



LIONHEART
EDUCATIONAL
TRUST


















THE CEDARS
ACADEMY
Lionheart Educational Trust

Knowledge Organiser Booklet

Year 7
Summer Term

Ways to use your knowledge organiser

	Look, Cover, Write, Check	Self Quizzing	Mind Maps	Paired Retrieval	Definitions to Key Words
Step 1	<p>Look at and study a specific area of your knowledge organizer.</p> 	<p>Use your knowledge organizer to create a mini quiz. Write down questions using your knowledge organizer.</p> 	<p>Create a mind map with information from your knowledge organiser.</p> 	<p>Like self quizzing, use your knowledge organizer to create a quiz.</p> 	<p>Write down the key words and definitions.</p> 
Step 2	<p>Cover or flip the knowledge organizer over and write down everything you remember.</p> 	<p>Cover or flip the knowledge organizer over and answer the questions and remember to use full sentences and key words/vocabulary.</p> 	<p>Add pictures to represent different facts, knowledge. Try to categorise different areas in different colours.</p> 	<p>Ask a family member to ask you the questions and tell you which ones you get right and which ones you get wrong.</p> 	<p>Try not to use your knowledge organiser to help you.</p> 
Step 3	<p>Check what you have written down. Correct any mistakes in a different coloured pen and add anything you missed. Repeat.</p> 	<p>Check your answers. Correct any mistakes in a different coloured pen and add anything you missed. Repeat.</p> 	<p>Try to make connections that link information together.</p> 	<p>Following the quiz, summarise which areas you got wrong and need to revise further.</p> 	<p>Use a different coloured pen to check you work and correct any mistakes you may have made.</p> 

Year 7

Shakespearean Comedy - AMSND

Definition of Shakespearean Comedy: A *Shakespearean comedy* is one that has a happy ending, usually involving marriages between the unmarried characters, and a tone and style that is light-hearted and joyful, serving to create enjoyment and laughter in audiences.

Typical genre features:

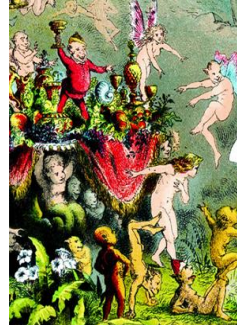
Marriage and Romance – comedies often end on a wedding
 Wit and wordplay – punning and irony and bawdy humour
 A temporary domination of chaos and misrule
 Slapstick and physical comedy
 Use of singing and dancing and masques

Archetypal characters:

Bumbling, working class, coarsely comic characters such as the mechanicals, often called the fool.
 Courtly, romantic, innocent and often naïve young lovers.
 A wise figure of authority, often associated with the return to order (such as Theseus)
 Supernatural figures of mischief
 Comic villains who often act as a temporary barrier to a comic resolution.

Typical settings:

‘The Green World’ – contrasts civilisation with the natural and wild world.
 Weddings
 Distant and exotic
 Festivals or celebrations
 Highly imaginary settings (such as the magical world in *A Midsummer Night’s Dream*).



Social and Historical Context

Ancient Greek comedy is a series of loosely connected scenes which end in an expressive celebration of unity.
 During the Medieval era (or the middle ages), comedy was generally enjoyed in the form of a jester or fool.
 During the 16th century in England what we now recognise as comedic drama emerged.
 During the Renaissance, a comedy meant a play with a happy ending, not necessarily something that was humorous. In most comedies a happy ending involved marriage or the resolving of a conflict.
 Comedy was traditionally seen as a less worthy form of drama than tragedy.
 The restraint placed upon Shakespeare (that all female characters must be played by men) is exploited for comic effect as women often disguise themselves or dress up as men – in this way gender in comedies is often seen as fluid.

Values and ideas held by Comedy

Marriage represents the achievement of happiness and the promise of new life (in children).
 There are often dark undercurrents in comedies but the plot allows for tragedy to be averted, even if audiences are left troubled by the character’s behaviour.
 Shakespearean comedies hold a mirror to audiences, mocking their follies and vices so as to comment on contemporary social issues (often described as satire).
 Characters in comedies often sleep and see parts of the play’s action as dreams allowing Shakespeare to present comedy as an escapist fantasy.
 Much that is funny is derived from the misconception of young lovers. This misunderstanding is generally used to show how fickle young male lovers can be.

Notable dramatic comedies (in chronological order)

Archanians (425 BC) Aristophanes
The Taming of the Shrew (1590)
 William Shakespeare
A Midsummer Night’s Dream (1596)
 William Shakespeare
Much Ado About Nothing (1598)
 William Shakespeare
Twelfth Night (1601) William Shakespeare
Volpone, or The Fox (1606) Ben Jonson
The Tempest (1610) William Shakespeare
The Revenge (1680) Aphra Benn
She Stoops to Conquer (1773)
 Oliver Goldsmith
The Importance of being Earnest (1895)
 Oscar Wilde
The Birthday Party (1957) Harold Pinter

Year 7 A Midsummer Night's Dream Vocabulary Lists

dramatic irony	Stage direction	Informal	Charade
conspirator	Unity	Stately	Disorder
misrule	Green-world	Asides	Trickery
Bawdy	vices	Soliloquys	Premeditate
Slapstick	Parody	Prose	Convention
Courtly	Fantasy	Verse	Misconception
Exotic	Chaos	Speech	Deceive
Mocking	Resolution	Entrances	Farcical
Benign	Exits	Props	Folly

Parallel	Always the same distance apart and never meeting.
Perpendicular	At right angles (90°).
Origin	The point at which something, like an axis or number line, begins.
Line	Geometrical object that is straight, infinitely long and infinitely thin.
Line Segment	Part of a line that connect two points.
Ray	Part of a line with a start point but no end point.
Vertex	Point where two or more line segments meet; a corner. Vertices is the plural form.

Acute angle	An angle that is less than 90° .
Right angle	An angle that is exactly 90° .
Obtuse angle	An angle that is more than 90° but less than 180° .
Reflex angle	An angle that is more than 180° .
Complementary angles	Two angles which sum to 90° .
Supplementary angles	Two angles which sum to 180° .
Adjacent angles on a straight line	Sum to 180° .
Angles around a point	Create a full turn and sum to 360° .
Vertically opposite angles	Are created when lines cross at a point and are equal in size.

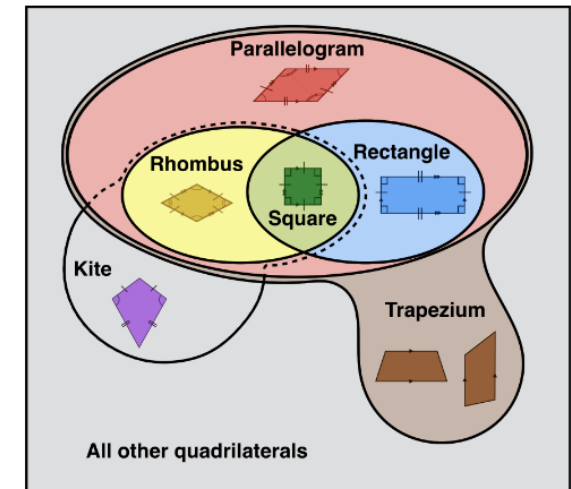
Congruent	Exactly the same shape and size. The shape can be flipped or rotated.
Similar	The same shape, but a different size. All corresponding lengths are in the same ratio. All corresponding angles are equal.
Scale Factor	The ratio of corresponding lengths in similar shapes.

Equilateral triangle	All sides are equal length and all angles are equal.
Isosceles triangle	Two sides (called the legs) are equal length and two angles are equal. The other side is called the base.
Scalene triangle	All sides are different lengths and all angles are different.
Right-angle triangle	One angle measures 90° and is opposite the longest side, which is called the hypotenuse.
Interior angle	An angle inside a shape, between two joined sides.
Interior angles of a triangle	Sum to 180° .
Polygon	2-Dimensional closed shape where all sides are straight.
Regular Polygon	Polygon where all sides are equal length and all angles are equal.
Quadrilateral	Polygon with exactly four sides.
Interior angles of a quadrilateral	Sum to 360° .
Diagonal	Line segment joining two non-consecutive vertices of a polygon.

Parallelogram	Quadrilateral with two pairs of parallel sides.
Rhombus	Quadrilateral with all sides equal length.
Rectangle	Quadrilateral with all angles are right-angles (90°).
Square	Quadrilateral with all sides equal length and all angles right-angles.
Kite	Quadrilateral with two pairs of adjacent sides equal length.
Trapezium	Quadrilateral with one pair of parallel sides.

Polygons	
Three sides	Triangle
Four sides	Quadrilateral
Five sides	Pentagon
Six sides	Hexagon
Seven sides	Heptagon
Eight sides	Octagon
Nine sides	Nonagon
Ten sides	Decagon

Quadrilaterals





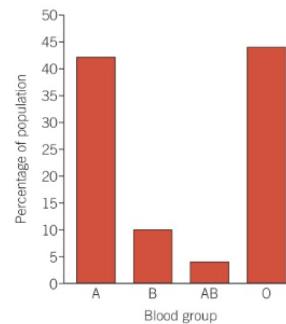
Key Word	Definition
Variation	Differences in characteristics within and between a species.
Inherited Variation	Variation between organisms caused by genetic factors.
Environmental Variation	Variation between organisms caused by environmental factors.
continuous variation	Characteristic that can take any value within a range of values.
discontinuous variation	Characteristic that can only be a certain value.
adaptation	Characteristic that helps an organism to survive in its environment.
Predator	An animal that eats other animals
Prey	An animal that is eaten by another animal
species	Organisms that have lots of characteristics in common, and can mate to produce fertile offspring.

Discontinuous Variation

Characteristics that can be put into groups, where it can only result in certain values.

Examples include **blood group**, **eye colour** and **earlobe shape**.

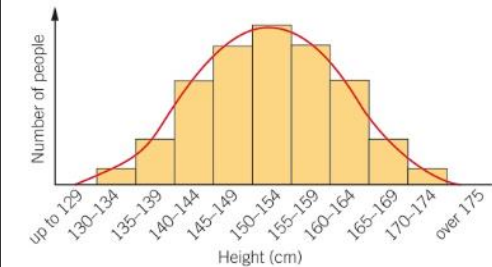
Discontinuous data is always plotted on a **bar chart**.



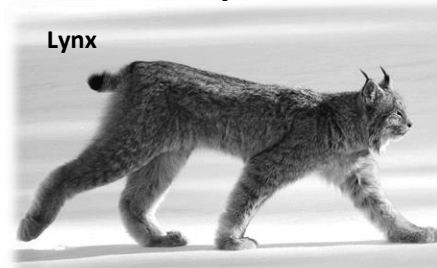
Continuous Variation

Characteristics that can take any value within a range e.g. **height**, **body mass** and **arm span**.

Continuous data should be plotted on a **histogram**. This type of variation usually produces a curve known as a **normal distribution**.



Animal Adaptations:



Lynx

Adaptations of **predators**

- Forward facing eyes
- Sharp teeth
- Sharp claws
- Powerful legs
- Camouflage



Snowshoe Hare

Adaptations of **Prey**

- Side facing eyes
- Sharp teeth
- Camouflage
- May have defences e.g. horns

Plant Adaptations:



Adaptations of Plants to hot conditions

- No leaves
- Spines
- Small surface area

Be REFLECTIVE: Review
your Learning



BIOLOGY: Ecosystems - Interdependence

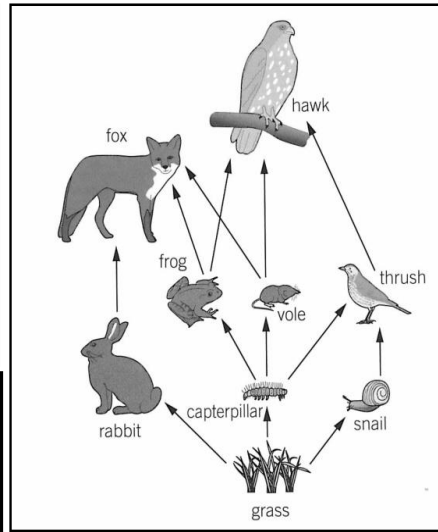
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FOOD CHAINS

Food chains show what an organism eats. They show the transfer of energy between organisms.

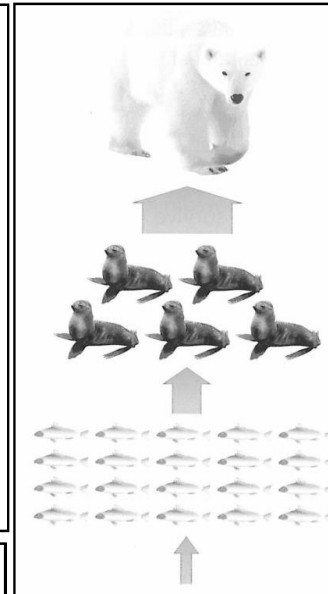


As energy is transferred along the food chain some is transferred to the surroundings as heat and waste. This means that at each level of the food chain less energy is transferred to the organism in the level above.



FOOD WEBS

Show a set of linked food chains. This is a more realistic way to consider feeding relationships, as most animals eat more than one type of organism.



BIOACCUMULATION

The build up of toxic chemicals inside organisms in a food chain

Keyword	Definition
Producer	Organisms (plants and algae) that make their own food.
Consumer	Organisms (like animals) that have to eat other organisms to survive.
Predator	An animal that eats another animal
Prey	An animal that is eaten
Herbivore	An animal that only eats plants
Carnivore	An animal that only eats animals
Omnivore	An animal that eats both plants and other animals
Decomposer	Organisms (bacteria & fungi) that break down dead plant and animal material

INTERDEPENDENCE

Organisms in a food web depend on each other for survival. The population size of one organism can have a direct effect on the population size of another organism. For example, in the food web shown on this page, if the number of rabbits decreased due to disease, the number of foxes would also decrease as they would have less to eat.

COMPETITION

In a habitat there is a limited supply of resources, such as food, water and space. To survive, animals compete with each other for these resources.

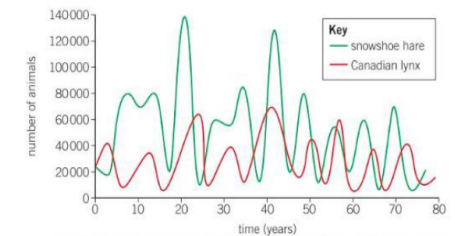
Animals compete for:

- Food, water, space (hunting and shelter) and mates (reproduction).

Plants compete for:

- Light, water, space and minerals.

Predator-Prey relationships



Predator-prey graph showing the interdependence of the lynx and the hare.

When a predator feeds on one type of prey, there is an interdependence between the predator population and the prey population.

- When there is lots of prey, the population of the predator increases.
- The large predator population then causes the prey population to decrease.
- There is now not enough for all the predators so the predator population decreases
- They prey population will now increase as less are eaten.
- The cycle starts again

Keyword	Definition
Ecosystem	Living organisms in a particular area, and the habitat they live in.
Population	The number of animals or plants of the same species that live in the same area.
Community	Plants and animals found in a particular habitat.
Habitat	Place where a plant or animal lives.
Niche	A particular place or role that an organism has in an ecosystem
Competition	Competing with other organisms for resources



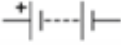






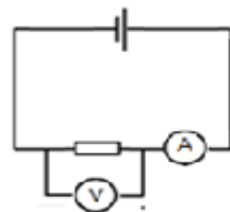
PHYSICS: ELECTROMAGNETS

Be REFLECTIVE: Review your learning

Name: _____

Key Word	Definition
Cell	An electrical cell is a chemical store of energy which provides the push that moves charge around a circuit.
Battery	Two or more electrical cells joined together.
Potential difference	Is the energy transferred (or work done) when a coulomb of charge passes between two points in an electric circuit. Measured in volts, (V)
Voltmeter	A device for measuring potential difference.
Rating	The value of potential difference at which a cell or bulb operates.
Resistance	Resistance is caused by anything that opposes the flow of electric charge, measured in ohms, (Ω)
Electrical conductor	A material that allows current to flow through it easily, has a low resistance.
Electrical insulator	A material that does not allow current to flow easily, and has a high resistance.
Series	A circuit with only one route for charge to take. The components are in the circuit are in the same loop.
Parallel	A circuit with more than route for charge to take. Some components are in separate loops.
Current	Flow of electric charge, usually electrons, measured in amperes (A)
Ammeter	A device for measuring electric current in a circuit
Electric charge	Charge is a property of a particle. It can either be positive or negative.
Electrostatic force	Non-contact force between two charged objects
Electric field	A region where a charged material or particle experiences a force.

Circuit Symbols	
Symbol	Name
	Switch (open)
	Cell
	Battery
	Resistor
	Bulb
	Voltmeter
	Ammeter



The **Ammeter** must be placed in series and placed anywhere in the circuit.

The **Voltmeter** must be placed in parallel around the component (so that it can compare the energy the charge has before and after passing through the component.)

Potential difference

The cell or battery provides the push to make charges move. The push is called a **potential difference**.

The potential difference tells you:

- Size of the force on the charges
- Energy transferred by the cell to the charges
- The energy transferred by the charges to the components in the circuit.



The rope represents the charge, the person pulling the charge is like the battery. A larger potential difference across the cell is like the "battery" person pulling harder.

Be REFLECTIVE: Review your learning

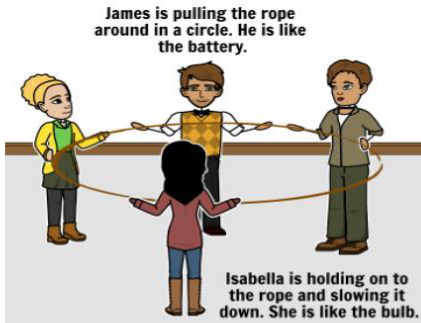


PHYSICS: ELECTROMAGNETS

Name: _____

Resistance

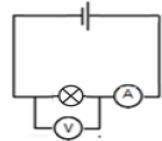
Each circuit component has a different resistance. This tells you how easy or difficult it is for the charges to pass through the component. The charge starts flowing everywhere at the same time.



Isabella is holding onto the rope and slowing it down. She is like a bulb, the bulb has a resistance.

Resistance is measured in ohms, (Ω) and you can use an Ammeter and a Voltmeter to find the resistance of a bulb.

$$\text{Resistance } (\Omega) = \frac{\text{Potential difference (V)}}{\text{current (A)}}$$

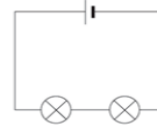


The flow of charge

Electrons are small negative particles that transfer energy. They can only transfer energy if they are free to move. **ELECTRICAL CONDUCTING** materials like copper and aluminium have a low resistance and allow electrons to move so a current can flow. Non-conducting materials like plastic have a high resistance and don't allow electrons to move. These materials are called **ELECTRICAL INSULATORS**.

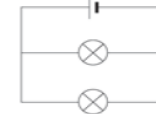
Series Circuit

The circuit components are all lined up within 1 single loop. If one component breaks the electrons can no longer flow

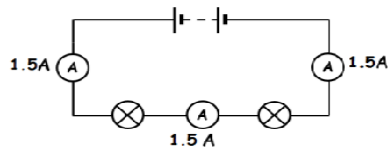
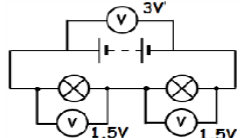
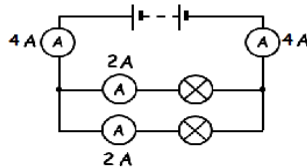
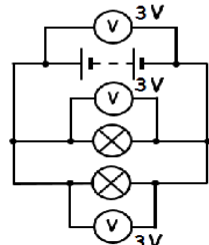


Parallel Circuit

The circuit components are on different loops within the circuit. If one component breaks the current can still flow



What happens to potential difference and current in series and parallel circuits?

	Current	Potential difference
Series 	Current same everywhere	Potential difference is shared across each component. 
Parallel 	Total current through the whole circuit is the sum of the currents through the separate components .	Potential difference is the same across each component 

Be **REFLECTIVE**: Review your learning



PHYSICS: ELECTROMAGNETS

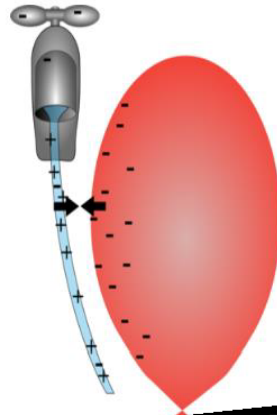
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Charging up

Everything is made of particles called atoms. Atoms are made up of protons (positively charged), electrons (negatively charged) and neutrons (no charge). Atoms contain equal numbers of protons and electrons so overall an atom has no charge, it is **neutral**.

Blow up a balloon and rub it on your jumper. Some electrons are **transferred** from the jumper to the balloon.

- The balloon now has more electrons than protons
- The balloon is charged up.
- Now place the balloon next to a slow running tap. What happens?

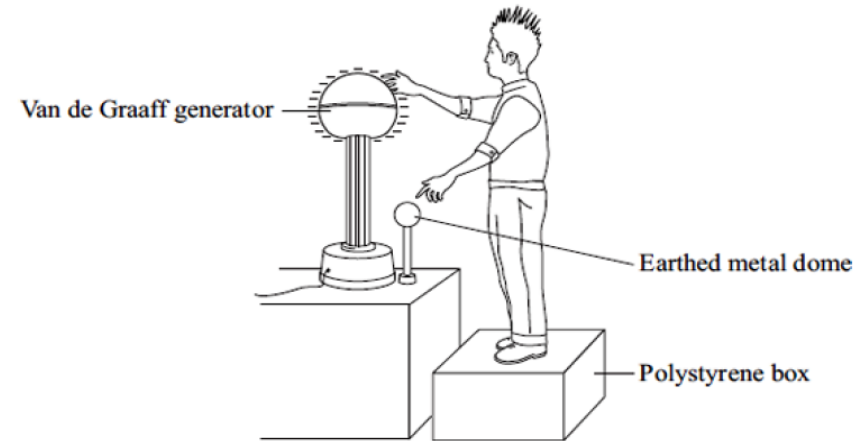


Do try this at home

Charged particles **attract** or **repel** each other. There is an **electrostatic force** between charges.

- **Positive** charges repel **positive** charges.
- **Negative** charges repel **negative** charges.
- **Positive** charges attract **negative** charges.

Van de Graaff Generator



When the Van de Graaff generator is switched on, each hair gains the same negative charge. Similar charges **repel** so the student's hair stands on end.

Electric field

There is an **electric field** around a charge. If you put a charged object in an electric field, a force will act on it. The electric field strength decreases as you move away from the charge.



Key vocabulary

Energy	Associated with changes in temperature or with work
Joule	The unit of energy, symbol J.
Law of conservation of energy	Energy cannot be created or destroyed, only transferred.
Chemical energy store	Energy stored in the bonds of substances.
Thermal energy store	Energy in objects as a result of the motion of their particles
Kinetic energy store	Energy of moving objects.
Gravitational potential energy store	Energy of due to the position of an object in a gravitational field.
Elastic potential energy store	Energy stored when objects change shape.
Dissipation	Becoming spread out wastefully
Lubrication	Reduces friction by using oil or grease
Streamlining	Reduces air resistance (by reducing drag or resistance to motion.
Work	A way of transferring energy that does not involve heating.
Simple machine	A simple machine makes it easier to lift, move or turn things by reducing the force required to do the job.
Lever	A simple machine that multiplies the force.
Gear	A rotating lever that reduces the force required to do work.

Key facts

The **Law of conservation of energy** states that energy cannot be created or destroyed, only transferred from one store to another. So the total energy change has the same value before and after a change.

Five important energy stores are **chemical, thermal, kinetic, gravitational potential and elastic.**

Energy to do with...	Type of store
food, fuels, batteries	chemical
hot objects	thermal
moving objects	kinetic
position in a gravitational field	gravitational potential
changing shape, stretching, or squashing	elastic

When energy is transferred, it moves from one store to another, but the total amount of energy does not change. E.g. lifting a book empties chemical store in the person and fills gravitational potential energy store of book.

Energy is **dissipated** when it is transferred to the thermal store of the surroundings. This energy is **wasted** because it is difficult to use for a useful purpose.

You can show how much energy is transferred usefully using the ideas of **efficiency**:

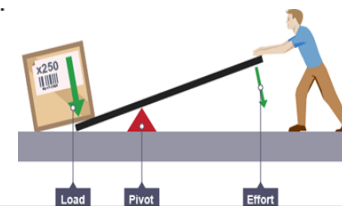
$$\text{Efficiency (\%)} = \frac{\text{useful energy}}{\text{energy input}} \times 100$$

You can reduce energy dissipation in a car by reducing air resistance using **stream lining** or reducing friction in the engine by **lubrication**.

Energy can be transferred by doing **work**. For instance you do work by lifting a book against gravity. Work done (J) = force (N) × distance (m). A simple machine makes it easier to lift things, move things, or turn things. It reduces the force that you need do a job, or increases the distance that something moves when you apply a force.

The **gear** system on a bike is a **simple machine**.

Levers can be used to multiply an input force by increasing the distance from which the force is applied





Section 1: Acids and alkalis Key Terms

Chemical reaction	A change in which atoms are rearranged to create new substances.
Reversible	A change in which it is possible to get back to the original substances.
Physical change	A change that is reversible , in which new substances are not made.
Acid	A solution with a pH value of less than 7 .
Alkali	An alkali is a soluble base .
Base	A substance that neutralises an acid.
Corrosive	A substance is corrosive if it can burn your skin or eyes.
Irritant	A substance that makes your skin itch or swell up a little.
Concentrated	A solution is concentrated if it has a large number of solute particles per unit volume.
Dilute	A solution is dilute if it has a small number of solute particles per unit volume.
Indicator	Substance used to identify whether unknown substances are acidic or alkaline.
Litmus	An indicator that changes colour upon addition of acid or alkali.
Universal indicator	An indicator that changes colour upon addition of acid or alkali (shows the pH of a solution).
pH scale	Shows whether a substance is acidic, neutral or alkaline.
Neutral	An object or particle that has no charge
Strong acid	An acid in which all of its particles have split up when it dissolves in water.
Weak acid	An acid in which only some of the acid particles split up when it dissolves in water.
Neutralisation	In a neutralisation reaction, an acid cancels out a base (or vice versa).
Salt	A compound in which the hydrogen atoms of an acid are replaced by atoms of a metal element.

Section 2: Chemical reactions

Chemical reactions involve a change where atoms are rearranged to create new substances. They are **not** easily **reversible**. They also **transfer energy** to or from the surroundings. Chemical reactions are useful because they make many useful substances like medicines, fabrics and building materials. Not all changes involve chemical reactions. Changes of state and dissolving are reversible but do not result in new substances being made. These are examples of **physical changes**.

Section 3: Acids and alkalis

When handling acids and alkalis in the lab, we need to take into account any safety precautions. You can wear goggles to protect your eyes, and gloves to keep solutions off your skin.



corrosive



irritant

Concentrated acids are corrosive. If an acid is dilute (lots of water added) then it will be an irritant.

The hazards depend upon the acid/alkali you use and whether the solution is concentrated or dilute.

Section 4: Indicators and pH

You can use an indicator to find out whether a solution is acidic or alkaline. The dye turns a different colour in acidic and alkaline conditions.

Indicators	Colour in dilute hydrochloric acid	Colour in dilute sodium hydroxide
Juice extracted from red cabbage	Red	Yellow/green
Juice extracted from Beetroot	Red/purple	yellow
Red Litmus	Red	blue
Blue litmus	Red	blue

Universal indicator changes colour upon addition of acid or alkali. A pH of less than 7 is acidic, the lower the pH the more acidic the solution. A pH of 7 is neutral. Above 7 is alkaline and the higher the pH the more alkaline it is.

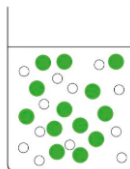




Section 5: Acid strength

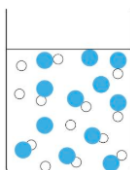
Hydrochloric acid, sulphuric acid and nitric acid are **strong acids** because all of their particles split up when dissolved in water.

all particles have split up



Citric acid (in lemons) and Ethanoic acid (present in vinegar) are **weak acids** because only some of their particles split up when they dissolve in water.

Only some of the particles have split up



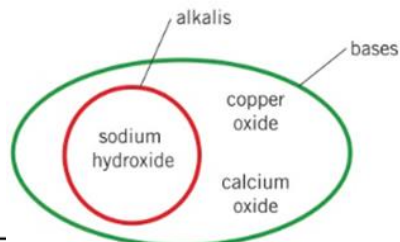
Concentration is the amount of acid dissolved in water to make 1 litre of solution. It's a measure of the number of particles in a given volume of solution.

More concentrated solutions of acids have lower pH
Less concentrated solutions have higher pH.
If the concentration is the same, then strong acids will have a lower pH than weaker acids.

Section 6: Neutralisation

When an acid reacts with an alkali, a neutralisation reaction occurs. The acid has cancelled out the alkali and the pH is 7.

A **base** is a substance that **neutralises an acid**. Some bases dissolve in water. A **soluble base** is called an **alkali**.



How is neutralisation **useful**?

Neutralising acidic crops (creates suitable conditions for growing crops like tea.)
Neutralise acidic lakes

Section 7: Making salts

When a neutralisation reaction happens a **salt** is made

A salt is a substance that forms in the chemical reaction of an acid with:

- A metal
- a suitable metal, metal carbonate, metal oxide or metal hydroxide is reacted with acid

With metal
Acid + Metal \rightarrow **Salt** + Hydrogen
Hydrochloric + magnesium \rightarrow **magnesium chloride** + hydrogen acid

With alkali
Acid + Metal Hydroxide \rightarrow **Salt** + Water
Hydrochloric + sodium \rightarrow **sodium chloride** + water acid hydroxide

With a base (metal oxide)
Acid + Metal Oxide \rightarrow **Salt** + Water
Sulfuric + copper \rightarrow **copper sulfate** + water acid oxide

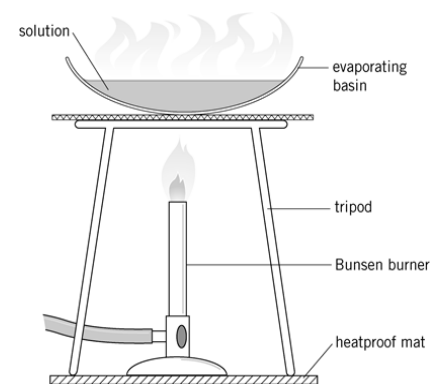
Section 8: Making crystals of salts

Crystals of salt are made by removing water from salt solutions using filtration and evaporation.

Crystallisation

Pure dry crystals can be obtained from solution by:

- **Add solid** metal, metal oxide or metal hydroxide **to an acid**.
- Add solid **until no more reacts**.
- **Filter** off excess unreacted solid.
- **Evaporate** to remove some of the water.
- Leave to **crystallise in an evaporating basin**.
- Filter the crystals and leave to dry in air.



Be REFLECTIVE: Review your learning



Chemistry: Metals and non-metals

Name: _____

Key word	Definition
Element	a substance that cannot be broken down in to other substances. Contains one type of atom.
Periodic table	A table of all the elements, in which elements with the similar properties are grouped together.
Chemical symbol	A one or two letter code for an element.
Metal	Elements on the left hand side of the periodic table. Shiny, most are good conductors of heat & electricity.
Non-metal	Elements on the right hand side of the periodic table. Dull, most are poor conductors of heat and electricity.
Physical property	A property of a material that you can observe or measure.
Chemical property	How a substance behaves in its chemical reactions.
Oxide	A substance made up of a metal or non-metal element joined to oxygen.
Oxidation	A chemical reaction in which a substance combines with oxygen.
Ductile	Can be drawn out into wires.
Malleable	Can be hammered into shape.
Reactant	A starting substance in a chemical reaction.
Product	A substance that is made in a chemical reaction.
Salt	A compound in which the hydrogen atoms of an acid are replaced by atoms of a metal element.
Reactive	A substance is reactive if it reacts vigorously with substances.
Reactivity series	A list of metals in order of how vigorously they react.
Displacement	Reaction where a more reactive metal takes the place of a less reactive metal in a compound.

Properties of metals and non-metals

Metals are on the **left** of the stepped line in the periodic table, non-metals are on the **right**.

Metals have high melting points (**except Mercury** which is a liquid), are shiny, most are good conductors of heat and electricity, high density, malleable and ductile.

Non-metals have low melting points, are dull, most are poor conductors of heat and electricity, have low density and are brittle.

Reactions: Metals + acids

General equation: Metal + Acid → Salt + hydrogen gas

Example (*words*): Iron + Hydrochloric acid → Iron chloride + Hydrogen

Observation: Bubbles / Fizzing (as hydrogen gas produced)

Reactions: Metals + oxygen

General equation: Metal + Oxygen → Metal oxide

Example (*words*): Calcium + Oxygen → Calcium Oxide

Observation: Metals with oxide layers can be dull not shiny and when reacting with oxygen they can glow bright and give off heat, e.g. Magnesium burning

Reactions: Metals + water

General equation: Metal + water → metal hydroxide + hydrogen gas

Example (*words*): Calcium + water → Calcium hydroxide + Hydrogen

Observation: Bubbles / Fizzing (as hydrogen gas produced)

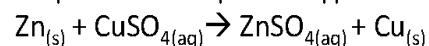
Magnesium reacts very **slowly with water** to produce the metal hydroxide and hydrogen, but it reacts **quickly with steam** to give the metal oxide and hydrogen.

Magnesium + water → Magnesium oxide + Hydrogen

Reactions: Displacement reactions

Using the **reactivity series** a more reactive metal will **displace** a less reactive metals from their compounds.

Example: Zinc + Copper sulphate → Zinc sulphate + Copper



Observation: Iron metal forming (zinc more reactive than copper so it displaces it.)


A reaction with a less reactive metal will not work.

E.g. Thermite reaction mixes 2 powders & heating them strongly. It's a very exothermic reaction.

When metals react they do so differently. The nearer the top of the reactivity series the more reactive they are.

Reactivity series

REACTIVE
Potassium
Sodium
Lithium
Calcium
Magnesium
Aluminium
Carbon
Zinc
Iron
Lead
Hydrogen
Copper
Silver
Gold
UNREACTIVE

1. Background – The Crusades	2. Saladin	3. Battle of Hattin (1187)
<p>The Holy Land – the area including Jerusalem and the surrounding area is an important religious site for three world religions (Christianity, Islam and Judaism)</p> <p>First Crusade – was an attempt by Christians to seize control of Jerusalem and the Holy Land at the end of the 11th century</p> <p>Siege of Jerusalem (1099) – the First Crusade captured Jerusalem massacring its inhabitants and pillaging the city</p> <p>Crusader States – following the success of the First Crusade four crusader states were established in the Holy Land to consolidate Christian control over the region</p> <p>Second Crusade (1147-49) – was launched after the Turkish general Zeng captured the city of Edessa in the Holy Land. However, this crusade was much less successful and failed to recapture Edessa</p>	<p>1137/38 – Saladin was born in Tikrit in modern day Iraq</p> <p>1148 – witnesses the major battle between Muslim forces and the 2nd Crusade at Damascus</p> <p>1168/69 – now part of the Syrian army of Nur al-Din he helps his uncle Shirkuh to conquer Cairo</p> 	<ul style="list-style-type: none"> • By 1187 Saladin was powerful enough to challenge the Crusaders for control over the Holy Land • There had been increasing tension between Christians and Muslims partly due to the behaviour of Reynald of Chatillon • Reynald had enraged Saladin and many other Muslims by attacking pilgrims journeying to the Holy city of Mecca • Saladin gathered a huge army of 30,000 men, half of which was made up of cavalry, he was determined to drive the Christians out of the region • Saladin successfully lured the Crusaders into an ambush at the battle of Hattin in July 1187. The Crusaders army which consisted of 20,000 men was almost completely destroyed
<p>Saladin – as a young boy growing up in Damascus Saladin witnessed the major defeat of the Second Crusade. His older brother Shahanshah was killed in the fighting.</p>	<p>1170 – following the death of his uncle he is chosen as the new leader (vizier) of Egypt</p> <p>1174 – Nur al-Din, Syrian leader, dies and Saladin sees an opportunity to unite the Muslims of the Middle East in a Holy War against the Crusaders</p> <p>1174-83 – Saladin takes over cities in Syria ready for his confrontation with the Christians</p>	<ul style="list-style-type: none"> • Saladin personally cut off the head of his greatest enemy, Reynald of Chatillon • Jerusalem was now at the mercy of Saladin and he was able to advance upon the city ready to seize it back from the Crusaders almost 100 years after its capture during the First Crusade

1. Retaking Jerusalem

20th September 1187 – Saladin arrives outside the city walls of Jerusalem

Siege of Jerusalem – Saladin’s forces attacked the city walls using Mangonels and burning underneath their foundations



Map of the Holy Land at the time of the Third Crusade

Negotiations – by October 1187 the city walls had been breached and Saladin began negotiations for the surrender of Jerusalem

Saladin the merciful – Saladin was keen to avoid the bloodshed that had occurred when the crusaders had taken Jerusalem almost one hundred years before

Ransom – after a ransom of 30,000 dinars was paid the inhabitants of the city were allowed to leave without harm

2. The Third Crusade

Launching the crusade – the news that Jerusalem had fallen to Saladin was greeted with great shock in Europe

-Pope Gregory VIII launched the Third Crusade to retake the Holy City and the kings of Germany, France and England all agreed to participate

Richard vs Saladin

- The Third Crusade became a battle between Richard the Lionheart (English king) and Saladin
- Richard arrived in the Holy Land in 1191 and helped the Crusaders to take the city of Acre
- Richard then attempted to march south and take back Jerusalem for Christianity but his path was blocked by Saladin’s army
- The winter of 1191-92 developed into a stalemate with Richard unable to advance on Jerusalem, eventually an exhausted Richard decided to return back to Europe on 9th October 1192
- The Third Crusade was over and Jerusalem remained under the control of Saladin
- Saladin was also exhausted after years of conflict with the Crusaders and on 4th March 1193 he died
- The legend of Saladin suggests that he died virtually penniless

3. Why was Saladin so successful?

a) Trust – Saladin kept his word which helped to build trust from his followers


b) Ruthlessness – although his reputation suggests that Saladin treated his enemies with respect he could be ruthless when required, e.g. he had two of his enemies crucified in Cairo

c) Luck – the death of his uncle, Shirkuh, and the ruler of Syria, Nur al-Din, were both fortunate for Saladin and helped him to build his power base



d) Merciful – following his victories Saladin was careful not to slaughter and plunder his enemies he understood that if you humiliated your rivals you would turn them into a permanent enemy



Knowledge Organiser – Mansa Musa and the Mali Empire

1. Reasons for the success of the Mali Empire	2. The Great Hajj (1324)	3. Timbuktu
<p>Geography – Mali was a fertile country and its people could grow enough food for themselves and have surplus to trade. They learned how to use weapons from iron and horses for transport. This helped them to create powerful armies</p> <p>Trade – Mali sold Gold and Salt to North African traders and bought silks from China, spices from India and Persian fabrics</p> <p>Islam – a common religion helped to tie the different peoples who were part of the empire together</p>	<p>1324 – Mansa Musa sets out on a religious pilgrimage to Mecca, the journey covered about 3,000 miles</p> <p>The emperor took 60,000 followers (including 8,000 soldiers) , 80 camels and 300lbs of gold with him</p>	<p>Mansa Musa wanted the city of Timbuktu to be his greatest legacy</p> <p>He paid the architect Al-Sahili to build a new mosque in the city</p> <p>Timbuktu became a centre for learning with thousands of manuscripts in its famous libraries</p> <p>The city became like a medieval European university and attracted students and academics from across West and North Africa</p> <p>Timbuktu became known as the ‘pearl of Africa’</p>
<p>Security – Mansa Musa protected his people and traders from attack helping to increase the flow of trade</p> <p>Propaganda – Mansa Musa used griots (musicians and poets) to spread stories about the empire across West Africa</p>	<p style="text-align: center;">Mansa Musa</p>  <p>In July 1324 he spent the summer in Cairo and gave so much gold away as gifts that the precious metal started to lose its value in Egypt</p> <p>During his time in Mecca he spent time with other worshippers and met great Islamic scholars and Imams. He invited some of them to return to Mali with him.</p>	<p style="text-align: center;">4. The Decline of the Empire</p> <p>Following Mansa Musa’s death the Mali Empire broke apart losing territory including Timbuktu</p> <p>Eventually West Africa was taken over by European powers and Mali became a French colony</p>

Knowledge Organiser – 1. Start of the Tudor dynasty

The Wars of the Roses	Battle of Bosworth (1485)	Henry 7 th
<ul style="list-style-type: none"> In the 15th century two rival English families, the House of Lancaster and the House of York fought for control of the English crown 1461 Battle of Towton – Edward IV (Yorkist) destroyed the Lancastrian army and seized the throne for the House of York Edward died in 1483 	<ul style="list-style-type: none"> In August 1485 Henry Tudor (House of Lancaster) invaded England and attacked Richard The key battle took place at Bosworth in Leicestershire on 20th August 1485 Richard's forces were defeated by Henry's army and Richard was killed on the battlefield Henry VII became the first Tudor monarch 	<ul style="list-style-type: none"> Henry VII was aware that he was vulnerable during his early years as king He took a number of steps to ensure that he was not overthrown or challenged: <ol style="list-style-type: none"> He married a rival – even though he was a Lancastrian Henry married Elizabeth of York (the sister of Richard III) thus uniting the two families He banned private armies – many of the powerful noble families in England had their own private armies that they could use to challenge Henry – so the king passed a law banning private armies He made sure he had the best weapons – Henry made sure he had the best cannons in England as these were the most feared and destructive weapon in the late 15th century He forced people to give him money – Henry made the rich people in England pay him heavy taxes He made alliances with other countries – to avoid any challenges from abroad Henry made alliances with foreign powers through marriage e.g. to form an alliance with Spain Henry's eldest son (Arthur) was married to the Spanish princess, Catherine of Aragon and when Artur died he got his younger son Henry to marry her as well He made sure everyone knew he was king - he created a new Tudor rose symbol and this appeared everywhere across his kingdom in churches, paintings, palaces and cathedrals, by the time of his death in 1509 England was at peace and the throne was safe
<p>The Princes in the Tower</p> <ul style="list-style-type: none"> When he died Edward had two sons Edward (aged 12) and Richard (aged 10) The plan was for his eldest son Edward to become the next king – but Edward IV's brother Richard (Duke of Gloucester) was named the boy's Protector – to help him to rule whilst he was young However, the two young princes were taken to the Tower of London and disappeared Richard then crowned himself king of England – Richard III Many historians suspect that Richard may have murdered the princes but there is no clear evidence for this 	 <p>Henry VII first Tudor monarch</p>	
 <p>Richard III</p>	<p>The king in the car park</p> <ul style="list-style-type: none"> In September 2012 Richard III's bones were discovered beneath a car park in Leicester Local archaeologists tracked down his remains to site of the old Greyfriars monastery which had been demolished in 1538 The king's skeleton bore the traces of ten wounds, including two lethal blows to his skull, and DNA tests proved that the bones were his Thousands of people came to see his coffin In 2015 Richard was buried in Leicester Cathedral and huge crowds came to pay their final respects 	

Knowledge Organiser Year 7 Topic 1

'How did we get here?'

Key words and Secular language	
Secular	not connected with religious or spiritual matters
Philosophy	Philosophy comes from the Greek word meaning 'the love of knowledge'. It is the study of the basic ideas about knowledge, right and wrong, reasoning, and the value of things.
Humanism,	Humanists believe that human experience and rational thinking provide the only source of both knowledge and a moral code to live by. They reject the idea of knowledge 'revealed' to human beings by gods, or in special books
Monotheism	the doctrine or belief that there is only one God
Polytheism	The belief in or worship of more than one god.
Creationism	the belief that God created all things out of nothing as described in the Bible and that therefore the theory of evolution is incorrect
cosmological	relating to the origin and development of the universe
Revelation	the divine or supernatural disclosure to humans of something relating to human existence
Evolution	The process by which different kinds of living organism are believed to have developed from earlier forms during the history of the earth.
Natural Selection	Natural selection means that some individuals in a species are better at surviving than others and will have more children
Big Bang	the cosmic explosion that marked the beginning of the universe according to the big bang theory
Red shift	It is a result of the space between the Earth and the galaxies expanding. This expansion stretches out the light waves during their journey to us, shifting them towards the red end of the spectrum. The more red-shifted the light from a galaxy is, the faster the galaxy is moving away from Earth.
Einstein	Albert Einstein was a German-born theoretical physicist, widely acknowledged to be one of the greatest physicists of all time. Einstein is known for developing the theory of relativity
Dawkins	Richard Dawkins FR5 FRSL is a British evolutionary biologist and author
Darwin	Charles Robert Darwin FR5 FRGS FLS FZS was an English naturalist, geologist and biologist, best known for his contributions to the science of evolution
Darwinism	Darwinism is a theory of biological evolution developed by the English naturalist Charles Darwin and others, stating that all species of organisms arise and develop through the natural selection of small, inherited variations that increase the individual's ability to compete, survive, and reproduce

Hinduism, Buddhism and Sikhism	
Ahimsa	Hindu and Buddhist practice of non-injury to living things; the rule of non-violence
Deity	a god or goddess (in a polytheistic religion).
Hinduism	<i>Hinduism</i> is an Indian religion, which has many gods and teaches that people have another life on earth after they die.
Trimurti	in Hinduism, triad of the three gods Brahma, Vishnu, and Shiva.
Brahman	the ultimate reality underlying all phenomena in the Hindu scriptures "Brahman is formless but is the birthplace of all forms in visible reality"
Bhrama	a Hindu god: in later Hindu tradition, the Creator who, with Vishnu, the Preserver, and Shiva, the Destroyer, constitutes the triad known as the Trimurti
Vishnu	the second god in the Hindu trumvirate (or Trimurti). ... Vishnu is the preserver and protector of the universe. His role is to return to the earth in troubled times and restore the balance of good and evil
Shiva	One of the principal Hindu deities, worshiped as the destroyer and restorer of worlds and in numerous other forms
Buddhism	a religion, originated in India by Buddha (Gautama) and later spreading to China, Burma, Japan, Tibet, and parts of southeast Asia, holding that life is full of suffering caused by desire and that the way to end this suffering is through enlightenment.
Enlightenment	the state of having knowledge or understanding
Buddha	<i>Buddha</i> is the title given to Gautama Siddhartha, the religious teacher and founder of <i>Buddhism</i>
Dalai Lama	the spiritual head of Tibetan Buddhism and, until the establishment of Chinese communist rule, the spiritual and temporal ruler of Tibet
Sikhism	a monotheistic religion founded in Punjab in the 15th century by Guru Nanak
Guru Granth Sahib	The sacred text of Sikhism, considered by Sikhs as the eleventh and final <i>guru</i> and as the repository of God's revelation to humankind
Guru Nanak	Indian religious leader who founded Sikhism
Gurus	an influential teacher

Abrahamic religions—Christianity, Judaism and Islam	
Abrahamic religions	Islam, Christianity and Judaism are the three main Abrahamic religions because Abraham - or Ibrahim - is important to them all. They consider him an important prophet or father figure.
Islam	Islam, major world religion that emphasizes monotheism, the unity of God ('Allah' in Arabic), and Muhammad (PBUH) as his final messenger in a series of revelations.
Christianity	Christianity is the most widely practiced religion in the world, with more than 2 billion followers. The Christian faith centers on beliefs regarding the birth, life, death and resurrection of Jesus Christ
Judaism	Judaism is the world's oldest monotheistic religion, dating back nearly 4,000 years. Followers of Judaism believe in one God who revealed himself through ancient prophets.
Quran	the Islamic sacred book, believed to be the word of God as dictated to Muhammad by the archangel Gabriel and written down in Arabic.
Bible	the Christian scriptures, consisting of the Old and New Testaments
Tanakh	The Jewish Bible is known in Hebrew as the Tanakh, an acronym of the three sets of books which comprise it: the Pentateuch (Torah), the Prophets (Nevi'im) and the Writings (Ketuvim).
stewardship	the job of supervising or taking care of something
Dominion	ruling or controlling power
Genesis	The Book of Genesis is the first book of the Hebrew Bible and the Christian Old Testament. In Judeo-Christian traditions it is viewed as an account of the creation
Eden	the garden where according to the account in Genesis Adam and Eve first lived
Adam & Eve/Hawa	Adam and Eve (Hawa in Islam) are the Bible's first man and first woman. Adam's name appears first in Genesis 1 with a collective sense, as "mankind"

Knowledge Organiser: Topic 2—'How should we care for the environment?'

Key words		
1	Stewardship	The basis that God owns the world as seen in Genesis but has given humans the responsibility to look after, and care for, the world.
2	Dominion	The idea that God allows us to rule over his creation. It still does not mean we own it but can use it.
3	Instrumental worth	Having value based on its usefulness (usually to humans due to anthropocentrism).
4	Intrinsic worth	Having value in itself, not due to usefulness.
5	Humanism	The idea that the scientific method, evidence, and reason ought to be used to discover truths about the universe and thus human welfare and happiness are at the centre of their ethical decision making.
6	Sanctity of Life	The idea that all HUMAN life has value and so therefore we need to care for all.
7	Ahimsa	The concept of 'non-violence' within the Vedic religions e.g. Hinduism and Buddhism.
8	Halal	Means to be 'permissible' under Islamic law and haram means to be 'not permissible' according to Islamic law.
9	Ecological sin	Pope Francis has shown a care for the environment by stating that not caring for the world is sinful (sin = going against God).
10	Sustainability	Avoidance of the depletion of natural resources in order to maintain an ecological balance; not wasting things and conserving for the future.

Key Knowledge on the environment		
1	Stewardship	A good example of stewardship is a steward at a sports match/concert- the look after the people on behalf of the company; we look after God's creation on his behalf.
2	Dominion	The idea that God allows us to rule over his creation Some say to do as we see fit but this is often tied to stewardship and therefore requires an element of compassion. Stewardship is about being responsible for the care of the planet.
3	Sanctity of life	The belief that all human life has value and therefore needs to be cared for. This concept can be linked to stewardship e.g using air con excessively and other western luxuries have an impact on LEDCs. It is only about humans.
4	Green Christians	These are Christians who respond to the ecological crisis that they believe has deepened so they seek to live more gently on the earth, and lessen their impact on God's creation as a whole.
5	Environmental rights	Having access to the unspoiled natural resources that enable survival, including land, shelter, food, water and air.

Key Knowledge on animals

1	Ahimsa	The concept of 'non-violence' within the Vedic religions e.g. Hinduism and Buddhism. In Buddhism, this links to the First Moral Precept of 'abstain from harming any living thing' as it causes dukkha (suffering) which is an unskillful action. In Hinduism, all living beings have souls therefore it is wrong to harm.
2	Halal	Means to be 'permissible' under Islamic law and haram means to be 'not permissible'. In the context of food, there are several rules regarding this that reflect the Qu'ran and Sharia law. The most famous are the methods of slaughter but some food is forbidden too such as pork.
3	RSPCA view on the slaughter of animals	They think that animals should only be killed if it is as free from suffering as possible. "We're opposed to the slaughter of any animal without first ensuring it is... stunned prior to slaughter. Evidence clearly indicates that slaughter without pre-stunning can cause unnecessary suffering."
4	Animal rights	This refers to the idea that animals deserve certain kinds of consideration—consideration of what is in their best interests.
5	Greenpeace	Greenpeace is an organisation and movement of people who are passionate about defending the natural world from destruction. Their vision is a greener, healthier and more peaceful planet, one that can sustain life for generations to come.

Knowledge Organiser: Topic 3—'How should we treat each other?'

Key words		Vedic Religions—Hinduism, Buddhism and Sikhism	
Equality	the state of being equal, especially in status, rights, or opportunities.	Ahimsa	Hindu and Buddhist practice of on-injury to living things; the rule of non-violence
Equanimity	This means an equal attitude towards everyone.	Diety	a god or goddess (in a polytheistic religion).
Personal Conviction	These are your own strong beliefs and views. What you know and feel to be right.	Trimurti	in Hinduism, triad of the three gods Brahma, Vishnu, and Shiva.
Discrimination	The act of treating others differently because of their race, religion, gender, age or disability.	Brahman	the ultimate reality underlying all phenomena in the Hindu scriptures "Brahman is formless but is the birthplace of all forms in visible reality"
Peaceful Protest	Protesting for any given cause without resorting to violence.	Langar	The Sikh practice of sharing food with the community.
Parables	a simple story used to illustrate a moral or spiritual lesson, as told by Jesus in the Gospels.	Sewa	In Hinduism and Sikhism, is a selfless service that is performed without any expectation of result or award for performing it. Such services can be performed to benefit other human beings or society
Humanist	Humanists stand for the building of a more humane, just, compassionate, and democratic society using a pragmatic ethics based on human reason, experience, and reliable knowledge—an ethics that judges the consequences of human actions by the well-being of all life on Earth	Reincarnation	the rebirth of a soul in another body.
Human rights	a right which is believed to belong to every person.	Enlightenment	the state of having knowledge or understanding
		Atman	In Hinduism, the spiritual life principle of the universe, especially when regarded as immanent in the individual's real self.
		Nirvana	(in Buddhism) a transcendent state in which there is neither suffering, desire, nor sense of self, and the subject is released from the effects of karma and the cycle of death and rebirth. It represents the final goal of Buddhism.
		Guru Granth Sahib	The sacred text of Sikhism, considered by Sikhs as the eleventh and final guru and as the repository of God's revelation to humankind
		Guru Nanak	Indian religious leader who founded Sikhism
		Gurus	an influential teacher
		Abrahamic religions—Christianity, Judaism and Islam	
		Abrahamic religions	Islam, Christianity and Judaism are the three main Abrahamic religions because Abraham - or Ibrahim - is important to them all. They consider him an important prophet or father figure.
		Quran	the Islamic sacred book, believed to be the word of God as dictated to Muhammad by the archangel Gabriel and written down in Arabic.
		Bible	the Christian scriptures, consisting of the Old and New Testaments
		Tanakh	The Jewish Bible is known in Hebrew as the Tanakh, an acronym of the three sets of books which comprise it: the Pentateuch (Torah), the Prophets (Nevi'im) and the Writings (Ketuvim).
		Good Samaritan	The parable of the Good Samaritan is told by Jesus in the Gospel of Luke. It is about a traveler who is stripped of clothing, beaten, and left half dead alongside the road. First a Jewish priest and then a Levite comes by, but both avoid the man. Finally, a Samaritan happens upon the traveler.
		Parables	a simple story used to illustrate a moral or spiritual lesson, as told by Jesus in the Gospels.
		Gospels	the teaching or revelation of Christ.

People					
Mahatma Ghandi	A Hindu Indian lawyer, anti-colonial nationalist and political ethicist who employed nonviolent resistance to lead the successful campaign for India's independence from British rule, and to later inspire movements for civil rights and freedom across the world	Malala Yousefzai	a Pakistani activist for female education and a Nobel Peace Prize laureate.	Martin Luther King Jnr	an American Baptist minister and activist who became the most visible spokesman and leader in the American civil rights movement
The Dalai Lama	the head monk of Tibetan Buddhism and traditionally has been responsible for the governing of Tibet, until the Chinese government took control in 1959.	Greta Tunberg	a Swedish environmental activist who is known for challenging world leaders to take immediate action for climate change mitigation.	Oscar Romero	A Salvadoran Roman Catholic archbishop who was a vocal critic of the violent activities of government armed forces, right-wing groups who spoke up for poor communities in El Salvador during a period of terrible violence

Key Verbs/Phrases

Dans ma famille il y a ___ personnes	In my family there are ___ people
J'habite avec	I live with...
Je suis	I am
Je ne suis pas	I am not
Je m'appelle	I'm called
Il/Elle s'appelle	He/She is called
Il/Elle est	He/She is
Il/Elle n'est pas	He/She isn't
J'ai	I have
Il/Elle a	He/She has
Je n'ai pas de	I don't have
Il/Elle n'a pas de	He/She doesn't have
dans ma maison	in my house
Il y a	There is/are
Il n'y a pas de	There isn't/aren't
on a	We have
on'a pas de	We don't have
on est	We are
on n'est pas	We aren't
Ils/Elles ont	They have
Ils/Elles n'ont pas de	They haven't
Ils/ Elles sont	They are not
Ils/Elles ne sont pas	They haven't

Physical Appearance

bleu(s)	blue
brun(s)/marron	brown
vert(s)	green
les cheveux	hair
courts	short
longs	long
mi-longs	mid length
noir(s)	black
roux	red / ginger
blonds	blonde
grand/e	tall
petit/e	short/small
gros / grosse (f)	fat
maigre / mince	thin
de taille moyenne	average sized
laid	ugly
beau / belle (f)	good-looking
les yeux	eyes
raides	straight
frisés	curly

Colours

jaune	yellow
bleu	blue
blanc	white
gris	grey
brun/marron	brown
orange	orange
noir	black
rouge	red
rose	pink
vert	green
violet	purple

Personality/Character *

méchant	nasty
ennuyeux/barbant	boring
sportif	sparty
marrant/drôle	funny
bavard	talkative
intelligent	intelligent
paresseux	lazy
sympa/gentil	kind / nice
timide	shy
curieux	curious
branché	trendy
poli	polite
amusant	fun

Animals/Pets

un cheval	a horse
un cochon d'Inde	a guinea pig
un lapin	a rabbit
un chat	a cat
un hamster	a hamster
un animal	a pet
un oiseau	a bird
un chien	a dog
un poisson	a fish
une souris	a mouse
un serpent	a snake
une tortue	a tortoise

Family members

ma grandmère	my grandmother
mon grandpère	my grandad
ma soeur	my sister
mon frère	my brother
ma mère	my mum
mon père	my dad
ma cousine	my (female) cousin
mon cousin	my (male) cousin
ma tante	my aunt
mon oncle	my uncle
mon ami	my friend
mon meilleur ami	my best friend
mes parents	my parents
mes amis	my friends

Opinions

j'aime	I like
j'adore	I love
je préfère	I prefer
je n'aime pas	I don't like
je déteste	I hate
ma matière préférée est	my favourite subject is

School subjects

lundi j'ai...	on Monday I have...
j'étudie	I study
je fais	I do
le français	French
le dessin	Art
le sport	sport
l'anglais	English
la musique	Music
la géographie	Geography
l'informatique	IT
l'histoire	History
les maths	Maths
les sciences	Science
le théâtre	Drama
les arts plastiques	Art

Teachers

Monsieur	Mr
Mademoiselle	Miss
Madame	Mrs
mon prof de maths	My maths teacher
s'appelle	is called

Adjectives

génial	great
amusant(e)	fun
intéressant(e)	interesting
ennuyeux / -euse	boring
nul(le)	rubbish
facile	easy
difficile	difficult
fantastique	fantastic
chouette	great
sympa	kind
sévère	strict
bavard(e)	talkative
compréhensif /-ive (f)	understanding

Time

à (huit) heures	at (eight) o'clock
...et demie	half past
..... et quart	quarter past
.... moins le quart	quarter to
le matin	morning
l'après-midi	afternoon
le soir	evening
je commence	I start
je finis	I finish
je vais	I go
je joue	I play
je mange	I eat
je bois	I drink
on nous donne	we get given

Describing a school

mon collègue	my school
s'appelle	is called
est	is
grand	big
petit	small
vieux	old
moderne	modern

School Facilities

il y a	there is
il n'y a pas de	there isn't
une cantine	a canteen
un terrain de foot	a football pitch
des labos	labs
une piscine	a swimming pool
une cour	a yard/playground
une bibliothèque	a library

Key school words

un cours	a lesson
le déjeuner	lunch
la récréation	break
l'emploi du temps	timetable
les devoirs	homework

Key Verbs / Phrases

En mi familia, hay In my family, there are
personas people

First person

me llamo I am called
soy I am
no soy I am not
tengo I have
no tengo I don't have
llevo I wear
Vivo con... I live with...

Third person

se llama he/she/it is called
es he/she/it is
no es he/she/it is not
tiene he/she it has
no tiene he/she it doesn't have
lleva he/she wears

Third person plural

se llaman they are called
son they are
tienen they have

Physical appearance - adjectives

alto/a tall
bajo/a short
bonito/a pretty
delgado/a thin
gordo/a fat
feo/a ugly
guapo/a good-looking
pequeño/a small

Physical appearance - hair and eyes

los ojos eyes
azules blue
marrones brown
verdes green
el pelo hair
corto short
largo long
medio largo mid length
castaño brown
negro black
pelirrojo red / ginger
rubio blonde
rizado curly

Personality/Character

antipático/a unpleasant
aburrido/a boring
deportista sporty
divertido/a funny
hablador(a) talkative
inteligente intelligent
perezoso/a lazy
simpático/a kind / nice
tímido/a shy
hablador/a talkative
amable kind
tonto/a silly

Family members

mi abuela my grandmother
mi abuelo my grandad
mi hermana my sister
mi hermano my brother
mis hermanos my siblings
mi madre my mum
mi padre my dad
mi prima my (female) cousin
mi primo my (male) cousin
mi tío / mi tía my uncle / aunt
mi hermano/a my half-brother/sister
mi padrastro / madrastra my stepdad/mum
hijo/a único/a an only child
mi mejor amigo/a my best friend

Colours

amarillo yellow
azul blue
blanco white
gris grey
marrón brown
naranja orange
negro black
rojo red
rosa pink
verde green
violeta purple

Animales

una mascota a pet
una cobaya a guinea pig
un conejo a rabbit
un gato a cat
un hámster a hamster
un caballo a horse
un pájaro a bird
un perro a dog
un pez a fish
un ratón a mouse
una serpiente a snake
una tortuga a tortoise
un zorro a fox

Key Verbs / Opinions

me gusta(n)	I like
me encanta(n)	I love
no me gusta(n)	I don't like
odio	I hate
prefiero	I prefer
es	it is
son	they are
estudio	I study
hay	there is / are
se llama	it / he / she is called
tiene	it has

School subjects

las asignaturas	school subjects
las ciencias	sciences
los deportes	sports
el dibujo	art
la educación física	P.E.
el español	spanish
la geografía	geography
la historia	history
el inglés	english
la informática	ICT
las matemáticas	maths
la música	music
el teatro	drama
la tecnología	design technology
Mi asignatura favorita es...	My favourite subject is...

Times

a la una	at 1 O'clock
a las (plural)	at... O'clock

Facilities

unas aulas	classrooms
una biblioteca	library
una cantina	canteen
un campo de fútbol	football pitch
un gimnasio	gym
las instalaciones	facilities
unos laboratorios	labs
una piscina	swimming pool
el patio	the playground

Teachers

Mi profesor(a) de (+subject)	My teacher of...
Señor	Mr
Señora	Mrs
Señorita	Miss

Key school words

el comedor	the dining area
el patio	the playground
el recreo	break time
un bocadillo	a sandwich
un zumo	a juice
un caramelo	a sweet

Days of the week

lunes	Monday
martes	Tuesday
miércoles	Wednesday
jueves	Thursday
viernes	Friday
sábado	Saturday
domingo	Sunday
los lunes	every Monday

Key verbs

jugar	to play
leer	to read
comer	to eat
beber	to drink
empezar	to start
terminar	to finish
vivir	to live

Adjectives

aburrido/a	boring
difícil	difficult
divertido/a	funny
fácil	easy
grande	big
hablador(a)	talkative
horrible	horrible
importante	important
interesante	interesting
moderno/a	modern
pequeño/a	small
severo/a	strict
simpático/a	kind / nice
antiguo/a	old
viejo/a	old
serio/a	serious/responsible
listo/a	intelligent/clever
raro/a	weird

Key word	Description
Short term effects of exercise	Physical changes that occur in the body when you begin exercising.
Long term effects of exercise (physical)	Physical changes that occur in the body after months of following a training programme.
Heart rate	The number of times the heart beats per minute
Oxygen	A gas we breathe in and transport to our muscles and organs to use to create energy
Aerobic	Low intensity exercise than can be done for a long period of time
Anaerobic	High intensity exercise than can only be done for short time
Energy production	Using glucose and oxygen to create energy in the muscles and organs in the body
Respiratory rate	The number of breaths taken in one minute
Flexibility	The range of movement around a joint
Hypertrophy	A muscle increasing in size achieved through exercise
Stroke volume	The amount of blood ejected from the heart (left ventricle) per beat
Resting heart rate	The amount of times the heart beats per minute at rest (after lying down for 5 mins)
Efficient	Performing without wasting energy
Fitness	Being physically fit and healthy. Fitness components include cardio vascular endurance, muscular endurance, speed, flexibility, agility, power and strength
Coronary heart disease	A disease where there is a narrowing or blockage of the coronary arteries (blood vessels that carry blood and oxygen to the heart).
Diabetes	A health condition that affects how your body turns food to energy and your blood glucose can be too high.
Body mass index	Indicator of how healthy your weight is. Calculation: weight (kg) divided by height (m ²)
Body composition	The percentages of bone, fat, muscle and water in your body
Energy balance	The balance of energy (calorie) intake with energy (calorie) expenditure
Calories	A unit of energy consumed from food or drink.

Short term effects of exercise	Long term effects of exercise
Increase in heart rate	Increase in heart size (cardiac hypertrophy)
Increase in respiratory rate	Improved fitness
Increase in oxygen delivery to muscles	Increased bone strength
Increase in temperature	Reduced risk of coronary heart disease
Increase in flexibility	Reduced risk of diabetes
	Improved body composition

Key:

Black = need to know

Blue = extension

Key word	Description
Health	A state of complete physical, mental and social well-being, not merely the absence of disease.
Physical health	Good physical fitness, good nutrition, self care and high quality sleep
Mental health	Ability to cope with stress and work productively
Emotional health	How we think and feel, how we cope with life events and acknowledge our emotions. It doesn't mean being happy all the time
Social health	Ability to form good relationships and adapt to different situations.
Wellbeing	A state of being comfortable, healthy and happy
Carbohydrates	Foods which provide energy for high intensity exercise, e.g. potatoes, pasta, bread, rice, bananas
Proteins	Foods which provide growth and repair for the body/ muscles, e.g. chicken, fish, beans
Fats	Foods which provide energy for low intensity exercise, protection for organs and insulation, e.g. butter, oil, cheese
Vitamins	Needed for our bodies to function properly and fight disease. E.g. vitamin C in oranges.
Energy production	Using glucose and oxygen to create energy (for exercise) in the muscles.
Hydration	Drinking enough water to maintain body temperature, prevent infections and improve sleep.
Self esteem	A person's overall sense of self-worth and value.
Anxiety	A feeling of unease, worry or fear
Endorphins	Hormones produced in the brain to relieve stress and pain and cause feelings of happiness.



Health benefits of exercise			
Physical health	Mental health	Social health	Emotional health
<ul style="list-style-type: none"> Improved fitness Increased bone density Reduced risk of coronary heart disease and diabetes Weight management 	<ul style="list-style-type: none"> Improved concentration Improved confidence and self esteem Reduced stress & anxiety Improved sleep 	<ul style="list-style-type: none"> Make friends Improved communication skills Improved leadership skills and reciprocity Responsibility Reciprocity 	<ul style="list-style-type: none"> Improved happiness / mood Hormones released (endorphins, dopamine and serotonin)

Key:




Black = need to know

Blue = extension

Natural Woods

Softwoods	Hardwoods
	
Have large, broad leaves	Have small needles for leaves
Grow in warmer countries - need long, warm summers	Can survive in colder countries with long winters
Have fruit, seeds or nuts	Have cones – they are coniferous – sometimes berries
Tall, thin trunks	Wide, short trunks
Grow quickly – 60+ years	Grow slowly – 150+ years
Produces cheap timber	Produced expensive timber
Evergreen – keep their leaves all year round – they are survivors	Deciduous – lose and regrow their leaves every year - hibernators
e.g. pine, cedar, spruce, deal, yew, larch, cypress	e.g. oak, birch, beech, teak, mahogany, apple, ebony, ash, cherry, walnut, tulip

Manufactured boards

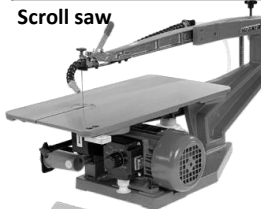
MDF	Chipboard	Plywood
		
Tiny particles (dust) of recycled wood glued & compressed together	Small particles (size of coffee granules) of recycled wood glued & compressed together	Layers of wood glued & compressed together (laminated together)
Used for furniture, cabinets, flooring	Used for flat-pack furniture, kitchen worksurfaces and kitchen cupboards	Used for furniture, and making buildings e.g. floor and roof



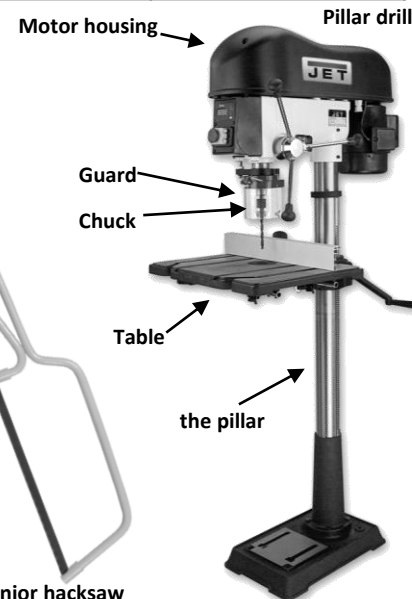
PVA glue – poly vinyl acetate – it works by soaking into the surfaces – it only glues **porous** materials e.g. wood, paper, card, cloth. It **plasticises** as it dries (turns into a type of plastic – does not wash out of clothes).

Keywords – you must know what these all mean and be able to spell them:

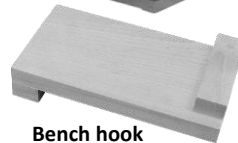
PVA glue	Chipboard
Glass paper	MDF
Deciduous	Plywood
Evergreen	Laminated
Pillar drill	Glass paper
Drill bit	Dowel
Coniferous	Wood finish
Scroll saw	Chuck key
Jig	Junior hacksaw
Bench hook	Wood stain
Belt sander	Specification
Marking out	Isometric
Brief	Market research
Aluminium oxide paper	Manufactured board



Scroll saw



Junior hacksaw



Bench hook



Jigs & Templates

You **draw** around a **template** to get an exact copy of the original. It helps with **accuracy**. A **jig** helps you drill in the right place every time or sand at a perfect angle every time. It improves **accuracy** and **saves time** marking out & measuring.



Chuck key – tightens the drill bit in the chuck



Computers need to **store**, **process** and **communicate** information.

Computers use sequences of symbols to represent information.

Information in computers must be represented in a form convenient for processing

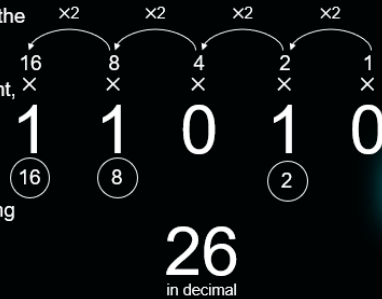
Convert binary to decimal: Instructions

Write multipliers over the bits:

Start with 1 on the right, and double as you go from right to left.

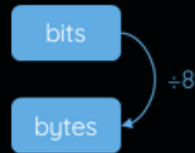
For each bit set to 1, select its corresponding multiplier

Add up the selected numbers: the sum is the decimal number.



To convert bits to bytes:
Divide the number of bits by 8

Because this is how many groups of 8 bits, i.e. bytes, 'fit' in the sequence.



To convert bytes to bits:
Multiply the number of bytes by 8.
Because there are 8 bits in every byte.



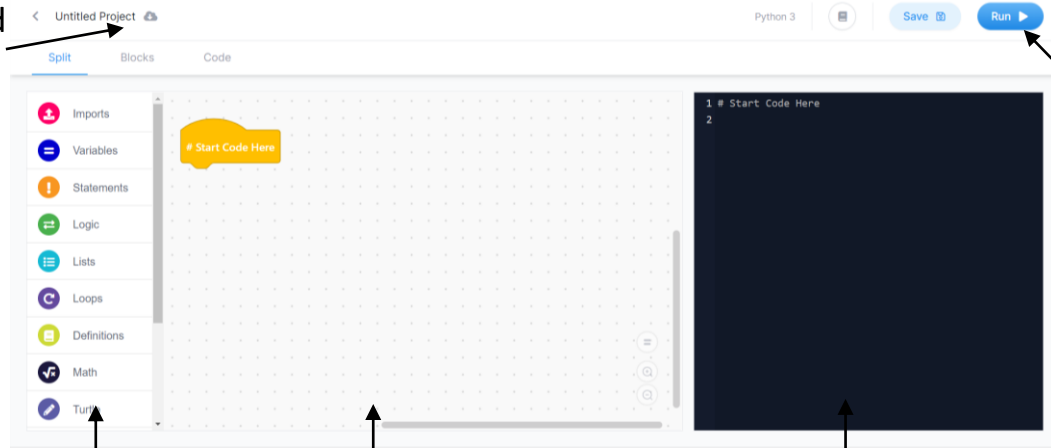
Key term	Definition
ASCII	American Standard Code for Information Interchange – A Character encoding format for text data
Base 10	A numbering system using 10 digits (0 to 9)
Base 2	A numbering system using 2 digits (0 and 1)
Binary digit/bit	The symbols that digital devices to represent information
Byte	A group of eight binary digits/bits
Character	Any number, letter or symbol
kilo-	thousands
mega-	millions
giga-	billions
tera-	trillions
Sequence	
Switch	An electronic device that controls the flow of electricity



Key Terms

Algorithm	list of instructions used to carry out a task.
Sequence	Running instructions in order
Selection	When your code makes a choice
Iteration	When your code does the same thing more than once
Variable	A name that refers to data being stored by the computer
Comparison operator	e.g. ==, >, <, >=, <=, !=
Logic Operators	e.g. AND, OR, NOT
Count-controlled iteration	When we want to run commands a set number of times.
Condition-controlled iteration	When we want to run commands until the condition set is no longer being met.
Debugging	The process of finding an error in your code and taking steps to fix the problem.

Name and download your project here





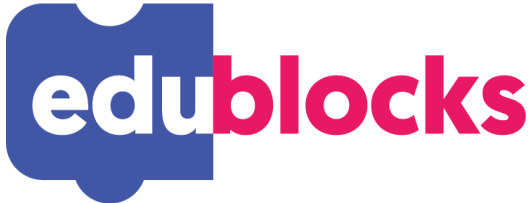




Select here to run your code

Tool box

Block code

Python code

Imports	Variables	Statements	Logic
Useful if you need a random number or time functions.	Used to create variables.	This is where you go for input or output.	Go here for if statements or if you need to use comparison operators.
 Imports	 Variables	 Statements	 Logic
Loops	Math		
Iteration can be found here (for loops and while loops).	Go here for your mathematical operators.		
 Loops	 Math		



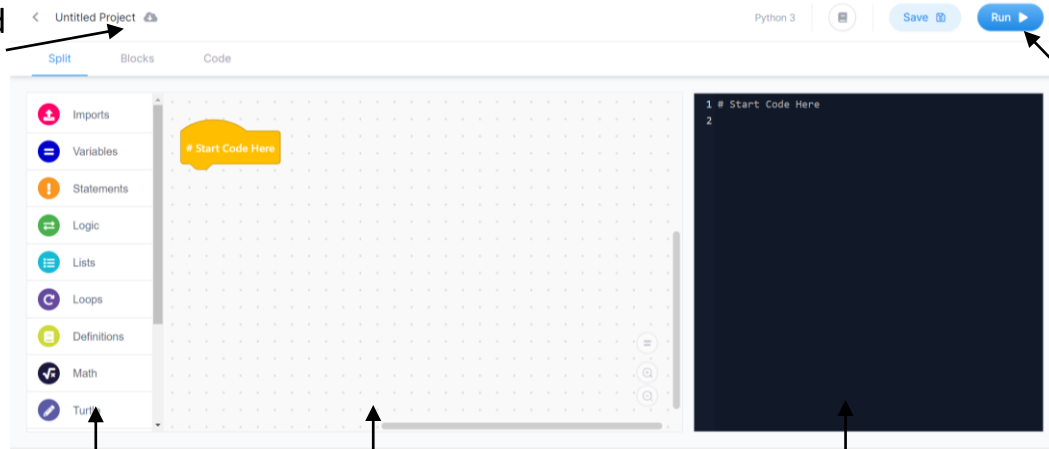
Key Terms from Previous Learning

Sequence	Running instructions in order
Selection	When your code makes a choice
Iteration	When your code does the same thing more than once
Variable	A name that refers to data being stored by the computer
Count-controlled iteration	When we want to run commands a set number of times.
Debugging	The process of finding an error in your code and taking steps to fix the problem.

Key Terms for Current Learning

Decomposition	Breaking a large problem down into smaller manageable tasks
Subroutines	A named section of code we can call anytime we want.
Condition-controlled iteration	When we want to run commands until the condition set is no longer being met.
Lists	An area of storage in our programs that stores multiple pieces of data that can change

Name and download your project here











Select here to run your code

Tool box

Block code

Python code

Imports	Variables	Statements	Logic
Useful if you need a random number or time functions.	Used to create variables.	This is where you go for input or output.	Go here for if statements or if you need to use comparison operators.
 Imports	 Variables	 Statements	 Logic
Loops	Math	Definitions	Lists
Iteration can be found here (for loops and while loops).	Go here for your mathematical operators.	Go here when you want to create subroutines.	Go here when you want to use lists.
 Loops	 Math	 Definitions	 Lists