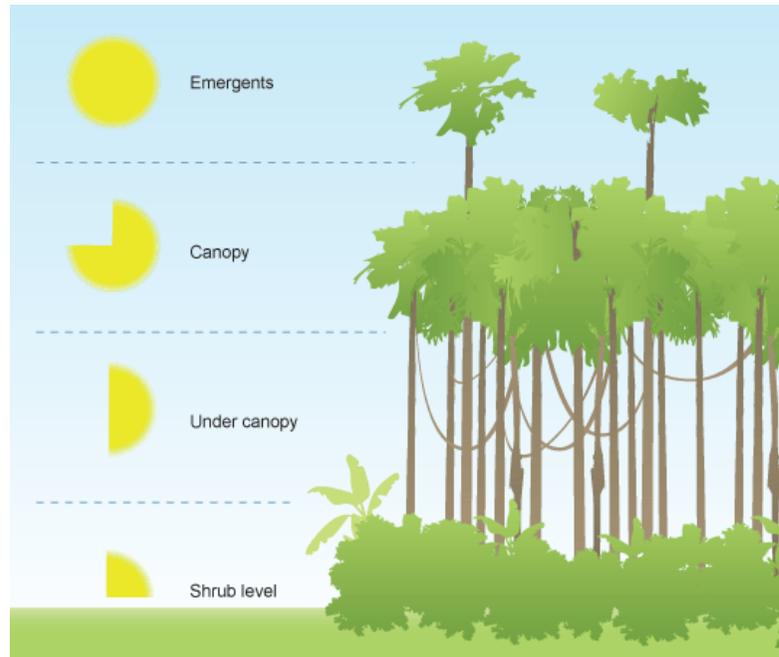
Vegetation of a Tropical Rainforest

Emergents are the tops of the tallest trees in the rainforest. These are much higher, and so are able to get more light than the average trees in the forest canopy.

The **canopy** is where the upper parts of most of the trees are found. The canopy is typically 20 to 40 metres tall. This leafy environment is home to insects, birds and some mammals.

The **shrub layer.** It is dark and gloomy with very little vegetation between the trees. During heavy rainfalls this area can flood.

Chico Mendes

2.5 DEFORESTATION

2.5.1. Deforestation	This is the purposeful clearing of forest land. Rainforests are often cleared for mineral mining, logging, to house growing populations or for farming.
2.5.2. Loss of Biodiversity	Deforestation destroys animal and plant life within a tropical rainforest ecosystem.
2.5.3. Climate Change	Deforestation can lead to increased CO_2 emissions as trees absorb CO_2.
2.5.4. Soil Erosion	Deforestation leads to the erosion of soil that has taken thousands of years to form, but stripped away in hours.

Topic Tent Posts
Nature's cycles

This is topic is about Woodland ecology (how they work as a system)

Key Vocabulary
- A **herbivore** is an animal that only eats plants
- An **omnivore** eats plants and animals
- A **carnivore** only eats animals
- An **insectivore** eats some animals such as insects and worms
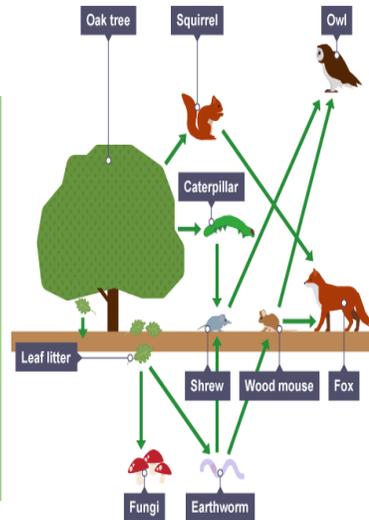
15 LIFE ON LAND

Woodland Habitat
- The UK's woodlands are rich and diverse, supporting more invertebrates than any other habitat.
- From lush temperate forests, to orchards and old hunting grounds.
- Each is shaped by geology, soils, climate and people over generations.

Food webs
The energy that all animals get from food begins with the Sun's energy and once it reaches Earth is transferred through food webs and food chains**.**

Oak tree — Squirrel — Owl — Caterpillar — Leaf litter — Shrew — Wood mouse — Fox — Fungi — Earthworm

Challenges
Woodlands are not as valuable as farmland. Arable land in England was selling for up to £15,000 per acre, and pasture land for up to £12,000 per acre. The price of woodland in the UK can range from £5,000 to £10,000 per acre.

ID
The biodiversity of a woodland is greatly affected by the structures that are found within it. In general the more environments/structures a woodland can provide the greater the biodiversity. These environments are often linked to the type of trees within the woodland or whether it is native woodland or a plantation. You often find more biodiversity within native forests.

Canopy / Understory / Field Layer / Ground Layer
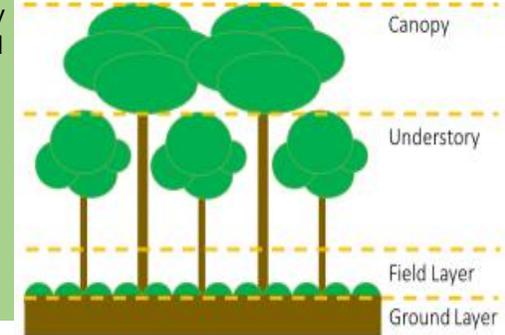
Nature's balance
- Each part of the food chain is described starting with the producers, then the primary and secondary consumers, predator and prey.
- Food chains can be disrupted by outside influences such as pesticides and herbicides.
- Populations within a food chain can change and the removal of part of the food chain can have a dramatic effect, as with deer in Britain effecting young woodland growth.
- Not all animals eat one type of food and lots of food chains join up.
- But how does the story end and what happens to the energy and minerals in the top predator? This is where the decomposers come in!

Nature's cycles
- Decaying wood recycles nutrients back into the soil, provides food and nurseries for rare animals, and hosts spectacular collections of fungi.
- If wood did not decay, our woodland ecosystems would soon run out of nutrients, so wood decomposition is an essential recycling process. Vital nutrients are released that can be used again by trees for growth – maintaining a healthy ecosystem.

BOLD OUTLINES

Pop Art is mass-produced art made using objects or people from **popular culture**, such as product labels, adverts and celebrities.

Coca-Cola

TYPOGRAPHY

Pop Art began in the 1950's, but became very popular in the 1960's. It started in the UK!

COMIC STRIP STYLE

OHHH... ALRIGHT....

SILK SCREEN PRINTING

Popular culture is **everything that everyday people are interested in**

BLOCK COLOUR

REPEAT PATTERNS

Campbells PEPPER POT SOUP
Campbells CREAM OF MUSHROOM SOUP
Campbells GREEN PEA SOUP
Campbells ONION SOUP
Campbells BLACK BEAN SOUP
Campbells CONSOMMÉ SOUP
Campbells CHICKEN NOODLE SOUP
Campbells VEGETABLE SOUP
Campbells BEEF SOUP

POP!

ONOMATOPOEIA

Key vocabulary
Popular culture
Primary colours
Block colour
Ben Day dots
Comic strip
Onomatopoeia
Cardboard relief
Geometric shapes
Commercial art
Typography
Repeat patterns
Irony
Surreal
Three-dimensional

Artists we will study:
Roy Lichtenstein, Andy Warhol, David Hockney, Keith Haring, David Irvine, Yayoi Kusama

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
O				

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 stave

Right Hand (high notes)

THE TREBLE CLEF

Every Good Boy Does Fine   FACE

5. Note names on keyboard

Which fruits are grown in the Francophone world?

Apples and pears are grown and most often exported. France is also an exporter of many other fruits such as peaches, strawberries, raspberries and blueberries. In Francophone countries tropical fruits are grown and exported. France is a big producer of grapes but only for wine – they prefer not to eat them and they only have seeded grapes as they are better for wine.

Which vegetables are grown in the Francophone world?

France is a big producer and exporter of potatoes, they have a potato harvest holiday around October ½ term! Traditional vegetables are often seen in French markets, onions, carrots, cauliflowers, broccoli, cabbage and radishes. Similarly, French people enjoy green salad and often have a variety of green leaves as part of a 4 or 5 course meal.

Farm to fork. How do French farming and UK farming compare?

In France they are very proud of their farming heritage and there is very strong support to buy French. Often, locally produced fruit and veg (and all local French produce) is featured by national supermarket chains and is given pride of place! The government heavily subsidises Farming, Fisheries and small-scale regional produce. French products are renowned for being some of the best quality in the world.

What are 'Food miles'?

Food Miles can be calculated by working out how much transportation has been used to get your food from the farm to the plate. This might be a simple journey from the farm to the supermarket or it might be the product is a combination of several items which combined, have travelled thousands of miles. There is a big campaign world wide to try to reduce food miles and get consumers to buy local, seasonal produce as this is better for the environment.

How can we say which fruit and veg we Like and dislike?

J'adore = I love

J'aime = I like

Ç ava = It's OK

Je n'aime pas = I don't like

Je déteste = I hate

Je préfère = I prefer

Les fruits

un ananas	une banane	des bleuets	une cerise	un citron
une fraise	une framboise	un kiwi	un melon d'eau	une orange
un pamplemousse	une pêche	une poire	une pomme	des raisins

Les légumes

une betterave	un brocoli	une carotte	un champignon	un chou
un chou-fleur	un concombre	des épinards	une laitue	du maïs
un oignon	une patate	un poivron	un radis	une tomate

How can we say what the weather is like?

Le Temps
Quel temps fait-il aujourd'hui?

Il fait beau   Il fait chaud   Il pleut

Il neige   Il y a du brouillard   Il y a des nuages   Il y a du vent   Il fait froid   Il y a du soleil

Binary (Base 2)

The only thing that computers understand is Binary.

$0101 = 5$

8	4	2	1
0	1	0	1

1	=	ON
0	=	OFF

01011111= 95

128	64	32	16	8	4	2	1
0	1	0	1	1	1	1	1

Convert these binary numbers into denary:

1)	1010		6)	1011
2)	1010		7)	0001
3)	0110		8)	1011
4)	0111		9)	1001
5)	0100		10)	0011

Convert these denary numbers into binary (4 bits):

11)	14		16)	6
12)	2		17)	11
13)	10		18)	15
14)	4		19)	2
15)	3		20)	12

The ones and zeros in Binary represent 'bits. Each '1' or '0' is one 'bit'.

BITS IN A BYTE

0	1	0	1	1	1	1	1
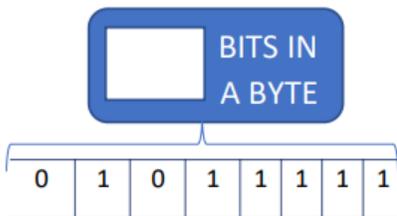
COMPUTATIONAL THINKING

DECOMPOSITION — BREAK DOWN DATA AND PROBLEMS INTO SMALLER PARTS

PATTERN RECOGNITION — OBSERVE PATTERNS AND TRENDS IN DATA

ALGORITHMS — DETERMINE WHAT STEPS ARE NEEDED TO SOLVE A PROBLEM

ABSTRACTION — REMOVE DETAILS AND EXTRACT RELEVANT INFORMATION
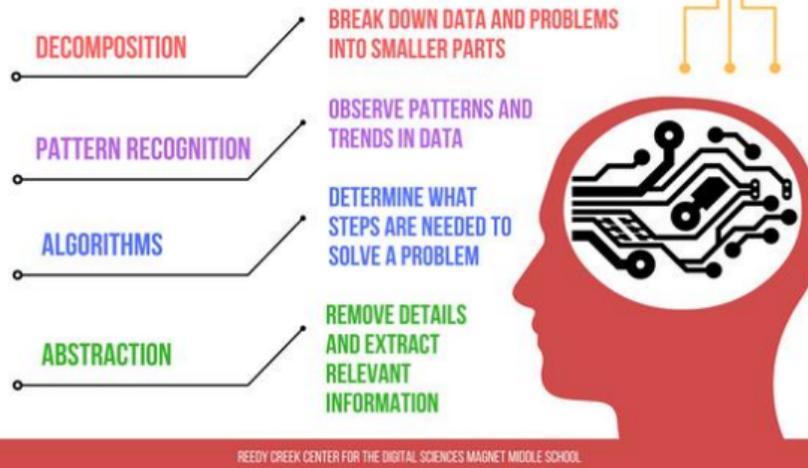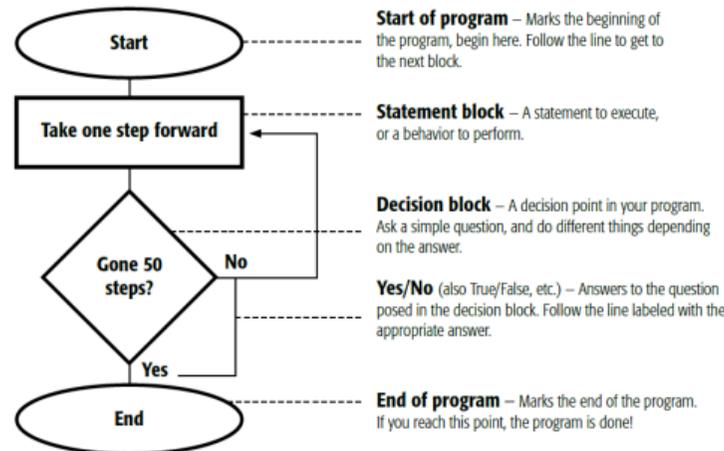
REEDY CREEK CENTER FOR THE DIGITAL SCIENCES MAGNET MIDDLE SCHOOL

Flowcharts

We use flowcharts to help us put instructions in order.

Start of program – Marks the beginning of the program, begin here. Follow the line to get to the next block.

Statement block – A statement to execute, or a behavior to perform.

Decision block – A decision point in your program. Ask a simple question, and do different things depending on the answer.

Yes/No (also True/False, etc.) – Answers to the question posed in the decision block. Follow the line labeled with the appropriate answer.

End of program – Marks the end of the program. If you reach this point, the program is done!

Representing Text

When any key on a keyboard is pressed, it needs to be converted into a binary number so that it can be processed by the computer and the typed character can appear on the screen.
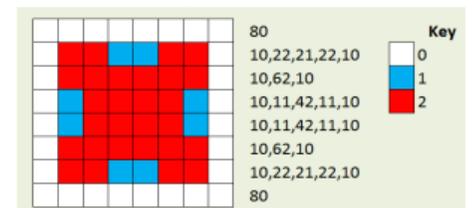

A = 0100 0001

Letter   Binary number

Representing Images

Bitmaps are the name given to one way of storing graphics on a computer system.

A **bitmap** is laid out in a grid format with each box on the grid containing one "**Picture element**" which is better known as a "**Pixel**".

The picture below shows us how a picture can be represented by numbers.

80
10,22,21,22,10
10,62,10
10,11,42,11,10
10,11,42,11,10
10,62,10
10,22,21,22,10
80

Key
0 (white)
1 (blue)
2 (red)

Can you remember how the numbers on the left represent the '**pixels**' on the right?