



Knowledge Organiser

Year 7

Term 2

Name _____

Tutor Group _____

This document is part of your compulsory equipment and must be taken to every lesson (with the exception of practical PE).

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What is a Knowledge Organiser?

Your knowledge organiser summarises all the key facts and knowledge that you will need to have learned on a particular subject onto one side of A4. This information might include,

- key vocabulary
- key places and people
- useful diagrams
- key dates for a subject like history
- key themes
- important quotes
- stem sentences for a subject like Maths



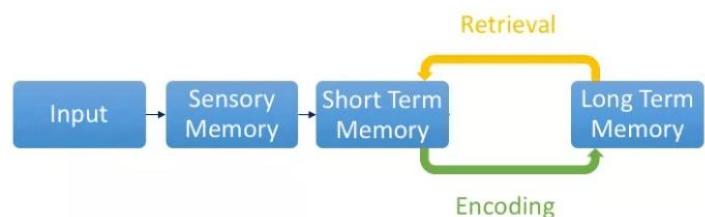
How can you use your Knowledge Organiser most effectively?



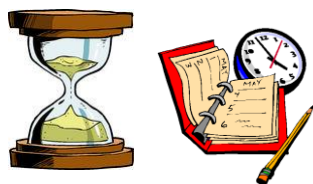
1. Use it as a **checklist** to make sure you have notes and resources in your books or folders on each area. If you have a gap, talk to your teacher.



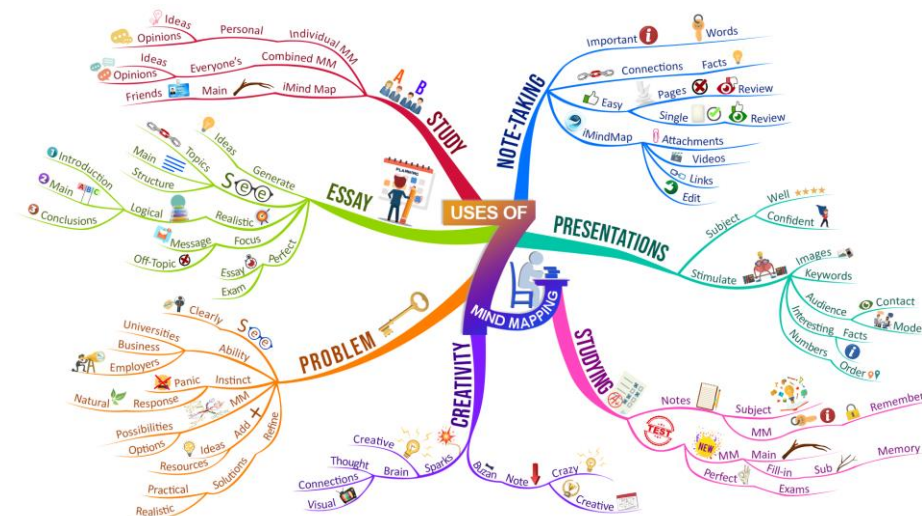
4. Use your knowledge organiser **to get ahead on a topic**. Reading about what you are going to study and looking up any new or difficult words means that you are better prepared for your learning in the next lesson.



2. Use it to help get the information and knowledge into your **long-term memory**. Just reading over the pages does not help. You will need to put your knowledge organiser away and see how much you can remember. You could get a family member or carer to help test you on what you have remembered.



5. It is best to use your knowledge organiser for **short periods of time but regularly**. Choose a small part of a topic and practice writing it out with your organiser closed every day for 10 minutes.



3. Knowledge organisers have already broken the knowledge down into chunks for you so they can be used to create **flashcards, revision posters or mind maps**.

Come to class fully prepared with correct equipment (Black / Blue Pen, pencil, glue stick, scissors, ruler, calculator, protractor and compass, exercise / text books).
Form Tutors will check your equipment on a regular basis.

Presentation

- Students write in black or blue ink only unless allowed by teachers to use another colour.
- Students ensure that all work has a Title and Hebrew and English dates, which are all underlined.
- Students take care of their exercise books and folders. There is no graffiti in, or on, books. All books must be covered and labelled clearly.
- Worksheets and Pit Stops slips must be stuck in or stapled.
- Pages must not be torn out of books.
- Work will be returned if it represents a significant lack of effort and students will be expected to resubmit the work.
- **PEEL** paragraphs must be labelled clearly and easy to spot.

Literacy marking symbols

Your teachers will be using the symbols below to mark your work.

S	Spelling mistake.
P	Punctuation mistake – either punctuation has been omitted, or has been used incorrectly.
??	Does not make sense/is not clear.
//	Start a new paragraph.
^	A word or sentence is missing.
C	Capital letter is needed.
DW	Choose a different word.

- *Correct all your class work and homework errors using a different coloured pen.*
- **C3B4ME** (See three before me; i.e. first try independently, check your class notes/resources or ask one of your peers before you ask your teacher 😊).

How to complete my Pit Stop slips

What went well....

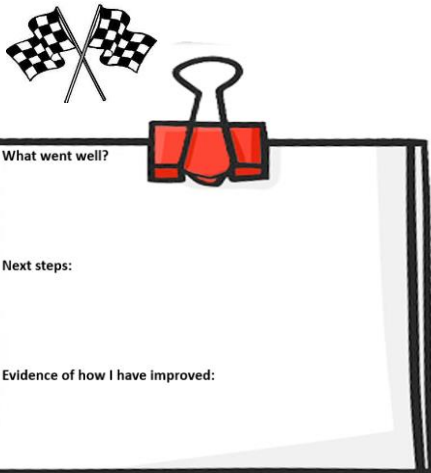
Completed by your teacher or by you after receiving some guidance from your teacher.

Next steps....

Completed by your teacher or by you after receiving some guidance from your teacher.

Evidence of how I have improved:

Completed by student stating clearly where the work can be found. This is not a promise of what you will do but a clear indication of where to find the work of what you have done already in order to improve and following the advice from next steps.



THE PEEL PARAGRAPH

PEEL

Point: Your argument in one line.

I think that It is clear that..... In my opinion The point is that....

Evidence: Reasons or evidence that back your argument up.

This is because This is evidenced by For instance We can see that...

Explanation: Explain how your reasons or evidence prove your point.

Therefore, this proves that..... because This shows that This demonstrates.....

Link: Mini conclusion answering the question.

In conclusion Overall To conclude Finally..... To summarise...

How can I improve my writing?

Point

- I have included a point in my paragraph.
- The reader will be able to understand my entire argument just by reading the point.

Evidence

- My paragraph has at least two pieces of evidence.
- My evidence is in full sentences, carefully chosen and clearly helps prove my argument.
- My evidence is specific and detailed (includes quotes/facts/names/events/key words).

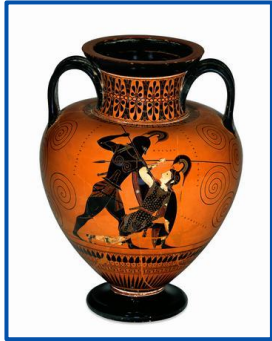
Explanation

- I explain how my evidence proves that my argument is right.
- My explanation is at least two or three sentences long.
- I have added some balance to my argument and shown how there may be other reasons or arguments to the question.
- I have explained why my answer is the right one rather than any of the other reasons, ideas or arguments.

Link

- I have included a link sentence in my paragraph.
- My link sums up my argument.
- My link uses the information I have used in my paragraph.

KEY MOVEMENTS - Classicism, Modern Ceramics



Greek Amphora



Tales from Greek Mythology



Doric Ionic Corinthian
Examples of Classical Architecture



Lucie Rie

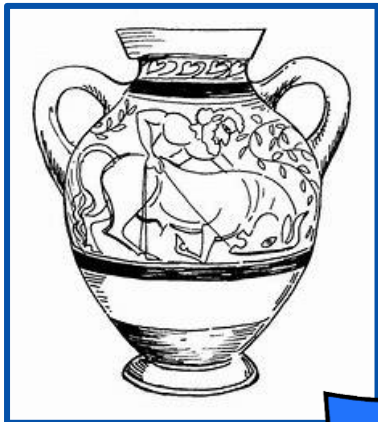


Siddig el Nigoumi



Magdalene Odundo

CONSTRUCTING THE GREEK AMPHORA - PROCESS



Drawing the basic shapes of Greek Amphora.



Coil building up from a circular base.



Refining the precise outline shape and adding handles.

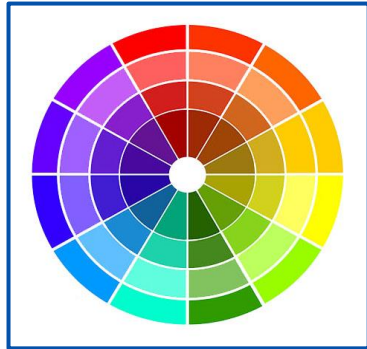


Engraving the surface with patterns and symbols narrating a Greek Hero or Heroine.

Key Words

Neck Amphora, One-piece Amphora, Echinus Foot, Body, Neck, Belly, Flared Lip, Mouth, Slender, Wide, Tall, Cylindrical, Curve.

KEY MOVEMENTS - Abstract Art, Orphism, Colour Field Painting



Colour Wheel



Kandinsky



Delaunay

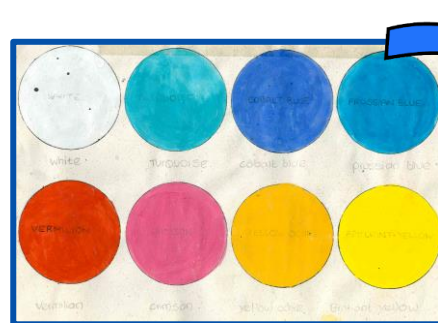


Nolan



Ayers

POWDER COLOUR MIXING



Powder Colours - White, Turquoise, Cobalt Blue, Prussian Blue, Vermilion, Crimson, Yellow Ochre & Brilliant Yellow.



Primary Colour Wheel.



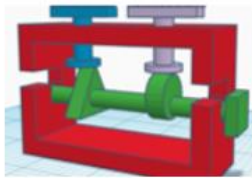
Secondary Colour Wheel.



Painted Greek Amphora.

Key Words

Primary, Secondary and Tertiary Colours, Shade, Tint, Hue, Complementary Colours, Vibration, Brilliance, Contrast, Adjacent, Opposite, Transpose.



Subject: Technology

Year: 7

Topic: Mechanical Toy

Lesson Sequence

- Research
- Analyse
- Design
- Practical
- Test & Evaluate

Key Assessments

Pit Stop test
And practical work mark.

Core Texts / Websites

Design and Technology KS3 class notes.
BBC Bitesize.
Technologystudent.com

The things you need to learn in this knowledge organiser are:

- Names the four types of motion
- Names the different types of cams
- Names of the basic tools and machinery

Year 7 Mechanical Toy Knowledge

Organiser

Key Words:

Linear, Rotary, Reciprocating, Oscillating

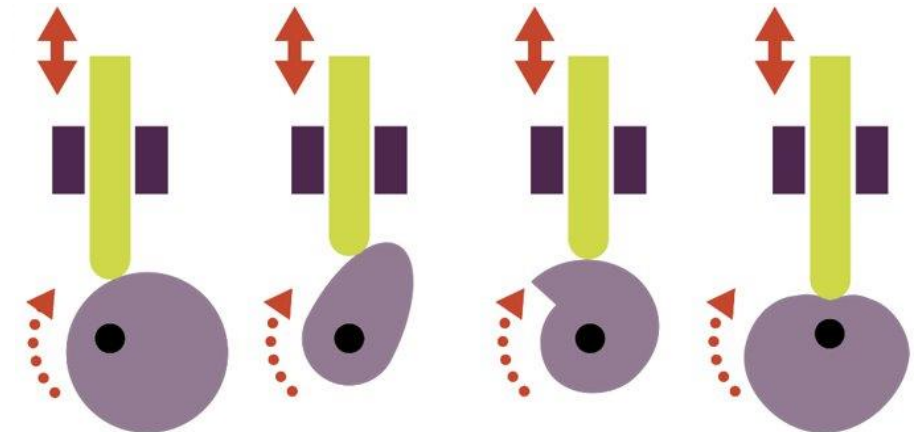
Key Skills:

Drawing, designing, shaping, cutting, smoothing, assembling, testing, following instructions.

Key Vocabulary

Cam shaft	A shaft with one or more cams attached to it
Snail cam	Cam that produces a slow rise and quick drop movement
Eccentric cam	The cam is a disc with its centre of rotation positioned 'off centre'. This means as the cam rotates the flat follower rises and falls at a constant rate.
Movement	A change of direction and speed
Hand-powered mechanisms	A mechanism that is controlled by turning a handle
Linear motion	Movement in a straight line
Rotation	The action of rotating about an axis or centre
Follower	The follower is in contact with the cam and causes the slider to move the object from rotational to linear motion
Slider	A slider converts rotational movement into linear movement
Component	A part or element of a larger whole, especially a part of a machine or vehicle

- Eccentric Cam
- Pear Cam
- Snail Cam
- Heart Cam



Linear motion

Moves in a straight line in one direction only



Rotary motion

Rotates around a central axis



Reciprocating motion

Moves back and forth or up and down along a straight line



Oscillating motion

Moves back and forth along a curved line



Adventure and Fantasy- Trash

Synopsis: Raphael, Gardo and Rat are “dumpsite boys”, who spend their lives living and working on Smoky Mountain. Their job is to sort through mountains of rubbish for things they can sell like plastic and cardboard. They make just enough money to survive. Then one day, they come across a mysterious bag containing a wallet, a map and a key. It’s a discovery that will change everything, as they go in search of the owner of the bag, José Angelico

Links to previous units you have studied:

- Use of PEEL in analytical writing in London (Year 7)
- Links to other units you are going to study:**
- Themes of class and inequality in An Inspector Calls (Year 10)
- Dual Narrative in Noughts and Crosses (Year 8)



Manilla
Philippines



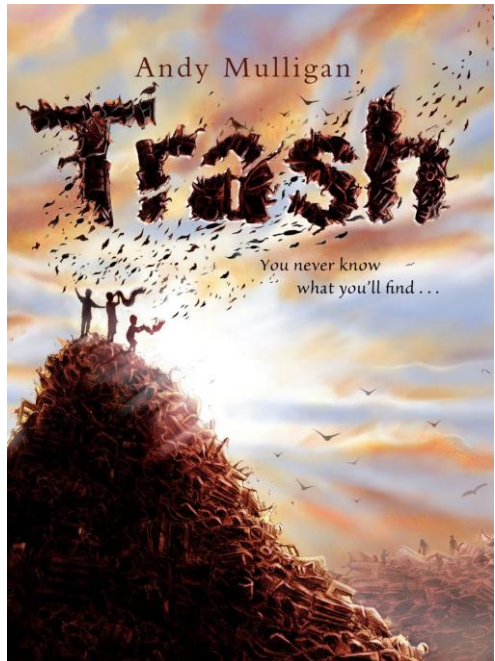
Trash is set in a fictional city called Behala which is inspired by a city named Manilla in the Philippines. Andy Mulligan visited Manilla before he wrote the novel Trash and used it as inspiration for the setting of this book.

Key Vocabulary

Poverty	the state of being extremely poor.
Inequality	a person, or group of people, who are treated unfairly because they are ‘different’.
Developing country	a poor agricultural country that is seeking to become more advanced economically and socially.
Society	a group of people living together as a community.
Hierarchy	a system in which members of an organisation are ranked according to status or authority.
Perspective	a particular attitude towards or way of regarding something; a point of view.
Tension	various elements of the plot which are woven together in such a way that we are often left on a mini cliff-hanger, feeling anxious/nervous.
Government	the organisation in power.
Authority	people or groups of people who are in power.
Corruption	dishonest conduct/actions by those in power.
Identity	who or what a person or thing is.
Debate	to argue within a formal manner.

Language terminology

- | | |
|--|---|
| <ul style="list-style-type: none"> • Character - a person in a novel, play, or film. • Setting - the place or type of surroundings where something is positioned or where an event takes place. • Writer’s methods – deliberate choices made by the writer for effect. • Narrator voice – character voice / perspective. • Figurative language – language techniques such as similes, onomatopoeia, personification. • Foreshadowing – a subtle hint towards a future event. | <ul style="list-style-type: none"> • Sensory language – Using the senses in your writing (see, hear, smell, taste and touch). • Opinions – personal point of view. • Inference - a conclusion reached on the basis of evidence and reasoning. • Connotations – words and ideas which link to and are associated with the ‘thing/words’ primary meaning. • Repetition – repeating words or phrases for effect. • Tone – the attitude of the narrative voice. |
|--|---|



Adventure and Fantasy- TrashKey Characters

Raphael: is the main protagonist (character) in Trash. He is only fourteen years old, and has been picking trash since the age of three. He is a tall, skinny boy, and lives with his aunt in Behala. He discovers the mysterious bag that changes his life.

Rat (Jun-Jun): lives on his own, near an enormous rat's nest on the far side of Behala. He is independent and longs to live on a fishing boat. He is a couple of years younger than Raphael and Gardo. He is very observant, and he can notice or spot things that others can't. Rat used to live in the train station, with other "station boys". He's very small and extremely skinny, because of the lack of food.

Father Juilliard: is in charge of the Pascal Aguila Mission School. He wants to encourage the dumpsite children to attend school, but this is a difficult task.

Gabriel Olondriz: is the adopted grandfather of José Angelico. He has been imprisoned for allegedly stealing government money.

Gardo is like a big brother to Raphael. He is strong and protective, never leaving Raphael's side. He had been his friend ever since they were born. He is very tall and skinny for a fourteen-year-old. He acts as the "mature one" out of the trio.

José Angelico is a man of mystery. The boys, Raphael, Gardo and Rat, discover little bits and pieces about José as they strive to uncover the secrets of his life, family and job.

Sister Olivia: is a volunteer at the Pascal Aguila Mission School. She stayed to help out at the school during her gap year travels due to feeling sympathy for the children and their families.

Senator Zapanta: is seen as a corrupt, "fat" politician who lives in a luxurious gated compound while the citizens of his country live in squalor. He is seen as a thief because of the money he siphons from the community.

Pia Dante: is the daughter of José Angelico and the adopted granddaughter of Gabriel Olondriz.

The Big Questions

- What is an inference?
- What is context?
- What is a quotation?
- Who is Rat? How does he symbolise ideas about poverty and inequality?
- What is narrative voice?
- Why is education important?
- What are children's rights?
- What is tension? How is it built?
- Who is Olivia? How does she reflect issues in society?
- What is corruption?
- What is political corruption?
- How is social class shown within the novel?
- How are the police presented?
- How are the poor treated within the novel?

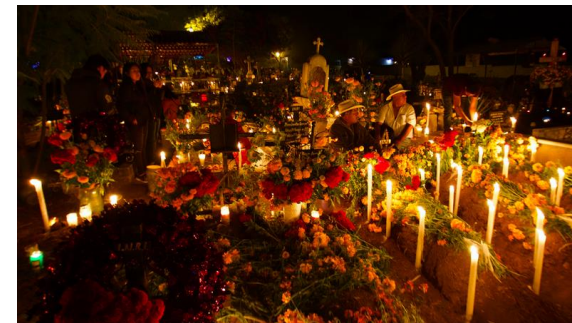
Part 1 Narrated by Raphael and Gardo

Part 2 Narrated by Father Juilliard, Raphael and Grace (Senator Zapanta's maid).

Part 3 Narrated by Sister Olivia, Father Juilliard, Gardo, Raphael and Rat.

Part 4 Narrated by Rat, Gardo, Raphael and Frederico Gonz (the undertaker).

Part 5 Narrated by Raphael, Gardo, Rat and Pia Dante.



Food & Nutrition

Key words

Skills & techniques	Claw grip	Tuck fingers back in a claw. Cut in front of knuckle
	Bridge hold	Arch thumb and index finger. Cut underneath arch
	Peeling	Angle peeler to 'catch on to the ingredient. Push away from you
	Slicing	Knife at <u>45 degree</u> angle. Point on board. Pull toward you
	Grilling	Intense radiant heat from a hot element either above or below food
	Rubbing in method	Fat rubbed into flour using fingertips. Used for crumble, pastry
Using the Cooker	Main parts: hob, grill, oven temperature dials, shelves, timer	
Weigh/Measure	Accuracy affects outcome. 2000g in 1kg. 100ml in 1 litre, 3 tsp = 1 tbsp	

Critical temperature & bacterial growth



Hygiene is key to food safety!

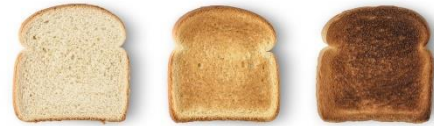
Wash Your Hands!



Food Science - Processes

Dextrinisation

When food containing starch is heated (without the presence of water) it can produce brown compounds due to dextrinisation. Dextrinisation occurs when the heat breaks the large starch polysaccharides into smaller molecules known as dextrins. These dextrins can also produce a brown colour.

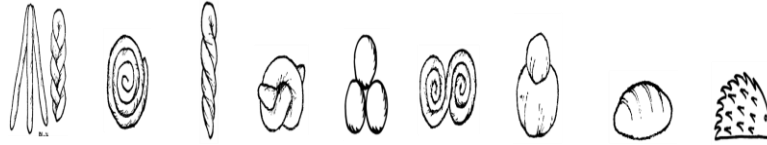


Enzymic Browning



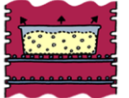
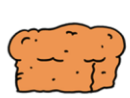
The discolouration of a fruit or vegetable due to the reaction of enzymes with plant cell substances from the air



Examples of bread roll styles



What's happening inside the bread?

			
The dough is kneaded to give the bread its texture. The protein in the flour is stretched to make an elastic dough and pockets of gas are formed.	Whilst the dough is proving, bubbles of carbon dioxide gas are formed from the yeast action. These help to stretch the dough and make it rise.	In the oven the gas bubbles (carbon dioxide and air) expand with the heat. This makes the bread rise further.	Eventually the heat sets the loaf giving it a well-risen structure and a light and spongy texture.

Claw grip



Bridge hold



Slicing



Dicing



Sensory Analysis Word Bank

When conducting sensory analysis (or taste test) on a food product it is important to be able to describe the food in detail. To help do this use a range of describing words to show the qualities of a food product



APPEARANCE	FLAVOUR	TEXTURE	AROMA
Attractive	Acidic	Brittle	Acrid
Appetising	Aftertaste	Bubbly	Aromatic
Bright	Balanced	Chewy	Burnt
Burnt	Bitter	Clammy	Cheesy
Colourful	Bland	Close	Fishy
Colourless	Buttery	Creamy	Floral
Crumbly	Cheesy	Crisp	Fragrant
Crystalline	Citrus	Crumbly	Fruity
Cuboid	Cool	Crunchy	Light
Dark	Delicate	Dry	Meaty
Dull	Delicious	Flaky	Musty
Evenly baked	Fizzy	Fluffy	Perfume
Firm	Greasy	Greasy	Pungent
Fizzy	Herby	Gritty	Rancid
Flaky	Hot	Hard	Roasted
Flat	Light	Juicy	Rotten
Fragile	Mature	Lumpy	Savoury
Glossy	Mild	Moist	Scented
Golden	Peppery	Mushy	Sour
Golden brown	Refreshing	Open	Spicy
Greyish	Rich	Rubbery	Strong
Heavy	Salty	Runny	
Interesting	Savoury	Sandy	
Light	Scrumptious	Short	
Limp	Sharp	Smooth	
Mouth-watering	Sickly	Soft	
Off-colour	Sour	Sticky	
Over cooked	Spicy	Stringy	
Pale	Sweet	Stodgy	
Plain	Tainted	Tacky	
Runny	Tangy	Tender	
Stringy	Tart	Tough	

Polar Regions

Occur at high latitudes (near the poles)



Arctic Circle – 66 degrees North

Antarctic Circle – 66 degrees south

Animal Adaptations

Animals have adapted physically & behaviourally to the harsh, polar climate. These include:

- Thick fur for insulation e.g. polar bear
- Thick layer of blubber for insulation e.g. seals.
- Many are camouflaged, some changes seasonally e.g. Arctic hare/fox
- Animals huddle together for warmth e.g. Musk oxen
- Animals migrate during the winter e.g. Caribou
- Hibernation during winter e.g. polar bears



Plant adaptations

- Small leaves to save water loss
- Grow close to each other for wind protection
- Covered in small hairs for warmth
- Can photosynthesise in harsh conditions



People in the Arctic

Indigenous people (native/first peoples) have lived in the Arctic for 10,000 years. There are populations living in Canada, Greenland, Russia and Scandinavia. They were hunter-gatherers and lived a nomadic life. They hunted woolly mammoth, reindeer, bears, ox, seal, and fish.

They lived in rough shelters or igloos, wore animal skins & fur to keep warm and dried meat & fish to store in winter. Now many Inuit live in small communities but still practice traditional ways of living. Inuit tend to travel, fish & hunt using snow mobiles and dog sleighs. On the water they use kayaks.

Their way of life is threatened today by climate change as temperatures warm, ice melts and animals migrate.



Opportunities & threats

Fishing

As ice melts in the Arctic, more fishing boats move in. Lack of fish can affect the food chain for marine life such as seals, birds, whales & sharks.

Mining

Polar regions have a wealth of minerals such as zinc, copper & gold. Mining can cause a lot of dust and noise pollution and contaminate drinking water e.g. Faro, Canada.

Oil drilling

As ice melts, new drilling locations open up. This increases the risk of oil spills which are almost impossible to clean up. They damage ecosystems and kill animals like birds, otters, bears and seals.

Tourism

As polar regions become more accessible the number of visitors increases. This can disturb wildlife and cause pollution from litter to sewage.

Climate change

Melting ice from glaciers/ice sheets is increasing sea levels. As seas warm, fish stocks move to cooler areas. Species are threatened as habitats/hunting grounds are reduced e.g. polar bears. Thawing permafrost means infrastructure such as houses and roads are collapsing. Inuit are finding it more difficult to hunt, fish, travel and herd animals as temperatures increase. Shipping and oil drilling is increasing.

History: Norman England

Overarching enquiry question: How transformational was the Norman Conquest?



Harold Godwinson, Earl of Wessex



Harald Hardrada, Viking King of Norway



Duke William of Normandy, becomes William I

The Norman Conquest of England was led by **William the Conqueror** who defeated Harold Godwinson at the **Battle of Hastings**. Over time the Anglo-Saxons lost power as William redistributed land to his fellow Normans. William used the **Feudal System** to help him control England, as well as recording key details of the population through the **Domesday Book** and building an estimated 100 **motte and bailey castles**. He still faced rebellion, especially in the north such as the **Harrying of the North**, but was not defeated. Whilst some aspects of life remained the same such as transport and farming, much of Norman England witnessed **profound** changes in all areas of society e.g. the evolution of the English language, the spread of feudalism etc.

I am the first Norman King of England! Then...

William II



Henry I



Stephen



Timeline of events

Jan 1066	Edward the Confessor dies
Sept 1066	Battle of Fulford
Sept 1066	Battle of Stamford Bridge
Oct 1066	Battle of Hastings
1069-70	Harrying of the North
1085	Domesday Book commissioned
1087	Estimated 100 motte and bailey castles built
1080s	White Tower built (start of Tower of London)

What sources should I know about/use?

Bayeux Tapestry (primary) - An embroidered cloth nearly 70 metres long depicting the events leading up to the Norman Conquest.



BBC Bitesize 1066 and the Norman Conquest six-part animated series (secondary) - <https://www.bbc.co.uk/teach/class-clips-video/history-ks3-ks4-1066/zm3m382>

Key words:

Change	Makes something different.
Continuities	When something stays the same.
Claim	The right to the throne.
Heir	A person who inherits.
The Witan	The King's council.
Bishop	A high position in the clergy, were often noble and advised the King.
Earl	A high-ranking advisor of the King.
Stamford Bridge	A village where a battle took place.
Infer	To suggest.
Senlac Hill	A hill on which Harold Godwinson's troops were stationed.
Feudal System	A hierarchy of promises in which William was in charge at the top, then his Barons, then their Knights, and finally the Peasants at the bottom.
Domesday Book	A record of land and ownership in England, made in 1086 by order of William I.
Taxes	Money that people have to pay to the government.
Harrying of the North	An English rebellion in the north against William and the Normans.
Baron	A title of honour given to any nobleman who pledged his loyalty and service to the King.
Motte and Bailey	A castle with a wooden keep situated on a raised area of ground called a motte.
Curtain wall castle	A fortified wall around a medieval castle, typically one linking towers together.
Concentric castle	A castle with two or more curtain walls, usually with the outer wall lower than the inner.
Coat of arms	A unique heraldic design on a shield, coat or gown which medieval knights wore.

History: Kings, Conflict and the Medieval Church

Overarching enquiry question: How important was the Church in people's lives in the Middle Ages?

The Church played a large role in people's lives in the Middle Ages. It not only guided people through important rituals of their lives, such as **baptism**, marriage and death, but it also acted as a social hub and dictated when people has time off, such as **holy days** or **saints days**. **Monasteries** acted as **hospitals**, looked after the old and educated the young. The hierarchy of the Church fed into the **Feudal System** with its own ladder of power, and could **control** what peasants thought and believed. The Church taught that the **original sin** meant all of mankind shared in a **collective guilt**, and this sin needed to be **cleansed** in order to get to **heaven**. If you did not go to Church every week, or believe what the Church said, you would go to **hell**. In addition, the more sin you acquired in your lifetime, the more time you could spend in **Purgatory**. The Church reminded people constantly of the terrors of hell. However, there was a **struggle for power** between the Church and the king during the Middle Ages, as well as challenges from within the Church. The best example of this is the story of Henry II and **Thomas Becket**, the Archbishop of Canterbury, who was murdered in Canterbury cathedral.



I just can't agree with Henry II on how the run the Church!



What else could I research to learn more about the Middle Ages?

The Hundred Years' War – <https://www.youtube.com/watch?v=iONXWfCLIfI>
 King John and the Magna Carta – <https://www.bbc.co.uk/bitesize/topics/zcyx2v4/articles/zcg66g8>
 The Black Death - https://www.ducksters.com/history/middle_ages_black_death.php

Key events:	
1087	William II succeeds his father William I
1096-1099	The First Crusade
1146–1148	The Second Crusade
1154	Henry II ascend to the throne of England
1170	Murder of Thomas Becket
1189–1192	The Third Crusade

Key words:

Middle Ages	Period of time generally considered to be from 476 to 1485. Also called the Medieval period.
Archbishop	He was in charge of the Church in England and would have to crown the new Kings.
Monk/Nun	People who decided to devote their lives to God and who lived in monasteries or nunneries.
Monastery	Holy buildings where monks lived and worshipped God.
Priests	Men who are part of the Church who were meant to help the people live good lives.
Saint	A person who is recognized as having an exceptional degree of holiness.
Sin	In Christian teaching it is the disobedience of God.
7 Deadly Sins	A lists of sins considered particularly serious in the Middle Ages.
Cleanse	To make free of (sin).
Baptism	A Christian ceremony where sin is cleansed through water.
Purgatory	A spiritual state where people 'pay for', or atone for, sins committed on earth.
Penance	Penance - Punishment inflicted on oneself for wrongdoing.
Superstitious	Any belief or practice considered by non-practitioners to be irrational or supernatural, magical etc.
Original sin	Adam and Eve committed the original sin, and all human beings share in collective guilt.
Shrine	A place where people go to worship because of its connection to a holy person or event.
Pilgrimage	A journey to a holy place or shrine. A pilgrim is the person who undertakes a pilgrimage.
The Crusades	A series of religious wars that took place during the Middle Ages.
Four Humours	A medieval way of diagnosing patients, the belief that the body was made up of humours.
Tithe	A tax paid to the church.
Excommunicate	When the Archbishop banned someone from the church and damned them to hell.
Church courts	Special courts where priests who committed a crime were tried, often lenient.
Henry II	The King of England from 1154 to 1189.
Thomas Becket	The Archbishop of Canterbury from 1162 until his murder in 1170. He was made a saint.
Martyr	A person who is killed because of their religious or other beliefs.
Interpretation	How people in the past had different points of view of people/events.

Key phrases you will learn:

In my bedroom there is...

Chadar shena sheli yesh

חדר שינה שלי יש

My sister's room | hacheder shel achot sheli |

החדר של אחות שלי

My brother's room | hacheder shel ach sheli |

החדר של אח שלי

My parent's room | hacheder shel hahorim

sheli | החדר של ההורים שלי |

What is in your bedroom?

Mah yesh bachader shenah shelach?

מה יש בחדר השינה שלך



Basic words you will learn:

I have | yesh li | יש לי

There is | yesh | יש

Because | Kee | כי

I like (male) | Ani ohev | אני אוהב

I like (female) | Ani ohevet



Ivrit עברית

The Bedroom:

Bed	Mita	מיטה
Wardrobe	Aron	ארון
Desk	Shulchan Ketivah	שולחן כתיבה
Poster	Poster	פוסטר
Computer	Machshev	מחשב
Shelves	Madafim	מדפים
Chair	Kiseh	כִּסֵּא
Carpet	Shatiach	שטיח
Curtains	Vilonot	וילונות
Picture	Temonah	תמונה

Reasons for enjoying your space:

Fun | Kef | כיף

Healthy | Baree | בריא

Enjoyable | Me'haneh |

מהנה

Interesting | Me'anyen |

מענין



Adjectives:

Big | Gadol | גדול

Small | Katan | קטן



Jewish Studies

Kashrut - Jewish dietary laws

These are commanded to Jewish people in the Torah. They are a way of showing holiness and belief in G-d; also showing self-control.

Key Words:

Kosher (fit for purpose) - food Jews can eat



Trefah - food that is not kosher

Parev - food that is neither dairy nor meat such as fruit/vegetables/pasta

Shochet - a specially trained man who kills kosher animals for food

Shechitah - the way kosher animals are killed

Hechsher - a special sign on food packages or on a restaurant that it is kosher, approved by a Beit Din

Beit Din - a court of three wise rabbis who make sure Jewish law is kept properly



Challenge:

Why is it important for Jewish people to keep kosher?
What special dietary laws do other faiths have?



Key Facts About kashrut

(found in the Torah and explained by the Rabbis):

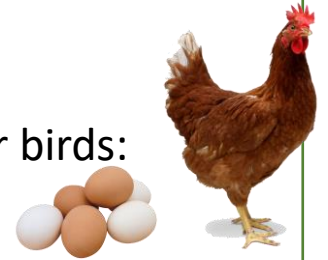
Kosher animals must have split hooves and 'chew the cud' **Examples:** cow, sheep, deer.

Non-kosher animals include pig, rabbit.

Kosher fish must have fins and scales e.g., tuna, salmon

Non-kosher fish include prawn, crab, eel.

Birds not birds of prey. Examples of kosher birds: chicken, turkey, duck.



No insects so check vegetables like strawberries/blackberries very carefully.

Meat must have blood rinsed out before using.

Eggs must be checked that there is no blood in the yolk. Jews **must not** eat or cook dairy foods together with meat; a kosher kitchen should have separate cutlery, crockery and dishes.



They must **wait three hours** after eating meat before eating dairy products

Key quotation 'do not cook a kid in its mother's milk' (Torah)

Festivals we learn about this term:

Key Words:

Tu Bshvat - New Year for trees

Purim - a very happy festival on the 14th of Adar

The story of the Jews of Persia who were saved from a plot to kill them.

Heroes - Esther and Mordechai

Achashverosh - King of Persia

Mordechai - enemy of the Jewish people, plotted to kill them

Megillah of Esther - special scroll which is read on Purim

Mishloach Manot - gifts of food to friends

Matanot l'evyonim - charity given to those who are in need in your area

Seudah - special meal eaten on festivals

Pesach - eight-day festival on 15th of Nissan to remember the exodus from Egypt

Exodus - when the Jews were slaves in Egypt and G-d set them free

Moses - prophet and leader of the Jewish people chosen by G-d to bring the Jewish people out of Egypt

Seder - special family service and meal acting out the Pesach story

Chametz - food that is risen such as bread, that cannot be eaten at Pesach

Matzah - key symbolic Pesach food- a hard cracker



Challenge:

Why is it important to remember events that happened in the past?

Jewish Studies

Places of Worship:

Key Words:

Worship - deep respect or love for G-d

Synagogue - Jewish place of worship

Aron Kodesh - holy ark

Torah - Jewish holy book

Bimah - platform where Torah is read

Ner Tamid - everlasting light

Yad - special pointer to read the Torah

Gurdwara – Sikh place of worship

Langar - community kitchen with free meals for those who need

Temple - Hindu place of worship

Mosque - Muslim place of worship

Wudu - washing before prayer



Challenge:

Why are places of worship important to believers?



Maths Unit 5: Fractions and Percentages

Key Concept

FDP Equivalence

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

Key Words

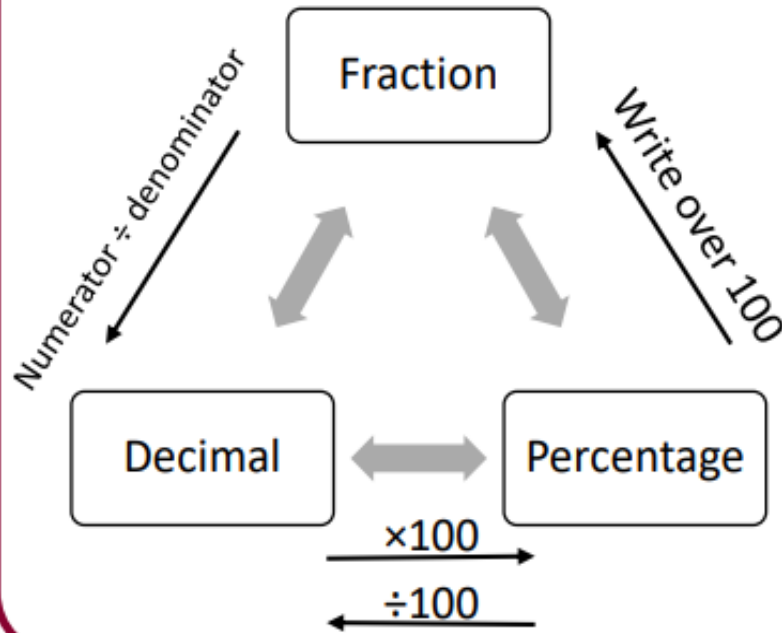
Integer: Whole number.

Ascending Order: Place in order, smallest to largest.

Descending Order: Place in order, largest to smallest.

Inequality: Statement that contains $<$, $>$, \leq , \geq , to show which quantity is greatest/smallest.

Examples



Order the following in ascending order:

Ordering process for: $\frac{3}{5}$, 62%, 0.67, $\frac{7}{10}$, 0.665

Conversions shown:

- $\frac{3}{5} \times 20 = \frac{60}{100} = 60\%$
- 62% (unchanged)
- 0.67 $\times 100 = 67\%$
- $\frac{7}{10} \times 10 = \frac{70}{100} = 70\%$
- 0.665 $\times 100 = 66.5\%$

Ordered list (ascending): $\frac{3}{5}$, 62%, 0.665, 0.67, $\frac{7}{10}$

hegartymaths

Clip Numbers

73, 75, 81 - 84

Tip

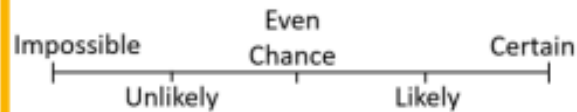
- Convert all numbers to the same form, either fractions, decimals or percentages.
- If using a calculator convert them all to decimals.



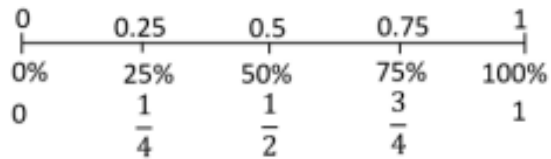
Maths Unit 6: Probability

Key Concept

Chance



Probability



Probabilities can be written as:

- Fractions
- Decimals
- Percentages

 **hegartymaths**
Clip Numbers
349 – 353, 356

Key Words

Probability: The chance of something happening as a numerical value.

Impossible: The outcome cannot happen.

Certain: The outcome will definitely happen.

Even chance: There are two different outcomes each with the same chance of happening.

Expectation: The amount of times you expect an outcome to happen based on probability.

Tip

Probabilities always add up to 1.

Examples

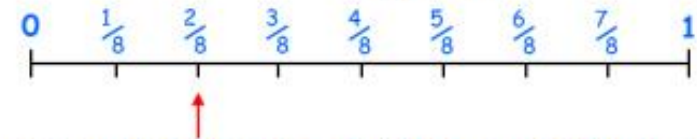


1) What is the probability that a bead chosen will be **yellow**.

Show the answer on a number line.

$$\text{Probability} = \frac{\text{Number of favourable outcomes}}{\text{Total number of outcomes}}$$

$$P(\text{Yellow}) = \frac{2}{8} = \frac{1}{4}$$



2) How many **yellow** beads would you **expect** if you pulled a bead out and replaced it 40 times?

$$\frac{1}{4} \times 40 = \frac{1}{4} \text{ of } 40 = 10$$

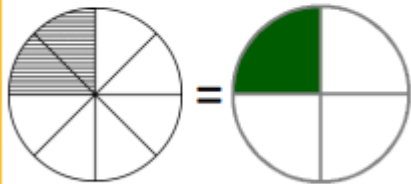
Formula

$$\text{Expectation} = \text{Probability} \times \text{no. of trials}$$

Maths Unit 7: Ratio and Proportion

Key Concept

$$\begin{array}{ccc}
 2 \text{ parts} & \rightarrow & 2:6 & \leftarrow & 6 \text{ parts} \\
 & & = & & \\
 & & 1:3 & &
 \end{array}$$



$$= \frac{1}{4}$$

hegartymaths

Clip Numbers

328 – 335

Key Words

Ratio: Relationship between two numbers.

Part: This is the numeric value '1' of, would be equivalent to.

Simplify: Divide both parts of a ratio by the same number.

Equivalent: Equal in value.

Convert: Change from one form to another.

Tip

Its often useful to write the letters above the ratio. This helps you keep the order the correct way round.

Examples

Simplify 60 : 40 : 100

$$\div 10$$

$$6 : 4 : 10$$

$$\div 2$$

$$3 : 2 : 5$$

Share £45 in the ratio 2 : 7

$$45 \div 9 = 5$$

$$\text{£}10 : \text{£}35$$

$$2 : 7$$

5	5
5	5
=10	5
	5
	5
	5
	5
	=35

Write 2 : 5 in the form 1 : n

$$\begin{array}{ccc}
 & 2:5 & \\
 \div 2 & \swarrow & \searrow \div 2 \\
 & 1:2.5 &
 \end{array}$$

Joy and Martin share money in the ratio 2 : 5. Martin gets £18 more than Joy. How much do they each get?

$$\text{£}12 : \text{£}30$$

$$18 \div 3 = 6$$

	2 : 5
6	6
6	6
	6
	6
	6
	6
=12	=30

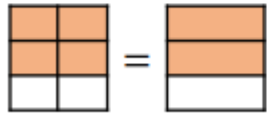
Maths Unit 7: Ratio and Proportion

Key Concept

Proportion states that two fractions or ratios are equivalent.

$$\frac{4}{6} = \frac{2}{3}$$

$$4:2 = 2:1$$



Key Words

Ratio: Relationship between two numbers.

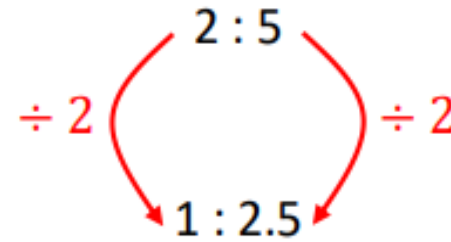
Scale: The ratio of the length in a drawing to the length of the real thing.

Proportion: A name we give to a statement that two ratios are equal.

Exchange rate: The value of one currency for the purpose of conversion to another.

Examples

Write 2:5 in the form 1:n



Cake recipe for 6 people.

3 eggs

300g flour

150g sugar

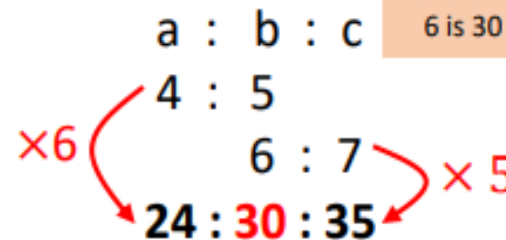
What would you need for 8 people?



$a:b = 4:5$ and $b:c = 6:7$

Find $a:b:c$.

The LCM of 5 and 6 is 30



	6	2	8
eggs	3	1	4
flour	300g	100g	400g
sugar	150	50g	200g

hegartymaths

Clip Numbers

739 - 742

Tip

Working with ratio or proportion requires multiplying or dividing the numbers. Do not add or subtract.

Greek Theatre

Ancient Greek theatre was a theatrical style that was popular in Ancient Greece from 700 BC. Athens, which became a significant cultural, political, and religious place during this period, was its centre, where the theatre was born as part of a festival called the Dionysia. This festival honoured the god Dionysus. Tragedy, Comedy, and the satyr play were the three dramatic genres to emerge there. Athens exported the festival to its numerous colonies. Modern Western theatre comes, in large measure, from the theatre of ancient Greece, from which it borrows technical terminology, classification into genres, and many of its themes, stock characters and plots.



The muses = A Chorus



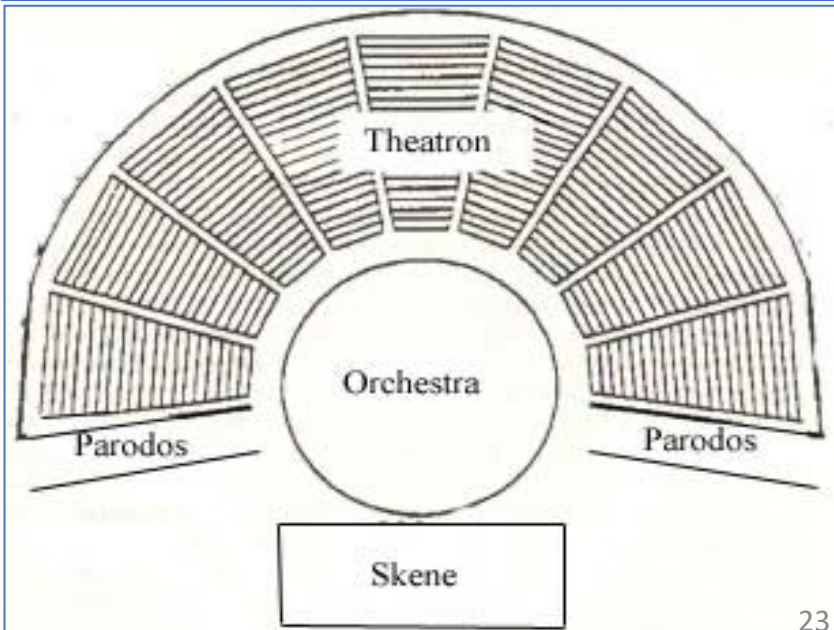
Greek Theatre uses lots of different exaggerated masks.

Where does Greek Theatre come from?



Key Command Words:
Describe: Tell me what you see or do
Explain: Tell me why you did it or why they did it
Evaluate: Tell me how it could be improved or what was good about it.

Parts of an Amphitheatre...



Ancient Greek Theatre plays were often about their Gods and how they interacted with each other and people on earth.

Useful Revision:

- Pandora's box: <https://www.youtube.com/watch?v=pMdJxVjZMRI>
- Tableau: <https://www.youtube.com/watch?v=peDo55c4Bt0>
- Soundscape Example: <https://www.youtube.com/watch?v=vBoHQByhi7w>

Rehearsal Techniques	Definition
Tableau	Otherwise known as a still image. It is a frozen picture which captures and communicates a period of time..
Molding	On person becomes the clay and the other person becomes the sculptor. The sculptors moves the clays body to create a character or role.
Soundscape	A soundscape is a vocal version of a landscape. Each actor creates their own sound to highlight the place of the piece.
Masks	Masks are a covering for all or part of the face, worn as a disguise. They were often used in Greek theatre so that people could easily recognise the characters when they came on stage.
Chorus Work	A chorus is a group of people who sing, dance, speak and act at the same time. They are often the narrators of the piece.

The genre (category) of Ancient Greek theatre plays was either comedy, satyr or tragedy.



In Greek theatre it is really hard to show emotion as the audience would find it difficult to see the actors face from far away. Therefore, actors needed to show this through their body language and through the use of masks. How do you think we could do this?



Vocal Skills	Definition
P - Pitch	How high or low you voice sounds.
I – Intonation	How clearly you speak
P - Pace	The speed in which you speak
E – Emphasis	The importance you put on certain words
D - Dynamics	The volume that you are speaking at.
B – Breath Control	How many breaths you take in a sentence.
A - Accent	The way you pronounce words
P - Pause	How many breaks you take

Physical Skills	Definition
P - Posture	The way you hold yourself
E – Eye Contact	Where you are looking
T - Tension	How tight or relaxed your body is
F – Facial Expression	How you are modifying your face
L - Levels	The heights used within the performance.
A - Action	Movements that have specific meanings
G - Gait	The way you are walking
S - Space	The area that you are using

Classical music

Classical music is a general term that people use to praise great composers such as Bach, Mozart and Beethoven. The word 'classic' tends to mean an art which is so good it will not be forgotten and enjoyed for a long time. Oliver Twist can be described as a 'classic' story by Charles Dickens in the same way classical music refers to music composed by musicians for musicians to play.

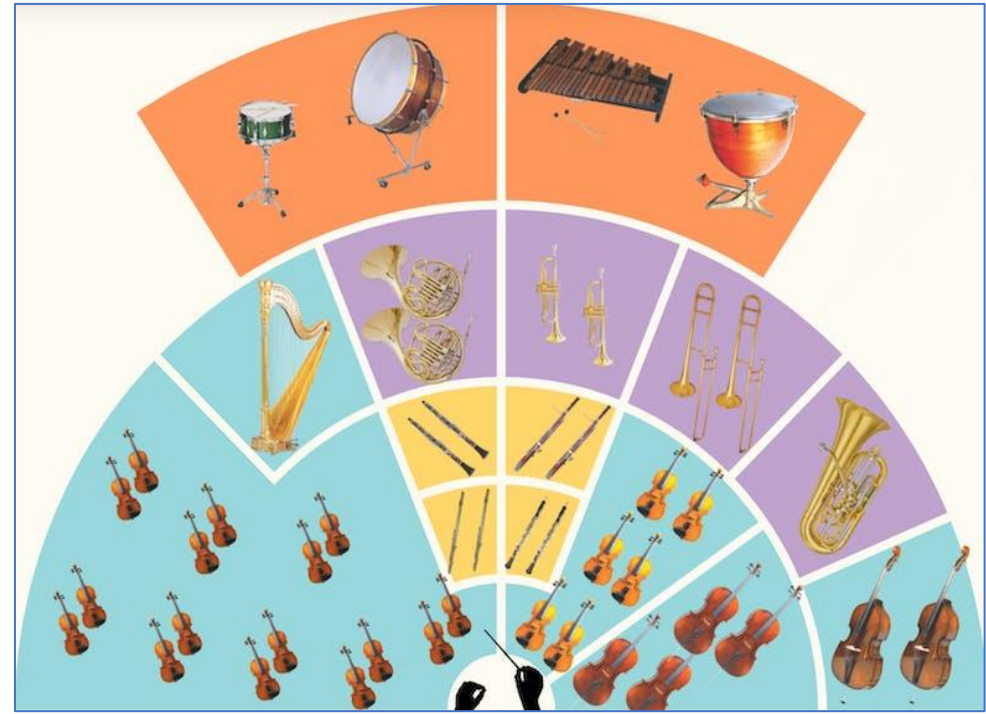
Johann Sebastian Bach
1685- 1750



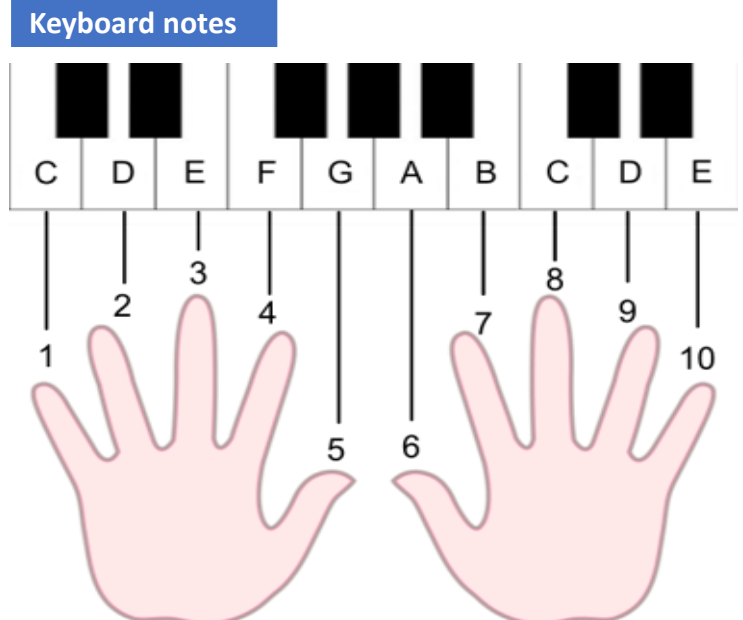
Ludwig van Beethoven
1770 1827



Frederic Chopin
1810 1849







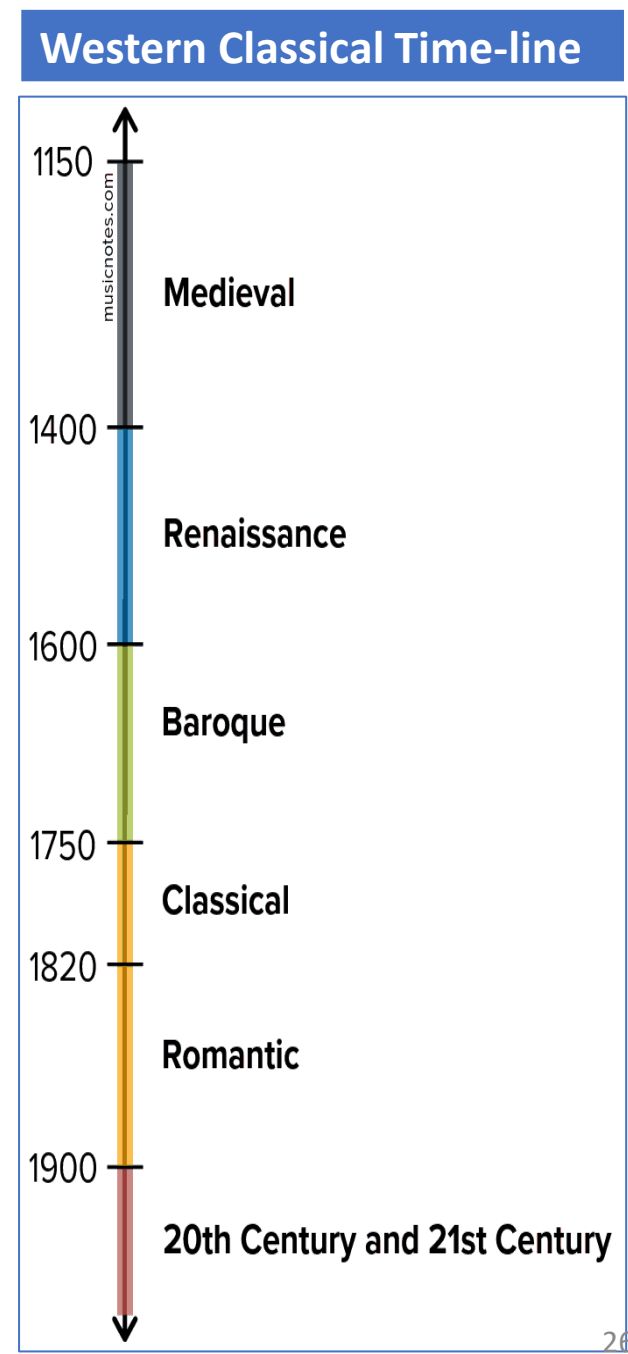
Western Classical Music		
Baroque Period 1600-1750	Classical Period 1750-1810	Romantic Period 1810-1910
Bach, Vivaldi, Handel	Mozart, Haydn, Beethoven	Chopin, Schubert, Wagner
Ornaments	Balanced, regular phrases	Use of the leitmotif
Terraced Dynamics	Alberti Bass	Music more expressive
Major & Minor Keys	Wider range of dynamics	Huge range of dynamics
Harpsichord	Pianoforte introduced	Use of chromatic chords
Small Orchestra (Mostly Strings)	Wider range of mood	Unusual Key Changes
Basso Continuo	Orchestra got bigger	Large Orchestra
	Elegant/Graceful style	Use of Rubato



A Selection of Baroque Instruments

Strings			Brass	Woodwind		
violin	viola	cello	double bass	trumpet	flute	oboe
Percussion			Keyboard			
timpani	timpani	harpichord	organ	organ	organ	organ

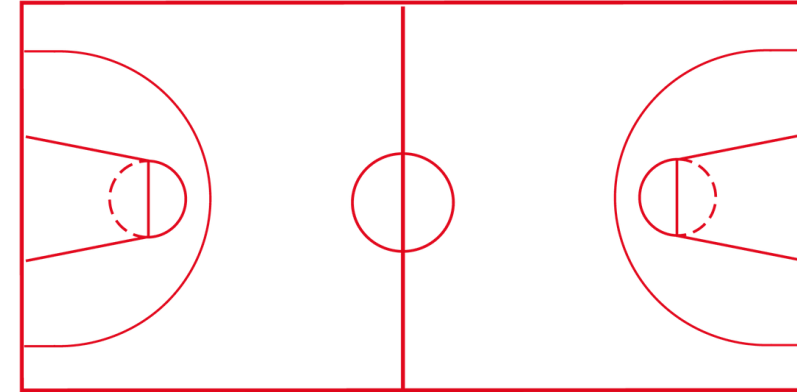
Term	Definition	Example
Johann Sebastian Bach 	Baroque Composer.	Badinerie was composed Johann Sebastian Bach.
Concerto	Piece for soloist(s) and orchestra in several movements.	The Concerto for Two Violins in D minor, BWV 1043, was composed by J.S. Bach.
Chorus	Where the choir sings.	The Chorus sung together.
Harpichord 	A stringed instrument resembling a grand piano but usually having two keyboards and two or more strings for each note and producing tones by the plucking of strings with plectra.	The Harpsichord looks like a Piano however it can't sustain notes.
Organ 	A keyboard instrument, operated by the player's hands and feet, in which pressurized air produces notes through a series of pipes organized in scale like rows.	You are likely to find an Organ in a church.
Viola 	The viola is the alto voice of the String family. It is larger than the violin, and its lowest note is a perfect 5th lower than the violin. A typical symphony orchestra will have twelve violas seated two to a desk for large orchestral work.	The Viola is bigger than a violin and deeper in register.
Double Bass 	The double bass, also known simply as the bass (or by other names), is the largest and lowest-pitched bowed (or plucked) string instrument in the modern symphony orchestra.	The double bass is bigger than the cello and much deeper in register.



Key Vocabulary

Dribbling	Head up, spread fingers and fingertips, waist height.
Chest pass	W grip, step, chest to chest, follow through, short distance.
Bounce pass	W grip, step, chest to chest, follow through, bounce before player, short distance.
Pivoting, footwork and jump stop	Landing on alternative feet- first foot to land is the static pivoting foot. Landing on simultaneous feet- either foot can become static pivoting foot/can be used at the end of a dribble or when receiving a pass. On the move- release ball before third step.
Set shot	Knees bent, dominant foot slightly in front of other, strong hand at bottom, supporting hand on side, and elbow at 90 degrees.
Defending	Man to man- knees bent, back straight, head up, arms out, watch opponent's belly-button.
Attacking	Dribble into space, screen defenders, dribble out wide and quick inward passes, drive towards ball to receive pass losing defender, overload zone defence.

Key Images



Challenge Questions

- Draw a basketball court in your knowledge book and label it correctly with the lines that are the 3-point line and the free throw line.
- Learn about the different positions and write them down in your knowledge book.



Dig Deep & Discover

Find local clubs (P10)

<https://www.redbridge.gov.uk/media/7611/sports-club-directory.pdf>



<https://www.basketballengland.co.uk/>

PE - Table Tennis

Key Vocabulary

Grip - How you hold the bat to make contact with the ball to help it land on the table.

Backhand push - The ball is played on the backhand side, with a flat bat face to push the ball over the net.

Forehand push - The ball is played on the forehand side, with a flat bat face to push the ball over the net.

Serve - The first shot to begin a rally. The serve is alternated between the two players, after two serves the service goes to the opposite player regardless of the winning shot.

Forehand topspin - A shot played on the forehand side, contact cuts on an angle to the ball to make it move differently.

Doubles play – working as a two to outwit the opponents

Key Images



Challenge Questions

What are the rules that govern the serve in Table Tennis?

When playing the forehand push how should bat be positioned to help the balls go in the correct direction?

What must happen to the bat to achieve topspin in the rally?

Dig Deep & Discover

Find local clubs (P26)

<https://www.redbridge.gov.uk/media/7611/sports-club-directory.pdf>

<https://www.ittf.com>

<https://www.tabletennisengland.co.uk>



PE - Fitness

Key Vocabulary

Three Elements of a Warmup

Pulse raiser – This allows us to increase our heart rate and the amount of blood pumped around our body which carries more oxygen to the muscles we are using.

Stretching – Increased blood flow to the muscles. Increased range of motion at the joints. Reduced risk of injury.

Increased intensive activity – This allows the participant to take part in activities relevant to the sport/ activity to be undertaken. Increase mental preparation.

Purpose of a cool down – Return heart rate to resting levels gradually.

Remove LACTIC ACID from the body (reduce muscle soreness).

Key Images

Our pulse rate, also known as your heart rate, is **the number of times your heart beats per minute**. A normal resting heart rate should be between 60 to 100 beats per minute.



Challenge Questions

Describe activities that may raise the pulse rate.

How do we measure pulse rate?

What is an average resting pulse rate?

Dig Deep & Discover

<https://www.health.com/fitness>

<https://www.rslonline.co.uk>



Key Vocabulary

Unison – Two or more dancers performing the same movement at the same time.

Focus – Use the eyes to enhance performance or interpretative qualities

Rhythm – A strong, regular repeated patten of movement or sound.

Grounded – The action of being centred and low to the floor while performing a movement

Energy – The weight and force of power needed to produce and/or manipulate a movement

Expressive Skills – Aspects that contribute to performance artistry and that engage that audience such as focus and musicality.

Key Images



Challenge Questions

Describe how the performers in the images have demonstrated being grounded in each piece?

Name 2 similarities and 2 differences that you have noticed from these performances.

Dig Deep & Discover

Find local clubs (P15)

<https://www.redbridge.gov.uk/media/7611/sports-club-directory.pdf>

<https://www.britishdancecouncil.com/>

<https://www.onedanceuk.org/>

<https://www.adfp.org.uk/>



SCIENCE: ENERGY 1 – Energy Stores and Transfers

KEY WORD	DEFINITION
Energy Transfers	How energy moves from one energy store to another
Conservation of Energy	Energy cannot be created or destroyed, only transferred from one store to another.
Thermal Energy Store	Filled when an object is warmed up
Chemical Energy Store	Emptied during chemical reactions where energy is transferred to the surroundings
Kinetic Energy Store	Filled when an object speeds up
Gravitational Potential Energy Store	Filled when an object is raised
Elastic Energy Store	Filled when a material is stretched or compressed
Dissipated	Become spread out wastefully

Energy is a quantity that is **conserved** – it cannot be created or destroyed. Energy is **stored** and **transferred**. We can use a model of energy to help us explain how it works.

Idea the model explains	Money as a model	How the model links to energy
Energy can be stored in different ways	We store money in pockets, purses and bank accounts	Energy is stored. For example energy is stored in the kinetic store for objects that move
Energy can be transferred	When we pay for items we transfer our money from one store (your purse) to another (the till)	Energy can be transferred between different stores
The unit of energy	In the UK money is measured in pounds (£)	Energy is measured in joules (J)

When energy moves from one store to another, the energy is **transferred**. When you have an **energy transfer** the total energy before is **equal** to the total energy after.

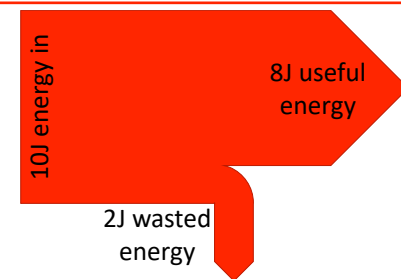
This is the **Law of Conservation of Energy**.

When energy is **transferred** between stores it can be **transferred** as...

- **mechanical work** (when something uses a force to move a distance)
- **electrical current**
- **heat**
- **waves** (like light or sound)
- **chemical reactions**

When energy is **transferred** it can be **dissipated**. This is where energy is '**wasted**' by being transferred to the **surroundings** and becomes stored in a **less useful** way. Energy is usually **dissipated** as **heat**.

A **Sankey diagram** shows how **energy** is transferred between **useful** stores and **wasted** stores.



There are several different **stores of energy**. These include (but are not limited to)

Kinetic Energy Store: The amount of energy in the kinetic energy store of an object depends on the **speed**. This runner has more energy in the kinetic energy store when they are running faster.



Gravitational Potential Energy Store: The amount of energy in the gravitational potential energy store of an object depends on its **height**. This box has more energy in its gravitational potential energy store when it is placed on a higher shelf.



Thermal Energy Store: The amount of energy in the thermal energy store of an object depends on its **temperature**. This hot cup of tea has more energy in the thermal energy store than the glass of cold water.



Chemical Potential Energy Store: The amount of energy stored in **chemicals** that can be transferred when they do **chemical reactions**. Batteries, foods, and fuels all store energy in the chemical energy store. The candle wax pictured is a type of fuel.



Elastic Potential Energy Store: The amount of energy in the elastic energy store changes when an object is **deformed**. This could be **squashed, stretched** or **twisted**. This resistance band will have more energy in the elastic potential energy store the more it's stretched.



When an **energy transfer** happens you take the energy from one **store** and fill up another **store**. Some examples are given below.



SCIENCE: ENERGY 1 – Energy in the Home

KEY WORD	DEFINITION
Power	How quickly energy is transferred by a device (watts W)
Energy	Associated with changes in temperature or work (joules J)
Energy Resource	Something with stored energy that can be used in a useful way
Non-Renewable	An energy resource that will run out if we use it
Renewable	An energy resource that can will not run out if we use it
Fossil Fuels	Non-renewable energy resources formed from the remains of ancient plants or animals. Examples are coal, crude oil and natural gas.
Unit (kWhr)	The standard unit of energy used in our homes. This is used to calculate our energy bills.

Nutrition information			
Typical values	Per 100g	Per 1/2 pot	% Normal Value for men
Energy	256 kJ 61 kcal	320 kJ 76 kcal	3.0%
Protein	4.9g	6.1g	13.6%
Carbohydrate of which sugars of which starch	6.9g 6.9g nil	8.6g 8.6g nil	3.7% 9.2%
Fat of which saturates mono-unsaturates polyunsaturates	1.5g 0.9g 0.4g nil	1.9g 1.1g 0.5g nil	3.2% 5.5%
Fibre	nil	nil	nil
Salt of which sodium	0.2g trace	0.3g nil	4.2%
Vitamins & minerals			% Normal Value for men
Calcium	168mg	210mg	34%

Most food labels tell you how much **energy** is in the food you are eating. The energy in the food is given in **kilojoules (kJ)** **1kJ = 1000 J**

The relative energy of some food groups are shown below.

Food Group	Energy in 1g
Fats e.g. butter	37kJ
Proteins e.g. meat/seeds	17kJ
Carbohydrates e.g. bread/pasta	16kJ

Activity	Time (mins)	Energy	
Dancing	15	220kJ	Different activities use different amounts of energy. The more active you are the more energy you will use from your food. If you don't use the energy it will be stored in your body as fat.
Cycling	15	188kJ	
Walking	15	143kJ	
Sitting and Writing	15	120kJ	

Fuels are **energy resources**. When they are burnt they release **energy**

Fuel	Energy in 1g
Coal	15.8kJ
Natural Gas	14.9kJ
Petrol	13.0kJ
Firewood	12.8kJ

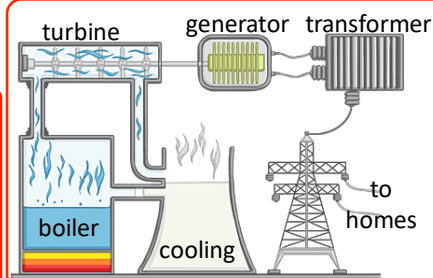
Fossil fuels were formed millions of years ago over a very long time. The remains of **plants** and **animals** were buried and compressed and turned into **coal, oil** and **gas**.



Fossil fuels took so long to form that we **cannot replace** them. They are **non-renewable**

Renewable energy sources will not run out. Some common ones are listed in the table

Energy Source	How it works	Problems
Solar	Solar panels absorb light and convert it to electricity	Doesn't work when it's not sunny solar panels are expensive
Wind	Turbines spin when the wind blows and generate electric current	Doesn't work when it's not windy the turbines are noisy
Geothermal	Hot rocks underground warm up cold water and turn it into steam	Relies on presence of hot rocks, many countries don't have these
Hydroelectric	A river is dammed. As the water goes through the dam it spins a turbine	Damming rivers causes flooding
Tidal	A turbine is set up where a river meets the sea. It spins as the water passes	Tidal barrages can harm river habitats
Biomass	Plants are grown that can be burnt as fuel, this includes firewood	Carbon dioxide is still released and you need lots of land



Fossil fuels generate electricity in the same way,

1. Fuel is **burnt to boil** water
2. The steam passes through a **turbine** to spin it
3. This spins a **generator** that makes electricity
4. The **transformer** makes it a safe voltage to use
5. The **national grid** then sends the electricity to be used in people's homes

Electrical appliances may have a label with the **power rating**.

Power is the **energy transferred** each second. It is measured in **watts (W)**

Some appliances transfer large amounts of **energy** so their rating is shown in **kilowatts (kW)** **1 kW = 1000 W**



You can calculate the **energy transferred** by an appliance using the formula...

$$\text{energy transfer} = \text{power} \times \text{time}$$

E.g. if an 800W microwave is on for 40s how much energy was transferred?

$$E = P \times t$$

$$E = 800W \times 40s$$

$$E = 32\,000J$$

Energy bills are calculated using **kWhrs**

$$1\text{kWhr} = 1\text{kW} \times 1\text{hr}$$

Energy companies set a price per kWhr (unit cost) They calculate your bill using...

$$\text{cost} = \text{number of kWhr} \times \text{unit cost}$$

E.g. If 1kWhr costs 5p, calculate the cost of using 320 kWhr of energy per week

$$\text{cost} = 320 \times 5p$$

$$\text{cost} = 1\,600p \text{ or } \pounds 16$$

Reduce your bills by switching to **energy saving** appliances, and **turning things off** if not being used.



SCIENCE: GENETICS 1 – Variation and Adolescence

KEY WORD	DEFINITION
Species	A group of living things that have more in common with each other than with other groups
Variation	The differences within and between species
Selective Breeding	When humans selectively choose characteristics they wish to breed into an organism
Continuous Variation	Where differences between living things can have any numerical value
Discontinuous Variation	Where differences between living things can only be grouped into categories
Gamete	The male gamete (sex cell) is a sperm, the female an egg cell
Fertilisation	Joining of a nucleus from a male and female sex cell

Variation is another word for **differences**. The **variation** in a **species** is all the differences that these organisms have. These differences could have arisen naturally or humans could have **selectively bred** into them if they are pets, farm animals or crops.



Variation is important because without differences in a population you are less likely to be able to **adapt** to a change in the environment and therefore be more likely to become **extinct**.

A **species** is a group of living things that are similar enough to be able to **reproduce** and produce **fertile offspring**.



When two animals from two different **species** reproduce their offspring are **infertile** e.g. a liger is a half tiger, half lion. It is infertile and cannot have offspring.

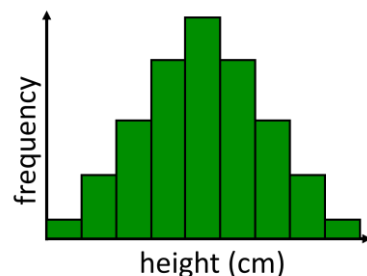
Variation can be caused by...

- **Genetic Variation** – differences between individuals that are inherited from parents, such as the colour of your eyes, hair and skin
- **Environmental Variation** – differences between individuals that are not inherited, but caused by the environment the organism lives in, including scars and tattoos.
- **Genetic and Environmental Variation** – differences between individuals that are caused by both genetic and environmental factors, such as height and mass.

Continuous Variation

Any characteristic that **changes** over a **range** of values shows continuous variation. Examples are height, arm span, mass.

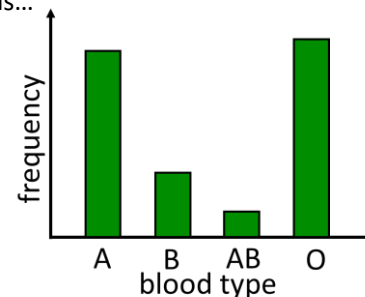
When you plot **continuous variation** it should be a **histogram**, looking something like this...



Discontinuous Variation

Any characteristic that gives us values in **groups** rather than a range. Examples are blood type or eye colour

When you plot **discontinuous variation** it should be a **bar chart**, looking something like this...



Adolescence is when children become **teenagers**. You will notice **changes** in your body and you go through **puberty**.

The average age for puberty is 11 for girls, and 12 for boys. It is important to note that this is an **average age**, and not a set timetable. It usually happens between 8 and 14.

Some of these changes are shown in the table below.

Girls	Boys
Pubic hair starts to grow	Pubic hair starts to grow
Breasts start to develop	Hair starts to grow on your face
Hips widen	Testicles will start to produce sperm
Ovaries start to release eggs during the menstrual cycle (periods start)	A penis can become erect for the first time
Growth spurt	Growth spurt
	Voice breaks (becomes deeper)



Sperm cells and **egg cells** are called **gametes**.

- One **egg cell** matures every month in the **ovary** and is released into the **oviduct**.
- For up to 24 hours the egg may be **fertilised** by a sperm cell.

- **Fertilisation** is when the **nucleus** of the **sperm** fuses with the **nucleus** of the **egg**, combining **genetic material** (half from the mother and half from the father).
- The **fertilised** cell will multiply many times to become an **embryo** which will embed in the **uterus** to start developing as a **foetus**



SCIENCE: GENETICS 1 – Human Reproduction

KEY WORD	DEFINITION
Ovary	Organ which contains eggs
Testes	Organ where sperm are produced
Oviduct	Carries an egg from the ovary to the uterus
Uterus or Womb	Where a baby develops in a pregnant woman
Ovulation	Release of an egg cell during the menstrual cycle
Menstruation	Loss of the lining of the uterus during the menstrual cycle
Penis	Organ which carries sperm out the male's body
Vagina	Where the penis enters the female's body and sperm is received
Foetus	The developing baby during pregnancy
Gestation	Process where the baby develops during pregnancy
Placenta	Organ that provides the foetus with nutrients and removes waste
Amniotic Fluid	Liquid that surrounds and protects the foetus
Umbilical Cord	Connects the foetus to the placenta

Menstruation (the period) happens in a 28 day cycle controlled by **hormones**.

Day	What Happens
1-5	Menstruation occurs and the uterus lining is removed
5-14	The uterus lining builds up
14	Ovulation – egg cell released
14-28	The uterus lining is maintained
28	Menstruation happens again, and a new cycle begins

If the **egg cell** is fertilised during **sexual intercourse** then the lining of the **uterus** is maintained so the **foetus** can develop. This means the **menstrual cycle** will stop during **pregnancy**, and the **period** will not happen.

Contraception is a method that prevents **pregnancy**. The two most common methods are using a **condom**, and the **contraceptive pill**.

It takes 40 weeks for a pregnancy to develop. The foetus changes a lot during this time. After 24 weeks the foetus could survive if born.

male reproductive system

Name	Function
testes	Where sperm is made
sperm duct	The tube that carries the sperm to the urethra
prostate gland	Where semen is made
urethra	The tube leading from the prostate gland/bladder along the penis
penis	The organ around the urethra. Movement of the penis releases sperm during intercourse.

female reproductive system

Name	Function
ovary	Where egg cells are made and released i
oviduct	The tube that carries the egg from ovary to uterus
uterus	The womb. A cavity with thick muscular walls where the developing baby grows
cervix	Narrow opening from the vagina to the uterus
vagina	The muscular tube that extends up to the uterus

Whilst the foetus is growing we call this **gestation**. The **uterus** changes during this time.

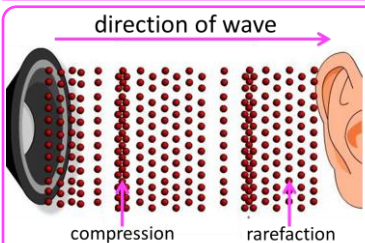
Name	Function
placenta	Allows nutrients to pass from the mother's blood to the foetus's and lets the waste go from foetus to mother
umbilical cord	The tube that nutrients and waste passes from foetus to the placenta
amniotic sac	A fluid filled sac that surrounds the foetus to protect it

Studies have established how different substances effect an unborn **foetus**. These are shown in the table below.

Alcohol	Higher rate of still-birth (baby dead when born) lower birth weight, baby slower to move and think
Smoking	Higher rate of still-birth, premature birth and low birth weight resulting in poor development. Greater risk of developing asthma
Drugs	Higher rate of still-birth, premature birth, low birth weight, likely addiction to that drug.

SCIENCE: WAVES 1 – Sound

KEY WORD	DEFINITION
Vibration	A back and forth motion that repeats
Longitudinal Wave	Where the direction of vibration is the same as that of the wave
Loudness	How loud or quiet a sound is
Pitch	How low or high a sound is. A low pitch sound has a low frequency
Amplitude	The maximum amount of vibration, measured from the middle position of the wave, in metres
Wavelength	Distance between two corresponding points on a wave in metres
Frequency	The number of waves produced in one second, in hertz (Hz)
Vacuum	A space with no particles of matter in it
Oscilloscope	Device able to view patterns of sound waves that have been turned into electrical signals
Absorption	Where energy is transferred from sound to a material
Auditory Range	The lowest and highest frequencies that a type of animal can hear
Echo	Reflection of sound waves from a surface back to the listener



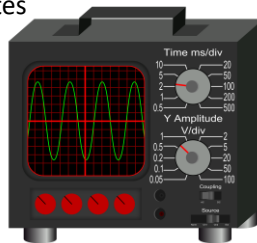
When an object **vibrates**, it produces **sound**. These waves can only travel through a **solid, liquid or gas**. They cannot travel through a **vacuum**

Sound waves are **longitudinal waves**. This means that the **vibrations** are in the same direction as the travel of the wave.

Sound waves are made of **compressions** (where the particles are close together), and **rarefactions** (where the particles are furthest apart)

Part of a **microphone** vibrates when exposed to **sound**. This creates a changing electrical signal. This signal can be displayed using a device called an **oscilloscope** this lets us 'see' the sound.

- The height of the wave measured from the middle is the **amplitude**
- The time taken for one wave to pass a point is the **period**
- The number of complete waves per second is the **frequency**.



Sound is **faster** in more **dense** materials (like solids) because the **particles** are closer together. **Speeds of sound** in some materials are shown below.

Medium	Speed of Sound (m/s)
Air	340
Water	1440
Wood	3850
Glass	4540
Aluminium	6320

Frequencies are measured in **hertz (Hz)** Most young people can hear between **20 Hz** and **20 000 Hz**. This is known as the **auditory range**.

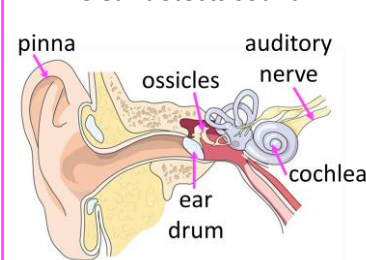
The **reflection** of sound is called an **echo**.

Very flat surfaces can create lots of **echoes** which is known as **reverberation**.

Sound can be **absorbed** by soft bumpy/wavey surfaces (like the foam panels pictured) this prevents **reverberation**.



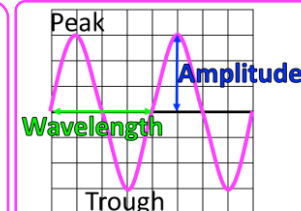
The **ear** detects sound



Part of ear	Function
Pinna	Directs sound toward the inner ear
Ear drum	Vibrates when the sound hits it
Ossicles	Transmits the vibration of the ear drum to the cochlea
Cochlea	Has tiny hairs that vibrate, each hair can detect different frequencies
Auditory nerve	Sends the signals from the cochlea to the brain.

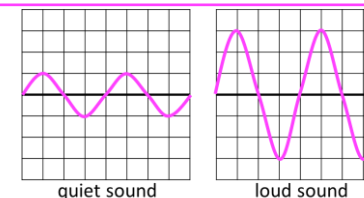
Damage to your **hearing** can be caused by over-exposure to **loud sounds**. The hairs in your **cochlea** will stop working properly which can cause **hearing loss**.

If you work somewhere with lots of **noise** (like in concerts, or a building site) you must wear **ear protection** to prevent **hearing loss**.

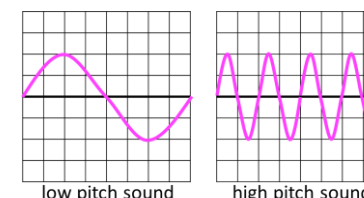


On an oscilloscope... The distance from the **centre** to the **peak/trough** is the **amplitude**. The length of one complete wave is the **wavelength**.

The **amplitude** of a sound wave determines its **loudness**

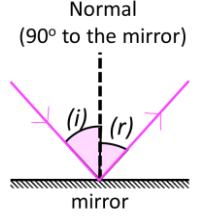


The **frequency** of a sound wave determines its **pitch**



SCIENCE: WAVES 1 – Light

KEY WORD	DEFINITION
Incident Ray	The incoming ray
Reflected Ray	The outgoing ray
Normal Line	From which angles are measured, at right angles to the surface
Angle of Reflection	Between the normal and reflected ray
Angle of Incidence	Between the normal and incident ray
Refraction	Change in the direction of light going from one material into another
Absorption	When energy is transferred from light to a material
Scattering	When light bounces off an object in all directions
Transparent	A material that allows all light to pass through it
Translucent	A material that allows some light to pass through it
Opaque	A material that allows no light to pass through it
Convex Lens	A lens that is thicker in the middle which bends light rays toward each other
Concave Lens	A lens that is thinner in the middle which spreads out light rays
Retina	Layer at the back of the eye with light detecting cells and where an image is formed



Incidence ray: the ray that hits the mirror
Reflected ray: the ray that leaves the mirror.

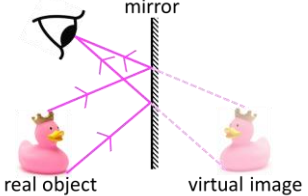
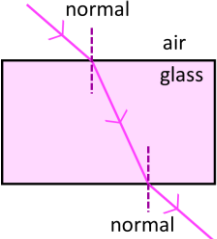
When light hits a **mirror** the **angle of incidence (i)** is always equal to the **angle of reflection (r)**. This is called the **law of reflection**

Mirrors reflect with **specular reflection**. Because all the light travels in the **same direction**, if the surface is **rough** the light **scatters**.

In a flat mirror you see a **virtual image** of objects which...

- Appear to be **behind** the mirror
- Is the **right way up**
- Is **laterally inverted** (things look backward)

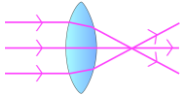
The diagram shows the '**virtual rays**' as dashed lines. The '**real rays**' come from the object and go into the eye.

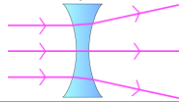
Light changes **speed** if it goes into a **material** with different **density**. The light bends and causes **refraction**.

- Light bends **toward** the normal when it goes from **less to more dense**
- Light bends **away** from the normal when it goes from **more to less dense**

Refraction can cause **distortion** of an image.



Converging lenses direct light toward a single **point**. They are used in glasses for **long-sighted** people, and microscopes and telescopes.

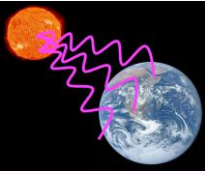
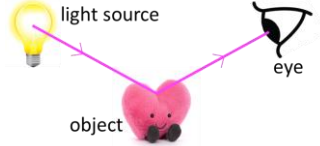


Diverging lenses spread light out away from the **source**. They are used in glasses for **short-sighted** people, and torches

Light is a kind of **wave**. It doesn't need particles to travel through. It can travel through a **vacuum** which is why light passes through outer space.

The **speed of light** is very fast. It travels at **300 million m/s** (3×10^8 m/s)

Light travels about a **million times** faster than sound


Light travels in **straight lines**, so when we draw diagrams of the **movement** of light we draw **straight lines**, with an **arrow** to show direction.

To see, light **reflects** (bounces off) objects, and that light goes in your **eye**.

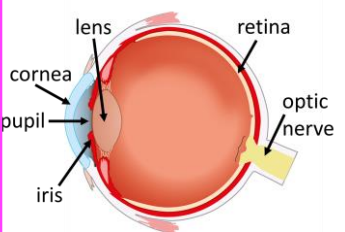
Transparent materials – all light passes through them

Translucent materials – some light passes through them

Opaque materials – no light passes through them



The parts of the **eye** work together for help you **see**.



The **image** made on the **retina** is upside down,
 The **brain** fixes the **image** so that everything seems the right way up.

Part of eye	Function
pupil	Where light enters the eye
iris	The coloured ring around the pupil. It gets smaller in low light to make the pupil bigger and let in more light
cornea	Curved surface that bends light into the pupil
lens	Changes shape to help focus an image
retina	Contains cells that are sensitive to light, they produce signals when they absorb light.
optic nerve	The signal from the retina is sent to the brain along this nerve.

SCIENCE: REACTIONS 1 – Metals and Non-Metals

KEY WORD	DEFINITION
Metals	Shiny, good conductors of electricity and heat, malleable and ductile, and usually solid at room temperature
Non-Metals	Dull, poor conductors of electricity and heat, brittle and usually solid or gaseous at room temperature
Displacement	Reaction where a more reactive metal takes the place of a less reactive metal in a compound
Oxidation	Reaction in which a substance reacts with oxygen
Reactivity	The tendency of a substance to undergo a chemical reaction
Property	What a substance is like or how it behaves
Malleable	Can be bent or beaten into a new shape
Ductile	Can be pulled into a wire
Brittle	Shatters when hit with a hammer, or breaks when you try and bend it

Reactants are at the beginning of a chemical equation. They get **used up** in the reaction
Products are at the end of a chemical equation. They are **made** in the reaction.
 $reactant + reactant \rightarrow product$

Metals react with oxygen in the air to form **metal oxides**. This is called an oxidation reaction.
 $magnesium + oxygen \rightarrow magnesium\ oxide$
 Metal oxides are **bases**. Bases are chemicals that can neutralise **acids**.



Non-Metals can also react with oxygen in the air to form **oxides**. This is also an oxidation reaction.
 $sulfur + oxygen \rightarrow sulfur\ dioxide$
 Non-metal oxides are **acidic**. They can be **solid, liquid** or **gas**.



Some metals react **quickly** with oxygen, some react **slowly**, some **do not react** with oxygen at all. We can use our **observations** of this reaction to put metals in a **reactivity series**.

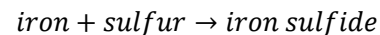
Metal	Reaction with oxygen
potassium	Reacts within seconds
lithium	Reacts over a minute or so
iron	Slowly rusts over a few months
gold	No reaction

There are 118 **chemical elements** and most of them are **metals**.
 The metals are shaded in **light blue** on this diagram.
 The rest of the elements are **non-metals**

- All metals have very **similar properties**
- **Good conductor of heat**
 - **Good conductor of electricity**
 - **High melting/boiling point**
 - **Malleable**
 - **Ductile**
 - **Shiny**

- All non-metals have very **similar properties**
- **Poor conductor of heat**
 - **Poor conductor of electricity**
 - **Low melting/boiling point**
 - **Brittle**
 - **Dull**

Elements can react together to form **compounds**. A **compound** is a brand new substance and is nothing like the **elements** it was made from.

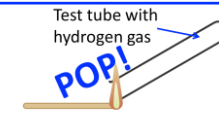


iron sulfide doesn't have any of the properties of **iron** or **sulfur**.

Some **metals** react with **acids**. When the **metal** reacts **bubbles** of gas are seen. The metal seems to **disappear** because it's turned into a **salt**. The **general reaction** is...
 $metal + acid \rightarrow salt + hydrogen$
 The name of the **salt** made depends on the **acid** and **metal** you use to make it.
 $magnesium + sulfuric\ acid \rightarrow magnesium\ sulfate + hydrogen$
 $zinc + hydrochloric\ acid \rightarrow zinc\ chloride + hydrogen$

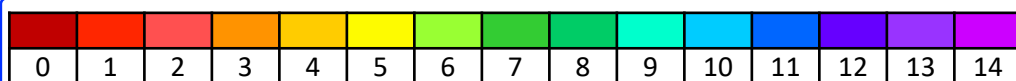
increasing reactivity	Potassium	In a displacement reaction a more reactive element will replace a less reactive element in a compound .
	Sodium	You can use the reactivity series to work out if a metal will displace another metal
	Lithium	e.g.
	Calcium	Zinc will displace copper from copper chloride, because zinc is more reactive than copper.
	Magnesium	$zinc + copper\ chloride \rightarrow copper + zinc\ chloride$
	Aluminium	Zinc cannot react with calcium chloride however because zinc is less reactive than calcium
	Zinc	$zinc + calcium\ chloride \rightarrow NO\ REACTION$
	Iron	
	Lead	
	Copper	
	Silver	
Gold		

Hydrogen Test:
 To test for **hydrogen** get a **lit splint** and put it in the gas. If it makes a **squeaky pop** sound, it's hydrogen



SCIENCE: REACTIONS 1 – Acids and Bases

KEY WORD	DEFINITION
pH	Scale of acidity and basicity from 0 to 14
Acid	A substance with a pH lower than 7. Neutralises bases
Base	A substance with a pH more than 7. Neutralises acids
Alkali	A base that dissolves in water
Neutral	A substance with a pH of 7
Indicator	Substance used to identify whether unknown solutions are acidic or basic
Concentration	A measure of the number of particles in a given volume
Neutralisation	A chemical reaction where an acid and a base react
Salt	A substance made from an acid-base neutralisation reaction



The **pH scale** is a number scale from 0-14. It tells us how **acidic** or **basic** a solution is.

- **Neutral** solutions are exactly **pH7**
- **Acidic** solutions have pH values **less than 7**. The closer to pH0 the **more acidic** it is
- **Basic** solutions have pH values **greater than 7**. The closer to pH14 the **more basic** it is

To test the **pH** of a substance it first has to be an **aqueous solution** (dissolved in water).

Using a pH meter

- A pH meter is a **digital meter** that will give a **numerical** reading for the pH. It is more **accurate** than using universal indicator.



Using Universal Indicator

- **Universal indicator** is either given as a **solution** or as a type of **paper**.
- Add the universal indicator and let it change colour.
- Check the **universal indicator** against the colour chart above.
- Whatever the colour is that is the corresponding pH.



Litmus can tell you if something is **acidic** or **basic**, but can't tell the **pH**.

- It turns **red** in an acid
- It turns **blue** in a base



Acids tend to have 'acid' in the name. **Bases** tend to have 'oxide' or 'hydroxide' in the name.

Laboratory acids:

HCl – hydrochloric acid
H₂SO₄ – sulfuric acid
HNO₃ – nitric acid

Laboratory bases:

NaOH – sodium hydroxide
MgO – magnesium oxide



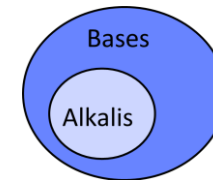
Laboratory acids are **strong acids** that we have mixed with a lot of water to make them **dilute**. Dilute strong acids are normally labelled with a warning symbol to show that they are **irritant**.

Concentrated acids are mixed with very little water and are much more dangerous than dilute acids. They can **burn** through skin and materials. They are labelled with the warning symbol to show they are **corrosive**.



Dilute weak acids are normally safe but may still hurt if they get into a cut or in your eye. Dilute weak acids are found in vinegar, or lemon juice

A base is a substance that reacts with an acid and neutralises it. Many bases won't dissolve in water. If a **base** is **soluble** then we call it an **alkali**.



Just like concentrated acids, **concentrated alkalis** are **corrosive**. They are labelled with the corrosive warning symbol.

A **neutralisation** reaction happens if you mix an **acid** and a **base** together.



If you mix the right amounts together the solution will be totally **neutral**.

A **salt** has a scientific name.

If you use **hydrochloric** acid it will make a **chloride**

If you use **sulfuric** acid it will make a **sulfate**

To predict the chemical reaction for a neutralisation reaction you need to check the **reactants**.

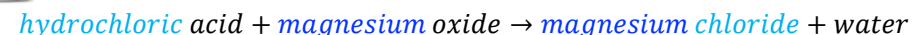
1. The first word of the **salt** is a **metal** taken from the **base** used.
2. The second word of the **salt** ends in -ide or -ate depending on the **acid** used.

E.g. Write the chemical reaction for the reaction between sodium hydroxide and hydrochloric acid



A use of **neutralisation** is indigestion tablets.

You get **indigestion** when there is too much **hydrochloric acid** in your **stomach**. Indigestion tablets contain a base like **magnesium oxide** which reacts with the excess acid to neutralise it.



Farmers also control the pH of the soil using **neutralisation** because different plants will grow in **acidic** or basic **soil**.

If the soil is too **basic** then an **acid** will be added to the soil to **neutralise** it.

¿Qué estudias?	What do you study?
Estudio...	I study...
ciencias	science
dibujo	art
educación	PE 
física	
español	Spanish
francés	French
geografía	geography
historia	history
informática	ICT
inglés	English
matemáticas	Maths
música	Music
religion	RE
teatro	Drama
tecnología	Technology

Opiniones	Opinions
¿Te gusta el dibujo?	Do you like art?
Sí, me gusta (mucho) el dibujo.	Yes, I like art (a lot).
No, no me gusta (nada) el dibujo.	No, I don't like art (at all).
¿Te gustan las ciencias?	Do you like science?
Sí, me encantan las ciencias.	Yes, I love science.
aburrido/a	boring
difícil	difficult
divertido/a	funny
fácil	easy
importante	important
interesante	interesting
práctico/a	practical
útil	useful 

¿Cuál es tu día favorito?	What is your favourite day?
Mi día favorito es el lunes/ el martes.	My favourite day is Monday/Tuesday.
Los lunes/martes estudio...	On Mondays/Tuesdays I study...
¿Por qué?	Why?
Porque...	Because...
por la mañana	in the morning
por la tarde	in the afternoon
estudiamos	we study
no estudio	I don't study

¿Qué haces en la ciudad?	What do you do in town?
Salgo con mis amigos.	I go out with my friends.
Voy...	I go...
al cine	to the cinema
al parque	to the park
a la bolera	to the bowling alley
a la cafetería	to the café
a la playa	to the beach
de compras	shopping
de paseo	for a walk
No hago nada.	I do nothing.

¿Qué hay en tu ciudad?	What is there in your town?
Hay...	There is...
un castillo	a castle
un centro comercial	a shopping centre
un estadio	a stadium
un mercado	a market
un museo	a museum
un parque	a park
una piscina	a swimming pool
una plaza	a square
un polideportivo	a sports centre
un restaurante	a restaurant
una tienda	a shop
una universidad	a university
En...	In...
mi barrio	my neighbourhood
mi ciudad	my town, my city
mi pueblo	my village, my town
No hay museo.	There isn't a museum.
No hay nada.	There's nothing.
unos museos	some museums
unas tiendas	some shops
muchos museos	a lot of museums
muchas tiendas	a lot of shops

Los profesores	Teachers
El/la profesora/es...	The teacher is...
paciente	patient
raro/a	odd
severo/a	strict

¿Qué haces durante el recreo?	What do you do during breaks?
Como...	I eat...
un bocadillo	a sandwich
unos caramelos	some sweets
chicle	chewing gum
una chocolatina	a chocolate bar
fruta	fruit
unas patatas fritas	some crisps
Bebo...	I drink...
agua	water
un refresco	a fizzy drink
un zumo	a juice
Leo mis SMS.	I read my text messages.
Escribo SMS.	I write text messages.
Nunca hago los deberes.	I never do homework.

¿Qué hay en tu insti?	What is there in your school?
En mi insti hay...	In my school, there is...
un campo de fútbol	a football field
un comedor	a dining hall
un gimnasio	a gymnasium
un patio	a playground
una biblioteca	a library
una clase de informática	an ICT room
una piscina	a swimming pool
unos laboratorios	some laboratories
unas clases	some classrooms
No hay piscina.	There isn't a swimming pool.



¿Dónde está?	Where is it?
Está en...	It is in...
el campo	the countryside
la costa	the coast
una ciudad	a town
el desierto	the desert
la montaña	the mountains
un pueblo	a village
el norte	the north
el sur	the south
el este	the east
el oeste	the west
el centro	the centre



SPANISH

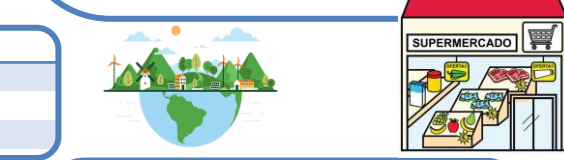
¿Cómo es tu insti?	What's your school like?
Es...	It's...
antiguo/a	old
bonito/a	nice
bueno/a	good
feo/a	ugly
grande	big
horrible	horrible
moderno/a	modern
pequeño/a	small

Expresiones de tiempo	Time expressions
a veces	sometimes
normalmente	normally
primero	first
luego	then

Palabras muy frecuentes	High-frequency words
algo	something
donde	where
hay	there is/there are or
pero	but
¿Por qué?	Why?
porque	because
también	also, too
tampoco	nor/neither
y	and

¿Te gusta vivir en...?	Do you like living in...?
Me gusta mucho vivir en...	I like living in... a lot.
No me gusta nada vivir en... porque hay/es...	I don't like living in... at all. because there is/it is...

Palabras muy frecuentes	High-frequency words
además	also, in addition
bastante	quite
porque	because
muy	very
¿Quién...?	Who?
un poco	a bit
mi/mis	my
tu/tus	your
su/sus	his/her



¿Cómo es tu casa o tu piso?	What is your house or flat look like?
Vivo en...	I live in...
una casa	a house
un piso	a flat
antiguo/a	old
bonito/a	nice
cómodo/a	comfortable
grande	big
moderno/a	modern
pequeño/a	small



Opinando Giving opinions

When you give your opinion about subjects, you need to check four things:

- 1 that you use the correct form of **gustar**: me gusta/me gustan
- 2 that you use the correct **definite article**: **el/la/los/las**
- 3 that you use the correct form of the verb **ser**: es/son
- 4 that your adjectives agree in number and gender: aburrido/aburrida/aburridos/aburridas

If the noun is **plural**, you add an 'n' to the opinion phrase: me gustan, me encantan, me molan

¡Atención!

Do not use **me** with odio/prefiero

Using porque

Remember to use **porque** (*because*) to give reasons to your opinions. Me gusta el inglés **porque** es interesante. *I like English because it is interesting.*

Ej: Me gustan **las** matemáticas **porque** **son** útiles pero no me gusta **el** dibujo porque no es muy práctico.



Hay = there is/there are.

After **No hay**... you don't need the article **un/una/unos/unas**

No hay piscina. *There isn't a swimming pool.*

SPANISH



¿Cuál es la diferencia entre

el / la / los / las y **un / una / unos / unas**?

How to say "the":

el / la / los / las

How to say "a":

un / una

How to say "some":

unos / unas

El profesor = **the** teacher

La mesa = **the** table

Los alumnos = **the** students

Las mini pizarras = **the** mini white boards

un profesor = **a** teacher

una mesa = **a** table

unos alumnos = **some** students

unas mini pizarras = **some** mini white boards

¿Cómo se forma el **presente perfecto**? How to form the present perfect

Present tense of **HABER** + past participle of the verb you are conjugating

He
Has
Ha + **hablado** (hablar)
Hemos + **comido** (comer)
Habéis + **salido** (salir)
Han

Ejemplos:

He hablado = *I have spoken*

He estudiado = *I have studied*

He salido = *I have gone out*

¿Cuándo se usa? *When do you use it?*

It's used to say something that you have done recently. Actions which have taken place close to the present. (Today / this morning / This week etc)

Ejemplos:

Hoy he desayunado café – *Today I have had coffee for breakfast*

Esta semana he ido al cine – *This week I have been to the cinema*

Este año he estado de vacaciones en París – *This year I have been on holiday to Paris.*

Nunca he estado en Japón - *I have never been to Japan.*

INCORRECT:

Ayer he desayunado café – **incorrecto**

El martes he ido al cine - **incorrecto**

Opinion

Definite article

Noun

Connective

Quantifier

Me encanta
I love
Me chifla
I adore
Me apasiona
I am passionate about
Me gusta mucho/ me mola
I really like
Me gusta
I like

No me gusta
I do not like
No me gusta nada
I do not like at all
Odio/detesto
I hate

la

el

las

historia
geografía
educación física
música
religión
tecnología
informática

inglés
español
francés
dibujo
teatro

ciencias
matemáticas

porque es
because it is
ya que es
because it is
puesto que es
because it is

porque son
because they are
ya que son
because they are
puesto que son
because they are

muy
bastante
super

Adjetivos

Singular

Plural

English

masculine	feminine	masculine	feminine	
aburrido	aburrida	aburridos	aburridas	boring
divertido	divertida	divertidos	divertidas	fun
práctico	práctica	prácticos	prácticas	practical
difícil	difícil	difíciles	difíciles	difficult
fácil	fácil	fáciles	fáciles	easy
útil	útil	útiles	útiles	useful
raro	rara	raros	raras	strange
severo	severa	severos	severas	strict
interesante	interesante	interesantes	interesantes	interesting
importante	importante	importantes	importantes	important