

# Year 8 Knowledge Organiser



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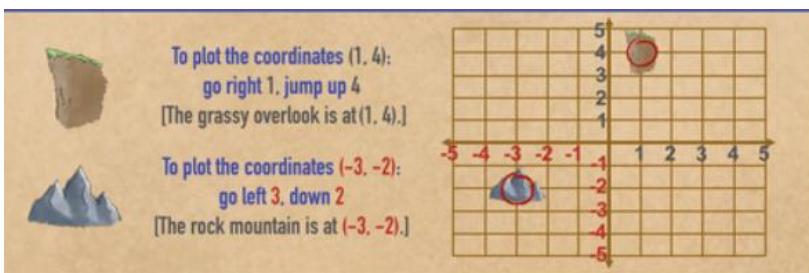
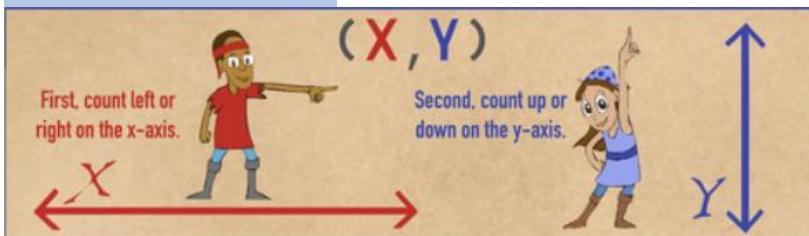


# Maths





## Coordinates:



## The Midpoint Formula

$$\left( \frac{x_1 + x_2}{2}, \frac{y_1 + y_2}{2} \right)$$

$y=a$  graphs are horizontal

$x=a$  graphs are vertical

## Solving equations:

Balancing method

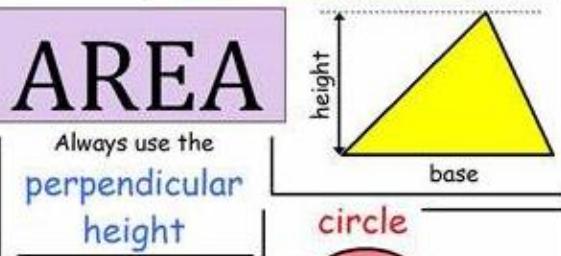
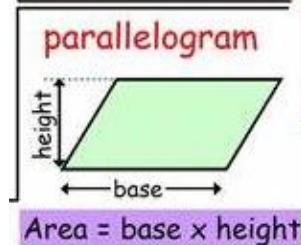
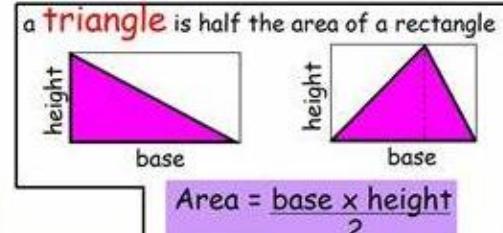
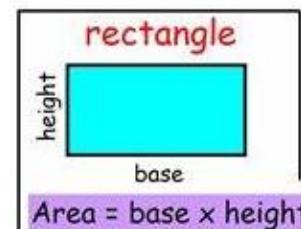
$$\begin{aligned} 8a - 5 &= 11 \\ +5 &\quad +5 \\ 8a &= 16 \\ \div 8 &\quad \div 8 \\ a &= 2 \end{aligned}$$

Balancing method

$$\begin{aligned} 10 + 6y &= 34 \\ -10 &\quad -10 \\ 6y &= 24 \\ \div 6 &\quad \div 6 \\ y &= 4 \end{aligned}$$

Balancing method

$$\begin{aligned} \frac{x}{12} - 5 &= 4 \\ +5 &\quad +5 \\ \times 12 &\quad \frac{x}{12} = 9 \times 12 \\ x &= 108 \end{aligned}$$



## AREA

Always use the perpendicular height

## Where x is on both sides:

$$\begin{aligned} 2g - 1 &= 7g - 11 \\ -2g &\quad -2g \\ -1 &= 5g - 11 \\ +11 &\quad +11 \\ 10 &= 5g \\ /5 &\quad /5 \\ 2 &= g \end{aligned}$$

Variable- a quantity represented by a letter

Expression- a mathematical statement with an equals sign

Equation-says that two things are equal. It will have an equals sign " = "

# English





# English - Gothic Extracts & Descriptive Writing



Gothic Writing	Sentence Type	Language Techniques	Structural Techniques
<p><b>Gothic characters:</b></p> <ul style="list-style-type: none"> <li>• Characters with high social status</li> <li>• Female victims threatened by a powerful male</li> <li>• Threatening women</li> <li>• Powerful, tyrannical male figures</li> <li>• Villains, vampires, ghosts, werewolves, ghosts, monsters</li> </ul> <p><b>Gothic settings:</b></p> <ul style="list-style-type: none"> <li>• Wild landscapes</li> <li>• Medieval style castles</li> <li>• Churches or abbeys</li> <li>• Gloomy and decayed environments</li> <li>• Remote, uninhabited places</li> <li>• Volatile and threatening weather</li> </ul> <p><b>Gothic features:</b></p> <ul style="list-style-type: none"> <li>• The supernatural</li> <li>• Death and darkness</li> <li>• Madness</li> <li>• Duality</li> <li>• Psychological episodes</li> <li>• Mystery, terror and suspense</li> </ul>	<p><b>Clause:</b> must contain a verb and a <b>subject</b> - <i>She ran = subject+verb</i></p> <p><b>Subject:</b> performs the verb in a clause – <i>I/you</i></p> <p><b>Object:</b> has verb in a clause performed to it - <i>She ran <u>the tap</u></i></p> <p><b>Phrase:</b> a group of connected words (<i>the fluffy white dog / far too fast / has been swimming</i>)</p> <p><b>Simple sentence:</b> contains one clause with a subject and verb – <i>the train was late</i></p> <p><b>Compound sentence:</b> contains two independent clauses that are related and joined with a conjunction – <i>I like coffee and she likes water</i></p> <p><b>Complex sentence:</b> contains one or more subordinate clause – <i>Although I enjoy Maths, English is my favourite subject</i></p> <p><b>Sentence functions:</b></p> <p><b>Declarative:</b> used to make a statement. The subject will come before the verb: <i>The Prime Minister is in favour of banning cheese / The goat has escaped again!</i></p> <p><b>Interrogative:</b> used to ask a question. The verb will come before the subject: <i>Is the Prime Minister in favour of banning cheese?</i> Can also use question stems: <i>who, what, where, when, why, how</i></p> <p><b>Imperative:</b> used to issue a command. Has no subject. <i>Put that down / Leave here at once / Don't throw paint</i></p> <p><b>Exclamatory:</b> used to show shock, surprise, anger. Usually start with a phrase containing what or how: <i>How fantastic!</i></p>	<p><b>Simile:</b> A comparison of two things using the key words like or as.</p> <p><i>The world is like a stage</i></p> <p><b>Metaphor:</b> A direct comparison of two things which is not literal.</p> <p><i>The world is a stage</i></p> <p><b>Emotive language:</b> Words which elicit an emotional reaction.</p> <p><i>Defeated and heartbroken, the team left the pitch</i></p> <p><b>Pathetic fallacy:</b> When nature reflects human emotion (we often see this in the weather)</p> <p><i>The sun shone in the cloudless sky as the friends were reunited</i></p> <p><b>Imagery:</b> Creating a mental picture for the reader through appealing to the senses (smell, touch, taste, see, hear).</p> <p><i>The smell of freshly cut grass filled the air</i></p> <p><b>Personification:</b> the giving of human characteristics to a non-human object</p> <p><i>The rain tapped against the window</i></p> <p><b>Alliteration:</b> the same letter or sound at the start of adjacent words</p> <p><i>The books burst with magical worlds of fantasy</i></p>	<p><b>Flashback/flash forward:</b> set earlier or later than the main narrative</p> <p><b>Anaphora:</b> the repetition of a word or phrase at the beginning of successive clauses – <i>Be your best everyday. Be the sunshine in the world.</i></p> <p><b>Repetition:</b> a word or phrase that is used more than once</p> <p><b>Chronological structure:</b> arranged in the order of time</p> <p><b>Listing:</b> a number of connected items written one after the other to emphasise a particular quality</p> <p style="text-align: center;"><b>Upgrade your sentence type</b></p> <p><b>Triple noun colon:</b></p> <p><i>Dirt, oil and grease: the boy's face was smeared with remnants of his day of toil.</i></p> <p><b>Simile start:</b></p> <p><i>Like an urban fox, the filthy boy rummaged desperately through the mountain of rubbish.</i></p> <p><b>Not only but also:</b></p> <p><i>Not only were the boy's eyes transfixed on the ground, but his face was also covered in a mixture of mud and grease.</i></p> <p><b>Double adjective start:</b></p> <p><i>Abject and alone, the boy peered into the distance, desperately searching for aid.</i></p>

# Science





## Energy transfers

### Energy and temperature

When we know the **temperature** of something, we know how hot it is, not how much **internal energy (thermal energy)** is in it.

Temperature is measured in **degrees Celsius (°C)**.

Internal (thermal) energy is measured in **joules (J)**.

The amount of thermal energy stored in something depends on:

- how hot it is (its temperature)
- the material it is made from
- its mass.

When two objects are at different temperatures, energy will be transferred from the hotter one to the cooler one until they are at the same temperature.

### Transferring energy by heating

Energy can be transferred by heating in different ways.

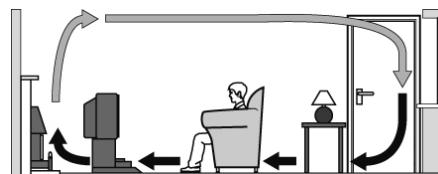
**Evaporation** can take place from a liquid at any temperature. When part of a liquid evaporates, it is the fastest-moving particles that escape to form a gas. The particles that are left are storing less energy as movement and so the temperature of the remaining liquid is lower.

**Conduction** takes place in solids and can also happen in liquids (although not very well).

The particles in a solid are held together tightly. When they gain energy they vibrate faster and further, and the vibrations are passed on. Metals are the best conductors. Most other solids are poor conductors.

Particles are not as close in a liquid, so conduction is not very good. Particles are a long way apart in gases, so gases hardly conduct heat at all. Something that does not conduct heat very well is a thermal insulator. Liquids, gases, and solids that contain a lot of trapped air are insulators.

**Convection** takes place in fluids (liquids and gases). When part of a fluid is heated, the particles spread further apart and the fluid becomes less dense. This makes it rise. As it rises it meets cooler fluid and passes the energy on. More cool fluid moves in to replace the rising fluid, setting up a **convection current**.



**Infrared radiation** can transfer energy through empty space and also through transparent materials. Radiation does not require the movement of particles. Any hot or warm object gives off or emits radiation. When something takes in energy from radiation, it is said to absorb it.

Infrared radiation is similar to light. It can be absorbed or reflected, and it can also be focused.

Dark, dull surfaces are good emitters and absorbers of radiation. Light, shiny surfaces are good at reflecting radiation. They are poor absorbers and emitters of radiation.

### Power

**Power** is the rate at which energy is transferred. Power is measured in **watts (W)** or **kilowatts (kW)**. One watt is one joule of energy being transferred each second.  $1000 \text{ W} = 1 \text{ kW}$ .



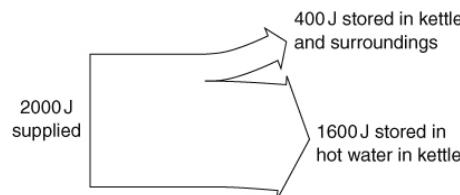
## Efficiency

Not all energy is transferred usefully. Wasted energy is often transferred by heating. The percentage of useful energy produced by something is known as its efficiency.

$$\text{efficiency} = \frac{\text{useful energy transferred}}{\text{total energy supplied}} \times 100\%$$

The **Sankey diagram** shows the energy transfers in a kettle. The width of each arrow shows the amount of energy it represents. The energy stored in the kettle and the surroundings is wasted energy.

$$\begin{aligned}\text{efficiency of kettle} &= \frac{1600 \text{ J}}{2000 \text{ J}} \times 100\% \\ &= 80\%\end{aligned}$$



## Paying for energy

We pay for the amount of energy we use in our homes. Electricity companies use units of **kilowatt-hours** on electricity bills. One kilowatt-hour is the amount of energy transferred when a one kW appliance is used for one hour.

We can reduce bills by insulating our homes and by using more efficient appliances.

The **payback time** of installing something that makes a home more energy efficient is the time taken for the cost of installation to be matched by the money saved. Sometimes buying a more efficient appliance may not save you energy overall because it costs more to buy than it will save.

$$\text{payback time} = \frac{\text{cost of change}}{\text{savings per year}}$$

## Accuracy and precision

A measurement is accurate if it is close to the true value of the thing being measured.

Measuring devices that have small divisions can measure more accurately than instruments with larger divisions if they are set up correctly.

A measurement is precise if several measurements of the same thing give similar results.

Precise measurements may not be accurate if the measuring instrument was not set up correctly.



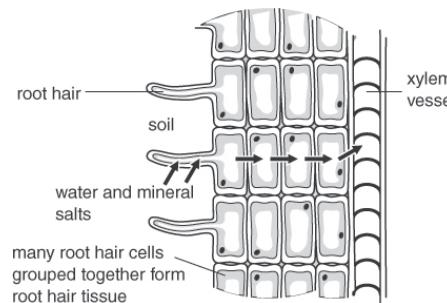
## Photosynthesis

**Photosynthesis** is a series of **chemical reactions** that we can summarise using a **word equation**. Energy and **chlorophyll** are needed for it to happen. The energy is transferred by light (usually from the Sun) and becomes stored in glucose.



### Getting water

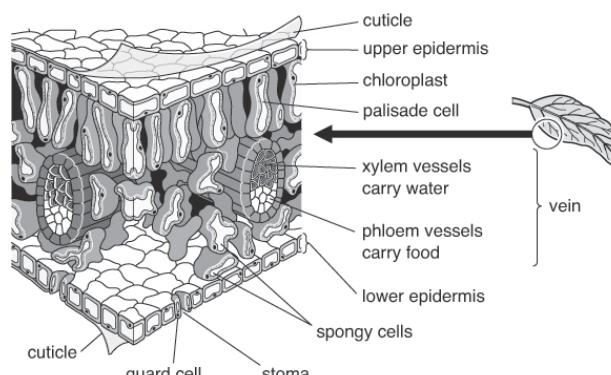
Water is taken out of the soil by the roots. Roots are **adapted** to their **function** by being branched and spread out to help them to **absorb** water from a large volume of soil. They also have **root hair cells**, which have a large surface area to help them absorb water quickly. The water flows up **xylem vessels** (made of hollow cells) to the leaf.



Water is also needed because **mineral salts** are dissolved in it. These keep plants healthy. For instance, plants need **nitrates** to make **proteins**. Water also stops plants **wilting** by filling up their cells, and it can keep their leaves cool.

### Getting carbon dioxide

Air, containing carbon dioxide, **diffuses** into leaves through small holes called **stomata**. Leaves are thin so that the carbon dioxide does not need to go very far before reaching the cells that need it. Increasing the amount of carbon dioxide around a plant can often speed up photosynthesis.



### Getting light

Many leaves are wide so that they have a large surface area to trap as much light as possible. They are also arranged so that they do not shade one another.

Most photosynthesis happens in the **palisade cells**, which are found near the upper surface of leaves. Palisade cells are packed with **chloroplasts**. Chloroplasts contain **chlorophyll**, a green chemical that absorbs energy transferred by light and uses it to power photosynthesis. Increasing the amount of light can often speed up photosynthesis.



# Science: 9B



## Aerobic respiration

Plant cells release the energy stored in glucose using **aerobic respiration** (another series of chemical reactions):



All living cells need energy and so all living cells respire. Aerobic respiration happens all the time, but photosynthesis can only happen when there is light.

## Uses of glucose

Glucose is a type of sugar. It is used for three things:

- respiration to release energy
- making other substances that act as stores of energy (e.g. starch), which can be turned back into glucose for respiration when needed
- making new materials for growth, e.g. cellulose (for cell walls), lipids (e.g. for cell membranes) and proteins (e.g. for enzymes). To make proteins, mineral salts called **nitrates** are needed.

New substances made by a plant are carried around the plant in **phloem vessels**.

## Farming

Modern farming methods can cause environmental problems.

What is done	Why it is done	Problems this causes
land is cleared of hedges and trees	to create more land for crops and make it easier for machinery to move around	Destroys habitats. Lack of roots can cause soil erosion.
pesticides (e.g. <b>herbicides</b> , <b>insecticides</b> ) are used	to kill pests that compete with or harm the crops	Can kill useful organisms as well as pests. Damages food webs.
fertilisers are used	they contain mineral salts that help plants to grow and increase the yield	Can wash into streams and rivers and cause pollution so that the organisms in the water die.
varieties	varieties of plants are chosen that produce the highest yield	The planting of huge areas of a single variety reduces <b>biodiversity</b> .

## Breeding varieties

Farmers and plant breeders may choose or 'select' a plant with certain characteristics. This organism is then used to breed from. The offspring that have the best of these characteristics are then bred from again. This is called **selective breeding** and is how many varieties are created.

Sometimes two different varieties are bred together to try to produce offspring with characteristics from both varieties. This is called **cross-breeding**.



## The plant kingdom

Organisms are **classified** into groups. The plant kingdom contains organisms that have green leaves, cell walls made of cellulose and can **photosynthesise**. Kingdoms are subdivided into smaller and smaller groups. The last two of these are the **genus** and the **species**. The names of these two groups are used to give each species a two-word scientific name.

## Biodiversity

The range of species in an area is called **biodiversity**. We should preserve biodiversity because:

- organisms depend on one another (they are **interdependent**)
- we won't be able to make use of organisms if they become **extinct**
- more biodiverse areas recover better from natural disasters.

## Sexual reproduction in plants

**Reproduction** produces new living things (**offspring**). **Sexual reproduction** needs two parents to produce **sex cells** or **gametes**. The gametes fuse to produce a **fertilised egg cell** or **zygote**.

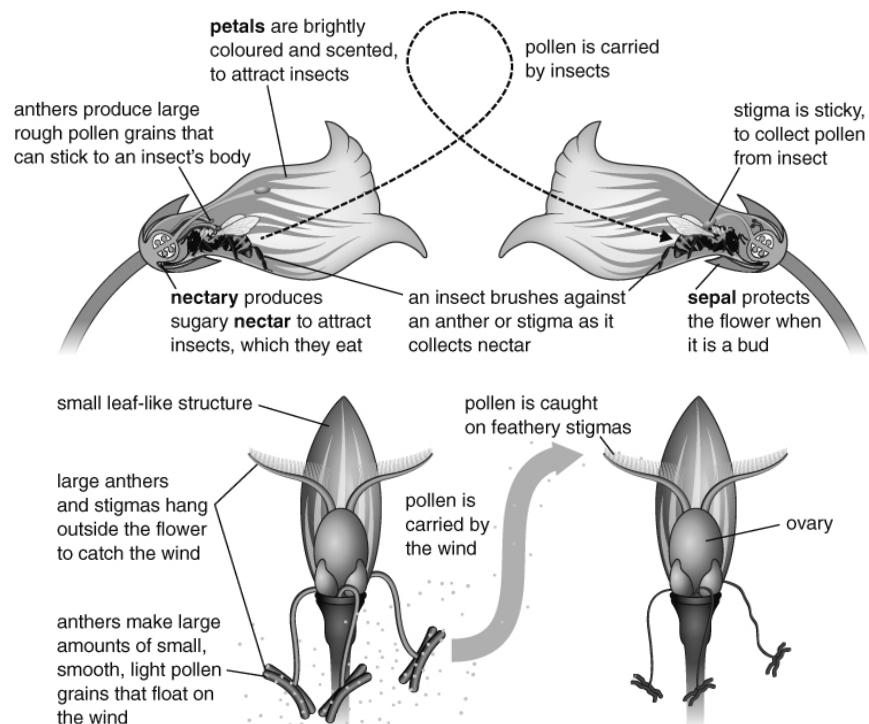
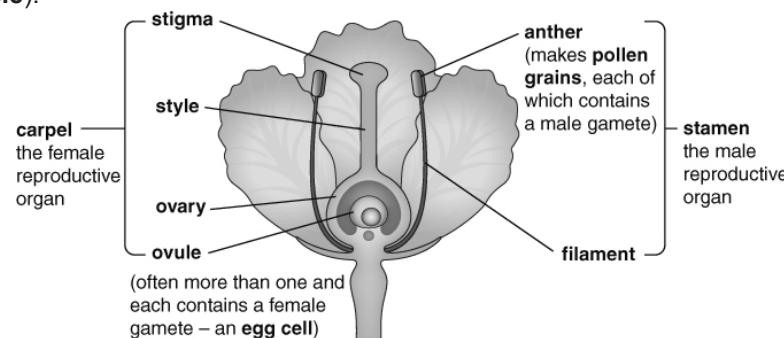
The zygote uses **cell division** to grow into an **embryo**, which can grow into an adult and become a parent (completing its **life cycle**).

The offspring from sexual reproduction contain **characteristics** from both parents. The differences in these characteristics is **inherited variation**.

Gametes are produced by **reproductive organs**.

In plants, these are contained inside **flowers**.

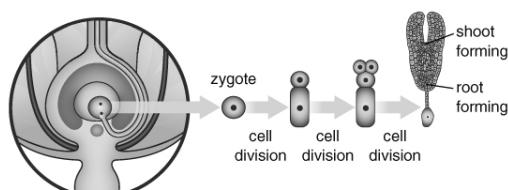
The **pollen grains** made in the anther need to be carried to the **stigma** of another flower. They are usually carried by insects or the wind. The carrying of pollen from an anther to a stigma is called **pollination**.



# Science: 8B



Once on the stigma, a pollen grain grows a **pollen tube**, which enters the **ovule** containing an **egg cell**. The nucleus from the male gamete inside the pollen grain joins with the nucleus inside the egg cell to form a zygote. This is called **fertilisation**. The zygote grows into an embryo and the ovule becomes a seed, containing the embryo and a food store.

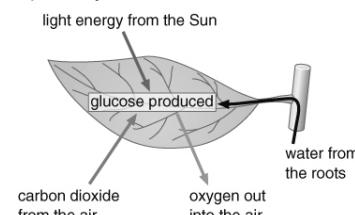


A part of the flower forms a **fruit**. This is used for **seed dispersal**, which stops the new plants competing with the parent plants for water, nutrients, light and space.

- Some fruits are eaten by animals and the seeds come out in their **faeces** (e.g. apples).
- Some fruits are carried on the fur of animals (e.g. burdock).
- Some fruits are carried by the wind (e.g. dandelion).
- Some fruits explode, scattering the seeds (e.g. lupins).

When conditions are right, seeds **germinate**. The **resources** needed are water, oxygen and warmth (WOW). Water allows chemical reactions to start, which break down the food store and allows cells in the embryo to swell up. Oxygen is needed for **respiration**, to release energy from the food store. Warmth is needed to speed up the chemical reactions.

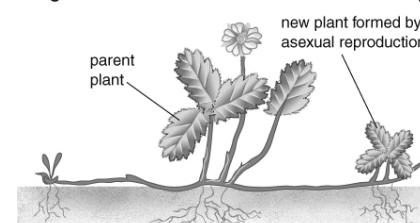
The root grows first then the shoot. Finally new leaves open and **photosynthesis** can start in the **chloroplasts**. The glucose from photosynthesis is turned into **starch** to be stored.



A growing plant needs light, air, water, warmth and nutrients called **mineral salts** (LAWWN).

## Asexual reproduction in plants

Some plants can reproduce using **asexual reproduction**. This is when *one* parent plant is able to produce offspring (e.g. by using **runners** in strawberries or **tubers** in potatoes).



## Accuracy, estimates and sampling

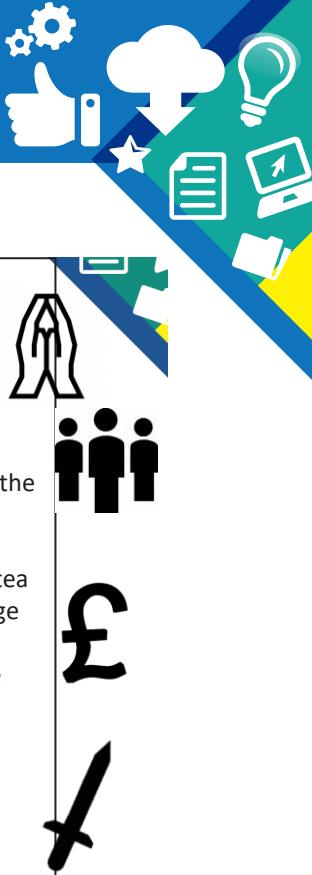
We can take a small sample of a larger population and use it to **estimate** what the larger population is like. Plant populations in an area can be estimated by taking samples using a **quadrat**. The more samples we take the more **accurate** the estimate is likely to be but the longer it will take to do.

# History





# History - Should we be proud of the British Empire?



## Suffragettes

**Emmeline Pankhurst** – Women's Suffrage and Political Union (WSPU).

**Emily Wilding Davidson** – Epsom Derby protest.

**1867** – Votes for rate paying men - better-off working class could now vote.

**1910** – Black Friday - 300 female demonstrators chained to railings outside of Parliament are attacked by police including sexual assaults. 115 women and 4 men arrested.

**1913** – Epsom Derby - Emily Wilding Davison ran onto the track to target King George V's horse. She was hit by the horse at 35mph and died 4 days later in hospital.

**1913** – Cat and mouse Act – Women on hunger strike could be released from prison to recover then readmitted.

**1818** – 5 million women working due to WWI.

**1918** – 4<sup>th</sup> Great Reform Act - Votes for women over 30 who paid rates.

**1928** – 5<sup>th</sup> Reform Act - Votes to women over 21 years old.

## How did the British Empire develop?

**Religion**: Britain wanted to spread the Christian religion. Protestant Britain also wanted to be stronger than Catholic Spain and France.

**Social** – There was a big demand for coffee, tea, sugar and tobacco in England. People emigrated from Britain to work in the colonies. Britain sent criminals to the colonies.

**Economic** – Plantations could produce large amount of coffee, tobacco, sugar, tea and cotton. Islands and ports provided ships with places to stop and trade. Large numbers of slaves were transported to work on plantations. Factories in Britain needed more raw materials like cotton and rubber. Factories also needed more places to export their products.

**War** – Britain fought wars against Holland, France and Spain and took colonies from them. Britain had the most powerful navy in the world. Britain took over more colonies to defend its Empire effectively. They needed naval bases for its warships around the world.

## Was the Empire a force for good?

**Slave trade** – Due to an increased demand for materials and a growing market for British companies to sell to, Britain needed to grow their labour force quickly and cheaply. The answer to this was slavery. John Hawkins and Francis Drake were instrumental in organising the transportation of thousands of slaves from Africa to the America's to work on the plantations. This helped the Empire to be very strong economically as Britain controlled the Atlantic slave trade, and used to it sell expensive products to Europe.

**India** – British colonial rule in India had many ups and downs. From a British perspective, we brought railways, financial organisation and political stabilisation. Many Britons believed that we were modernising a backwards nation and helping them to grow as a country. However, India was forced into this agreement, Britain took large chunks of income away from India and many people suffered. During a growing surge of Indian Independence, Britain committed some horrific crimes on those who chose to protest.

**Amritsar Massacre** – 13<sup>th</sup> April 1919 – British troops were ordered to fire into a crowd of unarmed Indian civilians, killing at least 389 people and injuring over 1,200 other people. This gave Mahatma Gandhi, the opportunity to lead demonstrations and non-violent protests that would continue until 1947 when India and Pakistan were granted independence.



# History - Should we be proud of the British Empire?



## Key Questions and research:

### Suffragettes

1. Summarise opinions towards women in the 19<sup>th</sup> century.
2. Who was Emmaline Pankhurst and why was she vital to the Suffragette movement?
3. Do you think that Emily Wilding Davison wanted to be killed as a martyr or was it an accident?
4. Did militants do more harm or good for women's rights?
5. What was the biggest reason for women gaining the vote: war or militants?

**Research** – Do you think that the suffragettes would be proud of the level of equality in Britain today? Find out whether there are arguments to suggest that women are still not completely equal. What can we do to change this?

### Empire

1. What was the biggest reason for Britain developing an Empire and why?
2. How many British colonies can you think of? (Australia is one!)
3. Explain how the slave trade triangle worked.
4. Was the Amritsar Massacre the turning point for the decline of the Empire?
5. Are you proud of the British Empire as part of your own identity and history? How can we make something positive out of it going forward as a country?

**Research** – Investigate what each of the colonies you listed in Q2. Are they still part of the Empire? Have they changed since they became independent? Do you think that being part of the Empire benefitted those nations?  
Has Britain been influenced by its colonies? What cultural changes have happened due to immigration?

# Geography



# Geography - Living off the Earth's resources



## How do we damage our soil?

Our population is growing, but the amount of fertile soil is shrinking. Why is this?

- We bury soil under concrete.
- We contaminate it with dust and fumes from factories.
- We cut down the trees that protect it.
- We let too many animals graze on it.
- We grow overgraze and use too much fertiliser on it.

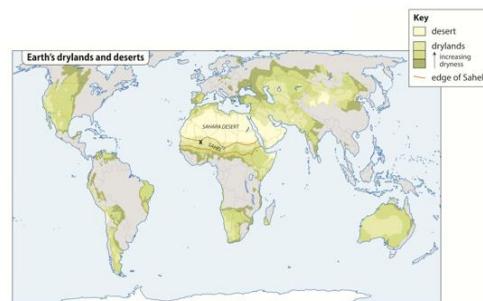
**Soil erosion** is a product of these actions. This is when the fertile top soil is carried away by wind or water. It can lead to **desertification**.

## What are the solution to desertification?

In the Sahel, farmers have developed methods for fighting desertification.

- |  |   |
|--|---|
| <ul style="list-style-type: none"> <li>• <b>Planting trees and bushes</b></li> <li>• <b>Storing rainwater when it falls</b></li> </ul> | <ul style="list-style-type: none"> <li>• <b>Digging Zai Pits</b></li> <li>• <b>Microdosing</b></li> </ul> |
|--|---|

Scientists are also working to develop new crop breeds that will grow more effectively on poor soil, or in drought.



## What is happening with the world's oil?

Oil forms from tiny sea creatures which die, get buried in sediment and, after being exposed to heat and pressure, turn into oil. Humans then extract the oil from the sea bed, or from underground.

Oil is used for transport, heating, electricity and to create medicines and plastic.

Oil is harmful to the environment.

When you burn it, it produces **greenhouse gases** which cause **global warming**. It also produces **Sulphur dioxide** which causes **acid rain**. Oil spills harm the environment.



## Is renewable energy the future?

There are a number of types of renewable energy.

- |  |   |
|--|---|
| <ul style="list-style-type: none"> <li>• <b>Biomass</b></li> <li>• <b>Hydro-electric Power</b></li> <li>• <b>Wind farms</b></li> </ul> | <ul style="list-style-type: none"> <li>• <b>Wave power</b></li> <li>• <b>Tidal power</b></li> <li>• <b>Solar farms</b></li> </ul> |
|--|---|

Solar power uses **solar cells** to change sunlight into electrical energy. It is particularly valuable in poor countries, where access to other forms of power might be difficult.

## How do we affect other species?

There are 1.7 million other known species on our planet. Scientists think at least 10 species become extinct each week. Some scientists believe humans are causing a **mass extinction** through **deforestation, pollution, hunting, fishing and burning fossil fuels**.

# Religious Studies





# Religious Studies - Luke's Gospel



## LUKE'S GOSPEL Knowledge Organiser



### Key Vocabulary

Gospels	Four books in the New Testament that <b>tell us about Jesus' life</b> , from his birth up to his death and resurrection.
Gentile	Anyone who <b>is not</b> Jewish.
Bible	The <b>holy book</b> followed by Christians.
Christians	People who follow the religion of Christianity.
Jewish	People who follow the religion of Judaism.
Revelation	The Christian belief that <b>God reveals himself</b> to people through words or actions.
Compassion	<b>Sorrow or pity</b> caused by the <b>suffering or misfortune</b> of another.
Parable	A story told by Jesus, to teach a <b>particular lesson</b> .
Salvation	To be <b>saved</b> from <b>sin</b> and its consequences, believed by Christians to be brought about by <b>faith</b> in Christ.
Covenant	A covenant means a <b>binding agreement</b> , a legal contract between two or more parties.
Crucifixion	The <b>crucifying</b> of Jesus (the type of death penalty given to Jesus).
Resurrection	In Christian belief, the rising of Christ from the dead.
Prodigal	Spending money or using resources freely and recklessly.
Hell	In Christianity, the <b>place</b> where some <b>people</b> are <b>believed to go after death</b> to be <b>punished forever</b> for the <b>bad</b> things they have done during <b>their lives</b> .

### When was it written?

The most likely date for when Luke's Gospel was written is around **AD 80–110**.

### Overview

The Gospel of Luke is a book of the Bible.

Like the other 3 gospels, **Luke's Gospel tells the stories of the life and teachings of Jesus**. It is the **third and longest** book of the **New Testament** and comes after the Gospel of Matthew and the Gospel of Mark. Luke's Gospel is believed to be written by Luke who was a friend of St. Paul (he changed his name from Saul when he became a Christian).

Luke was a doctor. He **wrote his gospel** for a man he calls 'most excellent **Theophilus**' but he clearly **intended** the gospel for a **wider audience**, mainly **non-Jewish people** (who were called Gentiles by the Jews). Unlike the other gospel writers (Matthew, Mark and John), **Luke** was probably **Greek** and **not Jewish**.

Luke wrote his gospel **to prove that Jesus is the Son of God**. He tells more about the **Virgin birth** of Jesus than the other gospel writers.

### How is it structured?



Chapter:	Event:
1.1–4	Prologue (introduction)
1.5–2.40	The announcements and births of John the Baptist and Jesus
2.41–4.13	Events leading up to Jesus' ministry
4.14–9.50	Jesus' ministry (teaching) in Galilee
9.51–19.27	Jesus' journey towards Jerusalem
19.28–21.38	Jesus in Jerusalem
22.1–23.56	The Last Supper, Jesus' arrest, trial and crucifixion
24.1–53	Jesus' resurrection and ascension

# Spanish





# Spanish



## ¡Vamos a salir!

¿Por qué?	
Porque / ya que / dado que	Because
Se puede ir	You can go
Se puede visitar	You can visit
el museo	The museum
la playa	The beach
el centro comercial	The shopping centre
la bolera	The bowling alley
Lo bueno es que es	The good thing is that it is
Animado	Lively
Tranquilo	Peaceful
¿Te gustaría ir al cine?	
¿Te gustaría ir...	Would you like to go...?
al estadio?	to the stadium?
al polideportivo?	to the sports centre?
al cine?	to the cinema?
al parque?	to the park?
al restaurante?	to the restaurant?
al club juvenil?	to the youth club?
a la tienda de comida rápida?	to the fast-food shop?
a la cafetería?	to the café?
a la pista de hielo?	to the ice rink?
a las canchas de baloncesto?	to the basketball courts?
a la plaza de toros?	to the bullring?
de paseo?	for a walk?
de compras?	shopping?

¿Te gustaría ir al cine?	
¿A qué hora?	At what time?
A las ocho y media	At 8.30
A las dos y cuarto	At 2.15
A las tres menos diez	At 2.50
¿Dónde quedamos?	Where shall we meet?
Enfrente del cine	In front of the cinema
A lado del parque	Next to the park
Detrás del restaurante	Behind the restaurant
Delante de la bolera	In front of the bowling alley
En la cafetería	
¿Qué quieres tomar?	What do you want to have?
Quiero comer	I want to eat
Quiero beber	I want to drink
Quiero tomar	I want to have
De primer plato	For first course
De segundo plato	For second course
De postre	For dessert
De beber	To drink
¿Algo más?	Anything else?
La cuenta por favor	The bill please
La Comida	
Una hamburguesa	hamburger
Una pizza	pizza
Una ensalada	salad
Una tortilla española	Spanish omelette
Unas patatas fritas	chips
Unas gambas	prawns

La Comida	
Unas croquetas	croquettes
Pan con tomate	Bread with tomato
Jamón	Ham
Las Bebidas	
Una coca-cola	Coca cola
Una Fanta limón	Fanta lemon
Una limonada	Lemonade
Un café	Coffee
Un té	Tea
Un batido de chocolate	Chocolate milkshake
Un granizado de limón	Crushed lemon ice drink
¿Qué vas a hacer?	
En el futuro	In the future
Cuando sea mayor	When I am older
Voy a.....	I am going to
Vamos a	We are going to
jugar al fútbol	To play football
jugar a los videojuegos	To play videogames
montar en bici	To ride a bike
bailar	To dance
navegar por Internet	To surf the Internet
ir al parque	To go to the park
ir de compras	To go shopping
salir con mis amigos	To go out with friends
ver la televisión	To watch TV
hacer los deberes	To do homework
Por la mañana/tarde/noche	In the morning/afternoon/night



# Spanish



Present Tense (actions completed in the present)		
Infinitive (verb)	Take off the ending (AR/ER/IR)	Add the endings (I, YOU, HE/SHE, WE)
ESTUDIAR	ESTUDI COM VIV	ESTUDIO / COMO / VIVO (I STUDY / EAT / LIVE)
COMER		ESTUDIAS / COMES / VIVES (YOU STUDY / EAT / LIVE)
VIVIR		ESTUDIA / COME / VIVE (HE OR SHE STUDIES / EATS / LIVES)
		ESTUDIAMOS / COMEMOS / VIVIMOS (WE STUDY / EAT / LIVE)
Preterite tense (actions completed in the past)		
Infinitive (verb)	Take off the ending (AR/ER/IR)	Add the following endings 'I' form (É/Í) 'We' form (AMOS/IMOS)
VISITAR	VISIT	VISITÉ (I VISITED) VISITAMOS (WE VISITED)
COMER	COM	COMÍ (I ATE) COMIMOS (WE ATE)
BEBER	BEB	BEBÍ (I DRANK) BEBIMOS (WE DRANK)
Future Tense (actions that are going to happen)		
English	Spanish	Example
I AM GOING TO	VOY A + INF.	VOY A ESTUDIAR / COMER / VIVIR
YOU ARE GOING TO	VAS A + INF.	VAS A ESTUDIAR / COMER / VIVIR
HE OR SHE IS GOING TO	VA A + INF.	VA A ESTUDIAR / COMER / VIVIR
I WOULD LIKE TO	ME GUSTARÍA + INF.	ME GUSTARÍA ESTUDIAR / COMER / VIVIR

## YEAR 8 GRAMMAR MAT

Definite Articles	
(used to indicate that a noun is a noun (the))	
EL	THE
LA	THE
LOS	THE
LAS	THE

Indefinite Articles (used to indicate that a noun is a noun (a, some))	
UN	A
UNA	A
UNOS	SOME
UNAS	SOME

Opinions			
(used to state preferences)			
ME GUSTA	I LIKE (singular)	ME GUSTAN	I LIKE (plural)
ME ENCANTA	I LOVE (singular)	ME ENCANTAN	I LOVE (plural)
ODIO	I HATE	CREO QUE	I BELIEVE THAT
DETESTO	I HATE	PIENSO QUE	I THINK THAT
PREFIERO	I PREFER	DIRÍA QUE	I WOULD SAY THAT

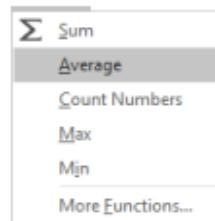
Adjectival Agreement	
(Adjectival agreement means that the adjective 'agrees' with the noun it's describing in gender and number)	
El gatO viejO	The old cat
La chicA simpáticA	The nice girl
Los ojOS NegrOS	The black eyes
Las aulAS modernAS	The modern classrooms

# IT



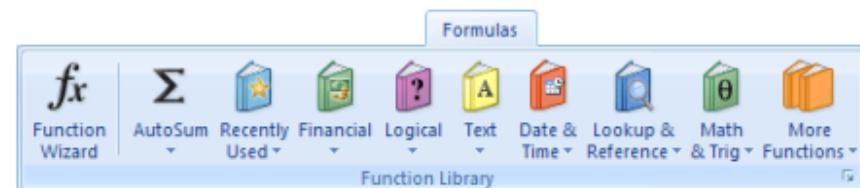


= SUM	Adds a range of cells together
= AVERAGE	Finds an average for a range of cells
= MIN	Returns the smallest value in range
= MAX	Returns the highest value in a range
= COUNT	Counts cells if they meet a condition



<b>What is a Function?</b>	A <b>function</b> is a standard routine used to perform common tasks. It represents a complex formula that uses reserved words e.g. VLOOKUP, IF. A <b>function</b> performs a specific set of operations on its input values to produce a single output value.
<b>What is a Formula?</b>	Using <b>formulas</b> in <b>spreadsheets</b> can allow you to quickly make <b>calculations</b> and get totals of multiple cells, rows, or columns in a <b>spreadsheet</b> .
<b>Conditional Formatting</b>	is a tool that allows you to apply <b>formats</b> to a cell or range of cells, and have that <b>formatting</b> change depending on the value of the cell or the value of a formula. For example, you can have a cell appear bold only when the value of the cell is greater than 100.

<b>IF</b>	one of the logical <b>functions</b> , to return one value <b>if</b> a condition is true and another value <b>if</b> it's false. For example: =IF(A2>B2,"Over Budget","OK") =IF(A2=B2,B4-A4,"")
<b>Count IF</b>	=COUNTIF (Where do you want to look?, What do you want to look for?)
<b>Auto SUM</b>	<b>Excel automatically</b> enters a formula (that uses the <b>SUM</b> function) to <b>sum</b> the numbers
<b>= COUNT</b>	Counts cells if they meet a condition



Advanced spreadsheets—you will need to familiarise yourself with the 'Function Wizard' and use the 'Logical' functions.

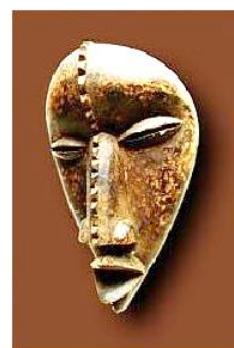
### Extra Reading

<http://www.bbc.co.uk/education/guides/zdydmp3/revision>

<http://www.bbc.co.uk/schools/gcsebitesize/ict/modelling/0spreadsheetrev1.shtml>

# Art





**African masks** are a part of **ceremonial** costume. They are used in religious and social events to **represent** the spirits of ancestors or to control the good and evil forces in the community. Some combine human and animal features to unite man with his natural environment.

## Key Vocabulary

Proportion, Form, Symmetry, Cubism, Shape, Pattern, Ceremony, Splintered, Style, Influenced, Traditional, Impact, Layering, Fragmented, Abstract

**Cubism** was invented in around 1907–08 by Pablo Picasso and Georges Braque. They brought different views of subjects together in the same picture, resulting in paintings that appear **fragmented** and **abstracted**

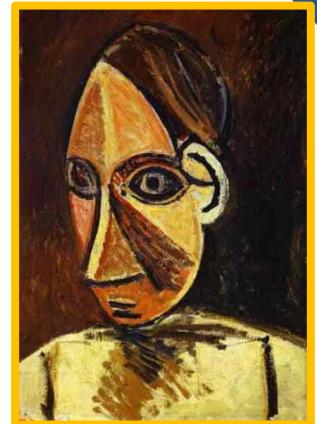
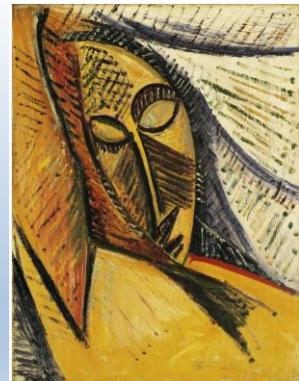
### Deliberate Practice –

- Produce an Artist research page about Picasso use the Artist research page in your Knowledge organiser to help you.
- Look at examples of African Masks and the portrait paintings of Picasso and compare. How are the faces similar? Look at the shape of the face, individual features, expression and marks. Use 3 of the key Vocabulary word in your written work.



**“Les Demoiselles D’Avignon” – How much did the painting sell for?**

**Picasso** was a Spanish artist born in 1881. He had an enormous influence on 20<sup>th</sup> century art



**Picasso's African Period**, which lasted from 1906 to 1909, was the period when Pablo Picasso painted in a style which was strongly influenced by African sculpture and particularly traditional African masks.

### Deliberate Practice

- Drawing practice – Draw an African mask of your choice. Add tone and mark-making.
- Learn the definitions of the key vocabulary.

## Careers Link: Sculptor

Can you think of any famous sculptures in the UK and where they are situated?

# Design Technology



# Design & Technology - Control

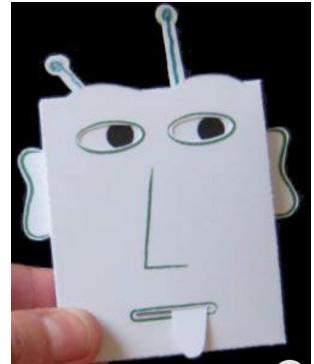
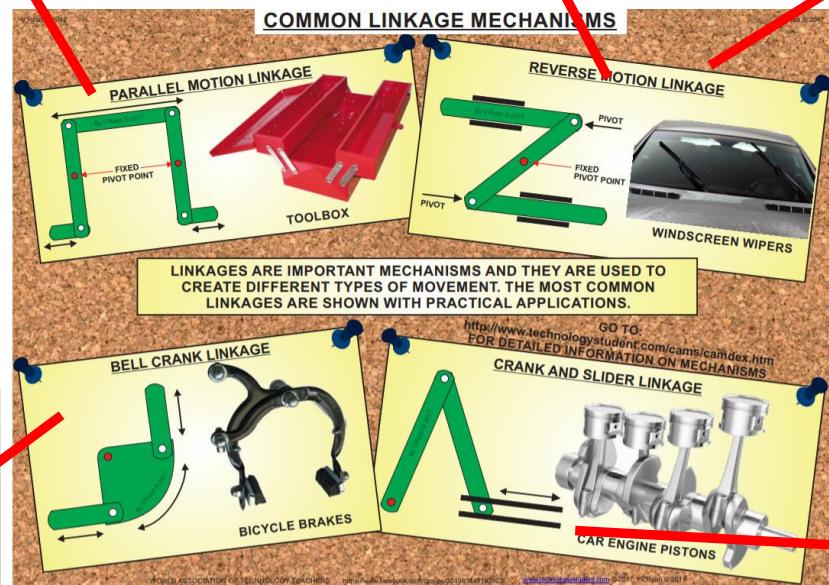


## Fixed pivot:

A **pivot** that attaches a link to the base; also called a fulcrum. It is represented in drawings by a solid circle.

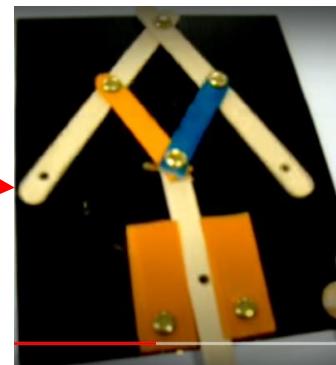
## Floating pivot:

A **pivot** that attaches one link to another, but neither to the base, such as a **pivot** connecting an input link to a lever. It is represented in drawings by an open circle.



## Disguising your movement

You should design your product so that the lever used for the movement becomes part of the design. This is done here by making it the tongue



# Design & Technology - Resistant Materials



## 1: Forces and Stresses

Force	Description	A fair test for each force/stress.	How a material / object can be adapted to resist	Examples
Tension	Forces pulling in opposite directions.	Apply the same weight to each material and suspended in the same manner.	Concrete can have steel bars inserted to reinforce.	
Compression	Forces that are trying to crush or shorten.	Insert materials into a vice/clamp and apply the same amount of twists to the handle.	Composite panels can have a honeycomb structure sandwiched in the middle to resist.	
Bending	Flexing force	Apply the same weight to the material.	Steel beams have an I profile to resist bending.	
Torsion	Twisting force.	Use clamps & stands to hold the materials and turn in opposite directions at the same angle.	The diagonals on a tower crane help the structure against torsion.	
Shear	A strain produced when an object is subjected to opposing forces.	Place the material between a tool that works in opposite directions. e.g. Shears	Bolts are hardened and have unthreaded shanks to help stop shearing.	

## Material WORKING properties

### Strength

The ability to withstand force without breaking

### Elasticity

The ability to stretch and return to their original shape

### Ductility

The ability to be drawn or stretched out onto a thin strand without snapping

### Malleability

The ability to be deformed and to remain in that shape

### Hardness

The ability to withstand scratching or denting

### Toughness

The ability to withstand breaking or snapping

## 3. Metals

<b>Aluminium</b>	A grey light weight metal. Can be polished. Rust resistant	
<b>Mild Steel</b>	Dark grey heavy metal. RUSTS very quickly if exposed	
<b>Stainless Steel</b>	A very shiny heavy metal. Very resistant to rust & wear	
<b>Cast Iron</b>	Strong in compression. Very brittle	
<b>Copper</b>	A reddish soft metal. Excellent conductor of heat and electricity	
<b>Brass</b>	Yellow colour. Hard. An ALLOY of copper & zinc	

## Ferrous Metals:

**FERROUS METALS** are those which are iron based. They contain Iron and carbon in varying amounts. As iron is extracted from its ore in a furnace it contains a relatively high amount of carbon. This makes the iron hard but brittle this is known as cast iron. It resists compression but may break if dropped, hit or stretched. It is used to make car brake drums, railings and manhole covers. Cast iron has 4% carbon content.



## Non-Ferrous Metals:

**NON-FERROUS METALS** do not contain iron. There are many different metals that fall into this group.

## What is ANTHROPOMETRICS ?

The study of the human body and its movements.

The study of the human body and its movement, often involving research into measurements relating to people. It also involves collecting statistics or measurements relevant to the human body, called Anthropometric Data. The data is usually displayed as a table of results, diagram or graph. Anthropometric data is used by designers and architects.

## What is ERGONOMICS ?

The study of people and their relationship with the environment around them.

Measurements, also known as ‘anthropometric data’, are collected and applied to designs / products, to make them more comfortable to use. The application of measurements to products, in order to improve their human use, is called Ergonomics.

## 4.4 Metals

**Metals are hard and usually shiny, containing one or more elements dug and refined from the ground**

**Ferrous metals are any metal that contains iron and will rust**

**Non-Ferrous metals do not contain iron and will not rust**

**Alloys are metals made from a mix of 2 metals – brass is made of copper and zinc.**

## Alloys:

**An ALLOY** is a material of a mixture of metals or a metal and a non metal intermixed. Metal alloys have advantages. The alloy may contain the properties of two or more metals or other elements.

# Food Technology





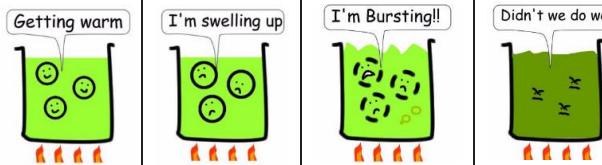
# Food Technology



## KS3 Y8 Food Tech Knowledge Organiser



### Gelatinisation: using a starch to thicken a liquid



**COLD**  
Flour particles suspended in liquid. They don't dissolve so they form a **SUSPENSION** (solid particles floating in a liquid)

**60°C**  
Getting warmer... 60 degrees Celsius  
The walls of the flour particles soften and start to absorb water so start to swell up

**HOT..... 80°C**  
At 80 Degrees Celsius  
Flour particles swell to 5 times normal size then burst, releasing their starch into the liquid thus thickening it

**HOT..... 100°C**  
Degrees Celsius  
Flour particles continue to swell and burst right the way to 100°C at which point the process is complete.



**Why do we need to 'knead'?**  
The dough is kneaded to give the bread its texture.  
The protein in the flour (**gluten**) is stretched to make an elastic dough and pockets of gas are formed.



**How to check when pasta is cooked:**

- Taste:** If it taste good, s'all good!
- Cut a piece in half.** If it's still white inside, cook some more.



The **Eatwell Guide** is based on the 5 food groups and shows how much of what you eat should come from each group.

### The 5 different groups are:

**Fruit & Veg:** Vitamins and minerals

**Starchy Carbs:** Our body's chosen source of energy

**Protein:** Build & repair muscle cells, a source of energy

**Dairy & Alternatives:** Good source of calcium

**Fats/oils:** Helps body absorb vitamins, source of energy



See FoodTech 101 for all KS3 practicals



How much of your daily calorie allowance is taken up with your favourite foods? Use the following formula to work it out:

$$\text{calories (in food)} \times 100$$

RDA (recommended daily amount e.g. 1600 teen girl, 1800 teen boy)

### Energy value of the major 'macronutrients':

Fat: 37kJ (9 kcal) per gram  
Carbohydrates: 17kJ (4 kcal) per gram  
Protein: 17kJ (4 kcal) per gram



### Function of ingredients in bread:

- Butter: adds moisture/ softens
- Flour: main bulking agent
- Water: helps combine ingredients
- Salt: used to add flavour
- Yeast: helps dough to rise
- Sugar: feeds/activates the yeast
- Warm water: perfect temp for yeast
- Oil: Prevents dough from sticking

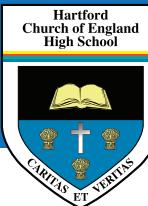
### Composite Meals:

Nutrient Dense Foods=	Energy Dense Foods=

**Composite meals are:** meals made up of foods from different parts of the Eatwell Guide. Much of the food people eat is in the form of dishes or meals with more than one kind of food in them. For example, pizzas, casseroles, pies, lasagne, spaghetti Bolognese and sandwiches are all made with foods from more than one of the five food groups.

# Music





# Music - Podcast Riffs - Topic Two



## G major scale

G A B C D E F# G

### How to work out harmonising chords

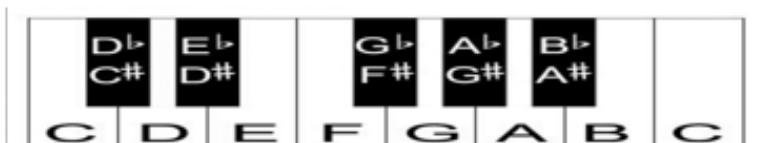
To accompany a riff you need chords.

To work out a chord you need notes 1, 3 and 5

Add 6 to find out a 6<sup>th</sup> chord

### CHORDS

NOTE OF SCALE	CHORD NAME
1	TONIC = G
4	SUBDOMINANT = C
5	DOMINANT = D
6	Minor = Em



Instrument 3  
Velocity 100 Random  
Legato Humana  
1/16 Quantize  
Instrument Effects MIDI Editor

Match the lines up with the keyboard picture to get your notes right!

Instrument Velocity 100 Random Legato Humana 1/16 Quantize Instrument Effects MIDI Editor

Chords last 4 beats long

### How to put the riff in Bandlab

Draw your notes for the riff using the **pencil tool** in the **MIDI editor**. Think about how long each note is worth. The example shows what 2 crotchets and 2 quavers look like.

Match the notes up against the right notes on the keyboard.

### Adding chords

Add chords in a similar way drawing each note of the chord across 4 beats (see red lines). In the example there is the G major and E minor chord.

### Example of riffs

G D C G

Bass: G B D G B D G B



## Music - Podcast Riffs - Topic Two



Word	Definition	In a sentence	Synonyms
Arrange	Verb: to create new music material by altering existing compositions.	I have recorded my tracks but now I need to arrange it.	Orchestrate, remix, alter, rejig, organise.
Catchy	Adjective: instantly appealing and memorable	The one bar melodic riff is catchy as it is easy to remember.	Memorable, unforgettable
Harmonised	Verb: combining notes which harmonise together	The first riff was composed to harmonise with the chord of C	Match, blend
Progression	Noun: a number of things in a series	I completed my chord progression.	Sequence, chain, series, row, order.
Producer	Noun: a music producer, or record producer, assists an artist with their recording project, bringing their vision to fruition and guiding their sound along the way.	David Guetta is a renowned music producer making use of loops and samples ensuring there are no copyright issues	Assembler
Recording	Noun: the process or business of storing sounds or moving pictures using electronic equipment so that they can be heard or seen later	I have made a recording of our work today.	Make, produce, cut, tape.
Riff	Noun: a short-repeated phrase in popular music and jazz, typically used as an introduction or refrain in a song.	I composed a melodic riff and moved it within a chord progression.	Groove, loop, improvisation, excerpt.

# Drama





# Drama - Aliens



HT2 – Aliens			
Acting Techniques:	Definition:	Subject Terminology & Key Vocabulary:	Definition:
<b>Flashback</b>	Flashbacks interrupt the chronological order of the main narrative to take an audience back in time to the past events in a character's life.	<b>Empathy</b>	The ability to understand and share the feelings of another. (To put yourself in someone else's shoes)
<b>Role Play</b>	This is the act of pretending to be somebody else, of taking on a role. The role may be from a script or a character you have created.	<b>Humanitarian</b>	A person who seeks to promote human welfare.
<b>Audience Participation</b>	When the audience interacts with the performers in some way or other.	<b>Refugee</b>	A person who has been forced to leave their country in order to escape war, persecution, or natural disaster.
<b>Polished Improvisation</b>	Polished improvisation in theatre is the playing of dramatic scenes without written dialogue but with some planning and rehearsal beforehand.	<b>Oppression</b>	Oppression is the cruel or unfair treatment of a group of people.
<b>Forum Theatre:</b> Forum Theatre is a technique by Brazilian Director, Augusto Boal. Forum Theatre is a fully interactive performance followed by a safe group dynamic in which the people in the audience have the chance to get up on stage and solve some of the problems the characters face. The show triggers a frank discussion with particular emphasis on the emotions involved on both sides of a dilemma. In the first instance, the actors dramatise the short play, which usually incorporates some kind of oppression. The play is then performed for a second time and, during the replay, any member of the audience is invited to shout "Stop!" when they want to suggest a solution to a specific conflict. Rather than simply offering suggestions from the sidelines, they will need to come up on stage to play it out for themselves. The ultimate aim of Forum Theatre is to trigger discussion and prompt the audience to analyse and to discuss the issues affecting the characters and their community.			
<b>Refugees:</b> More than 70 million people around the world had to leave their homes because of war, persecution or conflict in 2018, according to new figures. The aid organisation UNHCR - which is the United Nation's (UN's) Refugee Agency - says the number is the highest that the organisation has seen in its almost 70-year history, and 2.3 million higher than the year before. There are many reasons that people might have to leave their homes - for example, conflict, famine, natural disasters (like an earthquake or tsunami), or being persecuted or ill-treated because of who they are. The 70 million people who had to leave their homes last year are divided into three groups - refugees, asylum seekers and internally displaced people. The number is equal to about 25 people forced to leave their lives behind every minute.			