

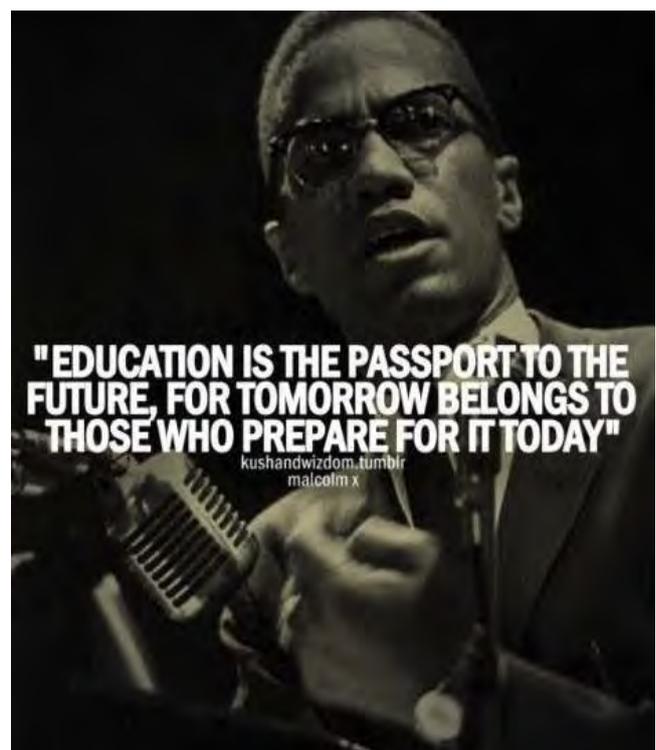
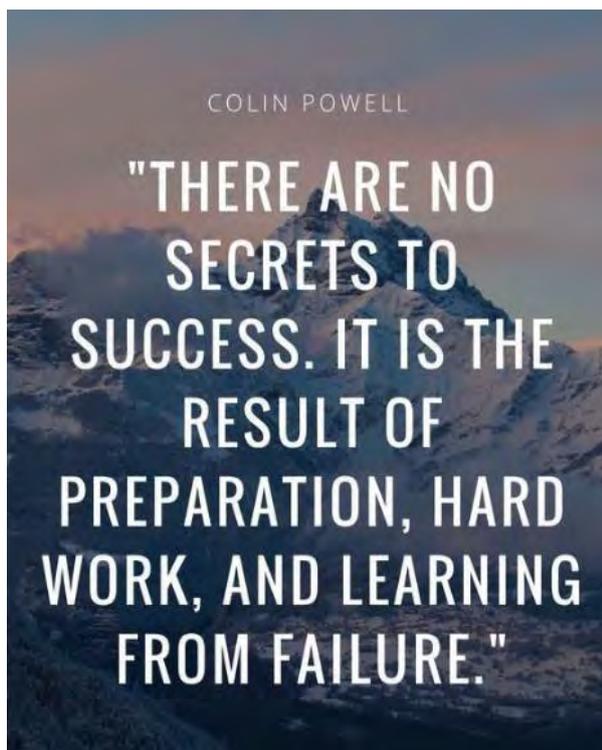


**Year 8**

**Knowledge Organiser**

**Cycle 1 – 2019/20**

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# CREATIVE

## Cycle 1

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- **Art**
- **Drama**
- **Music**

## Keyword Log

### Pop Art

<b>Popular</b>	Liked or admired by many people or by a particular person or group.
<b>Media</b>	The main means of mass communication (television, radio and newspapers) regarded collectively.
<b>Celebrity</b>	A famous person, especially in entertainment or sport.
<b>Portrait</b>	A painting, drawing or photograph, or engraving of a person, especially one depicting only the face or head and shoulders.
<b>Culture</b>	The ideas, customs, and social behaviour of a particular person or society.
<b>Advertising</b>	The activity or profession of producing advertisements for commercial products or services.
<b>Photography</b>	The art or practice of taking and processing photographs.
<b>Fashion</b>	A popular (or the latest) style of clothing, hair, decoration, or behaviour.

## What is Pop art?

### **Pop Art is an art movement (1956 – 60s).**

Pop art was introduced after the second world war and became one of the first creative expressions of Postmodernism. During the 1950s and 1960s, mass production and mass media started to flourish in many parts of Europe and America. Many artists (Andy Warhol, Richard Hamilton, Roy Lichtenstein) saw this as a celebration for the future and used consumerism as their subject matter. This became known as the Pop art movement.

Pop artists intentions were to explore the idea of popular culture by using commercial images and objects such as comic strips, money, magazines, newspapers, fast food, advertisements, pop music, television and films. Pop Art was inspired by everyday things that we use on a daily basis, to the point where we don't even notice using them anymore.



Andy Warhol's artwork

### What is consumerism? NEEDS vs WANTS

**Consumerism = promotion of a consumer interests.**

**Consumer = is someone who wants to buy something.**

During the war, people were spending their money on essential things like food however after the war, people were willing to spend money on materialistic things e.g. cars, televisions, washing machines and vacuum cleaners. It was believed that people saw consumerism as a good way of life for example working class people could get things that they wanted.

### How does it impact on us today? We are living in a throw-away culture.

Since the 1950s, people are continuously wanting to buy more, better and newer things. This is due to constant advertisements on television, social media and posters advertising new products such as toys, videos and phones. In many countries like Britain, items like phones are often thrown away even if they work and be replaced with new ones without any second thought. This idea that we need to keep updating and buying new products is called consumerism. People think this is essential to do this to keep up with today's trend.

Within the last 70 years, products have been mass produced and many products have not been made to last. This meant that companies were selling more and more products which cannot be repaired, or have a set lifespan.

## Keyword Log

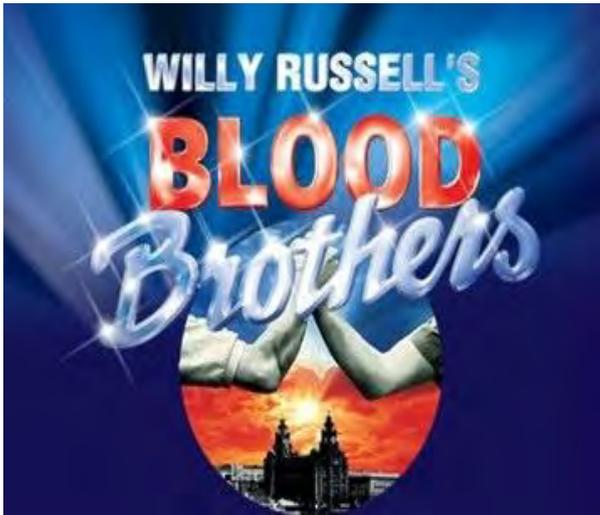
### *Blood Brothers*

<b>Role Play</b>	To act out or perform the part of a person or character.
<b>Multi Role Performance</b>	Acting out multiple characters in the same performance.
<b>Characterisation</b>	The act of changing voice, body language, movement, gestures etc. when in a role. An actor must use their skills to portray a character consistently throughout a performance.
<b>Contrast</b>	Different or opposite elements placed together for dramatic effect.
<b>Tension</b>	Giving audiences an expectation as to what will happen next in the performance e.g. characters building up to conflict.
<b>Performance</b>	The act of performing in a dramatic piece/play.
<b>Text work</b>	Reading texts and creating performances from them.
<b>Forum Theatre</b>	A rehearsal technique used to explore performance. Members of the audience can stop a performance whilst watching it and take the place of an existing performer to try out a new idea. Created by practitioner Augusto Boal.

## Blood Brothers:

### Synopsis of the play:

Mickey is brought up with his seven older siblings by his struggling single mother, Mrs Johnstone. His twin brother, Edward, however is brought up as the only child of the wealthy Lyons family, who live nearby, after Mrs Lyons persuaded Mrs Johnstone to hand over one of her twins at birth. Mickey and Edward don't meet each other until they're seven years old, but immediately become best friends and 'blood brothers'. The bond continues when the boys are teenagers, and both live in the countryside, despite them both being in love with Mickey's neighbour and childhood friend, Linda. However, as they get older, the huge difference in their backgrounds pulls them apart and eventually leads to their tragic deaths.



### Social context and themes:

**Class and money:** Throughout the musical *Blood Brothers*, the theme of class and money plays a dominant role, controlling characters' actions and determining their lives.

**Coming of age:** Most of the musical is occupied with the boy's lives and the events of their growing up. We see them evolve from infants, to boys, to teenagers, to young men.

### Characters in the play

- **The Narrator:** Who throughout the play breaks the '[fourth wall](#)' to help the story progress and act as a moral compass. He also plays other characters at various points, including: Policeman, Milkman, Judge, Finance Man, Catalogue Man and Bus Conductor.
- **Mrs Johnstone:** The Lyons' cleaner who single-handedly supports her seven (later eight) children.
- **Mrs Jennifer Lyons:** The employer of Mrs Johnstone. Mrs Lyons convinces Mrs Johnstone to give her one of her twin sons to raise as her own.
- **Edward 'Eddie' Lyons:** Mickey's twin brother who was given away by Mrs Johnstone, and brought up by Mrs Lyons; he becomes blood brothers with Mickey (his actual brother).
- **Michael 'Mickey' Johnstone:** The youngest Johnstone child who is kept by his mother; he becomes 'blood brothers' with Eddie (his actual brother).
- **Sammy Johnstone:** The elder brother of Mickey, who fell out of a window as a child resulting in having a metal plate in his head and commits many crimes
- **Linda:** A childhood friend of Mickey and Eddie and later Mickey's wife.
- **Mr Richard Lyons:** Mrs Lyons's husband, who is unaware of Edward's true parentage.
- **Miss Jones:** Mr Lyons's secretary, who is fired from the firm as a result of the recession.
- **Donna Marie Johnstone:** One of the elder Johnstone children, who was looking after Sammy when they were little and he fell out of a window; by Act II, she is married with three children
- **Darren Wayne Johnstone:** The eldest Johnstone child.

## Keyword Log

### *Rock & Roll*

<b>Blues</b>	A music genre which originated in the deep South of the United States around the 1870s by African Americans.
<b>Chord</b>	Two or more notes played together at the same time.
<b>Sharp/Flat</b>	Sharps (#) raise a note by one semitone. Flats (b) lower a note by one semitone.
<b>Syncopation</b>	Rhythms that are played 'off-beat'.
<b>Walking Bass</b>	A walking bass line simply walks through the notes of each chord, one note per beat.
<b>Swung Rhythm</b>	When the first note of a pair of quavers 'steals' time from the second quaver resulting in a 'long/short' rhythm.
<b>Electric Guitar</b>	A guitar that requires an amplifier and speaker in order to produce sound.
<b>Harmonica</b>	A wind instrument often used in blues music.
<b>Improvisation</b>	When a soloist makes up a melody on the spot by using an appropriate scale or chord.
<b>Rockabilly</b>	An early style of rock and roll that blends together two musical styles – <i>rhythm and blues and country</i> .
<b>Record</b>	A disc made out of vinyl used to make early music recordings.

## Rock & Roll Music

Rock & Roll is a music genre that originated in the United States in the late 1940s and early 1950s. It was influenced by both African American musical styles, such as **gospel & rhythm and blues**, as well as American **country music**, traditionally sung by white Americans. The music helped to break down racial divides that existed in the USA during the 1950s and 1960s.



Elvis Presley was a hugely successful Rock & Roll musician. He had many hit records including *Blue Suede Shoes* and *Can't Help Falling in Love*. Elvis was a controversial figure during the 1950s as his movements and attitude on stage were deemed to be inappropriate by some Americans.

### *Elvis Presley*

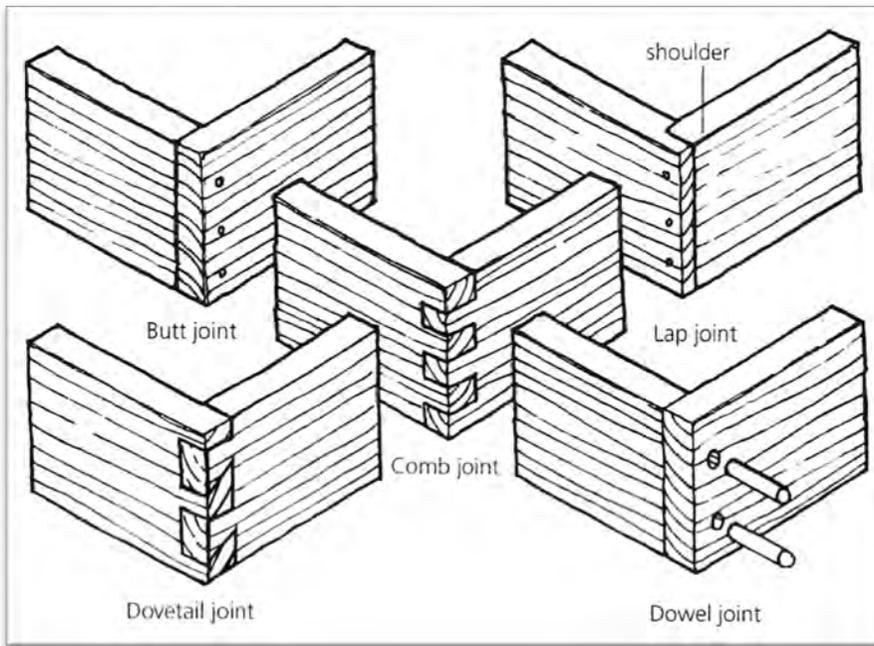
Rock & Roll bands were relatively small ensembles usually made up of a singer, guitarist, bassist, pianist and drummer. The music was recorded onto vinyl records which were played on a revolving record player. Artists such as Chuck Berry, Elvis Presley and Buddy Holly had huge success in the 1950s. Their music went on to influence British 'rock' bands including the Beatles and the Rolling Stones.

# DESIGN & TECHNOLOGY

Cycle 1

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- **Design & Technology**
- **Food & Nutrition**



Boxes of various shapes and sizes are the basis of many things made in wood.

A **DOWEL JOINT** does have mechanical strength, because the wooden peg (dowel) goes into both pieces of wood. Glue adds further strength.

A **COMB JOINT** is an interlocking joint which, when well made and glued has a lot of strength.

A **DOVETAIL JOINT** is more complicated and difficult to make than the other on this page. Often a router and jig are used to make this joint. When glued a dovetail joint is extremely strong.

The **BUTT JOINT** is the simplest joint to use as with all joints, both pieces of wood need to be cut accurately. It has no mechanical strength of its own and relies entirely on glue and nails/pins.

The **LAP JOINT** has a shoulder which gives it a little more rigidity than the butt joint. Like the butt joint it relies on glue and nails/pins for its strength.

## Knowledge Organiser



### Manufactured Boards

Manufactured boards are timber sheets which are produced by gluing layers of wood or wood fibres together. Manufactured boards often make use of waste wood materials. Manufactured boards have been developed mainly for industrial production as they can be made in very large sheets of consistent quality and are available in many thicknesses.

### Manufactured Board properties:

- Manufactured boards often make use of waste wood materials.
- Saw dust is used to make MDF and hardboard.
- The saw dust is held together with glue.
- Boards are inexpensive so are often used as instead of real woods.
- Manufactured boards however do not look as good as real wood.
- Manufactured boards are often covered with a thin layer of real wood which is called veneer this improves their appearance.
- They are less prone to warping and twisting compared to real wood.

**PLYWOOD** - Is a man-made board like MDF and Chipboard. It is made from veneers (thin layers) of timber with each grain layer being at right angles to each other and bonded together by resin and pressure. There are a number of different grades available which are designed to suit a variety of situations.

1. Marine plywood that is moisture resistant.
2. Weather and boil proof plywood.
3. Interior plywood.

## Wood Finishes - Woodstains

Once an object has been made it needs to be finished. Natural wood looks nice but collects dirt, absorbs water and discolours easily.

Finishes can protect against:

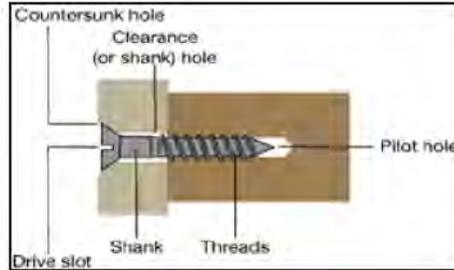
- Heat
- Stains
- Insects
- Moisture.

Wood stains come in a variety of colours and are easy to apply. They are water-based and can be applied using a brush or cloth. The wood stain soaks into the surface of the wood and like a felt tip pen, if you add a second coat of wood stain the brightness and intensity of colour will increase.



## Knowledge Organiser

	<b>Blockboard</b> - Similar to plywood but the central layer is made from strips of timber. Good for shelves and worktops. A man-made board.
	<b>MDF</b> - Smooth, even surface. Easily machined and painted or stained. Also available in water and fire resistant forms. A manufactured board.
	<b>Plywood</b> - A very strong board which is constructed of layers of veneer or piles which are glued at 90 degrees to each other. Interior and exterior grades are available. A man-made board.
	<b>Chipboard</b> - Made from chips of wood glued together. Usually veneered or covered in plastic laminate. A manmade board.
	<b>Hardboard</b> - A very cheap particle board which sometimes has a laminated plastic surface.



### Pilot vs Clearance

What's the difference?

The pilot hole is the same diameter as the shank. The Clearance hole diameter is slightly bigger than the screw thread but smaller the screw head



Tenon Saw	Cutting straight lines	Hand Drill	Drilling holes
Coping Saw	Cutting curves	Chisel	Removing small pieces of wood
Try Square	Marking right angles	G Clamp	Holding material together





## What is Graphic Design?

Graphic designers are able to inform, persuade, direct, entertain, and attract attention with their designs. They combine art and technology in order to communicate a message.



**Andy Warhol** (August 6, 1928 – February 22, 1987) was an American artist who was a leading figure in the **visual art movement** known as **pop art**.

His works explore the relationship between artistic expression, celebrity culture and advertisement that flourished by the 1960s.

After a successful career as a commercial illustrator, Warhol became a renowned and sometimes controversial artist.

## What is Pop Art?

Art based on modern popular culture and the mass media, especially as a critical or ironic comment on traditional fine art values.

## Keyword Glossary:

**Render**- Add colour or texture to a blank design.

**Repetition**- The act of repeating, or doing, saying, or writing something again; repeated action, performance, production, or presentation.

**Pine**- An evergreen coniferous tree which has clusters of long needle-shaped leaves. Many kinds are grown for the soft timber.

**Design**-Design is the intentional creation of a plan or specification for the construction of an object or system.

**Block**- a large solid piece of colour.

**Softwood**-the wood from a conifer (such as pine, fir, or spruce) as distinguished from that of broadleaved trees.

**Hardwood**- the wood from a broadleaved tree (such as oak, ash, or beech) as distinguished from that of conifers.

**Mitre**- a joint made between two pieces of wood or other material at an angle of 90°, such that the line of junction bisects this angle.

**Graphic**- relating to visual art, especially involving drawing, engraving, or lettering.

**Lap Joint**- a joint made by halving the thickness of each member at the joint and fitting them together.

**Tenon Saw**- a small saw with a strong brass or steel back for precise work.

**Innovative**- introducing new ideas; original and creative in thinking.

# Knowledge Organiser



**Stain:**



**Wax:**



**Varnish:**





## Tools and Equipment

	<b>Tenon Saw</b>
	<b>Bench Hook</b>
	<b>Try Square</b>
	<b>G Clamp</b>
	<b>Disk Sander</b>
	<b>A File</b>

## Knowledge Organiser

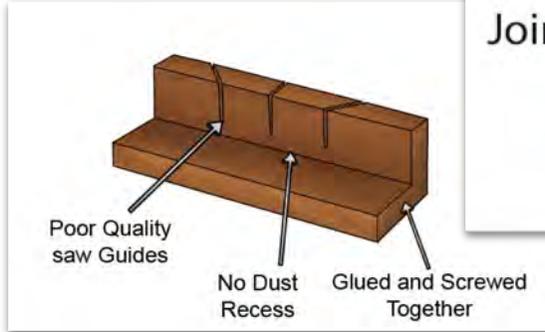
### What is MDF? How is it made?

Medium-density fibreboard (MDF) is an engineered wood product made by breaking down hardwood or softwood residuals into wood fibres, often in a defibrator, combining it with wax and a resin binder, and forming panels by applying high temperature and pressure.

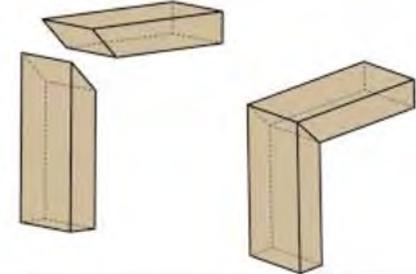
### Why are we using Pine?

Pine is an inexpensive, lightweight wood. Malleable and easy to work with. It can also be sustainable resources as it re-grows very quickly., so if it is replaced when it is cut down it can be a valuable resource.

### Mitre Joint Guide



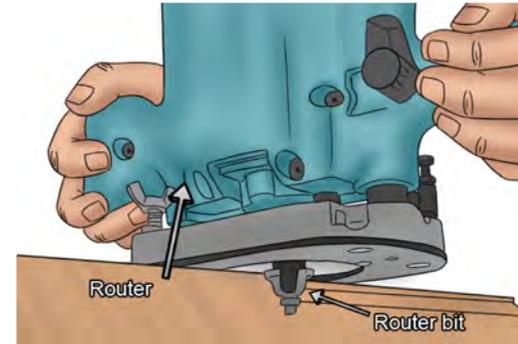
### Mitre Joint



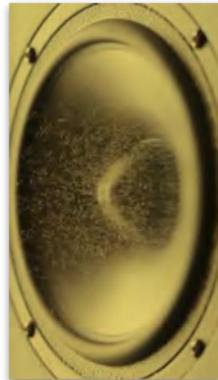
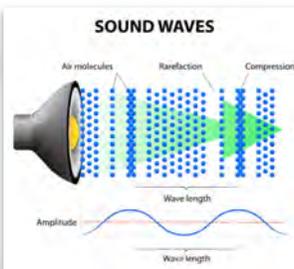
### Pop Art Colour Guide



### Router



## Personal Protection Equipment (PPE)



## Knowledge Organiser

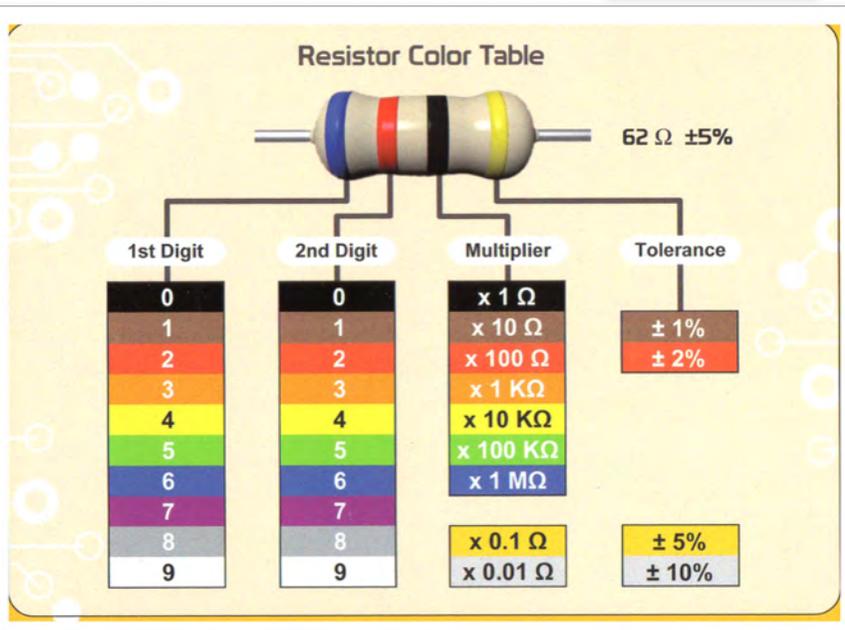
### Why are solder fumes bad?

Soldering with lead may produce **fumes** that are hazardous. In addition, using flux containing rosin produces **solder fumes** that, if inhaled, can result in occupational asthma or make existing asthmatic conditions worsen.

### Circuit Symbols

Name: <b>Bulb</b>	Name: <b>Push Switch</b>	Name: <b>Resistor</b>	Name: <b>Open Switch</b>	Name: <b>LED</b>
Name: <b>Light</b>	Name: <b>Diode</b>	Name: <b>Buzzer</b>	Name: <b>Cell</b>	Name: <b>Speaker</b>
Name: <b>Capacitor</b>	Name: <b>Transistor</b>	Name: <b>Motor</b>	Name: <b>Battery</b>	Name: <b>Variable Resistor</b>

### Resistor Colour Codes



## Tools and Equipment

	<b>Soldering Iron</b>
	<b>Soldering Stand</b>
	<b>Pliers</b>
	<b>Coping Saw</b>
	<b>Glue Gun</b>
	<b>Fret Saw</b>

### Key words:

**Circuit-** An electronic circuit is composed of individual electronic components.

**Jig-** a device that holds a piece of work and guides the tool operating on it.

**Resistor-** a device having resistance to the passage of an electric current.

**Solder-** a low-melting alloy, especially one based on lead and tin.

**Soldering iron-** an electrical tool used for melting solder and applying it to metals that are to be joined.

**Capacitor-** a device used to store an electric charge.

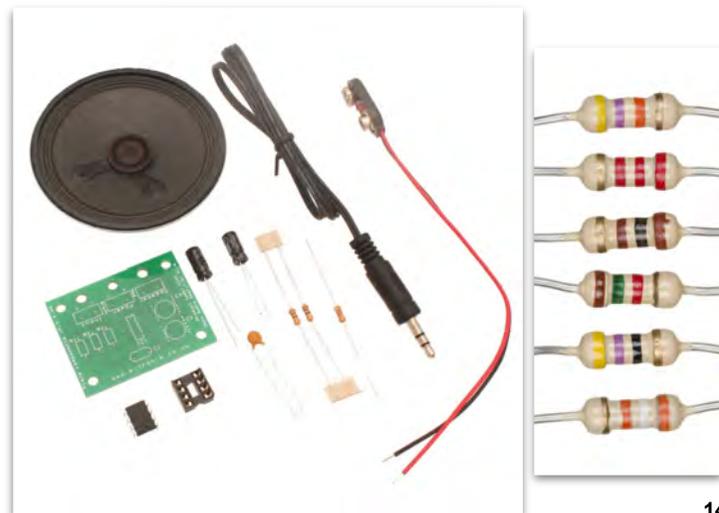
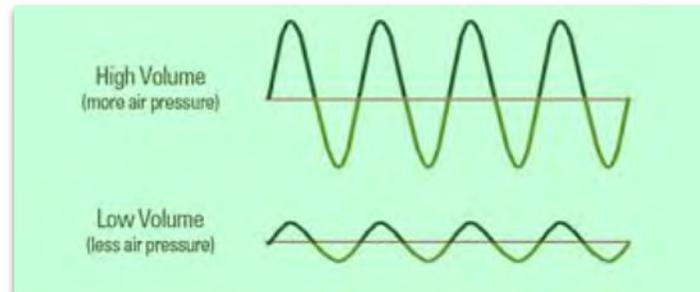
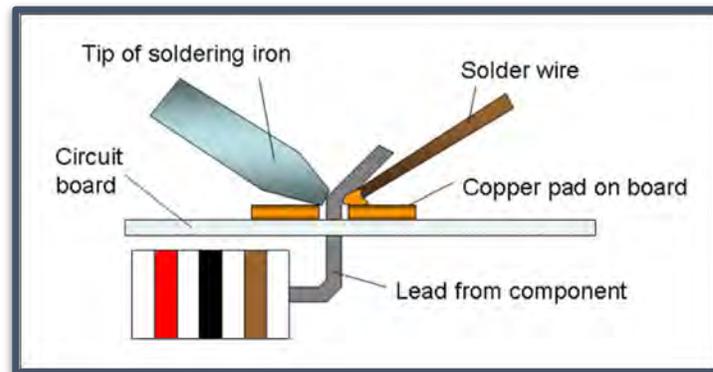
**Cell-** a device containing electrodes immersed in an electrolyte

**PPE-** Personal Protection Equipment.

**Amplifier-** a device consisting of an amplifier combined with a loudspeaker and used to increase the volume of the sound.

## Knowledge Organiser

### How to Solder onto a Circuit Board...



**Special diets – some people need to adapt and change the foods they eat**

**Coeliac**

An **intolerance** to the protein called **gluten**.  
Gluten can be found in wheat, barley, oats and rye.



**Vegetarian**

People who choose to be vegetarian **don't eat meat or fish**.  
They still eat dairy products like milk, cheese, yoghurt.



**Diabetic**

People with this are lacking the hormone called **insulin**. Insulin is created in the pancreas. People with diabetes have difficulty controlling the **blood sugar levels** in their body. People with diabetes need to eat a balanced healthy diet and **reduce their sugar intake**.



**Lactose intolerance**

People can't eat anything with milk in, including cheese, yoghurt, cream and butter.



*Common Food Allergens*



*Gluten & Wheat*



*Cow's Milk*



*Eggs*



*Peanuts*



*Soy Products*



*Tree Nuts*



*Seafood*



*Shellfish*



<b>Vitamin A</b>	Beneficial in treating eye disorders, skin infections
<b>Vitamin B9</b>	Reduces risk of neural tube defects during pregnancy
<b>Vitamin B12</b>	Provides relief from symptoms of anemia, kidney and liver disorders
<b>Vitamin C</b>	Helps treat scurvy, cancer and common cold
<b>Vitamin D</b>	Aids in treating arthritis, tooth decay, diabetes and rickets
<b>Vitamin E</b>	Improves blood circulation and slows down aging process
<b>Vitamin K</b>	Reduces risk of menstrual pain and internal bleeding

## Creaming method

Also known as the 'sugar-shortening' method, the sugar and shortening fat are blended together first and then creamed by mixing with a spatula.

During creaming, small air cells are formed and then incorporated into the mix. This mix becomes larger in volume and softer in consistency.



## Rubbing in method

### Step 1

Weigh your flour and put into a roomy mixing bowl. You need to get your hands in the bowl so give yourself a decent sized bowl so you have space to work.

### Step 2

Weigh your fat (butter or margarine). It shouldn't be at room temperature like with other cakes - straight from the fridge is actually better as the fat won't melt as you rub.

### Step 3

Put the fat into the bowl with the flour.

### Step 4

Start with a table knife and chop the fat into small pieces.

### Step 5

Once the fat is well chopped, it's time to get your hands dirty! (Ensure you have clean hands).

### Step 6

Using both hands, pick up handfuls of fat and flour and rub them together between your fingertips and thumbs. The fat and flour will combine into what look a bit like breadcrumbs

### Step 7

Try and lift up the fat and flour as you do it so you introduce air into the mixture - do the rubbing above rather than in the mixture.

### Step 8

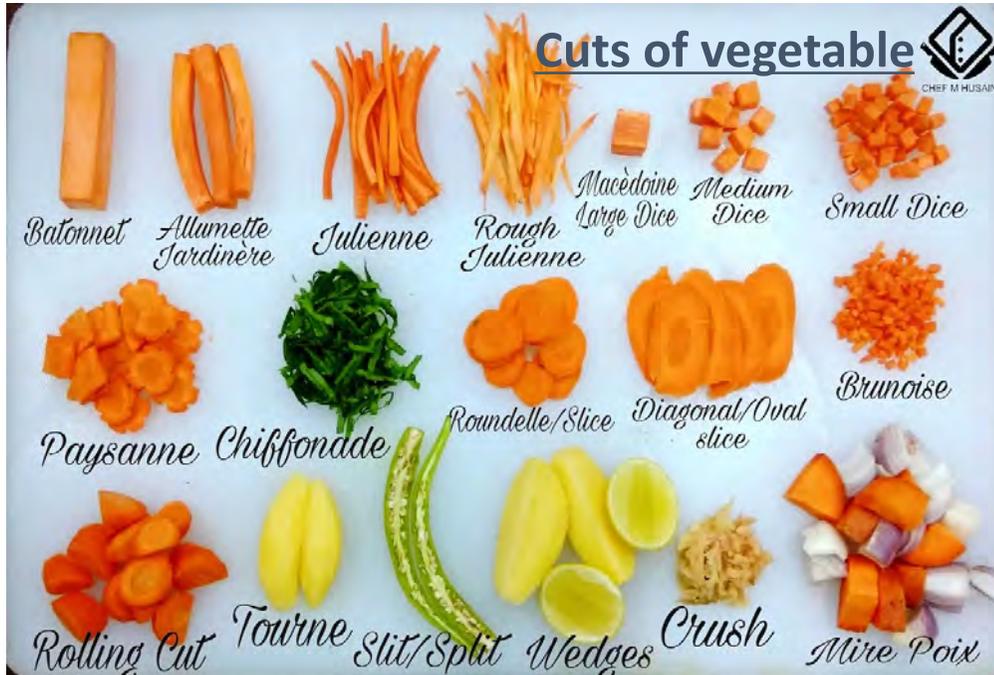
Use the tips of your fingers not your whole hands as this keeps the ingredients cooler.

### Step 9

Give the bowl a shake every now and then to allow the remaining lumps of fat to come to the top. Keep going at this until all the lumps of fat have disappeared and you are left with a whole bowl of breadcrumb-like particles.

### Step 10

This should take no more than 5 minutes (once you've got the hang of it!). Don't over do it or you'll make the fat too warm.



# ENGLISH

## Cycle 1

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Cycle 1 in English will focus on: Comparing Poetry. You will need to be able to identify a range of poetic features in a selection of poems and be able to explore the feelings and ideas expressed through poets' use of language, form and structure.

Language features in poetry	
<b>Metaphor</b>	A figure of speech in which something is compared to or described as something it cannot literally be for effect
<b>Simile</b>	A non-literal comparison using like or as that creates an emphatic or vivid effect
<b>Personification</b>	the attribution of a personal nature or human characteristics to something non-human
<b>Imagery</b>	Visually descriptive or figurative language
<b>Semantic field</b>	A set of words that are related through shared meaning
<b>Extended metaphor</b>	The use of the same metaphor throughout a whole poem or narrative
<b>Alliteration</b>	The beginning of the same letter or sound at the beginning of adjacent or closely grouped words
<b>Tone</b>	The general character, attitude or mood created through the language used in the poem
<b>Onomatopoeia</b>	A word that is also the sound it is describing, for example 'moo' or 'bang'

Poets use a range of these linguistic techniques to create effects on the reader, evoking specific feelings and conveying ideas. Poets also manipulate sounds of words and their patterns to engage the reader – the vocabulary to describe these sounds can be found here.



### How to explain the effects of a poet's use of language

1. Make an **inference** about your selected example:  
*"This line suggests/shows..."*
  2. **Zoom in** on key words, identifying word class:  
*"The [verb] 'sighs' has **connotations** of..."*
  3. **Describe** the imagery created:  
*"This **creates** an image of..."*
  4. Explore the **impact** of a technique:  
*"This use of [metaphor] **evokes the feeling/conveys the idea of...**"*
- CHALLENGES:**
5. Explore **multiple** quotes/words at a time, **identifying patterns/variatio**ns

Vocabulary for describing sounds created in a poem	
<b>Sibilance</b>	Repeated 's' sounds in a line or stanza
<b>Assonance</b>	Rhyming vowel sounds within lines or groups of lines (not at the end of lines)
<b>Plosive sounds</b>	Abrupt or powerful sounds made with a burst of breath such as /b/, /t/, /p/ and /d/
<b>Fricative sounds</b>	Consonant sounds made by the letters f and v

## Structural features in poetry

Stanza	A group of lines forming the basic recurring metrical unit in a poem; a verse
Rhyme scheme	The ordered pattern of rhymes at the ends of the lines of a poem or verse
Enjambment	The continuation of a sentence without a pause beyond the end of a line, couplet, or stanza
End stopped line	A definite pause at the end of a line, caused by a colon, full stop or similar punctuation
Caesura	A pause near the middle of a line
Volta	A turn of thought or argument near the end of a poem (traditionally within sonnets)
Refrain	A group of lines or a phrase that repeats at regular intervals in different stanzas
Couplet	Two lines beside each other that rhyme
Quatrain	A four-line stanza or poem

What makes poetry different to prose texts is the structures that writers use to create an impact on their reader. As well as many traditional poetic forms, the above features are present in the vast majority of poems from the past and present: so, get comfortable using them!

There are a number of forms of poetry. A **form** is a set structure that is followed by different poets at different times. You can research how they work and what they look like using online resources on [poetryfoundation.com](http://poetryfoundation.com)

## How to explain the effects of a poet's use of structure

- 1. Identify a structural feature:**  
*"The poet uses [enjambment] ..."*
  - 2. Link this feature to a feeling or idea:**  
*"...to reflect the idea/feeling of..."*
  - 3. Identify a specific example of this feature**  
*"A clear example of this use of [enjambment] occurs on line [15]"*
  - 4. Explore the effect of this specific example**  
*"The [enjambment] here is used to emphasise the..."*
- CHALLENGES:**
- 5. Compare and contrast** different elements of the poem's structure
  6. Comment on the **rhythm** of the poem (as a result of its structure)

## Poetic forms past and present

Free verse	Ballad	Narrative
Haiku	Elegy	Concrete
Sonnet	Dramatic monologue	Sestina
Blank verse	Villanelle	Acrostic

# HUMANITIES

## Cycle 1

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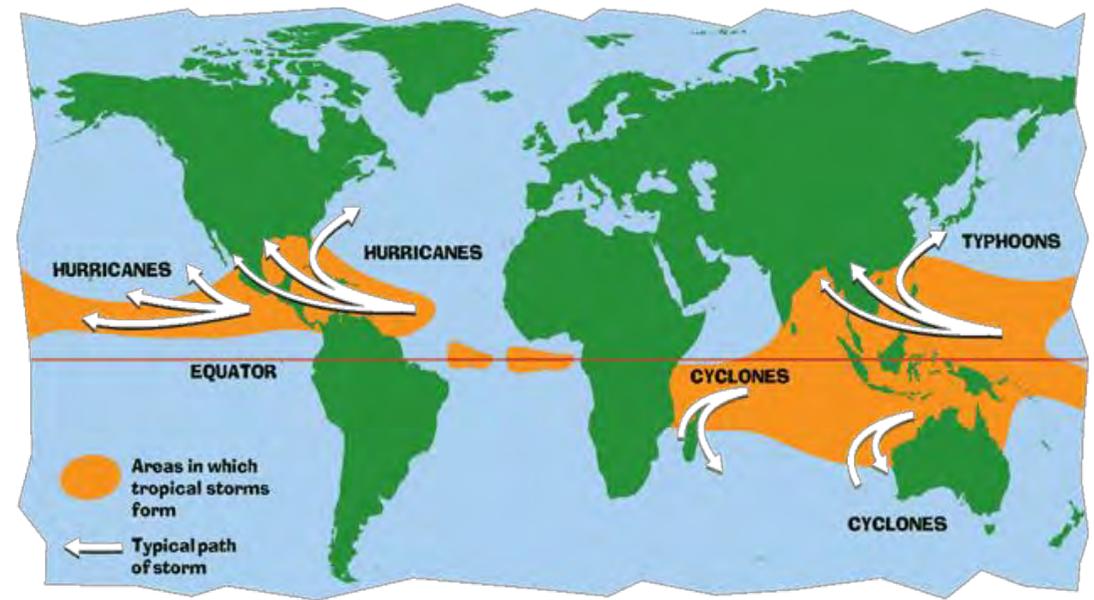
- **Geography**
- **History**
- **RE**

## Distribution of Tropical Storms

They are known by many names, including hurricanes (North America), cyclones (India) and typhoons (Japan and East Asia). They all occur in a band that lies roughly 5 – 15° either side of the Equator.

## High and Low Pressure

- Low pressure – caused by hot air rising. Causes stormy, cloudy weather.
- High pressure – caused by cold air sinking. Causes clear and calm weather.



## Formation of Tropical Storms

1. The sun's rays heat large areas of ocean in the summer and autumn. This causes **warm, moist air** to rise over the particular spots.
2. Once the **temperature is 27°**, the rising warm moist air leads to a **low pressure**. This eventually turns into a thunderstorm. This causes air to be sucked in from the **trade winds**.
3. With trade winds blowing in the opposite direction and the rotation of earth involved (Coriolis effect), the thunderstorm will eventually start to **spin**.
4. When the storm begins to **spin faster than 74mph**, a tropical storm (such as a hurricane) is officially born.
5. With the tropical storm growing in power, **more cool air sinks** in the centre of the storm, creating calm, clear condition called the **eye of the storm**.
6. When the tropical storm hits land, it **loses its energy source** (the warm ocean) and it begins to lose strength. Eventually it will 'blow itself out'.

## Primary Effects of Tropical Storms

- The intense winds of tropical storms can destroy whole **communities, buildings and communication networks**.
- As well as their own destructive energy, the winds can generate abnormally high waves called **storm surges**.
- Sometimes the most destructive elements of a storm are these subsequent **high seas and flooding** they cause to coastal areas.

## Secondary Effects of Tropical Storms

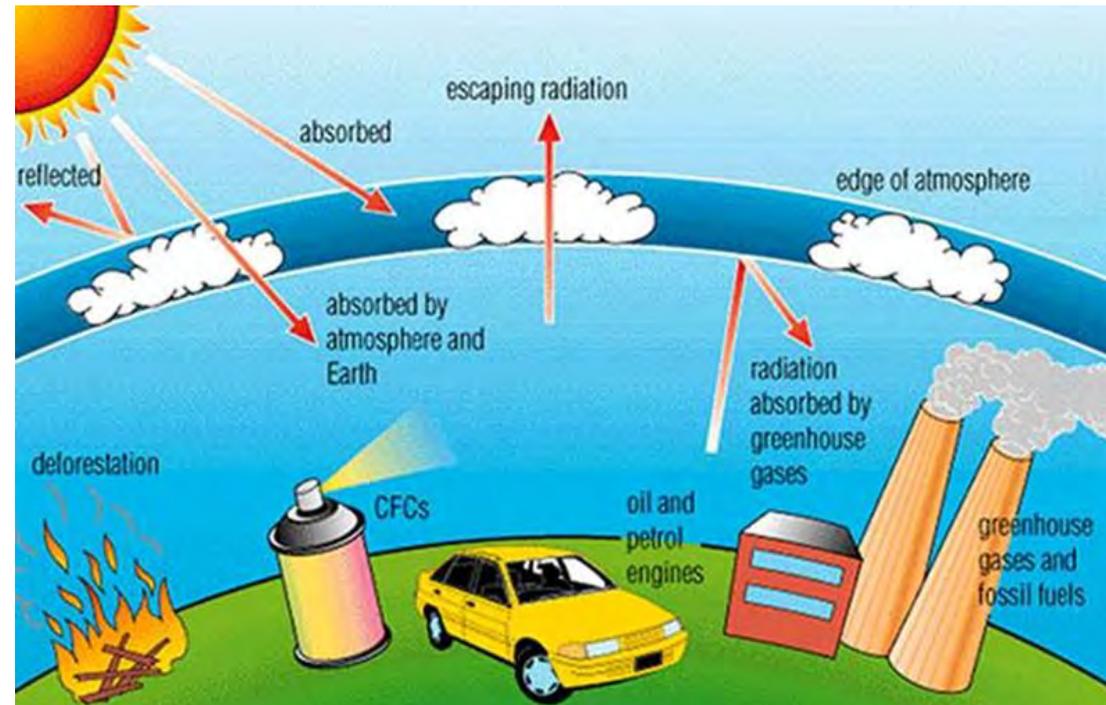
- People are **left homeless**, which can cause distress, poverty and ill health due to lack of shelter.
- **Shortage of clean water and lack of proper sanitation** makes it easier for diseases to spread.
- **Businesses are damaged** or destroyed causing unemployment.
- Shortage of food as **crops are damaged**.

## What is Climate Change?

Climate change is a large-scale, long-term shift in the planet's weather patterns or average temperatures. Earth has had tropical climates and ice ages many times in its 4.5 billion years.

## Enhanced Greenhouse Effect

Recently there has been an increase in **humans burning fossil fuels** for energy. These fuels (gas, coal and oil) emit **greenhouse gases**. This is making the Earth's atmosphere thicker, therefore trapping more solar radiation and causing **less to be reflected**. As a result, the Earth is becoming warmer.



## Recent Evidence for Climate Change

- Global Temperature – Average global temperatures have increased by more than **0.6° since 1950**.
- Ice Sheers and Glaciers – Many of the world's glaciers and ice sheets are melting e.g. the Arctic sea ice has declined by **10% in 30 years**.
- Sea Level Change – Average global **sea level has risen by 10-20cms** in the past 100 years. This is due to the additional water from ice and thermal expansion.

## Managing Climate Change

- Carbon Capture – This involves new technology designed to reduce climate change.
- International Agreements – Countries aim to cut emissions by signing international deals and by setting targets.
- Planting Trees – Planting trees increases the amount of carbon that is absorbed from the atmosphere.
- Renewable Energy – Replacing fossil fuels that are energy based with clean/natural sources of energy.

## Natural Causes of Climate Change

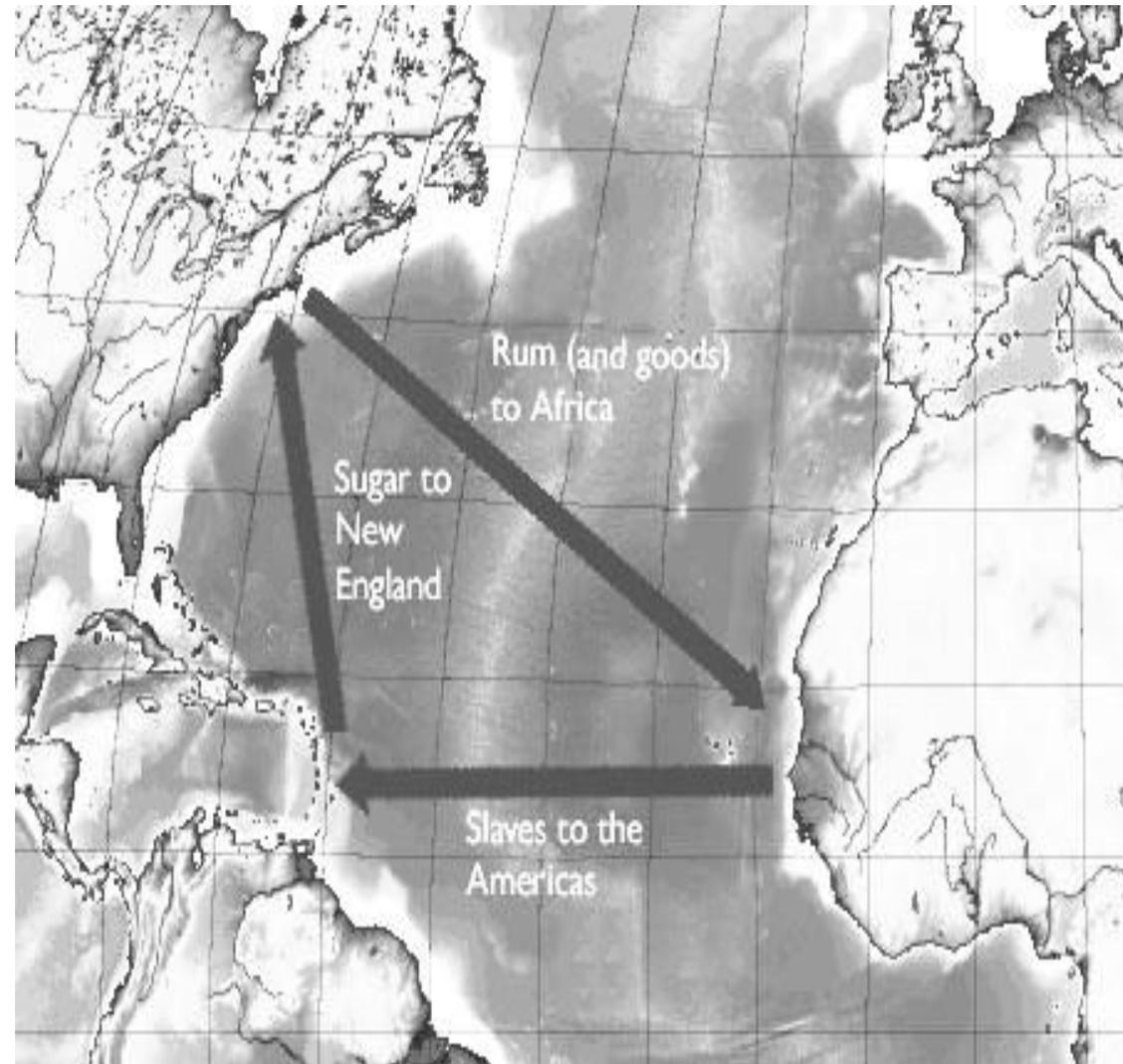
- Orbital Changes – Some argue that climate change is linked to how the Earth orbits the sun, and the way it wobbles and tilts as it does it.
- Sun Spots – Dark spots on the sun are called sun spots. They reduce the **amount of energy Earth receives** from the sun.
- Volcanic Eruptions – Volcanoes release large amounts of **dust containing gases**. These can **block sunlight** and results in cooler temperatures.

## Empire and Slavery:

In this unit you will learn about how the British Empire expanded around the world and eventually moved into slavery. There will be a particular focus on the transatlantic slave trade, also known as the triangular trade, which was prominent during the late 16<sup>th</sup> century to the early 19<sup>th</sup> century. You will also learn how different groups fought for the abolition of slavery and how, despite their successes, slavery continues to be a problem in the world today.

## Key knowledge:

- The British Empire began to colonise overseas by the late 16<sup>th</sup> century.
- The reasons for empire are largely to make money and to have power and influence over others.
- Slavery occurred before this time period – but the West African slave trade began towards the late 16<sup>th</sup> century.
- The history of slavery spans many cultures, nationalities, and religions from ancient times to the present day.
- The triangular (transatlantic) slave trade was a trading system carrying slaves, cash crops, and manufactured goods between West Africa, Caribbean or American colonies and European colonial powers.
- Slaves were sold at auction and made to work on large plantations (farms) growing cotton, tobacco and sugar.
- Edward Colston was a merchant who gave money to schools and alms houses for the poor and his name is commemorated in several Bristol landmarks, streets and schools. However, he is a controversial figure because he made his money from the slave trade.
- Political leaders, black activists, women and the wider public protested against slavery.



- The United Nations published a Universal Declaration of Human Rights in 1948 to protect individual freedoms.
- In America, the North and South went to war over slavery resulting in its abolition.
- Even though slavery is illegal it still occurs in many countries across the world in different ways.

## Key words:

- Colony – A country which is occupied by settlers from another country.
- Empire – A group of countries ruled by one single monarch.
- Scramble for Africa – European countries racing to colonise Africa before the others.
- Slave – A person who is the legal property of another and is forced to obey them.
- Profit – Money made through the sale of slaves after the deduction of expenses.
- Agent – Someone who arranges the capture and sale of slaves.
- Transatlantic slave trade – The trading system carrying slaves, cash crops, and manufactured goods between Europe, Africa, USA and Caribbean.
- Middle passage – The route on which slaves were transported.
- Conditions – Factors affecting the way in which people live or work, especially with regard to their well-being.
- Plantations – Large farms in America and the Caribbean which used slave labour.
- Anti-slavery movement – Those that protested against slavery.
- Dehumanisation – Treatment that degrades human beings.
- Campaign – Organised protests against slavery.
- Resistance – The refusal of slaves to accept their own enslavement and cooperate with slave owners.

## Key dates:

- **1562:** British sailors are given permission to expand sailing routes to West Africa and begin participating in the slave trade.
- **1672:** Royal Africa Company granted charter to carry Africans to the Americas.
- **1790:** The first bill for the Abolition of the Slave Trade fails.
- **1791:** Slave rebellion on the island of St. Domingue (later Haiti).
- **1792:** House of Lords reject an Abolition Bill passed by the House of Commons.
- **1804:** Slave rebellion on the island of St. Domingue successful and the first independent black state outside of Africa – Haiti – is established.
- **1807:** On 25 March, transatlantic slave trade abolished by the British Parliament.
- **1833:** The Abolition of Slavery Act is passed by the British Parliament, abolishing the practice of slavery in all British territories.
- **1833:** Death of William Wilberforce.
- **1948:** Universal Declaration of Human Rights.
- **1962:** Bill of Rights in USA ends segregation.

## Key individuals:

- **Cecil Rhodes** – An explorer leading Britain to expand its empire.
- **Edward Colston** – A merchant who participated in the slave trade.
- **Thomas Clarkson** – English abolitionist, and a leading campaigner against the slave trade in the British Empire.
- **John Newton** – After working on slave ships he became a Christian and worked to end slavery. He wrote the hymn ‘Amazing Grace’.
- **William Wilberforce** – British politician and leader of the movement to abolish the slavery.

In this unit you will learn about core beliefs in Hinduism, including karma, different festivals and how Hindus worship. We will then look at the life of Gandhi and how his Hindu beliefs influenced him.

## Reincarnation:

Reincarnation is the concept that the soul of a living being starts a new life in a different physical form or body after death. It is also called rebirth. Buddhism and Hinduism hold in common a teaching of karma, the law of cause and effect, which states that what someone does in this present life will have its effect in the next life. In Hinduism the process of birth and rebirth is endless until one achieves *moksha*, or liberation (literally “release”) from that process.

## Caste system:

In some countries a person’s place in society is decided by a caste system. The caste that they belong to is based on their wealth, occupation, and family background. Although the term is used to describe groups in other countries, the system is most well developed in India.

Brahma and the origins of caste



Source: Alamy

BBC

## Hindu festivals: Holi (the festival of colour):



Holi is one of the most significant festivals of India mostly celebrated in the month of March every year. It symbolizes the victory of good over evil, truth over lie and happiness over sorrow. Holi is also a way to welcome the blooming of flowers and sense of warmth and happiness.

## Hindu festivals: Diwali (the festival of light)

It celebrates the return of Lord Rama and Sita after 14 years in exile. Diwali lasts for 4 days. Lights are used to show the heavenly bodies that we are in joy and prosperity. They believe that the goddess of wealth-*Lakshmi* enters only the clean houses on the evening of *Diwali*. People exchange gifts and sweets at Diwali.



## Key words:

- Ahimsa – the doctrine that all life is one and sacred, resulting in the principle of nonviolence toward all living creatures.
- Karma – the belief that your actions in this life affect all your future lives.
- Dharma – doing your duty.
- Samsara – the cycle of death and rebirth.
- Moksha – the end of the cycle of death and rebirth.
- Reincarnation – the soul being reborn in another body.
- God – a supreme being or spirit worshipped as having power over nature or human fortunes.
- Caste system – the division of all Hindus into 4 categories based on a range of factors.
- Rites – a religious ceremony or act.
- Worship – the feeling or expression of reverence and adoration towards a deity.
- Puja – Hindu worship ceremony, usually performed in the home.
- Festival – a religious celebration of an event or teaching.
- Diwali – the Hindu festival of light.
- Holi – the festival of love and colour.

In this unit you will learn about core beliefs in Hinduism, including karma, different festivals and how Hindus worship. We will then look at the life of Gandhi and how his Hindu beliefs influenced him.

## Hindu Worship:

Puja: In its simplest form, puja usually consists of making an offering of flowers or fruit to an image of a god.



## Items found on the tray:

Murti: the image of a god to be worshipped.

Bell: the worshipper will ring the bell to let the God know that they have come to worship.

Diva lamp: shows God's presence.

Incense: purifies the air and is a nice smell for the God.

Water: is used to wash the Murti.

Kumkum powder: mark their foreheads to show respect to God and the he has blessed them.

Prashad: blessed food and flowers offered to the gods. It is later eaten by the worshipper(s).

## Hindu Gods:

- Brahma – the god of creation. He is the source of all knowledge in the universe.
- Vishnu – the preserver of life. He encourages his followers to be kind and compassionate.
- Shiva – the destroyer. He is considered to be responsible for death, destroying in order to bring rebirth and new life.
- Ganesh – has an elephant head. Is said to bestow wisdom and good fortune, remove obstacles, and is associated with the arts and sciences.
- Krishna - is not only viewed as a hero and leader but also as a teacher and a friend. Krishna is said to be the embodiment of love and divine joy and destroyer of all pain and sins.



## Key events from Gandhi's life:

**Salt March:** The Salt March was an act of nonviolent civil disobedience in India led by Gandhi. The 24-day march lasted from 12 March 1930 to 6 April 1930. Walking ten miles a day the march spanned over 240 miles. It was against British control of salt production and profit.

**Amritsar massacre:** took place on 13 April 1919 when troops of the British Indian Army under the command of Brigadier-General Reginald Dyer fired rifles into a crowd of unarmed Indian civilians who had gathered. The civilians had assembled for a peaceful protest.

**Fasting:** Gandhi, undertook 17 **fasts** during India's freedom movement. His longest **fasts** lasted 21 days. **Fasting** was a weapon used by **Gandhi** as part of his philosophy of Ahimsa (non-violence).

## Ahimsa quotes from Gandhi

'Ahimsa, non-violence, comes from strength, and the strength is from God, not man. Ahimsa always comes from within.' A man cannot for a moment live without consciously or unconsciously committing out-ward ahimsa. The very fact of his living necessarily involves some ahimsa, destruction of life, be it ever so minute.'

'Ahimsa is an attribute of the brave.'

'God is truth. The way to truth lies through ahimsa (nonviolence).'

# ICT

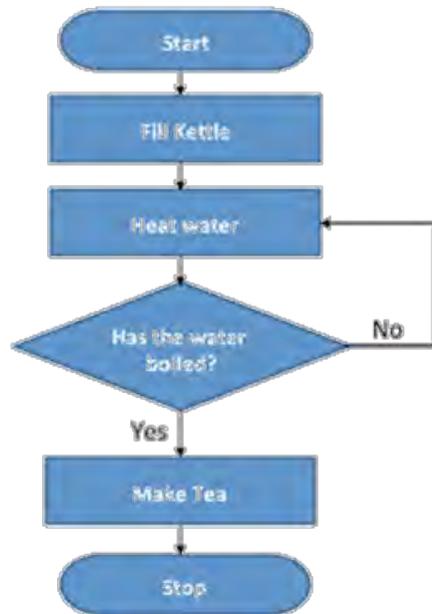
## Cycle 1

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Cycle 1 in Computer Science will focus on sequencing and programming using Scratch and understanding algorithms. It is crucial that the steps in an algorithm are performed in the right order - otherwise the algorithm will not work correctly.

## Key words and definitions

Algorithm	Instructions that are carried out (performed) one after another.
Data	Information processed or stored by a <b>computer</b> . This information may be in the form of text documents, images, audio clips etc.
Flow Diagram	A visual way of representing an algorithm, using special symbols and arrows.
Sequencing	The specific order in which instructions are performed in an algorithm.
Programming	Giving computers step by step instructions in order for them to complete a task.



### Useful links:

<https://www.bbc.com/bitesize/topics/z7d634j>

<https://code.org/learn>

## Topic 1 Algorithms

Learning Objectives: To understand what algorithms are and how to represent them with flow diagrams. To be able to use and understand flow diagram symbols.

### Flow Diagram Symbols:

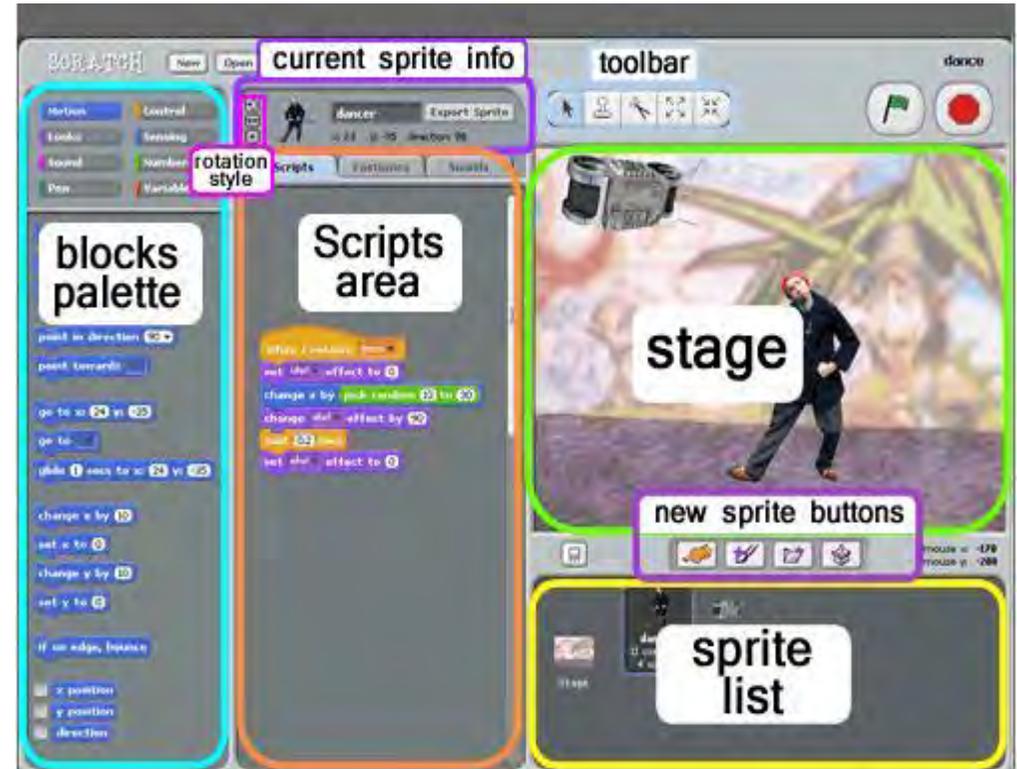
	Terminator – the start or end of the algorithm.
	Process – when something happens in an algorithm (a single processing step).
	Decision/Question – a yes/no or true false condition. It has 2 arrows coming out of it which are labelled (yes/no or true/false).
	Input or Output – where the user of the algorithm is expected to input data (e.g. answer a question). Or where something is output to the user (sound, visuals etc.)
	Data flow arrow – this indicates the direction of the data flow (which direction to follow the flow diagram).

## Topic 2 Programming

Learning Objectives: To understand how use Scratch to create your own programme. To be able to create costumes, stages and scripts. To consider audience and purpose when creating your program.

### Key words and definitions

Scratch	Programming software that uses code blocks of different colours and functions.
Sprite	A character which is programmed using Scratch.
Stage	Where the program is seen working.
Costume	A picture of what the sprite looks like.
Script	The Scratch name for your program.
Blocks	The ready-made, colour coded blocks of code that you add together to make a program.



Default Sprite	Start Button	Stop Button
		
This is the default sprite in Scratch. You can change it by drawing your own sprite.	This is the start button in Scratch. Click it to run the program.	This is the stop button in Scratch. Click it to end the program.

### Useful Links:

<https://scratch.mit.edu/>  
<http://www.piskelapp.com/>



### What does each type of block do?

<https://en.scratch-wiki.info/wiki/Blocks>



What would this script do?

<https://en.wikibooks.org/wiki/Scratch/Lessons/Movement>

# LANGUAGES

## Cycle 1

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- **French**
- **Spanish**

**MON IDENTITE:** Learning Cycle 1 is a module that will enable you to talk about your personality and your friendships. You will explore French music and fashions and you will be reinforcing the future tense (the near future).

Key words	Definitions
<b>Subject Pronouns</b>	Je (I) / tu (you) / il/elle (he/she), nous (we) / vous (you (pl)) / ils/ells (they (m)/they (f)).
<b>Nouns</b>	Used to identify any of a class of people, places, or things.
<b>Adjectives</b>	Used to describe a noun.
<b>Verbs</b>	A word used to describe an action, state, or occurrence, and forming the main part of the predicate of a sentence, such as <i>hear, become, happen</i> .
<b>Adverbs of frequency</b>	Used to say how often someone does something.
<b>Infinitive</b>	A verb in its unchanged form / A verb which can be found in a dictionary / A verb which has an ER/IR/RE ending in French (jouer) / A verb which has 'to' in front of it in English (to play).
<b>Present tense</b>	Used to say what someone is currently doing (I do / I play).
<b>The Future tense</b>	Used to talk about what someone will do in the future (I will play football).
<b>The Near Future tense</b>	Used to talk about what someone is going to do in the future (I am going to play football).

### Key phrases to know by heart !

je suis - I am  
 je **ne** suis **pas** - I'm not  
 je **ne** suis **jamais** - I'm never  
**il** est - he is  
**elle** est - she is  
**nous** sommes- we are



### Frequencies

rarement - rarely  
 quelquefois - sometimes  
 souvent - often  
 normalement - normally  
 toujours - always  
 jamais- never

### Intensifiers



un peu - a bit  
 plutôt - rather  
 assez - quite  
 très - very  
 vraiment - really

### Studio Grammaire

Learn the irregular verb *venir* by heart.

*venir* (to come)

je viens I come  
 tu viens you come  
 il/elle vient he/she comes  
 on vient we come

### Studio Grammaire

Page 63

You use the near future tense to talk about what you are going to do.

**je vais** porter I am going to wear  
**tu vas** porter you are going to wear  
**il/elle va** porter he/she is going to wear  
**on va** porter we are going to wear

### Studio Grammaire

Page 23

*être* (to be) is an irregular verb.

je suis I am  
 tu es you are  
 il/elle est he/she is  
 on est we are

### Studio Grammaire

*on* means 'we'. The verb form is the same as for *il* and *elle*.

*on parle* we speak  
*on regarde* we watch  
*on va* we go  
*on rigole* we have a laugh

Into your notes:

	MY	YOUR (INFORMAL)	HIS/HER
MASCULINE NOUNS	MON	TON	SON
FEMININE NOUNS	MA	TA	SA
PLURAL NOUNS	MES	TES	SES

### Adverbs



- évidemment - obviously
- certainement - certainly
- sans doute - undoubtedly
- heureusement - fortunately / luckily
- malheureusement - unfortunately

## 3 ways to say "MY" in French!

- MON** is used in front of **masculine** nouns  
eg: *mon père / mon frère*
- MA** is used in front of **feminine** nouns  
eg: *ma mère / ma sœur*
- MES** is used in front of **plural** nouns  
eg: *mes parents / mes chats*

### Interjections of personality

- à mon avis - in my opinion
- je pense que - I think that
- selon moi - according to me

### Studio Grammaire

With reflexive verbs, you need to use an extra pronoun.

*je me fâche* I get angry  
*on se chamaille* we squabble

If the verb begins with a vowel sound, the pronoun changes:

*je m'entends bien avec ...* I get on well with ...  
*on s'amuse* we have fun

*se chamailler* to squabble  
*je me chamaille* I squabble  
*tu te chamailles* you squabble  
*il/elle/on se chamaille* he/she squabbles/we squabble  
*nous nous chamaillons* we squabble  
*vous vous chameillez* you squabble  
*ils/elles se chamaillent* they squabble

### Les couleurs

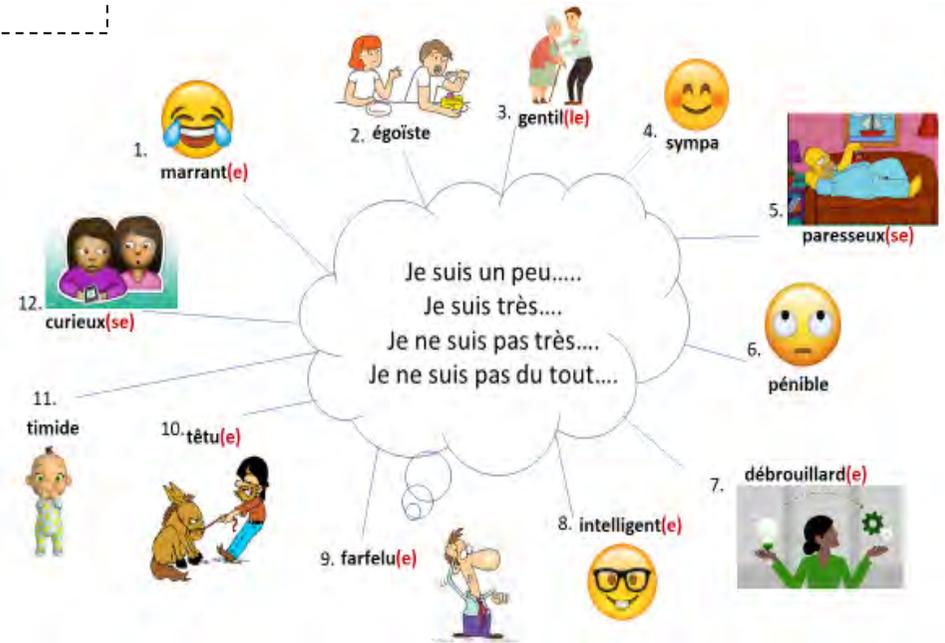
Masculin	Féminin
Bleu	Bleue
Vert	Verte
(un pull) Noir	(une robe) Noire
Gris	Grise

### Colours that don't change:

Masculin	Féminin
Rouge	Rouge
Rose	Rose
(un jean) Jaune	(une chemise) Jaune
Orange	Orange
Marron	Marron

### Colours that change in a particular way

Masculin	Féminin
(un pantalon) Blanc	(une jupe) Blanche
Violet	Violette



**MI VIDA MI MOVIL: In Learning Cycle 1 you will talk about how you use modern technology and online activities. You will also increase your knowledge of the present tense. Additionally, you will learn about different types of music and TV programmes.**

Key words	Definitions
<b>Subject Pronouns</b>	Yo (I) / tu (you) / el/ella (he/she), nosotros (we) / vosotros (you (pl)) / ellos/ellas (they (m)/they (f))
<b>Nouns</b>	Used to identify any of a class of people, places, or things
<b>Adjectives</b>	Used to describe a noun
<b>Verbs</b>	A word used to describe an action, state, or occurrence, and forming the main part of the predicate of a sentence, such as <i>hear, become, happen.</i>
<b>Adverbs of frequency</b>	Used to say how often someone does something
<b>Infinitive</b>	A verb in its unchanged form / A verb which can be found in a dictionary / A verb which has an AR/IR/RE ending in Spanish (jugar) / A verb which has 'to' in front of it in English (to play)
<b>Present tense</b>	Used to say what someone is currently doing (I do / I play)
<b>The Preterite tense</b>	Used to talk about what someone did in the past (I played football)
<b>The Near Future tense</b>	Used to talk about what someone is going to do in the future (I am going to play football)

### Regular verb endings in the present tense

**Gramática**

You use the present tense to talk about what usually happens.

There are three groups of regular verbs:

<b>-ar verbs</b>	<b>-er verbs</b>	<b>-ir verbs</b>
hablar to talk	leer to read	compartir to share
hablo I talk	leo I read	comparto I share
hablas you talk	lees you read	compartes you share
habla he/she talks	lee he/she reads	comparte he/she shares
hablamos we talk	leemos we read	compartimos we share
habláis you (pl.) talk	leéis you (pl.) read	compartís you (pl.) share
hablan they talk	leen they read	comparten they share

Some verbs are stem-changing:  
jugar → to play    juego → I play

### Adverbs of frequency

✓✓✓✓	<b>todos los días</b>	every day
✓✓✓✓	<b>dos o tres veces a la semana</b>	three or four times a week
✓✓✓	<b>a veces</b>	sometimes
✓✓	<b>de vez en cuando</b>	from time to time
✗	<b>nunca</b>	never

**SKILLS** **Looking for cognates**

To help you understand an authentic text, look for:

**Cognates** - words that are spelled the same in Spanish and English (for example, *invasión*).

**Near-cognates** - words that are not exactly the same but similar (for example, *oficina*).

claro of course  
tonto/a silly

cuando puedo when I can  
estoy feliz I am happy

Escucho de todo. I listen to everything.

**SKILLS** **Giving opinions**

- Use a range of opinion-giving phrases to make your sentences more interesting:
  - ♥♥♥ Me encanta...
  - ♥♥ No me gusta nada...
- Give a reason: *porque es guay/triste/horrible... porque me gusta el ritmo...*
- Make an exclamation: *¡Qué va! ¿Estás loco/a?*

**Preterite or Present?**

**Gramática**

You use:

- the present tense to talk about what usually happens.
- the preterite to talk about past events.

All types of verbs (regular -ar, -er and -ir verbs, stem-changing verbs and irregular verbs) change their endings to show whether they are in the present or the preterite.

Present	Preterite
monto, juego, veo, salgo, hago, voy	monté, jugué, vi, salí, hice, fui

The preterite tense

The preterite tense is used for single events that happened in the past at a definite time (I woke up, I got up, I had a shower, I had a breakfast). To form the preterite, you have to take the ending (ar, er or ir) off the infinitive and add the following endings:

-ar verbs	-er and -ir verbs
Hablar = to speak (Infinitive)	Comer = to eat (Infinitive)
Hablé = I spoke	Comí = I ate
Hablaste = you spoke	Comiste = you ate
Habló = he/she/it spoke	Comió = he/she/it ate
Hablamos = we spoke	Comimos = we ate
Hablasteis = you (pl) spoke	Comisteis = you (pl) ate
Hablaron = they spoke	Comieron = they ate

**He/his? She/her?**

**SKILLS**

**Making everything match up**  
When you use the he/she/it form, you often need to change other elements of the sentence:

me gusta (I like) → le gusta (he/she likes)

mi programa favorito (my favourite programme) → su programa favorito (his/her favourite programme)

mis amigos (my friends) → sus amigos (his/her friends)

NOTE: The -er and -ir endings are the same.

However, the preterite tense has a few spelling changes and irregular verbs\*. Here are some that will be useful to you:

Jugar = to play	Hacer = to do	Ver = to see/watch	Ir = to go
Jugué = I played	Hice = I did	Vi = I saw/watched	Fui = I went
Jugaste = you played	Hiciste = you did	Viste = you saw/watched	Fuiste = you went
Jugó = he/she played	Hizo = he/she did	Vio = he/she saw watched	Fue = he/she went

\*Irregular verbs are verbs that do not follow the rules; they usually have different endings & need to be learned by heart.

# MATHS

## Cycle 1

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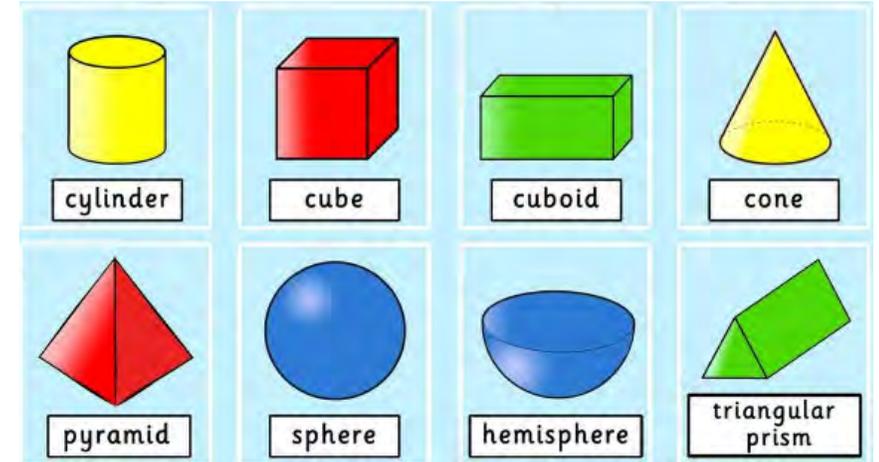
Cycle 1 in **Maths** will investigate the properties of 3D shapes (faces, edges and vertices) and use these properties to solve problems. You will investigate how to find the area of 2D shapes including circles and finally you will learn about transformation of 2D shapes.

SHAPE – Key words and definitions	
Net	a flat shape which can be folded up into a three-dimensional solid
Faces	flat surface of a three-dimensional shape
Edges	the side of a polygon or a line segment where two faces of a solid figure meet
Vertex/Vertices	a point(s) where the edges of a solid figure meet
Prism	a prism is a 3D shape with the same cross-section all the way along its length
Plan	a technical drawing showing the details of an object viewed from directly above
Elevation	the view of a 3D shape from a given direction
Compound Shape	a 2D shape made from others
Area	a measure of the total surface of a 2D shape
Perimeter	distance around the outside of a shape
Volume	the amount of space occupied by an 3D object
Surface Area	the total area of each face of a 3D object

### Topic 1

Use the properties of cubes, cuboids, prisms, cylinders, pyramids, cones and spheres to solve problems in 3-D.

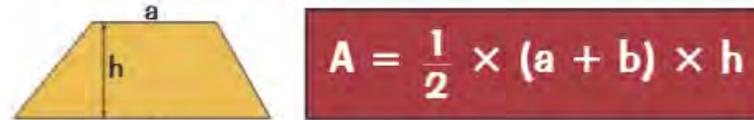
HM: 829 - 844



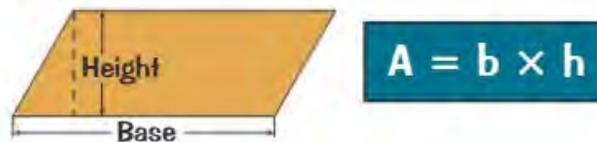
Area of **RECTANGLE** = length  $\times$  width



Area of **TRAPEZIUM** = average of parallel sides  $\times$  distance between them



Area of **PARALLELOGRAM** = base  $\times$  vertical height



Area of **TRIANGLE** =  $\frac{1}{2} \times$  base  $\times$  vertical height



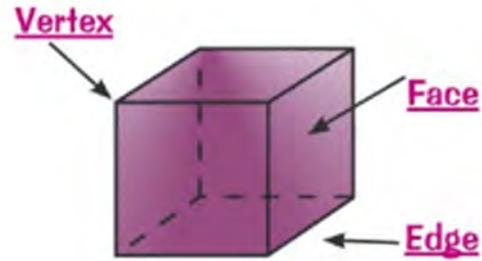
### Topic 2

Calculate and solve problems involving area and surface area of cuboids and other prisms.

HM: 554 - 559

A cube has:

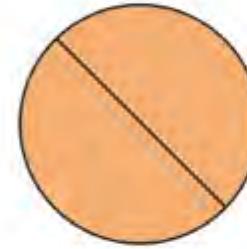
- 6 Faces
- 12 Edges
- 8 Vertices



### Topic 3

To be able to find the area and circumference of a circle and use this to solve problems.

HM: 539 - 543



**Area of circle** =  $\pi \times (\text{radius})^2$

Remember that the **radius** is **half** the **diameter**.

**Circumference** =  $\pi \times \text{diameter}$   
 =  $2 \times \pi \times \text{radius}$

### COOL MATHS FACT

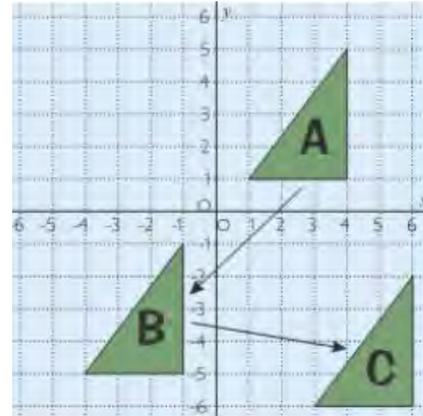
**Pi** is the ratio of a circle's circumference to its diameter.  
 ... So, for any circle, dividing its circumference by its diameter will give you the exact same number.

$\pi = 3.14159265358 \dots$

### Topic 4

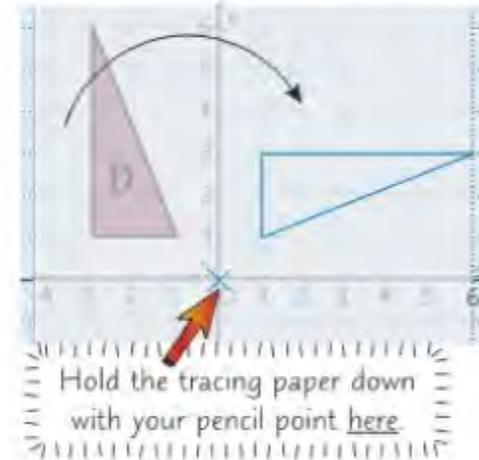
To be able to carry out transformation of 2D shapes – Reflection, Rotation, Translation and Enlargement.

HM: 637 - 654

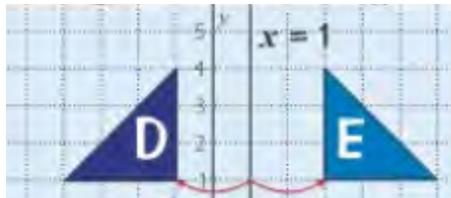


To describe a translation you need to write the column vector of how the shape has moved.  
 Remember size and orientation remains the same.

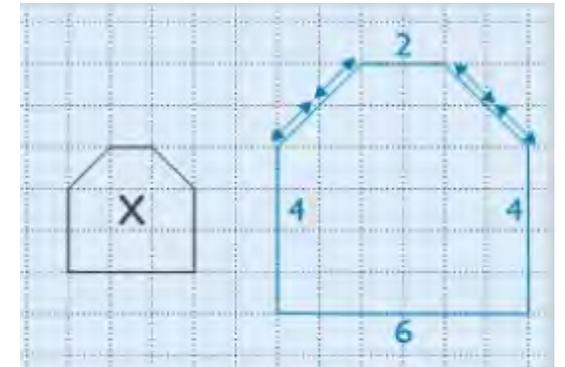
$\begin{pmatrix} -5 \\ -6 \end{pmatrix}$  → 5 left  
 6 down



To describe a rotation you must include; direction, angle of rotation and where you are rotating it from.



To describe a reflections you need to know the equation of the mirror line e.g. vertical lines are  $x =$ , horizontal lines are  $y =$



To describe an enlargement you need to know the scale factor (how many times bigger or smaller) and the centre of enlargement.

# PE

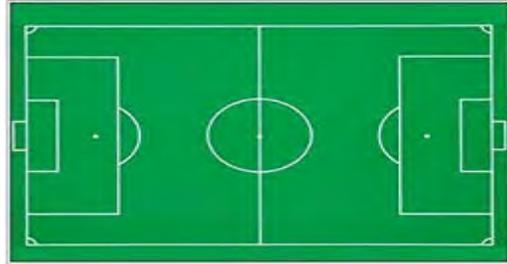
## Cycle 1

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- **Football**
- **Futsal**
- **Rugby**

We will focus on: An introduction in to Football. You will develop skills and acquire knowledge and understanding of the rules and regulations and how to apply these.

## Topic 1 Football



### THE GAME

11 players per side, who all have different positions

1 referee and 2 assistants to officiate the game.

A goal is scored when the ball crosses the line in the goal.

All players will play in a certain formation that can be changed according to the tactics in place.

Warming up before physical activity is very important. During this Cycle, your teacher will discuss and apply the 5 part warm – up:

- Pulse raising
- Mobility
- Dynamic movement
- Stretching
- Skill rehearsal phase

Only the goalkeeper when in their area can handle the ball.

The ball has to stay within the vicinity of the pitch. The ball is thrown in, if it leaves the side of the pitch.

Either a corner kick or goal kick is awarded if the ball leaves the pitch behind the goal.

If the ball gets knocked off the pitch by team A, then team B will gain the throw in on the side. If behind the goal and the attacking team touched the ball last, then a goal kick is awarded, A corner is awarded if the defensive team touched it last.

A foul is committed for hand ball, tackling the player instead of the ball and offside.

### BASIC RULES

Indirect free kick	Awarded for a minor foul – the player cannot shoot.
Direct free kick	Awarded for a more serious foul – the player is allowed to shoot.
Penalty	Awarded for a foul committed in the penalty area.
Offside	Awarded if a player is in the attacking half and receives a pass from a team mate with 1 or less player between them and the goal.



Within your lessons, you will need to answer these questions by the end of the topic: When is a corner kick awarded? When is a goal kick awarded? How do you know if someone is offside? How long does a typical match last for?

We will focus on: An introduction in to Futsal. You will develop skills and acquire knowledge and understanding of the rules and regulations and how to apply these.



## THE GAME

5 players per side, who all have different positions

2 referees stand either side of the court and officiate the game.

A goal is scored when the ball crosses the line in the goal.

All players will play in a certain formation that can be changed according to the tactics in place.

Warming up before physical activity is very important. During this Cycle your teacher will discuss and apply the 5 part warm – up:

- Pulse raising
- Mobility
- Dynamic movement
- Stretching
- Skill rehearsal phase

Only the goalkeeper when in their area can handle the ball.

The ball has to stay within the vicinity of the pitch. The ball is kicked in if it exits the side of the court.

Either a corner kick or goal kick is awarded if the ball leaves the pitch behind the goal.

No slide tackles are allowed.

If a ball has gone out of the court a team has 3 seconds after they have placed the ball down to kick the ball into play.

A foul is committed for handball, tackling the player instead of the ball and offside.

## BASIC RULES

Indirect free kick	Awarded for a minor foul – the player cannot shoot.
Direct free kick	Awarded for a more serious foul – the player is allowed to shoot.
Penalty	Awarded for a foul committed in the penalty area.



Within your lessons, you will need to answer these questions by the end of the topic: When is a corner kick awarded? When is a goal kick awarded? How do you know if someone is offside? How long does a typical match last for?

We will focus on: An introduction in to Rugby. You will develop skills and acquire knowledge and understanding of the rules and regulations and how to apply these.

## Topic 1 Rugby

### THE GAME

Y7/8 up to 12 players per side, who all have different positions

Y9/10 up to 15 players per side, whom all have different positions

Aim of the game is to run the ball into the try zone (behind the posts) and place the ball down

Kicking, scrums, lineouts and tap/pass can be used to restart the game when various stoppages take place

Warming up before physical activity is very important. During this Cycle, your teacher will discuss and apply the 5 part warm – up:

- Pulse raising
- Mobility
- Dynamic movement
- Stretching
- Skill rehearsal phase

Attackers must pass the ball backwards or sideways

If a ball is passed forwards or dropped forwards from a players' hand then a scrum is awarded

Both attackers and defenders must stay behind the ball where possible

A game restarts by the conceding team kicking towards the attacking team from the half way line

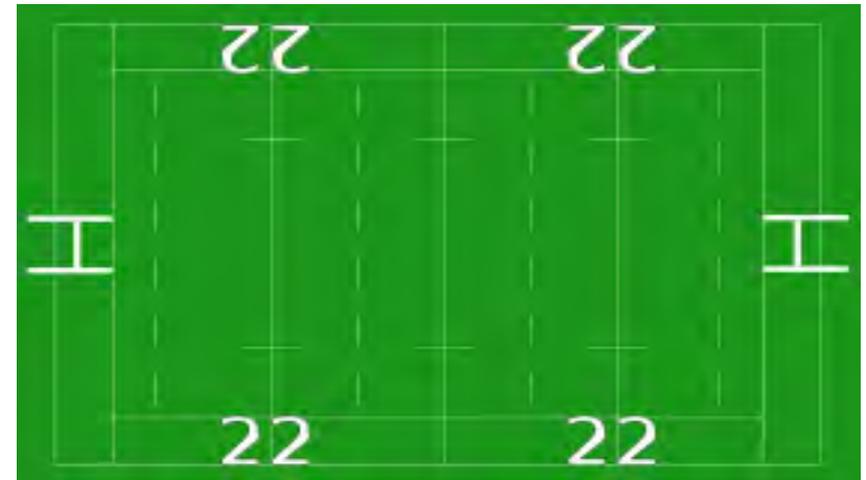
When tackling legally, both arms must be used and it must be waist height or below

Rucks and mauls can be used to contest possession once a tackle has been made

Advantage can be played to keep the game flowing if the attacking team still retain possession

### BASIC RULES

High tackle	When a defender makes a tackle higher than the shoulders.
Offside	When the ball is on the floor from a contact situation, the defender/attacker is in front of the ball.
Knock-on	When an attacker drops the ball forward from their hands.
Forward pass	If the ball is passed forward to a member on their team.



Within your lessons, you will need to answer these questions by the end of the topic: How many points is a try worth? Which direction must you pass the ball? What does a legal tackle look like?

# SCIENCE

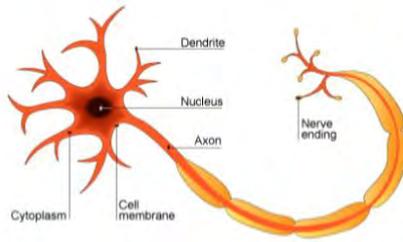
## Cycle 1

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Topic 1 in cycle 1 of science will focus on how the body works and how it protects against infection. Topic 2 will focus on what makes something magnetic and how magnets are used in everyday life.

Health and disease key words		Magnetism key words	
<b>Reflex arc</b>	An involuntary nervous response	<b>Magnetic material</b>	Materials that can be magnetised
<b>Coronary artery</b>	Artery supplying blood to the heart muscle	<b>Magnetic field</b>	Area around a magnet in which there is a magnetic force
<b>Cholesterol</b>	Fatty substance that is vital for body functions	<b>Domain</b>	Region in which magnetic fields of atoms are grouped together
<b>Artery</b>	Blood vessel that carries blood away from the heart	<b>Electromagnet</b>	A type of magnet produced by an electric current
<b>Ligament</b>	Tissue connecting bone to bone	<b>Hypothesis</b>	An answer to a scientific question that can be investigated
<b>Tendon</b>	Tissue connecting muscle to bone	<b>Anomaly</b>	A result that does not fit with a pattern
<b>Pathogen</b>	Disease causing microorganism	<b>Motor</b>	Converts electrical energy into mechanical energy
<b>Platelet</b>	Component of the blood responsible for clotting/making scabs	<b>Generator</b>	Converts mechanical energy into electrical energy
<b>Antibiotic</b>	Medicine that prevents growth of some microorganisms	<b>Renewable energy</b>	An energy resource that will not run out

**Topic 1:  
Health and  
disease**



- A **stimulus** is a change to the environment and a receptor is a group of cells that detect the change.
- **Receptors** are found in sense organs.
- **Effectors** are muscles or glands which carry out a response.

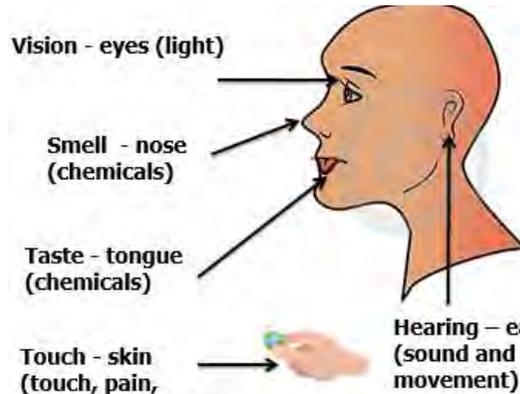
Vision - eyes (light)

Smell - nose (chemicals)

Taste - tongue (chemicals)

Touch - skin (touch, pain, temperature and pressure)

Hearing – ears (sound and movement)



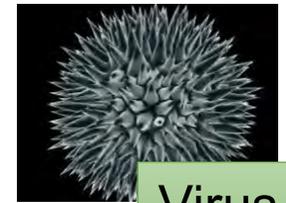
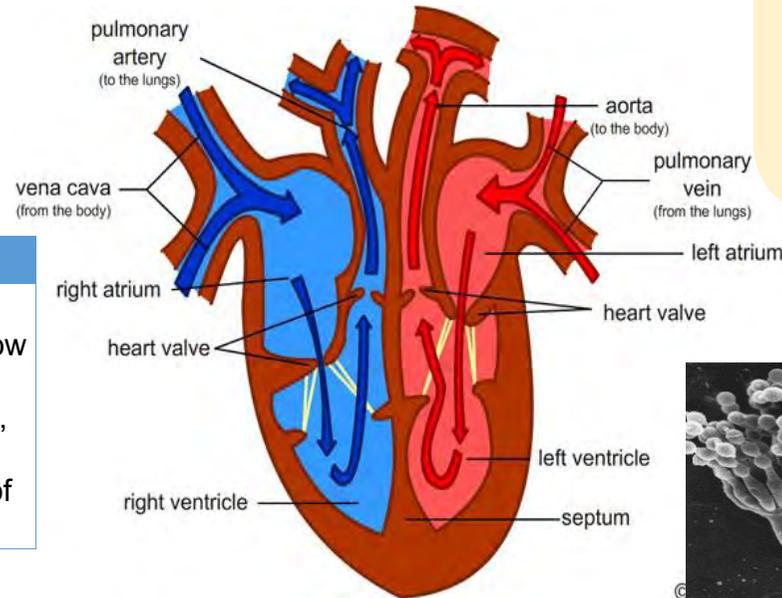
The nervous system has 3 parts: brain, spinal cord and nerves. It enables us to control our body and react to the outside world.

The skeleton: supports muscles, protects vital organs, produces blood cells and creates movement. Muscles are attached to bones by tendons. Bones are attached to bones by ligaments.

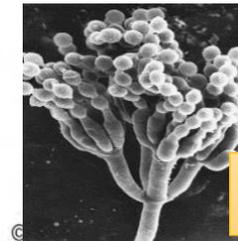
Drugs are chemical substances that affect the way your body works. They are **medicinal** and **recreational** and can be painkillers, hallucinogens, stimulants or depressants.

Blood is made up of plasma (liquid), platelets, red blood cells (carry oxygen) and white blood cells (fight infection).

Artery	Capillary	Vein
Carry blood from the heart at a high pressure. Have thick elastic walls	Link arteries and veins. Carry blood to tissues and removed waste	Carry blood to the heart at a low pressure. Have thin walls, and valves to stop backflow of blood



Virus



Fungi



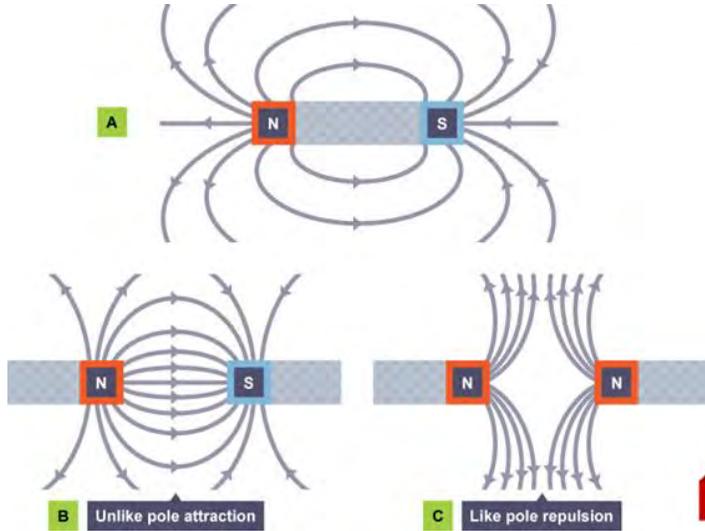
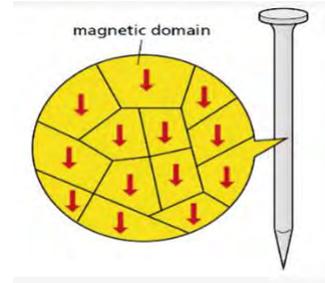
Bacteria

Pathogens are microorganisms that cause disease. There are 3 main types of pathogen: bacteria, fungi and viruses. Diseases can be spread by air, water, food, touch, animals, sexual contact. The body has several lines of defence against pathogens including primary defences: skin, stomach acid, nasal hairs, mucus and secondary defences: the immune system.

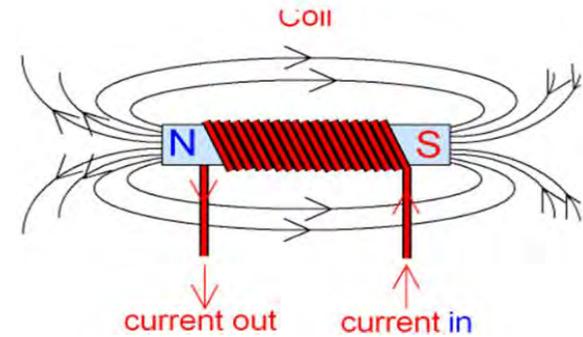
## Topic 2: Magnetism

There are only 3 magnetic elements- **iron, cobalt and nickel**. Magnetic materials ALWAYS attract to a magnet.

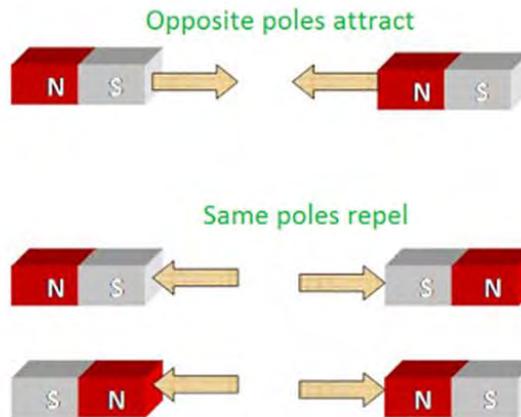
**Domains** are small parts of the metal/material with atoms that line up in the same direction. Domains line up when exposed to a magnetic field. You can make a magnet out of magnetic material using a permanent magnet and repeatedly stroking in one direction.



Permanent magnets always exert a magnetic field whereas temporary magnets can lose their magnetism if dropped or damaged.



The magnetic field of the Earth is similar to a bar magnet. It is created by our spinning iron core. Birds use the earth's magnetic field to navigate, which is particularly important when migrating.



Electromagnets are magnets generated by electric current. We can make electromagnets stronger in three ways: more coils, higher current or using an iron core.

Renewable energy: an energy resource that won't run out e.g. wind, solar, geothermal, wave or hydroelectric power. They do not produce harmful greenhouse gases such as carbon dioxide.

Motors use electric current to cause a coil of wire to spin in between two permanent magnets. A generator is a device that produces electricity.

There will be two required practicals in this cycle, one per topic.

Topic 1 required practical: Chicken wing dissection

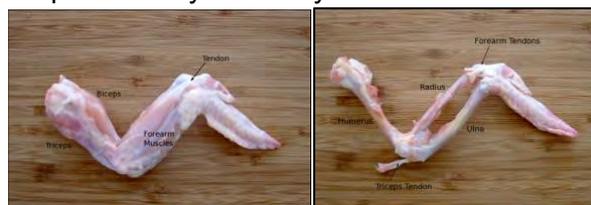
You will be dissecting a chicken wing and comparing its anatomy to the human arm.



Step 1: Loosen the skin then peel it off.

Step 2: Straighten the leg and pull each muscle to see the movement it causes

Step 3: Identify the shiny white tendons



When creating scientific drawings of your work, ensure you use a pencil and use neat lines with no sketching or shading. Label all the structures with clear, straight label lines. Make sure you give your diagram a title.

Topic 2 required practical: Investigating electromagnets

You are going to investigate how the number of coils affects the strength of an electromagnet by measuring how many paperclips it holds.

**Identifying variables:**

Variables are factors within the investigation that you either change, measure or control.

**For this investigation:**

Independent variable (change): Number of coils

Dependent variable (measure): Number of paperclips picked up

Control (keep the same): material of paperclip, size of paperclip

**Plotting graphs:**

When writing up this practical you will be required to plot a graph. Remember the independent variable is plotted along the x-axis and the dependent variable along the y-axis.

**Describing trends:**

When describing a trend, state how the independent variable affects the dependent variable.