KNOWLEDGE ORGANISER

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NAME & FORM

YEAR 7

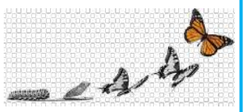
SPRING TERM

English Knowledge Organiser

Etymology Check In

Break down the etymology and define these key words:

Metamorphosis



Definition:

Zoomorphism

Definition:

Malevolent

Definition:

Duality

Definition:

Alter-ego

Definition:

Engaging writing:

Here's what you need to include to be successful!

✓ ***Interesting adjectives:*** give an INTERESTING synonym(s)

SCARY: _____

LIGHT: _____

COLOURFUL: _____

✓ ***Detailed noun phrases***: Improve this sentence!

His eyes were scary.

_____

_____

✓ ***Interesting verbs:*** give a more interesting synonym(s)

WALK: _____

SEE: _____

TALK: _____

✓ ***Add adverbs:*** Add an ADVERB to this sentence (describes verb). **TIF:** Can you improve it further with a technique?

Terrified, she ran.

_____

_____

The killer watched the victim.

_____

_____

Punctuation Rules:

Add your own example!

; Semi-colon = replace 'and', 'so'; connects two linked main clauses

Example: *I have a big test tomorrow; I can't go out tonight.*

_____

_____

: Colon = replace 'because'; introduce list; introduce quote in PEAR paragraph

Example: *Its dangerous to drive today: it's icy.*

The heroes are the Pevensie children: Lucy, Edmund, Peter, and Susan.

The White witch is presented as demanding: 'Speak, vermin!'.

_____

_____

( ) Brackets = adds information (subordinate clause)

Example: *Mrs Pratchett (the sweetshop owner) is horrible!*

_____

_____

- Dashes = adds information (subordinate clause); shows a pause

Example: *He stopped in shock – the door was already open.*

Mrs Pratchett – the sweetshop owner – is horrible!

_____

_____

Paragraphing Rules:

Ensure your paragraphs are accurate!

Ti... you move to a new period of time

P... you move to a different place/location

To... you move from one topic to another

P... you bring a new person into your writing, or change from one person to another - including dialogue (speech)

Sentence starters:

Have a range of interesting sentence starters!

- ✓ ***Start with an adverb:*** Quickly, suddenly, angrily etc

  Carefully, he looked round.
- ✓ ***Start with a preposition:*** Above, around, below etc

  Above the skyscraper roof, the stars twinkled.
- ✓ ***Start with a verb:*** Running, laughing, watching etc.

  Roaring, the monster sprang at them!
- ✓ ***Start with a subordinate clause:***

  Although her heart was racing, she crept forwards.
- ✓ ***Start with a simile:*** like/as

  Like a crashing wave, the charged forwards
- ✓ ***Create a mystery:*** grab your reader's attention!

  It was only meant to be a game. But it went wrong...

Techniques: *Give your own example!*

Simile: compares with like/as:

The city was buzzing like a hive.

_____

Metaphor: compares directly

The moon was a golden coin.

_____

Personification: describes non-human as human

The trees danced in the wind.

_____

Rhetorical question: question to make the reader think

What should I do?

_____

Zoomorphism: describes human as an animal

She snarled angrily.

_____

Triplet/tricolon: list of 3

The storm was terrifying, fierce, and overwhelming.

_____

Sentence Forms

Minor: 1-2 words – '*Stop!', 'Go now!'*

Simple: One main clause (Subject + verb) – *'You need to leave', 'She frowned'*

Compound: Sentence with two main clauses, linked with **;** or a connective – '*The lord was evil; he was plotting against the king.*', '*It was a beautiful day and the sun was shining'.*

Complex: Main clause with 1 or more subordinate clause – '*Slowly, he rose to his feet',* 'Although it was night, the streets were crowded'

Different sentence types have different effects:

- ✓ *Minor/simple sentences* = slower pace and more tension
- ✓ *Compound/complex sentences* = faster pace, quick action, detailed description

English Literature Timeline:

Roman Britain
43BC– 410AD
- ✓ Boudicca burns London
- ✓ Greek literature/culture
- ✓ Hadrian's wall built

- *Illiad/Odyssey*
- *Greek/Roman myths*
- *Metamorphoses* (Ovid)

Anglo-Saxon/ Vikings
500-1066
- ✓ Sutton Hoo ship burial
- ✓ Viking raids

- *Beowulf*
- Viking myths
- Bede's histories

Medieval
1066-1485
- ✓ Norman invasion
- ✓ War of Roses

- *Canterbury Tales* (Chaucer)
- *Arthurian legends*

Tudors
1485-1603
- ✓ Renaissance (Da Vinci, Shakespeare etc)
- ✓ Slave Trade/ Empire

- *Shakespeare plays*
- *Divine Comedy* (Dante)
- *Utopia* (More)

Stuarts
1603 - 1714
- ✓ English Civil War
- ✓ Witch Hunts

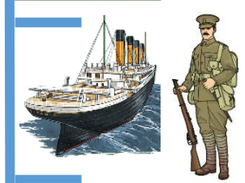
- *Paradise Lost* (Milton)
- *Demonologie* (King James I)

Georgian
1714 - 1837
- ✓ Slave trade banned
- ✓ Industrialisation
- ✓ French Revolution

- *Pride and Prejudice* (Austen)
- *Frankenstein* (Shelley)
- Romantic poets

Victorians
1837 - 1901
- ✓ British Empire
- ✓ American Civil War

- *Christmas Carol* (Dickens)
- *Jekyll and Hyde* (Stevenson)



Edwardian/WW1
1901-1918
- ✓ WW1 (1814-18)
- ✓ Women gets right to vote

- *War poets*
- *'Room of One's own'* (Woolf)

'Modern era'
1919 - 1945
- ✓ Russian Revolution
- ✓ WW2 (1939-45)
- ✓ Empire breaks up

- *Animal Farm (Orwell)*
- *An Inspector Calls (Priestley)*

English Knowledge Organiser

Brief Summary of Poems:

Spellbound by Emily Brontë
This poem describes a storm, which appears to be 'trapping' the speaker like a spell. The storm is overpowering and threatening.

Below the Green Corrie by Norman MacCaig
This poem uses a lot of personification to describe the speaker's experience when he is surrounded by mountains. He experiences a range of emotions as a result of the beauty of the mountains.

Storm in the Black Forest by D.H. Lawrence
This poem describes the sheer power of nature over man- by describing the power and beauty of a storm. It goes into detail about the beauty and strength of the lightening.

Wind by Ted Hughes
In this poem, the speaker is trapped inside a house due to the ferocious winds outside. The poem describes how chaotic and dangerous the wind is outside. The speaker goes onto say how the wind and being trapped in the house takes a toll on their mental state.

The Moment by Margaret Atwood
This poem reminds us of the power of nature over humanity. In the poem nature is given a voice and it threatens humanity. It states even though humans feel they are in control, nature can take back that control at any time.

Whispering Waves by Edel T. Copeland
This poem describes the sea and expresses the power nature holds over humanity. It addresses the emotional impact nature can have on us.

Hurricane by James Berry
This poem portrays the aftermath of a hurricane and the physical effects of such a powerful storm.

Daffodils by William Wordsworth
This poem considers the positive effects of being around nature and how it positively affects the wellbeing of people.

What do we need to include in a successful paragraph?

- ✓ **Point**
- ✓ **Example**
- ✓ **Analysis**
- ✓ **Technique**

Can you note down a key quote for each of these poems?

Spellbound	Wind	Whispering Waves	Daffodils
			
Storm in the Black Forest	**Below the Green Corrie**	**The Moment**	**Hurricane**
			

Add your quotes in here:

Key Themes in Poems:

Can you fill in the missing lines with themes of your choice as we cover the poems?

- **Nature**
- _____
- **Fear**
- _____
- **Weather**
- _____

English Knowledge Organiser

Key Quotes from Poems

Spellbound- What do these quotes show?
'A tyrant spell has bound me'
'The wild winds coldly blow'

The noun 'tyrant' suggests...
The adjective 'wild' could show...

Below the Green Corrie- What do these quotes show?
'The mountains gathered around me like bandits'
'Their leader swaggered up close in the dark light'

The verb 'gathered' makes us...
The verb 'swaggered' implies...

Storm in the Black Forest- What do these quotes show?

'Jugfull after jugfull of pure white liquid fire'
'A still brighter white snake wriggles among it'

The repetition of 'jugfull' could suggest...
The metaphor 'still brighter white snake' shows us...

Wind- What do these quotes show?
'This house has been far out at sea all night'
'Winds stampeding the fields'

The preposition 'far out' makes us think...
The verb 'stampeding' could portray...

Key Quotes from Poems

The Moment- What do these quotes show?
'The trees unloose their soft arms from around you'
'The air moves back from you like a wave and you can't breathe'

The personification in 'unloose' shows...
The simile 'like a wave' could make us...

Whispering Waves- What do these quotes show?
'Powerful and strong, it breathes and roars.'
'Cascading and caressing each grain of sand'

The personification in 'breathes and roars' could imply...
The alliteration in 'cascading and caressing' creates...

Hurricane- What do these quotes show?
'Zinc sheets are kites.'
'Then growling it slunk away.'

The metaphor 'zinc sheets are kites' is used to show...
The personification in 'growling' could make us think of...

Daffodils- What do these quotes show?
'Fluttering and dancing in the breeze.'
'Ten thousand saw I at a glance'

The personification in 'dancing' suggests...
The hyperbole in 'ten thousand' could indicate...

PEA Sentence Structures:

POINT:

In the poem, one way the poet displays _____ is...

EXAMPLE:

This is shown through the use of (mention a technique here) in ' ... '

ANALYSIS:

This suggests/this shows...

It could also suggest that...

The word _____ could highlight...

Another word that supports this is _____ because...

As a reader I understand...

Key Poetic Techniques:

Rhyme- The ends of the lines have the same sound *e.g. pie and sky.*
Repetition – A word or phrase is used more than once. *E.g. faster and faster, the cheetah ran...*
Onomatopoeia- When a word sounds as it is *e.g. boom.*
Metaphor- Two things are compared by saying one thing is the other *e.g. the sun was a glittering ball in the sky.*
Simile- Comparing something using 'like' or 'as. *E.g. the sun was like a glittering diamond.*
Personification- When an inanimate object is given human features. *E.g. the tree danced in the breeze.*
Hyperbole- Exaggeration *e.g. the sun melted my skin.*

Art Knowledge Organiser

Pablo Picasso

Key features:

Bright colours- line- bold- geometric- shape- profile- unusual features- mark making.

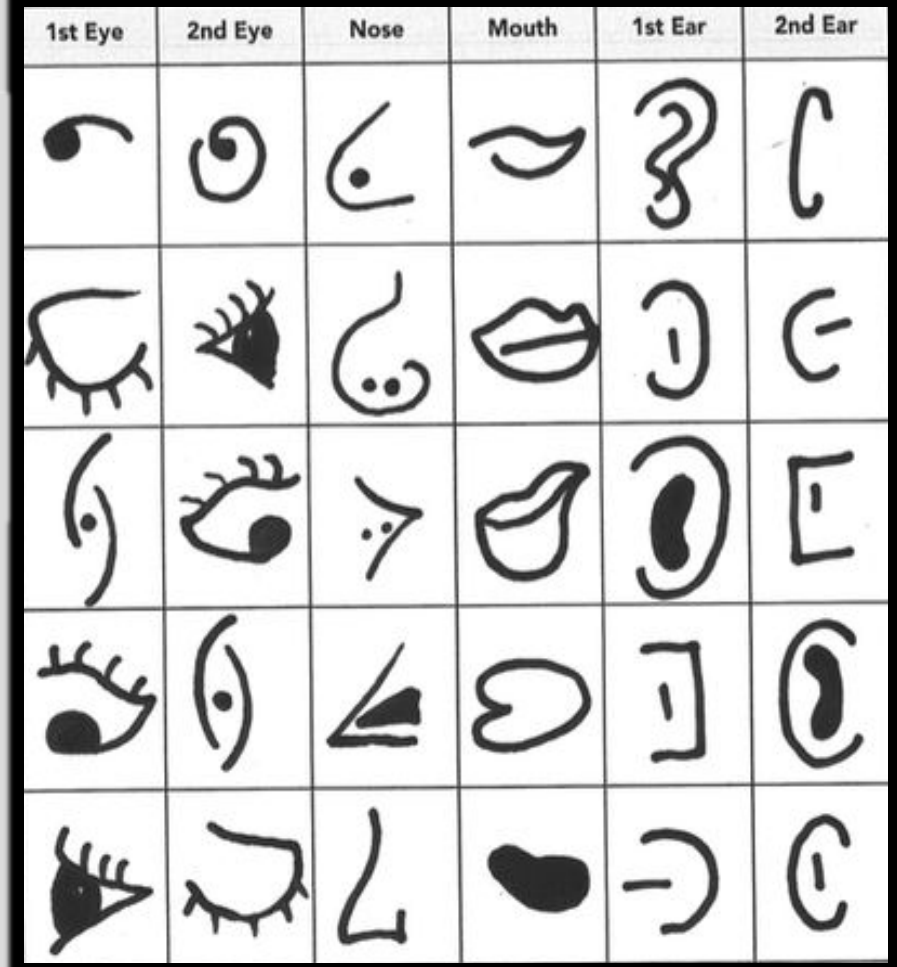
Working in the style of an artist:

You need to use these techniques and features in your own study.

KEY WORDS – test yourself! (definitions on the next page)
Geometric- Abstract- Cubism- Surrealism- Bold- Painterly- Outline- Features- Bright- Complementary colours- Contrast- Shape

Portraiture

Year 7 Spring term



In the style of:

When creating a piece of art in the style of an artist it is very important you thoroughly understand their techniques in order to copy them effectively.

Besides using their techniques, you also need to take pride in your work and be as neat as possible. Here are some things to consider:

- Have you used bold colours?
- Have you used patterns in Picasso's style?
- Have you used unusual features?
- Is the scale correct?
- Have you included geometric shapes?
- Is your colour scheme appropriate to the artist?

KEY WORDS AND MEANINGS:	
Abstract	Art that does not represent reality accurately, instead the art is made from lines, shapes, colours, forms etc.
Cubism	In Cubist artwork, objects are analysed, broken up and reassembled in an abstracted form.
Surrealism	Art that is made to portray the workings of the unconscious mind as manifested in dreams.
Painterly	The application of paint in a 'loose' or less than controlled manner leaving visible brush strokes in the piece.
Complementary colours	Pairs of colours that contrast with each other more than any other colour
Outline	The line by which an element or object is defined or framed.
Bold	A bold colour or pattern is very bright and noticeable.
Contrast	when opposite elements are arranged together, e.g. Black next to white.
Geometric shapes	Shapes that are are characterised by straight lines, angles and points.
Features	Distinctive attributes or aspects of something. For example, facial features.

Colour code: BLUE= Tier 3 words ORANGE= Tier 2 words Look out for colour coding during lessons!

GREEK THEATRE

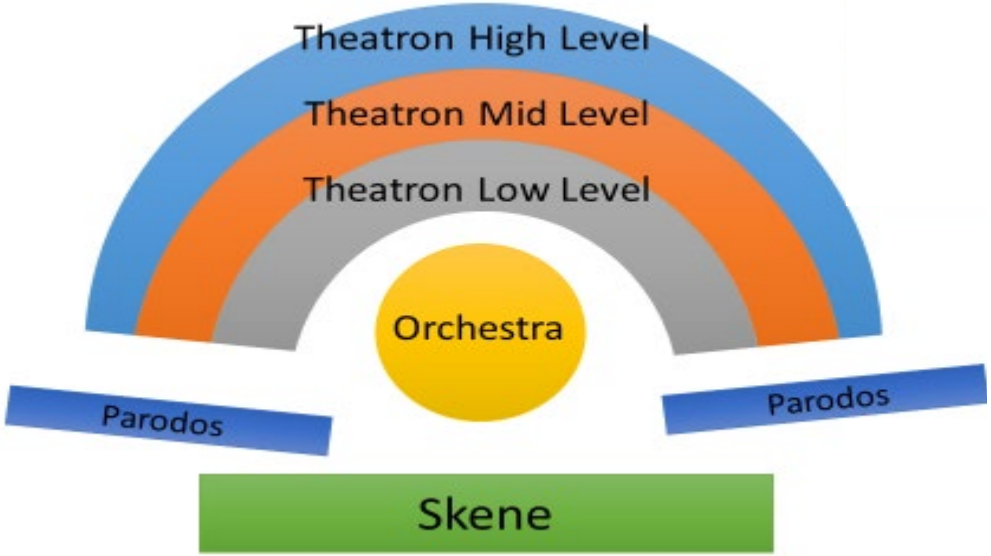
Canon – moving one after another (the same movement)

Choral Speaking – Saying exactly the same lines as each other at the same time

Key Question: What is a Amphitheatre? What was theatre like in Ancient Greece?

Amphitheatre

- The stage where the actors performed was called the Skene
- The Theatron was the semi-circular seating area.
- The semi-circular dancing space where the chorus performed was called the Orchestra
- The Skene had underground passages, trap doors and different staging levels
- Parodos on each side of the stage. They were used for the chorus to enter and exit the Orchestra.



1. The chorus was one of the most important components of the play.
2. They narrated and reflected on the action.
3. Without them, the audience would have no background information, and the play would be more confusing.
4. Originally the chorus had **twelve** members.
5. They moved and spoke as one **(Choral Speaking)**

They sang, or sometimes said, basic information.

Drama Knowledge Organiser

KEYWORDS AND TECHNIQUES EXPLORED

Role Play - The act of pretending to be somebody else, of taking on a role

Split focus – Two separate scenes occurring at one time- once scene freezes whilst the other scene performs

Multi-role – When an actor plays more than one character onstage

Thought Track – When a character steps out of a scene to address the audience about how they're feeling

Levels – How high or low a character stands to show status (how powerful they are)

Devising - Creating your own performance using your own ideas

Tension - A growing sense of expectation within the drama, a feeling that the story is building up towards something exciting happening

Stereotypes - an idea or belief many people have about a thing or group that is based upon how they look on the outside, which may be untrue or only partly true.

Storytelling Theatre

Levels

UPSTAGE RIGHT	UPSTAGE CENTRE	UPSTAGE LEFT
CENTRE STAGE RIGHT	CENTRE STAGE	CENTRE STAGE LEFT
DOWNSTAGE RIGHT	DOWNSTAGE CENTRE	DOWNSTAGE LEFT

AUDIENCE

Split Focus

Key Skills:

Audience Awareness, Vocal projection, Facial Expressions, Body Language, Gestures, Pitch, Pace, Pause, Tone

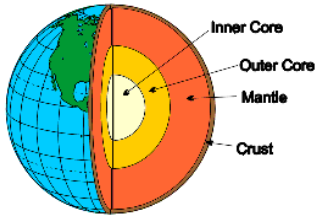
Proxemics

Madame Tussauds

A famous wax work museum full of wax figures of famous people!

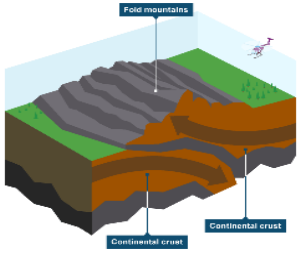
Geography Knowledge Organiser

Structure of the Earth:



The Andes is a range of young **fold mountains** formed some 65 million years ago. It is the longest range of fold mountains in the World at 7000 km and extends the length of **South America**. The Andes are about 300km in width and have an average height of 4000 km.

South America is a continent South West of the UK



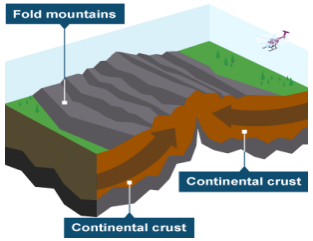
Destructive Plate Boundary:

Destructive plate boundaries form when there is an oceanic plate and a continental plate moving towards each other. Because the oceanic plate is more dense, it subducts (sinks) beneath the continental plate. As this happens, fold mountains form. The Andes were formed at a destructive plate boundary.

People use The Andes for:

- Tourism
- Mining
- Farming

But there are opportunities and challenges for each of these activities



Collision Plate Boundary:

Collision plate boundaries form when two continental plates collide. Neither plate is forced under the other, and so both are forced up and form fold mountains.

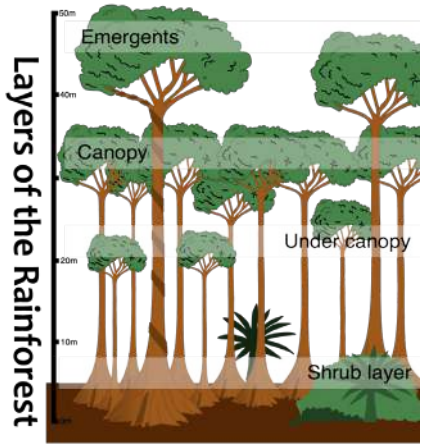
An **opportunity** is something positive which can occur. It is an advantage.
A **challenge** is something negative which can occur. It is a disadvantage.

Andes Activity	Opportunity	Challenge
Tourism 	Tourism provides a high number of jobs which allow people to earn an income and improve their quality of life	High numbers of tourists in an area can cause soil erosion and increase the amount of litter in an area.
Mining 	There are a large number of jobs at the Yanacocha mines. The gold from the mines is sold worldwide and supports the economy	Contamination of water supplies due to cyanide from the use of dynamite. This can lead to deaths of local people
Farming 	Terracing can help to overcome the challenge of steep slopes, where steps are built into the landscape. Farmer can sell the crops they grow for money	The slopes are very steep and can result in the soil at higher altitudes being thin which is not suitable for growing crops.

Year 7: South America

Geography Knowledge Organiser

Tropical rainforests are split into different layers; shrub layer, under canopy, canopy and emergent layer.
Different layers receive different amounts of sunlight.
The shrub layer is the bottom layer and receives the least sunlight.
The emergent layer is the top layer and receives the most sunlight.
Those plants which receive less sunlight grow slowly and those that receive more, grow quickly



Why is the Tropical Rainforest important?

Use of the TRF	Specific example
Food	Chocolate / Chewing gum
Houseplants	Cheese plant
Medicine	Rosy periwinkle which treats Leukaemia

How are sloths adapted to the Tropical Rainforest?

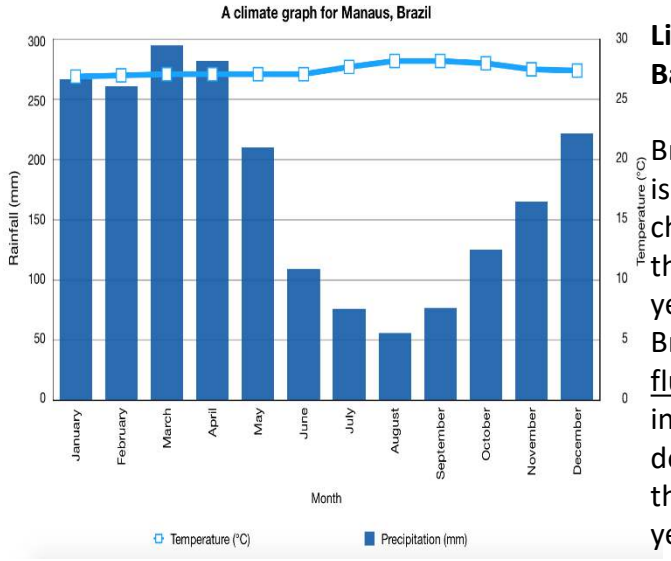
Brown fur to camouflage with the branches and protect from predators.

Algae can grow on fur to help with camouflage.

Long arms to swing between branches

Curved claws to grip onto branches

Climate: The average weather conditions over a period of 30 years.



Line = Temperature
Bars = Precipitation

Brazil's temperature is stable (it does not change much throughout the year)
Brazil's precipitation fluctuates (it increases and decreases throughout the year).

Did the Rio Olympics help Brazil?

I was one of 45,000 volunteers at the Olympics. It was amazing seeing people from all different backgrounds being brought together.

I was one of 77,000 Brazilians who had been forcibly removed from their homes in the favelas to make space for stadiums and roads.

The Rio Olympics have really helped us as a country to leave a lasting legacy. As the mayor of Rio, I am so proud of what our country has achieved.

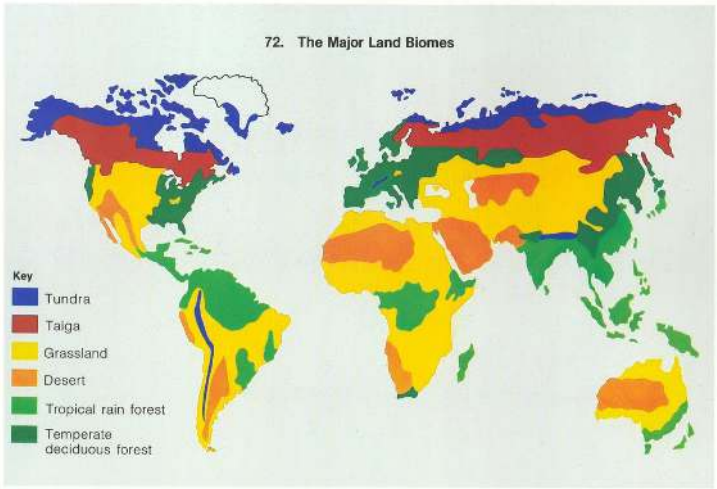
Palm oil is an edible vegetable oil that is in very **high demand** and is used of loads of different products. Should we use the Amazon to grown palm oil?



Reasons for growing palm oil in the Amazon	Reasons against growing palm oil in the Amazon
Palm Oil is in high demand so lots of countries will need to buy it, helping Brazil to earn money and therefore increase their economy. Palm oil plantations provide farming jobs for local people. Therefore, people can earn money and improve their quality of life as they can spend money on food, health care and education for their children.	A lot of forest is deforested to make space for plantations which can destroy the habitats for fauna (animals). Palm oil plantations can interfere with the way of life of local people. For example, local tribe members who rely on hunting rainforest animals for food, may see a decrease in their food supply because of deforestation.

Year 7: South America

Geography Knowledge Organiser

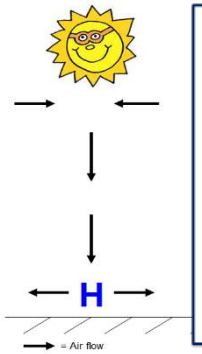


An example of a biome is the tundra. This biome is found in the North of Europe and North America, at very high latitudes. This biome is located north of the UK and north of the equator.

Tundra biomes form in areas of **high pressure**, where air is **sinking**. The **temperatures** stay **below 0°C** most of the year. The **ground remains frozen**, apart from a few centimetres of thaw in the summer. The **precipitation** is gentle and very low (due to it being in an area of high pressure), mainly falling as snow. The winds can be very strong. **Summers** may have many hours of continuous daylight. **Winters** are long, dark periods.
The **climatic conditions** mean that the landscape is quite bare, with little vegetation.
It is these harsh conditions of a tundra biome, which cause it to be classed as an extreme environment.

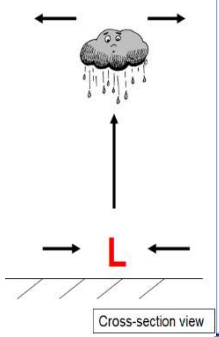
A **biome** is a large ecosystem. The Earth has many different biomes, with each one containing many different flora and fauna that have adapted to the environment.

Areas of high pressure:



1. Air sinks
2. As it sinks, the air warms up.
3. Water droplets evaporate.....
4. .....leaving clear skies and no precipitation.

Areas of low pressure:



1. Air rises
2. As it rises, the air cools.
3. Water vapour condenses to form clouds.
4. Precipitation occurs.

The **permafrost** is a frozen layer of soil and dead plant material that in some places extends to almost 450 metres under the surface.

A challenge of the tundra is…	This challenge affects…	This is a challenge because…
The extremely harsh climate, with very cold temperatures, very low levels of precipitation and high winds	Anything which lives in the tundra, such as flora, fauna and people.	Plants and animals have to be very well adapted to survive in the tundra due to this harsh climate.
Global warming which can melt the permafrost	The permafrost layer of the ground which affects the flora that grow and the fauna that can survive in the tundra.	As the permafrost melts, shrubs and spruce that could previously not take root in the permafrost now dot the landscape, altering the habitat for native fauna.
Global warming which can melt the permafrost	The Earth's climate	As the permafrost melts, it no longer acts as a carbon sink and releases CO2 into the atmosphere, contributing to global warming.

Alaska is located on the continent of North America.
Alaska is to the East of Russia and the West of Canada.
Alaska is located North West of the UK.

Year 7: Extreme Environments

Geography Knowledge Organiser

Oil and Gas in Alaska

Oil and gas is non renewable and the world is running out. Without oil and gas, the world will struggle to generate power.

In Alaska, the largest energy source is oil and gas with huge amounts located in Prudhoe Bay oil field.

In 1977, a pipeline, called the Trans-Alaskan Pipeline, was completed which transport this oil 1287km South from Prudhoe Bay to Valdez.

Once the oil reaches Valdez, it is then transported by tanker to the mainland USA.

Advantages and disadvantages of exploiting the tundra

The oil and gas industry in Alaska employs 110,000 people. This means that 110,000 people can earn a source of income

If pipelines are built directly onto the tundra or are buries, they can melt permafrost, impacting the fauna and flora which has adapted to life in the biome.

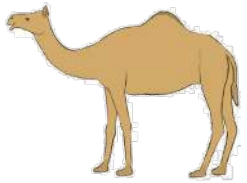
The pipeline transports 212 million barrels of oil every year, bringing in huge amounts of money.

Machinery used to extract oil can disrupt local way of life. For example, the machinery could scare away wildlife which people rely on for hunting.

Cotton grass is adapted to live in the tundra where it is extremely cold, dry and windy

Adaptations of cotton grass to the tundra:

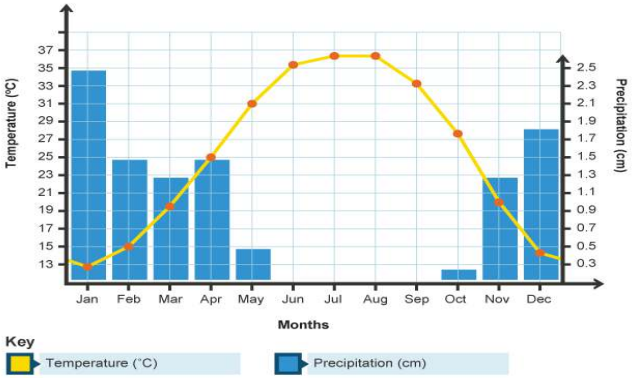
1. Small seeds because these can then be easily dispersed by the wind.
2. Narrow leaves to reduce water loss by transpiration
3. Short in height to protect it from the wind and to allow it to be covered by snow in Winter, protecting it from the extreme cold



Camels are adapted to live in the hot desert where temperatures can reach up to 53°C and there are very low levels of precipitation

Adaptations of camels to the hot desert:

1. Humps which store fat because this allows them to go weeks without eating food
2. They can go weeks without drinking water because they can drink gallons in one go, this shows they are adapted to the arid (dry) conditions
3. Their body temperature can change because this allows them to reduce water loss from sweating



This is a climate graph for a hot desert biome. The hottest months are July and **August at 36.5°C**. The wettest month is **January at 2.29cm**. The driest months are **June, July, August and September** where there is on average, **no precipitation**.

Why are deserts so dry?

Deserts form in areas of **high pressure**, where **air sinks**. As air sinks, it **warms** up and **water droplets evaporate**. Therefore, **clouds do not form** so there is very **little precipitation.**

Desert Name	Thar Desert (World's seventh largest desert)
Location	Covers 200,000km squared on the border between Pakistan and India
Climate	Temperatures can reach as high as 53°C and there is less than 230mm of rainfall per year
Opportunities 	**Mineral extraction** • The removal of mineral resources from Earth • For example, there are large amounts of gypsum which can be sold and used to make plaster **Tourism** • People visit the desert for recreation and their own leisure • There is an annual festival in the Thar desert which attracts thousands of people
Challenges 	**Melting tarmac** • The extreme temperatures can cause tarmac roads to melt • This limits accessibility as people struggle to move between areas **Water insecurity** • As the population of the Thar desert has increased and agriculture and industry have developed, water has become a scarce resource

Year 7: Extreme Environments

History Knowledge Organiser

Topic 3: Medieval Religion

Why was the Church so important?

*People in England were Christians. This religion had been introduced by the **Romans** and had been continued by the **Anglo-Saxons, Vikings and Normans.** People wanted to be good Christians and so they would listen to the Church and those who worked for it.*

Medieval views of Heaven:

A Christian who lived their life in the right way and only did good was believed to go to heaven. This is believed to be a paradise to spend all eternity in after you died. To get to heaven, you could:

- *Pray regularly*
- *Donate **tithes** (money to the Church)*
- *Travel on a **pilgrimage***
- *Fight (or die) in a **crusade***

Medieval views of Hell:

*On the other hand, a Christian could live their life in a wicked way and they could **sin.** For doing this they could risk going to Hell. Priests warned people about Hell in two ways:*

- *Speaking about the dangers of sinning in sermons*
- *Showing **peasants** horrible pictures of what Hell may look like called **doom paintings***

Who was powerful in the Church?

*People believed priests were powerful and influential as they understood God, Heaven, and Hell. Many peasants were illiterate and could not read for themselves. Powerful **clergy** included:*

- *The **Pope** who was the head of the Catholic Church in all of Europe. He declared crusades to the Holy Land.*
- *The **Archbishop of Canterbury**. He was the head of the Church in England. He took his orders from the Pope.*

What happened between Becket and King Henry II?

One famous Archbishop of Canterbury was Thomas Becket. He was Archbishop under King Henry II of England. The two were close friends until:

- *Henry II was upset that Becket would not change the Church to make the Crown more powerful*
- *Becket fled to France from 1164 to 1170*
- *He returned and the pair still were not friends*
- *Four knights on behalf of the king killed Becket in Canterbury Cathedral*

What were pilgrimages?

*Christians who really wanted to show their dedication to God would become **pilgrims**. They would travel long distances to important locations linked with Christianity such as Walsingham, Lindisfarne or even important overseas locations like Jerusalem. They believed doing so could make them closer to God and they could even be healed or experience **miracles!***

Why did people fight over the Holy Land?

*The **Holy Land** is territory in the Middle East. Multiple religious groups believe it is important for varying reasons. Christian warriors known as **crusaders** fought Muslim warriors known as **Saracens** for control of the region. Everyone from peasants to kings fought! The reason crusaders battled include:*

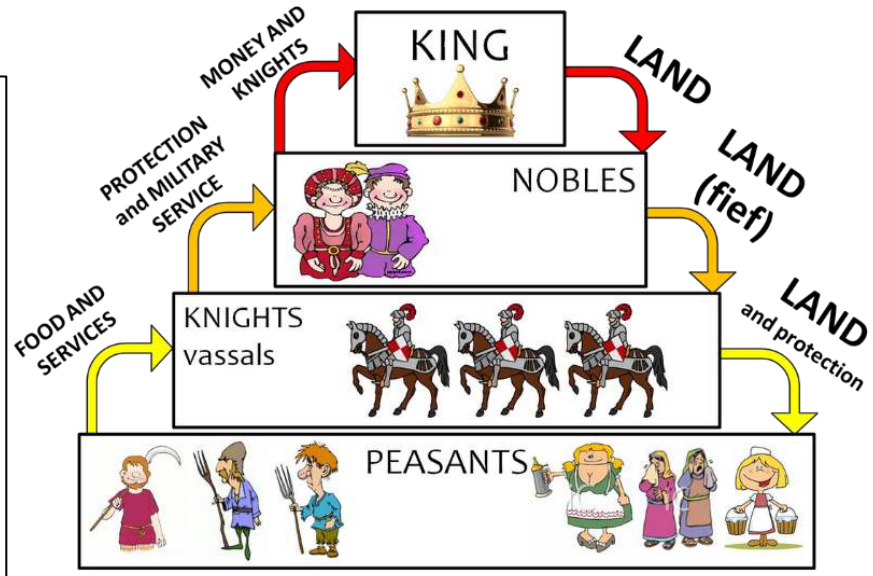
- *Religious reasons. Crusaders were serving their God and their sins were forgiven if they went on crusade (even if they died!)*
- *Economic reasons. They could loot resources and take riches from the enemy. They could tax conquered people.*
- *Political reasons. They could set up powerful states and make themselves more powerful.*

History Knowledge Organiser

Topic 4: Medieval Monarchs

Who had power in Medieval England?

*When the Normans conquered England they realised that they needed help controlling the country. The King gave land in return for loyalty and taxes. Those further down the **feudal system** were meant to be loyal to those above them, even though at the very bottom the peasants had very little political and economic power. Those lower down the feudal system were not meant to challenge those above them. As well as this, the **monarch** was believed to have been chosen by God.*



Feudal Pyramid of Power

Famous Medieval Queens of England:

Men were believed to be more powerful than women and were believed to be suited to ruling. This did not stop women from having a position of power and influencing English history:

***Empress Matilda** – In the 12th Century she had claim to the English throne. She did not get chance to rule for long but her son Henry II became heir and ruled next.*

***Eleanor of Aquitaine** - In the 12th Century she travelled on a crusade, successfully demanded a divorce, and formed a rebellion and even spent time arrested.*

***Isabella of France** - In the 14th Century she received a high quality education, joined her husband in battle against the Scots and started a rebellion for her son.*

***Margaret of Anjou** – In the 15th Century she ruled on behalf of her husband when he was unwell to do so. She gathered troops and participated in battles.*

Who was King John?

John ruled from 1199-1216. He was unlikely to have become King. He had very little political experience. He began ruling when England had no money – it had been spent on the Third Crusade! He became very unpopular by demanding high taxes.

Why did the barons challenge the Feudal System?

The barons were unhappy with King John. King John charged high taxes, lost land in France, and is believed to have killed his nephew Arthur. The barons demanded more power as they helped the monarch to rule the country.

What did the barons do?

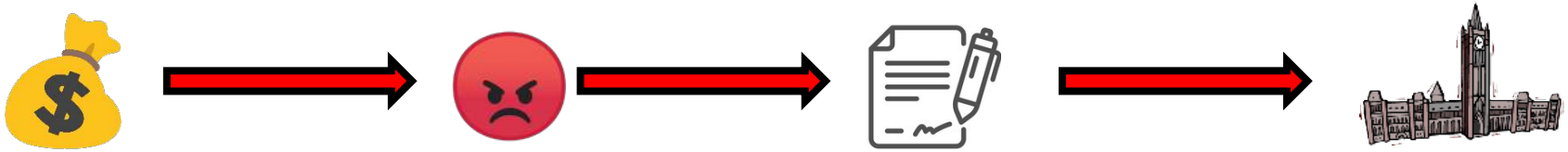
In 1215 they forced King John to sign the Magna Carta. This was a legal document. It meant the King was not above the law and had to follow rules. For example, he could not raise taxes on his own. John and other kings agreed to the rules of the Magna Carta.

What did the Magna Carta change?

Kings now had to follow a legal system to raise taxes and to arrest people. He could not take more money from his subjects without their approval. This gave the barons more power, and eventually under Edward I a parliament was established. However peasants did not receive any legal protection and did not have any political status as a result of the Magna Carta.

Who was King Edward I?

Edward ruled from 1272-1307. He was a very experienced military king. Both Wales and Scotland were conquered by Edward and he ordered stone castles built to keep control of them. However Edward faced rebellions from the Scottish. Rebel leaders included Robert the Bruce and William Wallace.

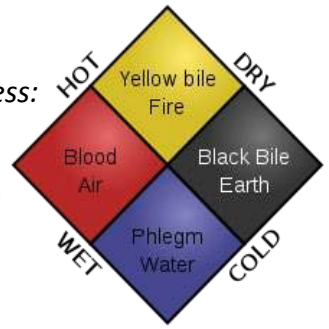


History Knowledge Organiser

Topic 5: Medieval Medicine

What was Medieval medicine like?

Before the discovery of germs they were very different ideas on what caused sickness:



Four Humours *– the idea behind this theory was that the body was made up of four different parts and if there was an imbalance then the person would be ill.*

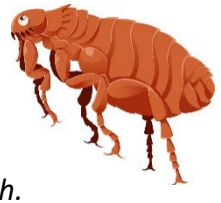
Supernatural *– many believed in superstitious causes of disease. Ghosts or witches could cause somebody to fall ill. If the planets were in the wrong position then it could cause people to become unwell.*

Religion *– people in Medieval times believed if they were good then God would reward them. If they were sinful then God would punish them with disease. Some believed the plague was God ending all life on Earth.*

Miasma (bad smells) *– Medieval towns were very filthy places and some people believed bad smells caused by butchers, tanners and other businesses could pollute the atmosphere and cause disease.*

What was the Black Death?

*The Black Death is also known as the **bubonic plague**. It was spread by fleas carrying a deadly type of bacteria. The fleas, spread by rats, would bite humans. Symptoms included swellings, black marks on the skin, high fever, and eventually death.*



What cures did people use for the Black Death?

*The **barber surgeons** and **monks** of Medieval Europe tried to do what they could to treat the disease. It killed 30-60% of Europe. Those who did survive were often left disfigured and ill. Treatments included:*

Prayer *– they believed God would forgive them and their disease might go away. Some extreme Christians known as **flagellants** would even hurt themselves to be forgiven.*

Bloodletting *– bloodsucking leeches and medical tools would be used in an attempt to drain blood from a sick patient.*

Natural cures *– herbs and plants found in nature were used to try and relieve the symptoms*

What were the consequences of the Black Death?

The Black Death arrived in England in 1348 and lasted until 1350. However it caused lasting changes:

Plague epidemics *– every few years cases of plague would return and many more would die of disease*

Starvation *– farmland was abandoned and villages were deserted. Crops were not looked after and so there was a decrease in food leading to starvation.*

Increase in food price *– those who did still have crops to sell started to charge people more money for their goods.*

Increase in crime *– people began to live as if they were living their last day. They drank heavily and broke the law.*

Why did the peasants challenge the Feudal System?

The Black Death had killed lots of peasant workers. Fewer peasant workers had to work even harder to collect food to feed their lords. Many of these did not receive wages. In 1381 peasants rebelled in the Peasants Revolt. They marched on London, met with King Richard II and left believing that Richard II would give them more power and wages.

The King went back on his word and killed the peasant leaders. Over time unpopular taxes were stopped and lords of villages had to pay their peasants more and charged them less rent. Within 50 years peasants were allowed to buy their own freedom and move around the country freely.

Religion and Ethics Knowledge Organiser

Year 7 Knowledge Organiser – What is the influence of the Bible?

What is the 'Big Picture' of the Bible?

The word Bible comes from the word **'Biblios'** meaning **Library** in Greek. It is made up of a collection of *66 books*, written by a variety of people over a long period of time. The first book of the Bible is the ***Genesis creation story*** which was written 3500 years ago. The stories (Gospels) about Jesus were written nearly 2000 years ago. The Bible continues to tell the story of the **relationship between God and humanity**.

The Bible is split into two halves: The Old Testament & The New Testament.

What are the rule found in the Bible?

There are 613 rules in the **Old Testament** which cover all areas of life such as what you should **eat and relationships, as well as how to worship God.** The most famous rules from the Old Testament which are the '**10 Commandments**' which were given to the **prophet Moses** on Mount Saini. These are Jewish rules which they still live by today.

In the **New Testament,** Jesus cites two commandments that must be followed over all others. These are: **'Love God'** and **'Love your neighbour'**. Christians believe Jesus came and replaced the Jewish laws with these 2 easier **'golden rules'.**

What is the Old Testament?

The "**Old Testament**" is a collection of writings that has many authors and styles: history, prophecy, poetry, wisdom, and law. Genesis introduces Adam and Eve as the first people to have a relationship with God. They are **tempted, commit sin** and **'Fall'** from God's favour.

The Old Testament books follow a similar pattern: God sends **Prophets** to give God's message but humans keep on ignoring God's wishes and sinning against God. The Old Testament ends with a prophecy that a **saviour (Messiah)** will come to save humanity from their sins and repair the relationship between God and humanity.

What is the New Testament?

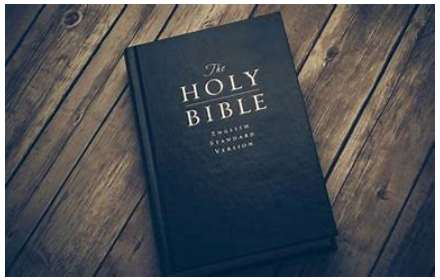
Four hundred years after the last book of the Old Testament, Jesus is born. The Gospel of Matthew details his birth story as a miraculous event as he is born of a virgin called Mary. It includes four Gospels in total: ***Matthew, Mark, Luke, and John***. Gospels tell the stories about Jesus. "**Gospel**," means *good news* and refers to Jesus being good news.

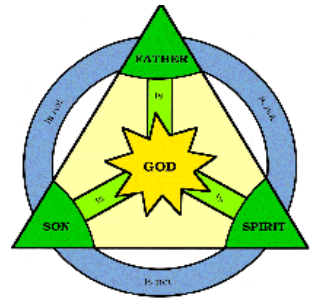
The central message of the New Testament is that *God loves us and he wants to save us from sin.* He does that by coming to speak to us in the form of Jesus tot each us about how we should live.

What is the Trinity?

Christians believe Jesus is part of the Trinity. This means they believe he is God in human form, otherwise known as the incarnation of God sent to teach people what God wants.

The 3 parts of the One God in Christianity are: The Father, the Son (Jesus) and the Holy Spirit





Religion and Ethics Knowledge Organiser

Why is Jesus' baptism significant?

When Jesus was **baptised** in the river Jordan, it signals the start of his **ministry**. This is the point where Jesus goes out to teach people parables and perform **miracles** to teach what God wants. According to the Bible it states that God spoke (like a father) to Jesus and the Holy Spirit descending on Jesus like a dove. This shows Jesus is part of the **Trinity.**

Who is St Paul?

Saint Paul is one of the most important figures in Christianity. Before he convert to Christianity on the road to Damascus, He **persecuted** Christians. However, after he **converted** he travelled around the Mediterranean **spreading the word of Jesus** and writing **Epistles**, which are **letters** to help converted communities. By doing this he helped turned what was a small religious sect into one of the worlds biggest religions.

Who were the disciples?

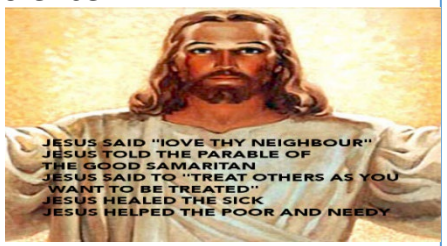
Jesus chose ***12 men*** who he recruited to be his main followers to help him spread his messages to the people.

What are the important messages of the Gospel?

Jesus taught people about what makes good behaviour. His most famous teaching is 'Love your neighbour'. This means to **respect** and care for everyone because everyone is your neighbour. He also taught to care for the **vulnerable** and the poor . He also taught to forgive people in order to let go of hate and bitterness. He also taught to never use violence.

Top Quotes from Jesus:

- ***'Love your neighbour'***
- ***'Blessed are the 'peacemakers***
- ***'Forgive 70 times not 7'***
- ***'Turn the other cheek'***



The Parable of the Prodigal Son

Parables are stories with a hidden meaning and he taught them about God and how to behave. One of Jesus most famous **parables** is the **Prodigal Son**. In this story, a son turns his back on his family and spends all of his father's money. When he runs out of money and is left jobless he returns to his father to say sorry. His father has a big party and welcomes him home.

- The father represents God
- The Prodigal (Lost) son represents the oldest son who leaves home with the money but returns
- The meaning of this story was that G od will always **forgive** if you say sorry and mean it by showing it through actions and not just saying it.

THE SALVATION ARMY

Giving Hope Today

How are Christians influenced by the Bible today?

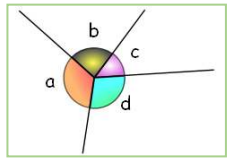
The Bible is seen as a guidebook for life where Christians can turn to for advice, guidance and reassurance. The teachings of Jesus vastly influence a way a Christian will treat others. Many will seek to help those in need in their local community by hosting **coffee mornings**, volunteering or through working with charities such as **salvation army** or the **Trussell Trust.**

Evangelical Christians believe that they can help someone get to heaven if they convert others to Christianity. This is because Jesus said *"I am the light of the world. Whoever follows me will not walk in darkness, but will have the light of life."*

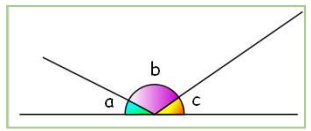
Maths Knowledge Organiser

ANGLES

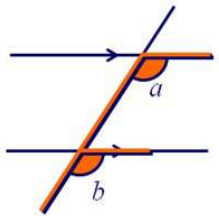
Key Concepts



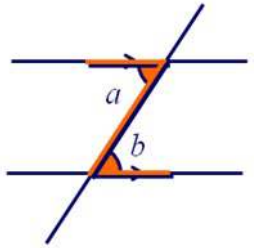
Angles at a point add to 360°



Angles on a line add to 180°



Corresponding angles are equal.



Alternate angles are equal.

Key Words

Angle: This is formed by two lines joined by a common endpoint

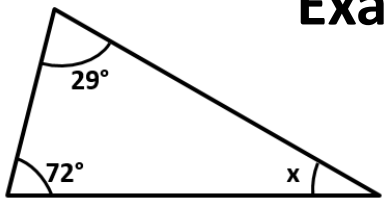
Quadrilateral: 4 sided shape

Intersect: Two lines which cross

Parallel: Two lines which never intersect. Marked by an arrow on each line

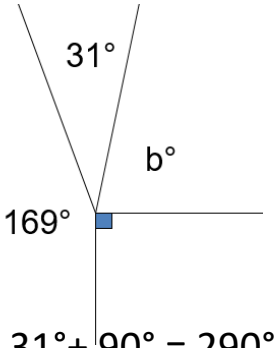
Transversal: A line which intersects two parallel lines

Examples



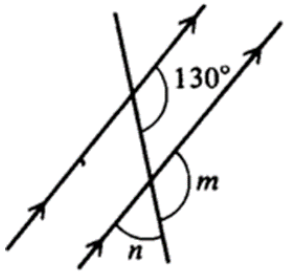
29° + 72° = 101°

180° – 101° = 79°



169° + 31°+ 90° = 290°

360° – 290° = 70°



m = 130° as corresponding angles are equal.

n = 50° as angles on a line add to 180°

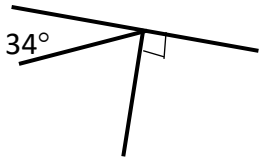
Year 7

Tip

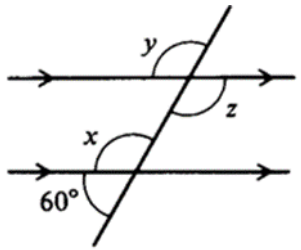
These angle properties can be used alongside all the other angle properties that you have learnt.

Questions

1) Find the missing angles:



2)



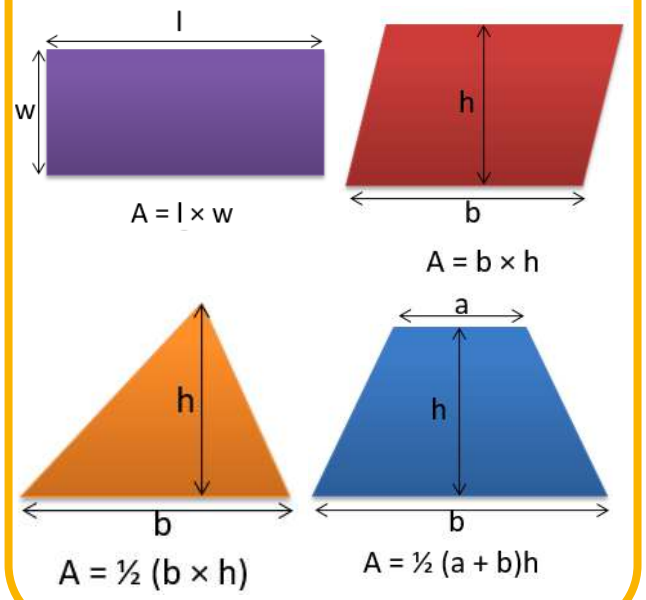
ANSWERS: 1) 56° 2) x = 120°, y = 120°, z = 120°

Maths Knowledge Organiser

PERIMETER AND AREA

Key Concepts

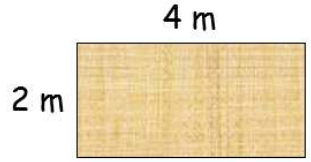
Area



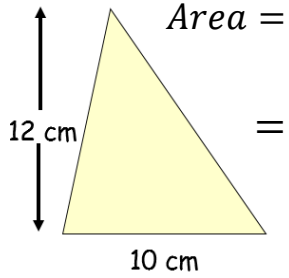
Key Words

Perimeter: The distance around the outside of the shape.
Area: The amount of square units that fit inside the shape.
Dimensions: The lengths which give the size of the shape.
Shapes:
Rectangle, Triangle, Parallelogram, Trapezium, Kite.

Examples

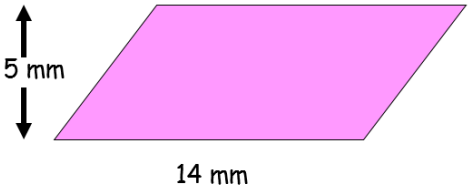


$Area = 2 \times 4 = 8m^2$



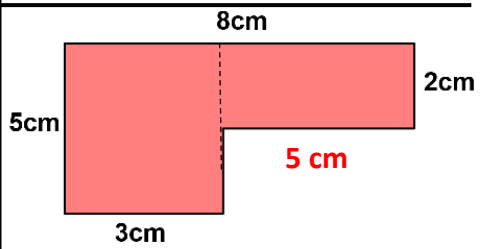
$Area = \frac{1}{2}(10 \times 12)$

$= 60cm^2$



$Area = 5 \times 14$

$= 70mm^2$



$Area = (5 \times 3) + (2 \times 5)$

$= 25cm^2$

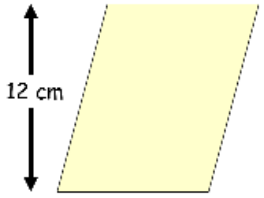
Year 7

Tip

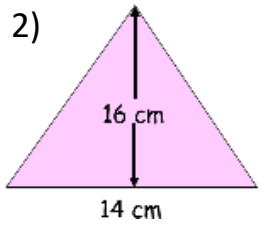
Always remember units. These units are squared for area.
mm^2, cm^2, m^2, etc

Questions – Find the area.

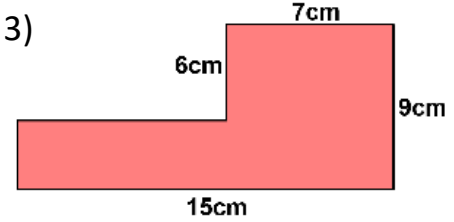
1)



2)



3)



ANSWERS: 1) 96 cm^2 2) 112 cm^2 2) 87 cm^2

Maths Knowledge Organiser

Averages

Key Concept

A measure of average is a value that is typical for a set of figures. Finding the average helps you to draw conclusions from data.

Key Words

Frequency: Total.
Mean: Total of data divided by the number of pieces of data.
Mode: The value that occurs most frequently.
Median: Middle number when they are in order.
Range: Difference between the largest and smallest values.

Examples

5, 9, 9, 9, 11, 12, 13, 15, 16

Averages

$$Mean = \frac{5+9+9+9+11+12+13+15+16}{9} = \frac{99}{9} = 11$$

Median = 11 (The middle number shown above)

Mode = 9 (This number occurs most often)

Measure of Spread

Range = 16 – 5 = 11
(A bigger range means the data is more spread out)

Questions

1) Find the mean, mode, median and range of:
a) 3, 12, 4, 6, 8, 5, 4 b) 12, 1, 10, 1, 9, 3, 4, 9, 7, 9

2) For the table:
a) Work out the mode
b) Work out the median.
c) Work out the mean of the data.

Age	Frequency
11	17
12	11
13	8

Tips

- There can be more than one mode.
- Range is a measure of spread, not an average.
- Bar charts have gaps between the bars.

Year 7

ANSWERS: 1) a) Mean = 6, Mode = 4, Median = 5, Range = 9 b) Mean = 6.5, Mode = 9, Median = 8, Range = 11 2) a) 11 b) 12 c) 11.75

Maths Knowledge Organiser

FRACTIONS

Key Concepts

Mixed numbers

These are made up of a whole number and a fraction.

$$4\frac{3}{5}$$

$$= \frac{4 \times 5 + 3}{5}$$

$$= \frac{23}{5}$$

Equivalent fractions

$$\frac{1}{4} = \frac{2}{8} = \frac{3}{12} = \frac{4}{16}$$

Key Words

Fraction: A fraction is made up of a numerator (top) and a denominator (bottom).

Equivalence: Two fractions are equivalent if one is a multiple of the other.

Simplify: Cancel a fraction down to give the smallest numbers possible.

Examples

Simplify $\frac{3}{24}$

$\frac{3}{24}$ $\xrightarrow{\div 3}$ $\frac{1}{8}$ $\xrightarrow{\div 3}$ $\frac{3}{24}$

Addition: $\frac{3}{5} + \frac{2}{7}$

Make the denominators the same

$\frac{3}{5} + \frac{2}{7}$ (×7, ×5)

$\frac{21}{35} + \frac{10}{35} = \frac{31}{35}$

Subtraction: $\frac{3}{5} - \frac{2}{7}$

$\frac{3}{5} - \frac{2}{7}$ (×7, ×5)

$\frac{21}{35} - \frac{10}{35} = \frac{11}{35}$

Year 7

Tip

- A larger denominator **does not** mean a larger fraction.
- To find equivalent fractions multiply/divide the numerator and denominator by the same number.

Questions

1)Simplify a) $\frac{42}{96}$ b) $\frac{64}{120}$ 2) $\frac{3}{5} + \frac{4}{15}$ 3) $\frac{2}{7} + \frac{5}{8}$ 4) $\frac{7}{9} - \frac{2}{5}$

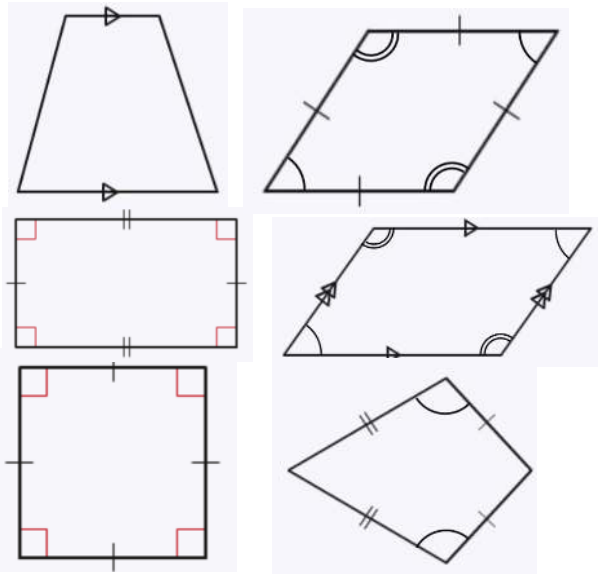
ANSWERS: 1) a) $\frac{7}{16}$ b) $\frac{8}{15}$ 2) $\frac{13}{15}$ 3) $\frac{51}{56}$ 4) $\frac{17}{45}$

Maths Knowledge Organiser

Geometry

Key Concept

Quadrilaterals



Key Words

Angle: This is formed by two lines, joined by a common endpoint.

Symmetry: A shape has symmetry if there is a line which forms two equal parts which are a mirror image of each other.

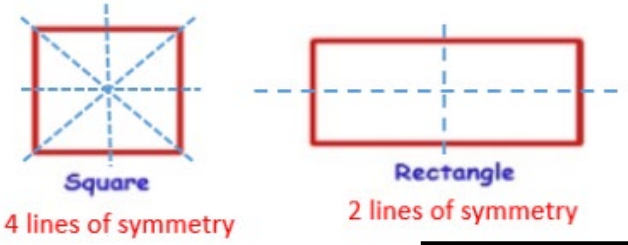
Reflection: This is where a shape is flipped.

Rotation: This is where a shape is turned.

Co-ordinates: points that can be plotted. Remember that x comes before y (x, y)

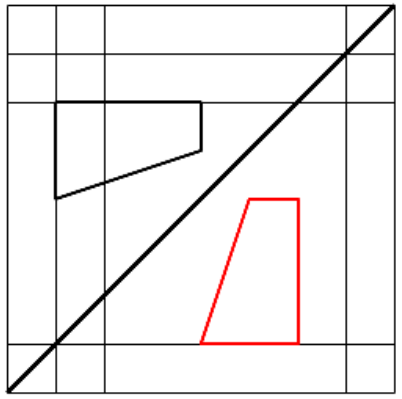
Examples

Lines of symmetry and reflection

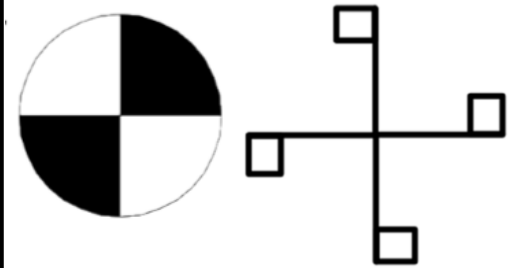


4 lines of symmetry

2 lines of symmetry



Rotational Symmetry



Order = 2 Order = 4

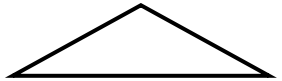
Tip

- The smallest the order of rotational symmetry can be, is 1.
- To see if a line of symmetry works fold along the line and see if the both halves lie exactly on top of each other.

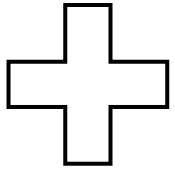
Questions - For the shapes below draw on their lines of symmetry and state their order of rotational symmetry.

1)

2)



3)



ANSWERS: 1) 2 lines of symmetry, order = 2 2) 1 line of symmetry, order = 1 3) 4 lines of symmetry, order = 4.

Year 7

Maths Knowledge Organiser

ALGEBRAIC EXPRESSIONS

Key Concepts
Algebra Meanings

a means 1a or 1 x a
3a = 3 x a
a^2 = a x a
m/n = m ÷ n
n/m = n ÷ m
ab = a x b

a + b = b + a
a x b = b x a

a – b and b – a don't mean the same thing
a ÷ b and b ÷ a don't mean the same thing

Key Words
Operation: In maths these are the functions × ÷ + -.
A **formula** involves two or more letters, where one letter equals an **expression** of other letters.
An **expression** is a sentence in algebra that does NOT have an equals sign.
When **substituting** a number into an expression, replace the letter with the given value.

Examples
1. Simplify the following expressions:

a) 4p + 6t + p – 2t = 5p + 4t

b) 3 + 2t + p – t + 2 = 5 + t + p

c) f + 3g – 4f = 3g – 3g

d) $f^2 + 4f^2 - 2f^2 = 3f^2$

2) Find the value of $3x + 2$ when $x = 5$

$(3 \times 5) + 2 = 17$

3) $5 \times 4 - 8 \div 2$

$20 - 4 = \mathbf{16}$

Questions
1) **Simplify:**
a) 7p + 3q + p – 3q
b) 5 + 4t + 3p – 2t + 7
c) m – 8g – 5m
d) $b^2 – 7b^2 + 2b^2$
2) Find the value of 5m – 6 when m = 7

ANSWERS: 1)a) 8p b) 12 + 2t + 3p c) -4m – 8g d) $-4b^2$ 4) 29

Year 7

Tip
Use different colours when collecting like terms

MFL Knowledge Organiser
Spring 1 Animals and descriptions

A

AVOIR		
J’	ai	I have
Tu	as	You have
il/elle	a	He/she has
nous	avons	We have
vous	avez	You all have
Ils/elles	ont	They have

B

être		
Je	suis	I am
Tu	es	You are
il/elle	est	He/she is
nous	sommes	We are
vous	êtes	You all are
Ils/elles	sont	They are

C

Opinions & Pronouns

♥♥ J’adore
♥ J’aime
✖ Je n’aime pas
✖✖ Je déteste
➚ Je préfère
Je pense que

☺
Ça m’intéresse
Ça m’amuse
☹
Ça m’énerve
Ça m’ennuie

D

Connectives

aussi	also
mais	but
Cependant	however
que / qui	which
où	where
Parce que /car	because

E

Complexity

Je n’ai pas de.. - I do not have
J’ai besoin de – I need

Je veux avoir _ I want to have
Je voudrais avoir – I would love to have

F

Adjectives

English	Fr
Exciting	Passionnant (e)
Great	Génial (e)
Boring	Ennuyeux / se
Annoying	Barbant (e)
Creative	Créatif /ve
Grumpy	Grincheux /se
Relaxing	Relaxant (e)
Active	Actif /ve
Interesting	Intéressant (e)
Fun	Amusant (e)
Shy	Timide
Noisy	Bruyant (e)
Chatty	Bavard (e)

G

J’ai un frère barbant
J’ai une sœur barbante
J’ai deux chiens barbants
J’ai deux tortues barbantes

Take AVOW

H

Les animaux de compagnie

I

masculine	feminine
jaune	jaune
rouge	rouge
rose	rose
bleu	bleue
vert	verte
noir	noire
gris	grise
blanc	blanche
violet	violette
marron	marron
orange	orange

J

LES CHEVEUX

K

L

Une barbe – a beard
Une moustache
Des lunettes - glasses

M

. PORTER = to wear

- er verbs (ex: porter)

The middle part is called the **stem** of the verb. It's the part that stays the same – when the endings change

Remove the –er, add the endings:

Je	port	**e**
Tu	port	**es**
Il/ elle	port	**e**
Nous	port	**ons**
Vous	port	**ez**
Ils/ Elles	port	**ent**

These are known as **pronouns.** They tell us **who** is doing the activity

The parts in bold are the **endings** and they must always agree with the pronouns, just like in English (we wouldn't say '*I does*' and we wouldn't say '*He do*'

MFL Knowledge Organiser
Spring 1 Animals and descriptions

A

Introducing (2) regular verb conjugation.
Etudier = to study

I	j'étudie
You	tu étudies
He/she	il/elle/on étudie
We	nous étudions
You all	vous étudiez
They	ils/elles étudient

B

Paul étudie
Paul et moi étudions
Paul et Sarah étudient

C

Opinions & Pronouns

♥♥ J'adore
♥ J'aime
✖ Je n'aime pas
✖✖ Je déteste
↗ Je préfère
Je pense que
je trouve que

☺
Ça m'intéresse
Ça m'amuse
☹
Ça m'énerve
Ça m'ennuie
Ça me stresse

D

Connectives

Aussi /en plus	also /futthermote
Mais/ Cependant	but / however
que / qui	which
où	where
Parce que /car	because
Donc	so

E

Complexity

Je n'étudie pas .. - I do not study

Je dois étudier – I must study

Je veux étudier _ I want to study
Je voudrais étudier – I would like to study

F

Adjectives

English	Fr
Exciting	Passionnant (e)
Great	Génial (e)
Creative	Créatif /ve
Easy	Facile
Relaxing	Relaxant (e)
Active	Actif /ve
Interesting	Intéressant (e)
Fun	Amusant (e)
Nice	sympa
funny	Marrant(e)
Boring	Ennuyeux / se
Annoying	Barbant (e)
Difficult	difficile
Strict	Sévère

G

Le français est intéressant
La musique est intéressante
Les profs sont intéressants
les sciences sont intéressantes

Take A V O W

H

LES MATIÈRES = SCHOOL SUBJECTS

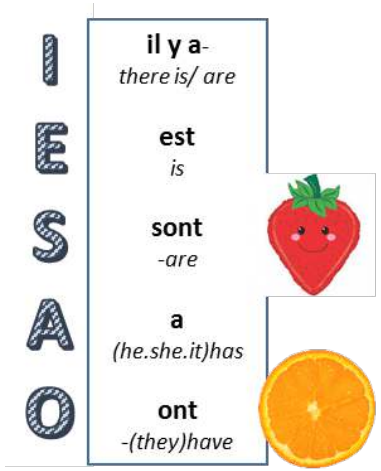
J'etudie……	I study…		
le dessin	Art	les maths	Maths
le théâtre	Drama	les sciences	Science
l'espagnol	Spanish	(la biologie	Biology
le français	French	la chemie	Chemistry
l'anglais	English	la physique)	Physics
l'EPS (l'éduaction physique et sportive)	P.E.		
la geographie	Geography	l'histoire-géo	Hist-geo
l'histoire	History	l'éduaction religieuse	R.E.
l'informatique	I.T.	la tecnologie	Technology
la musique	Music		

i

Introducing (3) regular –er verb conjugation pattern

je	e	nous	ons
tu	es	vous	ez
il / elle	e	ils/elles	ent

J



K

Introducing T O P C A T

J'étudie le français parce que je pense que le prof est amusant et sympa.

Mais je n'aime pas le dessin parce que c'est difficile et aussi m'énerve.

J'aime beaucoup la musique parce que je trouve que c'est super et le prof est sympa et m'amuse.

Science Knowledge Organiser

7I Energy

1. Energy from Food	
Energy	Needed to live, helps us to grow and repair our bodies, move and keep warm. Food is a source of energy.
Joule	A unit for measuring energy.
Kilojoule	1000J = 1kJ
Diet	The food that a person eats.
Weight	The amount of force with which gravity pulls things- measured in Newtons (N).
Balanced Diet	Eating a variety of foods to provide all the things that the body needs.
Nutrients	Substances needed from food.

2. Energy Stores and Transfers	
Transferred	When energy is moved from one store into another.
Forces	A push, pull or twist and a type of energy transfer.
Electricity	A way of transferring energy through wires.
Stored	When energy is captured within an object and can be moved to another store by energy transfers.
Chemical Energy	Energy stored in chemicals (such as food, fuel and batteries).
Kinetic Energy	Energy stored in moving things.
Thermal Energy	Energy stored in hot objects.
Strain Energy	Energy stored in stretched or squashed objects. Also called elastic potential energy.
Gravitational Potential Energy	Energy stored in objects in high places that can fall down.
Nuclear Energy	Energy stored inside materials (also called atomic energy).
Law of Conservation of Energy	The idea that energy can never be created or destroyed, only transferred from one store to another.

3. Fuels	
Fuel	A substance that contains a store of chemical or nuclear energy that can easily be transferred.
Nuclear Fuels	Used in nuclear power stations to generate electricity.
Uranium	A radioactive metal that can be used as a nuclear fuel.
Generate	To produce electricity.
Fossil Fuels	A fuel formed from the dead remains of organisms over millions of years.
Coal	A fossil fuel made from the remains of plants.
Oil	A fossil fuel made from the remains of microscopic dead plants and animals that lived in the sea.
Natural Gas	A fossil fuel made from the remains of microscopic dead plants and animals that lived in the sea.
Non-Renewable	An energy resource that will run out because we cannot renew our supplies of it.
Renewable	An energy resource that will never run out (such as solar power)
Biofuels	A fuel made from plants or animal droppings.
Hydrogen	Can be used as a fuel by combining with oxygen from the air to produce electricity.

4. Other Energy Resources	
Solar Power	Generating electricity using energy from the Sun.
Solar Panel	Flat plats that use energy from the Sun to heat water.
Solar Cell	Flat panels that use energy transferred by light from the Sun to produce electricity.
Solar Power Station	A large power station using the Sun to heat water to make steam which then generates electricity.
Wind Turbine	Generates electricity using energy transferred from the wind.
Hydroelectric Power	Electricity generated by moving water turning turbines and generators.
Geothermal Power	Electricity generated using heat from rocks underground.
Photosynthesis	Carbon dioxide + water → glucose + oxygen

5. Using Resources	
Fossil Fuel Advantages	Cheap compared to the others and convenient to use in cars/vehicles.
Fossil Fuel Disadvantages	Non-renewable Releases polluting gases when burnt.
Nuclear Advantages	No polluting gases generated.
Nuclear Disadvantages	Non-renewable Very expensive Dangerous waste materials
Renewable Advantages	No polluting gases Renewable
Renewable Disadvantages	Most not available all the time and only available in specific locations.
Climate Change	Fossil fuels are making the earth warmer due to the carbon dioxide given off when they are burnt.
Efficiency	How much of the energy transferred by a machine is useful.
Using Less Fossil Fuels	Using efficient appliances, insulating homes, public transport/walking/cycling

Work through memorising the information – highlight each definition once you know it. When you have completed your highlighting completed the gap fill and activities on the second sheet to support your retrieval practice.

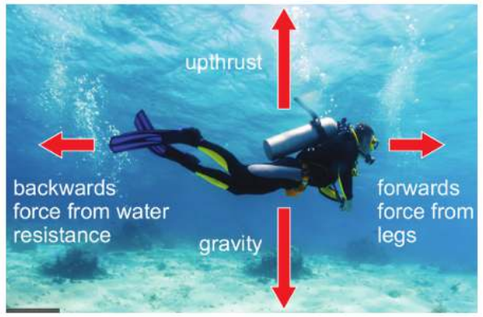
Science Knowledge Organiser

7K Forces

1. Different Forces

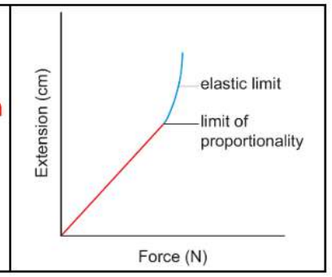
Force	A push or a pull.
Contact Forces	The thing providing the force needs to touch an object to affect it. *Friction, air resistance, water resistance, upthrust*
Upthrust	The force that makes things float.
Air Resistance	A force acting on objects moving through the air.
Water Resistance	A force acting on objects moving through water.
Non-Contact Forces	Forces that can affect an object from a distance. *Gravity, static electricity, magnetism*
Gravity	A force that pulls objects downwards.
Static Electricity	A force that attracts things.
Magnetism	A force that attracts objects made of iron, nickel or cobalt.
Newton (N)	The units for measuring forces.
Weight	The force of gravity pulling on something- measured in Newtons (N)
Mass	The amount of matter that makes up something- measured in kilograms (kg)
Representing Forces	We draw arrows on force diagrams to show the direction of a force; a bigger arrow shows a bigger force.

Force Diagram



2. Springs

Stretched	Made longer
Compressed	Made shorter
Spring	Made from coils of wire,
Extension	The difference between the original length and the stretched length.
Elastic	An object that returns to its original length when the force is removed.
Investigating Extension	Hang a spring from a clamp and measure its length. Add increasing numbers of masses and measure the extension each time.
Hooke's Law	Extension is proportional to the force applied.
Proportional	A relationship between two variables where if one doubles, the other will double.
Limit of Proportionality	The point at which the extension and force are no longer proportional.
Elastic Limit	The point at which the spring cannot return to its original length.
Force Meter	Springs are used inside to measure the force.

How Extension Depends on Force	

3. Friction

Friction	Force between two touching objects.
Increasing Friction	Using certain materials like rubber (used on racing cars to stop them from sliding off the road).
Reducing Friction	Make surfaces smooth or by using lubricants such as oil or grease.
Lubrication	Adding a lubricant
Friction Damage	Friction can wear things away like brake pads on a bike. Friction between parts of a car can cause it to overheat and stop working.

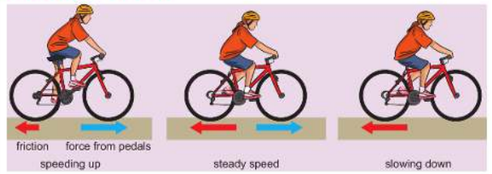
4. Pressure

Pressure	The amount of force pushing on a certain area.
The Size of Pressure	Depends upon the size of the force and the size of the area it is pushing on.
Pressure in Sport	Snowshoes spread out weight, reduce pressure and stop people sinking into soft snow.
Pressure in Everyday Life	It is easier to cut something with a sharp knife because it has a smaller edge so the force is concentrated over a smaller area.
Pressure formula	$\text{pressure} = \frac{\text{force}}{\text{area}}$
Pascal (Pa)	The units for measuring pressure. $1Pa = 1N/m^3$

5. Balanced and Unbalanced Forces

Balanced Forces	Two forces of the same size acting upon an object in opposite directions. Balanced forces will not change the speed of a moving object.
Unbalanced Forces	When one of the forces acting upon an object is larger than the other. If acting on a moving object unbalanced forces will change its speed.
Stationary	Not moving- stationary objects have balanced forces acting on them.

Force Diagram



Work through memorising the information – highlight each definition once you know it. When you have completed your highlighting completed the gap fill and activities on the second sheet to support your retrieval practice.

Science Knowledge Organiser

7B Sexual Reproduction in Animals

1. Animal Sexual Reproduction

Offspring	The new organisms produced by reproduction.
Sexual Reproduction	Reproduction that needs two parents to produce offspring.
Gametes	Sex cells
Sperm	Gamete that males make
Egg	Gamete that females make
Fertilisation	Sperm enters an egg cell and nuclei fuse forming a fertilised egg cell.
External Fertilisation	The sperm and egg cell meet outside of the body. e.g. fish
Internal Fertilisation	The sperm and egg cell meet inside the body.
Using External Fertilisation	Large numbers of eggs are produced because many get washed away. The parents don't look after their young.
Using Internal Fertilisation	Fewer egg cells produced because sperm is more likely to reach egg. The parents usually look after their young.

2. Reproductive Organs

Testes	Where sperm cells are made.
Scrotum	Bag of skin containing the testes.
Sperm Ducts	Sperm travels through here after leaving the testes.
Glands	Fluids are added to the sperm- it is now called semen.
Urethra	The tube the semen leaves the body through.

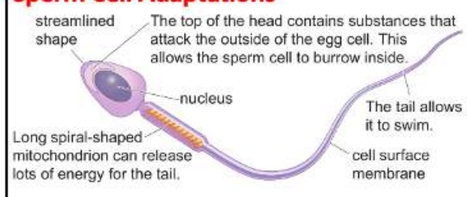
Male Reproductive System

Ovary	Where the egg cells develop and are released from.
Oviduct	Tube lined with cilia (tiny hairs).
Uterus	Where the baby will develop if the egg is fertilised.
Cervix	Ring of muscle between uterus and vagina.
Vagina	Part that leads from the cervix to the outside.

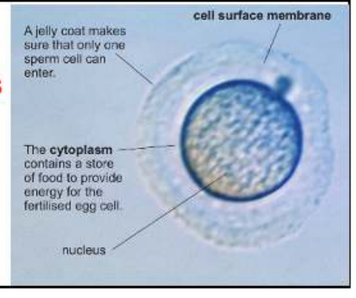
Female Reproductive System

Puberty	When males start to produce sperm cells and egg cells in female start to mature.

Sperm Cell Adaptations



Egg Cell Adaptations



3. Becoming Pregnant

Sexual Intercourse	The erect penis is inserted into the vagina.
Ejaculation	Semen is pumped out of the urethra.
Route the sperm takes	Vagina → sucked up through cervix → uterus → oviduct → meets egg cell
Implantation	If fertilisation occurs the cell starts to divide forming an embryo which will then sink into the uterus lining. The woman is now pregnant.
Amniotic Fluid	Watery fluid to protect growing embryo / foetus.
Amnion	Bag containing the amniotic fluid.
Placenta	Allows oxygen, food and water to be passed from mother's blood into embryo's blood. Waste materials (like carbon dioxide) pass from embryo's blood into mother's blood.
Umbilical Cord	Carries the embryo's blood to and from the placenta.

4. Gestation and Birth

Gestation Period	The time from fertilisation until birth.
Foetus	When an embryo develops a full set of organs we call it a foetus (around 8 weeks).
Ultrasound Scans	Produce images of foetus to check for problems.
Harm to Baby	Alcohol, drugs, cigarette smoke and viruses can pass through placenta and harm foetus.
Premature	Baby born small and early.
Labour	The act of giving birth.
Stages of Giving Birth	1. contractions start and cervix begins to widen. 2. amnion breaks and amniotic fluid leaves vagina. 3. cervix at 10cm, stronger contractions pushes baby through. 4. Umbilical cord cut.
Afterbirth	The placenta is passed out of the vagina- end of labour.
Mammary Glands	Produces milk for babies- contains nutrients and antibodies to protect from disease

5. Growing Up

Sex Hormones	Released by brain, tests & ovaries- start puberty.
Changes to Boys During Puberty	Voice deepens, shoulders widen, hair grows, testes/ penis grow, sperm produced.
Changes to Girls During Puberty	Breasts develop, hair grows, hips widen, ovaries start to release eggs.
Menstrual Cycle	Days 1-5: uterus lining lost from body (**menstruation**) Days 6-14: egg cell starts to mature and is released around day 14 (**ovulation**) Days 14+: egg cell swept towards uterus, if not fertilised cycle starts again.

Work through memorising the information – highlight each definition once you know it. When you have completed your highlighting completed the gap fill and activities on the second sheet to support your retrieval practice.

Science Knowledge Organiser

7D Ecosystems

1. Variation

Habitat	The place where an organism lives.
Variation	The difference between organisms.
Continuous	Type of variation where the measurement can be any value in a given range. *e.g. height, mass*
Discontinuous	Type of variation where the measurement falls into certain categories. *e.g. eye colour, blood group*
Offspring	The new organism produced by reproduction.
Species	Group of organisms that can reproduce to produce offspring that can also reproduce.
Hybrid	The offspring of two different species. They cannot reproduce.

2. Adaptations

Environment	The conditions in a habitat.
Adaptations	Features that help an organism to survive in the environment where it lives.
Polar Bear Adaptations	• Thick fur to keep warm • small ears to stop heat loss • white fur for camouflage • rough soles to grip ice • large feed to spread out weight / swimming
Cactus Adaptations	• Stem stores water • roots cover large area to absorb water • no leaves to stop water loss
Jack Rabbit Adaptations	• large ears to allow heat to escape • large hind legs to increase running speed • gets all its water from food, doesn't drink
Community	All the animals and plants that live in a habitat.
Ecosystem	The community and all the physical environmental factors together.
Inherited Variation	Variation between features caused by an organism's DNA
Inherited Variation Between Same Species	Gametes contain different instructions for features. A different sperm and egg produce each offspring, so each has different features.
Identical Twins	Identical because they develop from one fertilised egg cell.

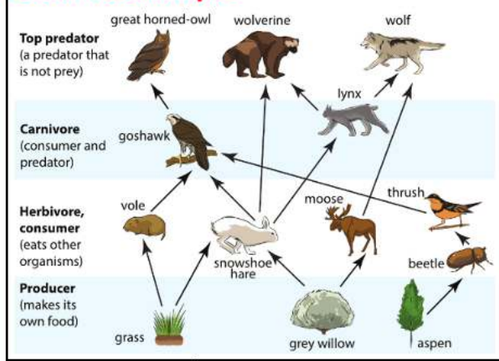
3. Effects of the Environment

Environmental Variation	Variation caused by environmental factors. *e.g. hairstyle, accent*
Daily Changes	Environmental changes during the day.
Seasonal Changes	Environmental changes during the year.
Nocturnal	Animals that are only active at night.
Nocturnal Animal Adaptations	Excellent eyesight Nocturnal owls have superb hearing as well and can fly.
Deciduous	Trees that lose their leaves in winter to stop water loss.
Evergreen	Trees with tougher leaves that don't lose much water so they keep them all year.
Hibernation	Organisms become inactive in winter so they don't need food.
Migration	Birds fly to warmer places for winter to find food.

4. Effects on the Environment

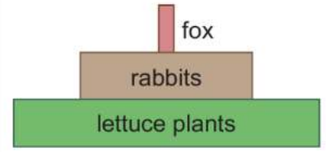
Resources	What an organism needs to survive and grow- oxygen, food, water, etc. for animals.
Population	The numbers of a specific organism.
Food Chain	Represents what eats what in a habitat Grass → hare → lynx
Competition	Organisms compete over the resources that they need.
Food Web	Formed by joining together all food chains in an ecosystem.

Food Web Example



Interdependent	Organisms in an ecosystem all depend on one another.
Predator	Eats another animal.
Prey	Eaten by another animal.

5. Transfers in Food Chains

Food Chain Arrows	Represent energy passed between organisms.
Energy Flow	Energy is lost at each stage along a food chain due to being released by respiration for movement etc. and some food remains undigested.
Pyramid of Numbers	Diagram showing number of each organism at each stage of a food chain. 
Pesticides	Poison that kills pests.
Pests	Organisms that cause problems.
Persistent	Poisons that are not broken down in nature.
Poisons in a Food Chain	Poisons get more concentrated the further along a food chain.
DDT	Persistent pesticide used in the UK that caused bird shells to become weak and break easily. Banned in 1984.

Work through memorising the information – highlight each definition once you know it. When you have completed your highlighting completed the gap fill and activities on the second sheet to support your retrieval practice.

Science Knowledge Organiser

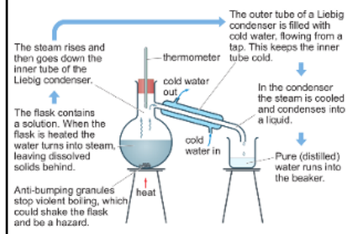
7E Mixtures and Separation

1. Mixtures	
Mixture	Two or more substances jumbled together but not joined together.
Suspension	A mixture of a solid and liquid, where the solid bits are heavy enough to settle out if the mixture is left to stand.
Colloid	A mixture of a solid, liquid or gas in a solid, liquid or gas where the substances do not settle out if left to stand.
Dispersed	Spread out without settling out, such as the bits in a colloid.
Opaque	Cannot be seen through- colloids are opaque / cloudy.
Solution	When a substance has dissolved in a liquid.
Transparent	Light can pass through and it can be seen through- solutions are transparent.
Filter	Something through which a liquid is passed to remove suspended pieces of solid.

2. Solutions	
Solvent	The liquid in which a substance dissolves to make a solution.
Solute	The substance that has dissolved in a liquid to make a solution.
Dissolve	When a substance breaks up into such tiny pieces in a liquid that it can no longer be seen and forms a solution.
Soluble	Describes a substance that can dissolve in a liquid.
Conservation of Mass	The total mass of a solution is the same as the mass of the dissolved substance plus the mass of the liquid at the start.
Saturated	A solution that contains so much dissolved solute that no more solute can dissolve in it.
Solubility	The amount of a substance that dissolves in a particular solvent at a particular temperature to make a saturated solution.

3. Evaporation	
Evaporation	When a liquid changes into a gas. Can be used to separate a liquid from the solid dissolved in it.
Sodium Chloride	The scientific name for table salt that we use on our food.
Rock Salt	When sodium chloride is found in thick layers of rock underground.
Extracting Rock Salt	Can be dug up or mined. Water can be pumped into layers of salt underground, dissolving the sodium chloride which is then pumped to the surface and heated to evaporate the water, leaving behind sodium chloride.
Boiling	When there is liquid turning into a gas in all parts of a liquid- creates bubbles of gas in the liquid.
Boiling Point	The temperature at which a liquid boils.

4. Chromatography	
Chromatography	Used to separate substances dissolved in a mixture.
Paper Chromatography	A concentrated dot of a mixtures is placed at the bottom of special chromatography paper. The bottom of the paper is dipped into a solvent (such as water). As the solvent moves up the paper is carries the dissolved substances.
Concentrated	A solution that contains a large amount of solute dissolved in a small amount of solvent.
Chromatogram	The results of chromatography such as a dried piece of paper for paper chromatography showing when the dissolved solids have been separated.
How chromatography works	Different substances in a mixture are carried at different speeds, depending on how soluble they are, which separates them out from each other.

5. Distillation	
Desalination	Separating water from the salts in salty/sea water to produce fresh drinking water.
Distillation	The process of separating a liquid from a mixture by evaporating the liquid and then condensing it to be collected.
Steam	Water as a gas.
Condenses	When a substance changes from its gas state into its liquid state.
Pure	A single substance that does not have anything else in it. (Pure water only contains water and no dissolved solutes)
Distillation Apparatus	
Solar Still	Energy from the Sun is used to evaporate salty/dirty water which is then condensed, forming pure/clean water.

Work through memorising the information – highlight each definition once you know it. When you have completed your highlighting completed the gap fill and activities on the second sheet to support your retrieval practice.

Science Knowledge Organiser

7F Acids and Alkalis

1. Hazards

Hazard	Something that could cause harm.
Risk	The chance that a hazard will cause harm.
Hazard Symbols	Internationally agreed symbols representing the type of risk from using a substance.
	**Dangerous to Environment** Can cause long term damage to animal and plant life.
	**Toxic** Poisonous and can cause death if taken into the body.
	**Corrosive** Attacks certain substances like metals, stonework & skin.
	**Explosive** Heating may cause an explosion.
	**Flammable** These substances catch fire easily.
	**Caution** similar to toxic/corrosive but less serious- may cause skin irritation
Diluted	Dangerous substances are mixed with water to make them less dangerous.

2. Indicators

Indicator	A substance that changes colour in solutions of different acidity/alkalinity.
Litmus	An indicator made from a type of lichen.
Acid	Turns litmus indicator **red**.
Alkali	Turns litmus indicator **blue**.
Neutral	A substance that is neither acidic or alkaline.
Red Cabbage	Can be used as an indicator.

3. Acidity and Alkalinity

pH Scale	A scale measuring acidity and alkalinity in numbers.

The pH Scale

Acid	pH lower than 7- the lower the number the more acidic.
Neutral	pH of 7
Alkali	pH higher than 7- the higher the number the more alkaline.
Universal Indicator	Indicator that gives a range of colours depending on the pH.
Acid Rain	Rainwater more acidic than usual due to pollution.

4. Neutralisation

Neutralisation	A reaction where an acid and alkali are mixed together forming a neutral substance.
Chemical Reaction	A change in which one or more new substance is formed.
Word Equation	Used to model chemical reactions.
Reactants	The starting substances- written on left of word equation.
Products	The new substances made- written on right of word equation.

Neutralisation General Word Equation
Acid + alkali → salt + water

Neutralisation Word Equation Example
Hydrochloric acid + sodium hydroxide → sodium chloride + water

Salts	Formed when acids and alkalis react. Different acids and alkalis will form different salts.
Sodium Chloride	The chemical name for common/table salt.

5. Neutralisation in Daily Life

Base	Any substance that neutralises an acid forming a salt and water.
Alkali	A soluble base
Antacids	Remedy for indigestion that neutralise the stomach acid

Antacid Word Equation Example
Magnesium hydroxide + hydrochloric acid → magnesium chloride + water

Toothpaste	Contains bases that neutralise acids in your mouth from food that you eat.
Bee Sting Remedy	A bee sting, being acidic can be treated with a weak alkali like baking soda.
Wasp Sting Remedy	A wasp sting, being alkali, can be treated with a weak acid like vinegar.
Cleaning Metals	Acids clean the rust off metals using a neutralisation reaction.
Waste Gases	Acidic waste gases from industries are sprayed with calcium hydroxide to neutralise them.

Work through memorising the information – highlight each definition once you know it. When you have completed your highlighting completed the gap fill and activities on the second sheet to support your retrieval practice.

Computer Science Knowledge Organiser

USING MEDIA: Gaining support for a cause

Different **application software** can be used for different purposes. It is important to think about what the task is and select the most **appropriate** one.

The **application software** chosen allows different formatting techniques to be used.

Formatting can be using tools like **bold**, *italic*, underline, changing colour, font style and size, alignment and many more.

Formatting can be used for many reasons. Including to make text easier to read, easier for the audience to use, highlight important information or attract attention.

It is important to select the appropriate formatting for the audience

Images play an important role when using software. It is important that **appropriate** images are used, ones that meet the requirements of the **audience** and the **purpose** of whatever is being created.

Sway

When researching and reading stories online you need to check that they are **reliable**, **trustworthy** and **credible**. Anyone can upload content so it is not always accurate.

· Check the source, find out which other sources are reporting it

· Check whether other sites are saying the same thing,

· Don't trust all the stories and all pictures

· Check for facts not rumours

· Check any citations or references

creative commons

When you are researching a topic you will come across a lot of useful information. Once the reliability and accuracy has been checked you may decide to use the information. Check the law

Plagiarism using someone else's work or ideas and using them as if they were your own. This can be any type of work either printed or electronic.

C**itation** the audience where the information came from. Anything that is used needs to have **citations** or **references** to the original work. the audience details about the source so that they can see that the source is relevant and recognised so they can find the source themselves if they want to.

Copyright

Copyright Law gives the creators of literary, dramatic, musical, artistic works, sound recordings, broadcasts, films and typographical arrangement of published editions, rights to control the ways in which their material may be used.

Creative Commons(CC) license is one type of copyright license. This allows the copyright owner to say exactly what other people can and can't do with or to their work.

They help copyright owners share their work while keeping the copyright. For example, a Creative Commons licence might allow other people to copy and distribute the copyright owner's work, if they give them credit.

Making sure the item being created is successful and actually does what it was intended to do is important.

Setting **success criteria** should be determined at the start of the project and can be revisited frequently.

The success criteria should be clear and easy to follow.

A **blog** is simply a regularly updated website or web page, typically one run by an individual or small group, that is written in an informal or conversational style.

Computer Science Knowledge Organiser

MODELLING DATA – EXCEL SPREADSHEETS

Data and **information** are not the same.
· **Data**: facts and figures in their raw form
· **Information**: data that has been given structure or meaning

For example:
Data—10, 2107, 18
Information—Time 10am, date 21st July, temperature 18°

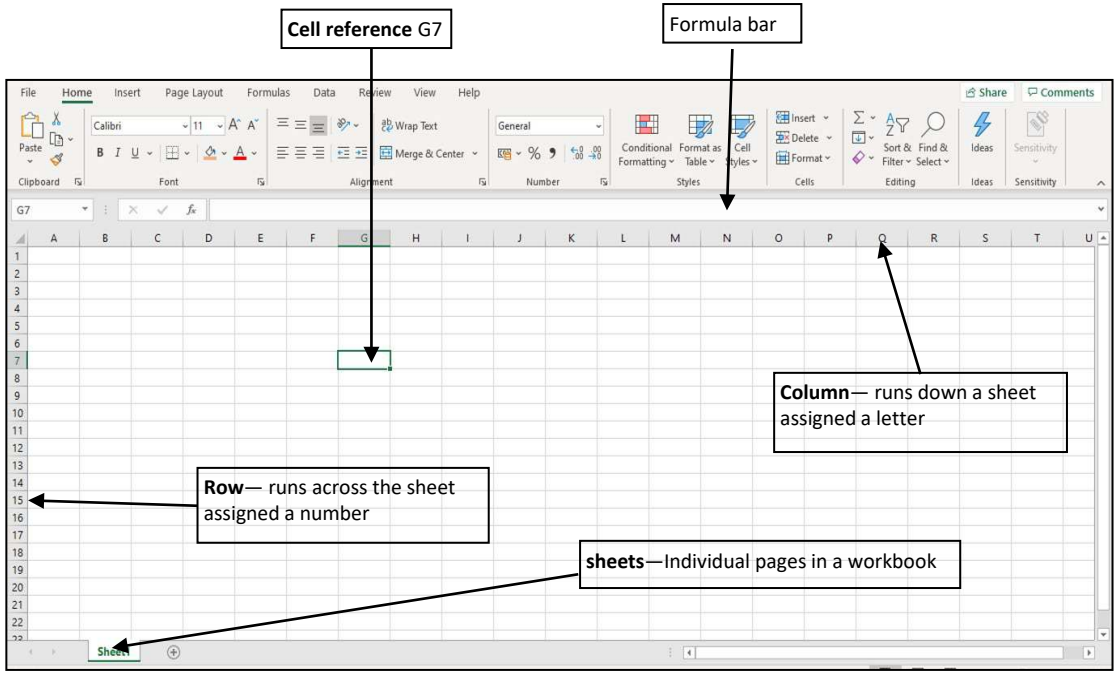
The tool bar ribbon at the top allows for **formatting** of the data. Changing colour, size, style etc

There is a **sort** and **filter** tool that allows for data to be arranged in ways that is most useful for the user e.g. alphabetical, highest, lowest etc.

Conditional formatting can be set to allow the cell **formatting** to **automatically** change if certain criteria is met. For example a cell might turn red if there was a negative number

In order to complete calculations spreadsheets make use of **formula**.
A formula uses the following basic symbols
The **=** symbol is always at the start of a formula
The **+** symbol is used for addition
The **-** symbol is used for subtraction
The ***** symbol is used for multiply
The **/** symbol is used for divide

Functions are also used which are predefined formula.



Common **functions** are
SUM—adds a range of cells
MAX—returns the largest value from selected cells
MIN—returns the smallest value from selected cells
AVERAGE—provides the arithmetic mean (average) of selected cells
COUNTIF—counts the number of cells in a range that meet the given criteria
IF— allows logical comparisons
COUNTA—counts cells that are not empty

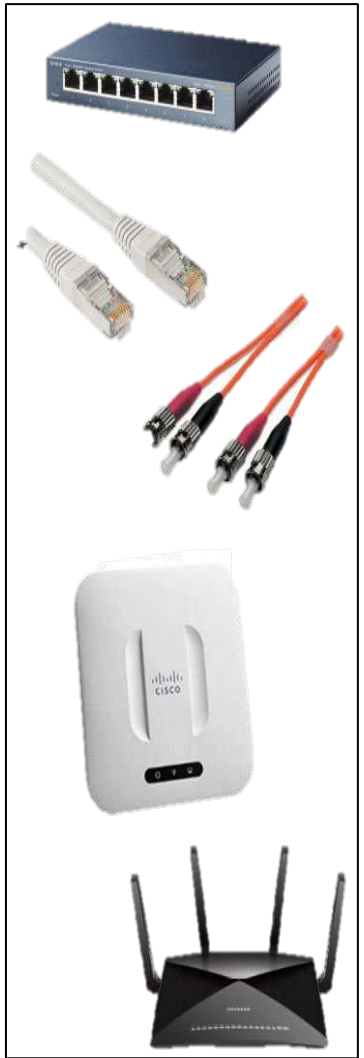
Data can be gathered from different sources
· **Primary** source: collecting data yourself
· **Secondary** source: someone else collects the data

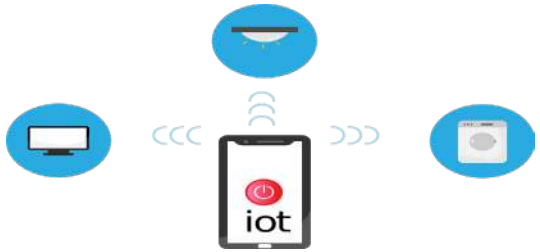
Each box on a spreadsheet is called a **cell** and they hold data.
Each **cell** has a unique **cell reference** to identify its location.

Computer Science Knowledge Organiser

NETWORKS

Key Words	
Bandwidth	Amount of data that can be moved from one point to another in a given time.
Buffering	Data arriving slower that it is being processed
Internet	A worldwide network of computers
internet of Things (IoT)	Takes everyday 'things' and connects them to the Internet e.g. smart light bulb, fridge, heating etc.
IP address	A unique address for every device on the internet
Packet	Networks send/receive messages in units called packets
Protocol	All methods of communication need rules in place in order to pass on the message successfully. These sets of rules are called 'protocols'
Search Engine	A website that allows user to look up information on WWW e.g. Bing, Google etc.
Web browser	Piece of software(code) used to view information on the Internet
WWW	Part of the Internet that contains websites and webpages. NOT the same as the Internet.





A **network** is where devices are connected together usually by cable or Wi-Fi. This could be a few computers in a room, many computers in a building or lots of computers across the world.

Wired and **Wireless** data transmission

A computer network can be either wired or wireless.

· Wired networks send data along cables.
· Wireless networks send data through the air using radio waves.

Bandwidth—Bandwidth is the amount of data that can be moved from one point to another in a given time. Higher bandwidth = more data per second

Bandwidth is measured in bits per second
A bit is the smallest unit of data
Data transfer rates are now so good that bandwidth is usually measured in Megabits per second (Mbps)
1Mb—1 million bits

Internet services

There are a range of services provided by the internet. These include:
· World Wide Web
· Email
· Online gaming
· Instant messaging
· Voice over IP (VoIP) – audio calls
· Internet of Things (IoT)
· Media streaming (e.g. watching Netflix online)
The rules for each service are different.
As a result, a different protocol is used.

HTTP—HyperText Transfer Protocol—used so that data can be understood when sent between web browsers and servers.
HTTPS—is the secure version of HTTP where data sent is encrypted.

Network Hardware—physical equipment required to set up a network
Hub—Connects a number of computers together. Ports allow cables to be plugged in from each connected computer.
Router—Used to connect two separate networks together across the internet
Sever—A powerful computer which provides services to a network
Cable—Used to connect different devices together. They are often made up of a number of wires.

Computer Science Knowledge Organiser

PROGRAMMING 1 - SCRATCH

Key Words	
Abstraction	Identify the important aspects to start with
Algorithm	Precise sequence of instructions
Computational thinking	Solving problems with or without a computer
Debugging	Looking at where a program might have errors or can be improved
Blocks	Scratch bricks that we can use to code algorithms
Decomposition	Breaking down a problem into smaller parts
Execute	A computer precisely runs through the instructions
Iteration	Doing the same thing more than once
Selection	Making choices
Sequence	Running instructions in order
Variable	Data being stored by the computer

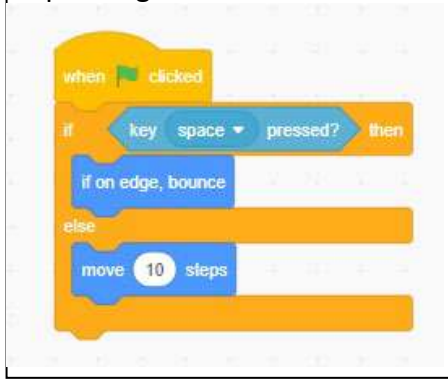
Sequence, **selection** and **iteration** are all processes. In order for computers to perform tasks there is more that is needed. For example a computer will take an **input** (this might be automatic or via human input) which the computer will then **process** and the **output** will be visible on the computer monitor.

Scratch is a block based programming language. We can use predefined code drag and drop blocks to create a sequence of code.

A computer inputs (this might be automatic or via human input), processes that input and then produces an output. as well as producing an output. For example when you use a keyboard and mouse, the mouse is used to input data into the computer to be processed and the output is visible on the computer monitor.

Variables are used to store data for use in a program. They can store lots of different types of data such as names and scores.
So set variable score to equal 0
If I score a goal then increase variable by 1

A **selection** statement in programming allows a computer to **evaluate** an **expression** to **'true'** or **'false'** and then perform an action depending on the outcome.



Operators
Comparison operators allow us to compare using **< > +**
Logical operators use **AND, OR, NOT**

Count controlled iteration will execute the commands a set number of times.
Example**:** "perform 200 star jumps"

Condition-controlled iteration will execute the commands until the condition you set is no longer being met.
Example: "perform star jumps until 3pm"

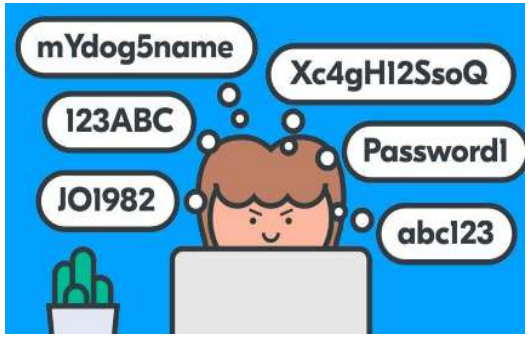
We use algorithms in every day life . Example an algorithm to get to school, to make a cup of tea, to make a pizza, to order a takeaway. These are just precise sequences of instructions.

Computer Science Knowledge Organiser

ENQUIRY SKILLS– COLLABORATING RESPONSIBLY

Cyberbullying is similar to bullying but tends to occur online. Cyberbullying can come in many forms. Some examples are:
· Threatening someone to make them feel scared
· Harassing someone by repeatedly sending them messages
· Ruining somebody's reputation
· Excluding someone from a group
· Stealing someone's identity and pretending to be them
· Publicly displaying private images or messages

STOP cyberbullying



Key Words	
Audience	The people you are communicating, presenting information to
Catfishing	A person pretends to be someone they are not.
Collaboration	Working effectively together
Digital tattoo/Digital footprint	Online reputation that is permanent
Email	A tool for online communication
Hazards	Areas/items that could cause damage or injury
Network	Devices are connected together usually by cable or Wi-Fi.
Password	A way to ensure no one access your data or information
Respect	Be mindful of how you are responding to others
Secure	Making sure your online information is safe

Social media settings
· Profiles should always be set to private
· Profile images should not reveal locations
· Profile images should not be easy to recognise; it is much better to use a picture of a pet or a cartoon character
· Don't reveal locations — this makes it easy to find out where you are.
· Making your date of birth public makes it easy for hackers to steal your personal information and set up fake accounts in your name.
· You should never reveal your phone number, email address, or home address on a public site
· You should never reveal your current location on social media
· Putting your full name, including a middle name, makes it easy for someone to steal your personal information. Always use a nickname or shortened version of your name

Do you really want to send that?
Think before you click.
It is easy to send comments from the other side of a screen.
It is not easy to then remove them.
Actions need to be considered before mistakes are made.

Using technology appropriately, carefully and positively leads to positive digital citizens.
Digital citizenship to the responsible use of technology by anyone who uses computers, the Internet and digital devices to engage with society on any level.

Secure **passwords**
No one should be able to guess/work out your password.
Current government advice is to use 3 random words

Where to get help
Talk to a trusted adult
https://www.ceop.police.uk/
https://www.childline.org.uk/

Design Specification – Key Questions

A	**Aesthetics**	What shape should the product be? What colour should be product be? What texture should the surface have?
C	**Cost**	What should the cost of the product be?
C	**Consumer**	Who is the client or the user of the product? What features of other similar products should it have? Does the client have any specific needs or wants for the product?
E	**Environment**	Should the product be made from recycled materials? How should the product be packaged? How will the product be disposed of when it is no longer needed?
S	**Safety**	What safety risks have to be considered? What safety standards must the product meet?
S	**Size**	How long, wide and tall should the product be? How much should the product weigh?
F	**Function**	What will the product be used for? How will it work? How should it be tested?
M	**Materials and Manufacturing**	What materials should the product be made from? Are there any limits on the sizes of the available materials? How many products need to be made? Which processes should be used to make the product?

Key Words and Definitions

Refuse	Is the product necessary?
Rethink	Are there alternative materials or design options that are more sustainable?
Reduce	Can the product be made from fewer materials? Can the amount of unsustainable materials be reduced?
Reuse	Can parts of the product be reused in a different product?
Recycle	Can the materials used be recycled? If the product made from recycled materials?
Repair	Can the product be repaired rather than being thrown away if it breaks?

Sustainability	The level to which resources can be used without them becoming unavailable in the future.
Carbon Footprint	Carbon foot print is the measurement/amount of greenhouse gases produced in the production of products.
Renewable Energy Source	A source that is quickly replaced by natural means and will not run out.
Non Renewable Energy Source	A source that cannot quickly be replaced and will eventually run out.

Design Process

Primary Research	Data gathered first hand directly from the client
Secondary Research	Data about the client that comes from a second hand source
Product Analysis	Looking at a product in detail to understand more about it using ACCESS FM
Design Brief	A summary of the design opportunity
Design Specification	A document that lists all the design criteria that the finished product must meet.
Design Development	Involves making a model of a design, which is then tested and evaluated. A new, improved prototype is made and the process is repeated until the finished design meets all the needs and wants of the client.
Testing	To check that the product meets the design specification and the needs of the user.
Evaluation	Where a designer reflects on the design of a product, looks at what went well during testing and identifies ways that a product could be improved.

Renewable Energy Sources

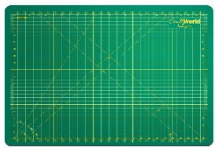
A renewable energy source is quickly replaced by natural means and will not run out. Examples include wind power, solar power and hydroelectric power

Advantages	Disadvantages
It will not run out	Initial cost of installation is high
No carbon emissions	Some types of renewable energy are noisy
No fuel costs	Some types of renewable energy look ugly
No reliance on fossil fuels	Some types of renewable energy need constant sunlight or wind
	Unused electricity could be wasted
	Local habitat could be displaced

How can we reduce our impact on the environment?

- Use **renewable** materials rather than non-renewable means these can be replenished.
- If non-renewable materials are used such as plastic (oil) **carbon emissions** are given off resulting in global warming.
- Choosing **biodegradable** materials means they will break down naturally when the product comes to the end of its life. Non-biodegradable materials that have not been recycled will end up in the landfill or the sea damaging animals and habitats.
- Apply the **6Rs** to ensure minimal impact on the planet.

Tools and Equipment

	Name	• Use • Safety point
	Craft Knife	To cut paper, card and boards **Safety Rules when using it** Lock must be on Point downwards Use a cutting mat and safety ruler
	Cutting Mat	Placed under the material **Safety** It stops the knife from slipping
	Metal Safety Ruler	Used when cutting the material with a craft knife. **Safety** Fingers stay in the indent so protected from the blade
	Glue Gun	Used to join card and boards together **Safety** The glue and nozzle is hot Be careful not to use too much glue

Health & Safety

Follow all verbal and written safety instructions, safety signs and floor markings.
Wear an apron and remove any loose clothing or jewellery. Tie back long hair.
Always walk – never run
Do not crowd other people
Reports any accidents that occur immediately to the teacher.
Do not leave anything on the floor
Leave the workspace clean and tidy when you have finished.

Sources of Timber

Timber is made from trees that are chopped down and then cut into planks in a sawmill.

Timber can be a renewable resource if grown in well-managed forests. Responsible management includes planting trees as older trees are cut down. Timber grown this way can be identified by the Forest Stewardship Council FSC,

FSC FORESTS FOR ALL FOREVER™ Forest Stewardship Council®

Types of Timber

- **Hardwood** comes from deciduous trees, which are trees that shed their leaves each autumn. Hardwood trees can take 100 years to grow to a size where they can be harvested for timber.
- **Softwood** comes from coniferous trees. These are trees that keep their leaves or needles all year round, so they typically grow faster than hardwood trees. Softwood trees can reach a size where they can be harvested for timber in 25-30 years so more eco-friendly and cheaper.
- **Manufactured Boards** are made by gluing particles or pieces of wood together. These can be the waste materials from cutting of hardwood softwood or can be recycled woo.

Hardwoods

Type	Properties	Uses
Oak	Very strong and hard Light brown colour	High quality furniture
Mahogany	Fairly strong and durable Pink to reddish brown colour	High quality furniture
Beech	Hard and tough, but easy to work with Light brown with darker brown flecks	Wooden toys, household items and furniture
Ash	Tough and flexible Light creamy brown colour	Tool handles, sports equipment
Balsa	Soft – can be marked using finger Off white to tan colour	Modelling

Softwoods

Type	Properties	Uses
Pine	Fairly strong, easy to work with Light brown or yellowish colour	Interior structures in buildings and furniture
Spruce	Strong and hard, but low resistance to decay. Yellowish-white colour	Wooden aircraft frames

Manufactured Boards

Type	Properties	Uses
Medium Density Fibreboard	Made from fine particles of timber, mixed with glue and compressed together. Smooth, even surface, easily machined	Low cost furniture
Chipboard	Made from course chips of timber, mixed with glue and compressed together. Rough surface with uneven texture	Kitchen worktops (covered with melamine formaldehyde)
Plywood	Made from layers of veneer glued together with the layers grain structures at right angles to each other Layers are cut from timber then glued together	Furniture making Marine plywood is used for building boats

Food Technology Knowledge Organiser

Hygiene and Safety

Personal hygiene-people are sources of contamination. Personal hygiene must be followed to prevent food poisoning such as:-Wash hands before and after handling foods; tie or cover hair; remove jewellery;

Cross Contamination-The transfer of bacteria into food: Food to food, Food handler to food, Equipment to food

High Risk foods are foods high in protein and moisture e.g. meat, dairy, cooked rice, gravy. Must be stored at a temperature below 5◦C to prevent bacteria growth.

Preparing food safely:

Cleaning

Keep yourself and hands clean
Use clean equipment
Use clean dish clothes and tea towels

Cooking

Cook raw foods until the core is 75C, check with a temperature probe.
Reheat foods to 75C
Never reheat food more than once

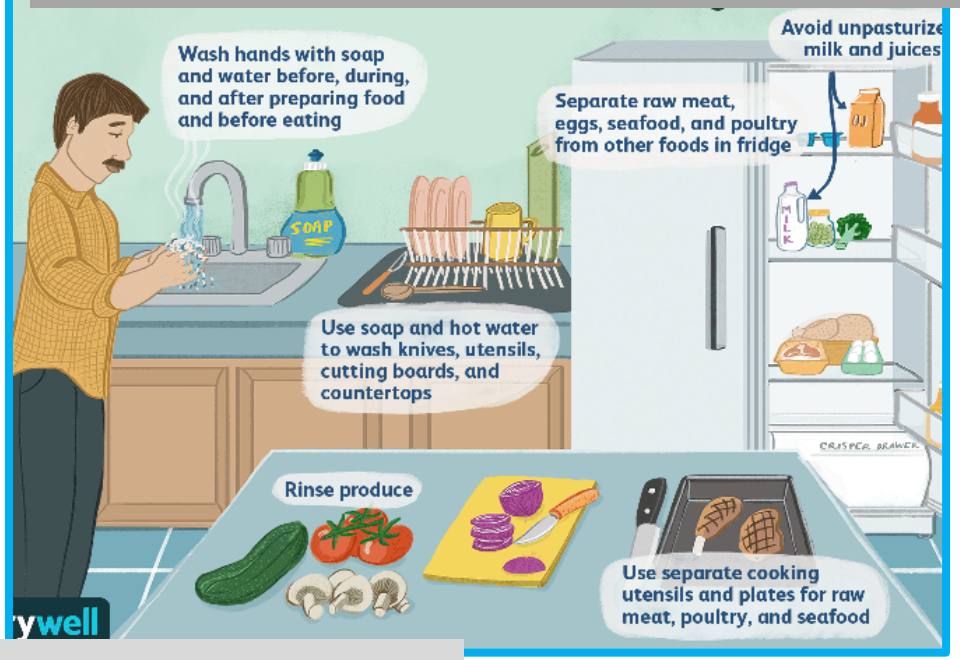
Chilling

Cool cooked foods for no longer than 90mins before refrigerating .
High risk foods must be stored below 5C

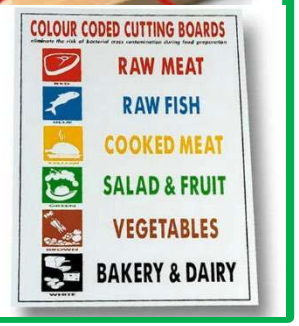
Cross Contamination

Stroe raw foods away from cooked foods
Use separate equipment (chopping boards and utensils
Wash hands after handling raw meat and before preparing food

Code those rules in the picture CC for ways to prevent cross contamination



Preventing cross contamination



Food Technology Knowledge Organiser

Knife Skills

Julienne
3mm*3mm*3~5cm

Rondelle

Medium Dice
1.25*1.25*1.25cm

Small Dice
6*6*6mm

Key abbreviations: Weights and Measurements		
L	Litres	
g	Grams	
ml	millilitres	1000ml =1 litre
Kg	kilograms	1000g
Tbsp	tablespoons	15ml
Tsp	teaspoon	5ml
1pt	1 pint	568ml

Claw grip

Bridge hold

Food Spoilage

OVERVIEW

Five conditions needed for microorganisms to multiply:
1. **Warmth**
2. **Moisture**
3. **Food**
4. **pH (not too acidic or alkaline)**
5. **Time**

HIGH RISK FOODS: Cooked meat, fish and poultry; Dairy; Shellfish; Gravies, Stocks, Sauces; Cooked Rice

CAN CAUSE FOOD SPOILAGE:

RIPENING — prevented by adding an acid
BROWNING — prevented by blanching and freezing
ENZYMES

Enzymes are **special proteins** that act as biological catalysts - they **speed up chemical reactions**. You can often see this in fruit & veg

Both are **microorganisms** which means with the above conditions, they can **grow and spread quickly**. Moulds can change the **look**, **smell** and **taste** of food. Yeasts commonly grow on fruit, spoiling them through **fermentation** of sugars

MOULD & YEAST — MOULD, YEAST — prevented by correctly storing food such as breads in dry, cool conditions and fruit in the fridge

Storing and Preparing Food Safely

DON'T let it go past its best: USE BY / BEST BEFORE

Key temperatures: Cook/Reheat 75C; Chilling 0C to 5C

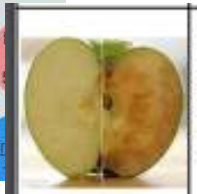
OTHER METHODS: freeze-drying; jam-making; pickling; cool, dry place; vacuum packing; canning/bottling

Prevent Cross-Contamination
- Clean utensils and surfaces
- Clean hands thoroughly
- Watch out for pests
- Keep high risk food away from other food
- Follow safety & hygiene rules

LOVE FOOD LOVE SCIENCE

Alkali | Alkali+Acid | Acid

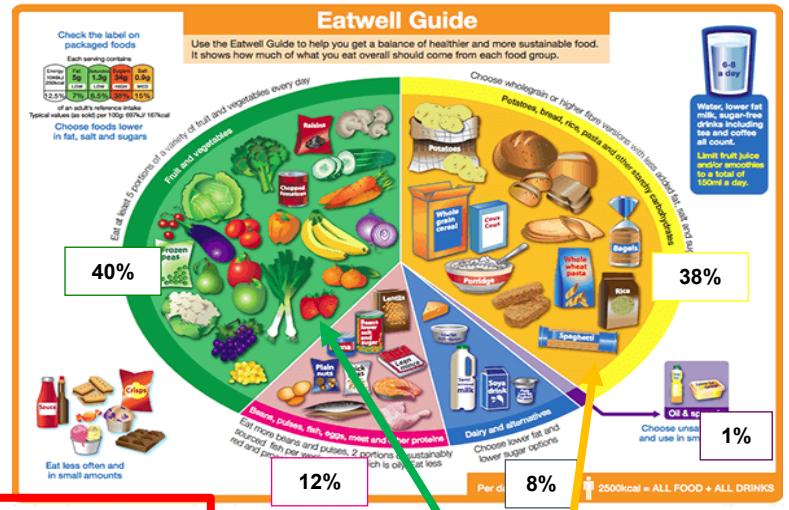
Chemical raising agents produce CO2.
Alkali+ Acid+ liquid+ CO2
Makes baked products like scone rise, light and soft



7. Enzymic browning: the process where fruit and vegetables turn brown due to them being exposed to oxygen (oxidisation).

14. Rubbing in method is a method whereby you rub using your fingers together usually butter and flour to create a breadcrumb like mixture, usually the base for scones.

Food Technology Knowledge Organiser



Occasional treats: Foods high in fat and sugar

Eat plenty of these because:

*Adds bulk so gives a feeling of fullness.
*Slow releasing energy.

Great source of fibre Packed full of vitamins, minerals and fibre.

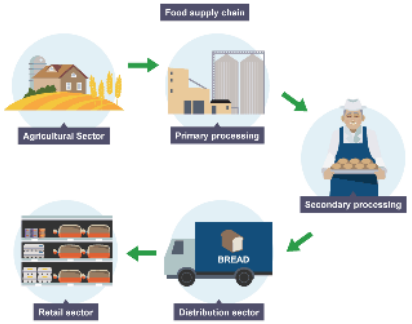
LOOK COVER WRITE CHECK

Nutrient	How	Why
Cutting Fat	*Eat more chicken and fish and less red meat *Use skimmed or semi-skimmed milk instead of full fat milk *Grill food instead of frying *Cut fat off meat before cooking	*Overweight *Obesity *Increase in Cholesterol in the blood *Heart attack. *Type 2 diabetes
Cutting down on Sugar	*Avoid fizzy drinks and high calorie drinks. Have fruit juice or water instead. *Eat fewer cakes, biscuits and sweets *Eat more fruit as an alternative *Try the natural sweetness of fresh fruit in puddings instead of sugar	*Overweight *Obesity * *Heart attack. *Type 2 diabetes
Have more Fibre	•Eat lots of fresh fruit and vegetables •Eat more wholemeal flour, bread, pasta, rice •Use more canned beans, peas and lentils - eat more •Try jacket potatoes with a variety of fillings	*Helps to protect against diseases of the bowel. *Gives you a feeling of fullness and so can help in diets.
Eat less salt	•Use herbs and spices as an alternative to salt	* Too much salt can lead to high blood pressure. This will increase the risk of suffering heart problems and strokes.

Food Technology Knowledge Organiser

Food miles and the environment

Task: When you next visit your supermarket check the food labels to see where the fruits and vegetables in your basket comes from.

Key Term	Meaning	
Food Miles	the distance food has travelled to get to your plate. Food must travel from the farm it is grown on or the factory it is made in to a supermarket or shop to be sold	 Chocolate – ingredients coming from all over the world has a lot of food miles.
Carbon Emission	harmful gases such as carbon dioxide are released into the earth's atmosphere when we use fossil fuels (coal and oil) to provide energy. We need energy to grow, produce and transport food. Some food uses more energy than others.	
Local	a place close to where you live. Fruit and vegetables that were grown near you would be considered local.	 Strawberries grown in Manchester/UK

https://www.bbc.co.uk/bitesize/topics/zjr8mp3/articles/zjnxwnb

Super Learning Day Knowledge Organiser

Be Safe

What is CSE?

Child Sexual Exploitation

Abusers may:

- Try to isolate people from their friends and family
- Be controlling and manipulative
- Use physical or verbal abuse
- Put them in dangerous situations
- Force them into doing things they don't want to do
- Convince them that they are a friend or boyfriend/girlfriend

This is sometimes called 'grooming'

You can get help by:

- Speaking to friends and family
- Speaking to teachers
- ChildLine
- SHARP System
- CEOP

Be Respected

Bullying or banter

banter – a type of teasing which although usually friendly, easily turns into something people can take offensively.

What is bullying?

Bullying is behaviour that hurts someone else. It includes name calling, hitting, pushing, spreading rumours, threatening or undermining someone.

It can happen anywhere – at school, at home or online. It's usually repeated over a long period of time and can hurt a child both physically and emotionally.

Careers

SLD 3 - What would be a good career for me?

This session you will:

- Be introduced to the careers programme Xello
- Complete some quizzes about yourself on Xello
- Explore some jobs recommended to you
- Pick one job that interests you and explain why

GMACS website – Greater Manchester Apprenticeship and Careers Service

Xello – an online platform that allows you to explore your career options

Matchmaker – an interactive quiz that builds an online profile about your career preferences

Personality Style Quiz – a quiz on Xello that helps build a profile to identify jobs you may enjoy.

Be Healthy

SLD 3 Anger Management

Key words - **Anger Management** – The act of taking control over our anger and managing this emotion in a constructive way.

Adrenaline - the chemicals in our body which can lead to feeling angry

Fight or Flight – The reaction in our bodies when we feel a surge of adrenaline; we want to fight or to run away.

Anger- The name we give to the strongest feeling of annoyance.

Signs of anger – Loud voice and sharp tone.

Jaw becomes tight

Making themselves appear bigger and invading personal space

Dealing with anger – Be aware of our "triggers"

Develop communication skills

Regular exercise and good sleep

Be An Active Citizen

Why is Manchester a multicultural city?

Manchester has embraced many different cultural groups throughout its history. Each has enriched Manchester to create a cosmopolitan city which embraces its many different people and the food and traditions that have come along with them.

Today, Manchester is a multicultural and multi-faith city made up of different communities that have settled here.

Immigrant groups formed strong communities, eg Chinatown in Manchester where it is a cultural icon. Rusholme has a thriving Asian population.

Immigrant groups have brought economic benefits and specialist knowledge to Britain. Doctors and scientists work in British hospitals and universities. Immigrants have helped resolve labour shortages and work in seasonal industries such as agriculture.

In 2011, about 14% of the population belonged to an ethnic minority.

Art – Tier 2 and Tier 3 language

SPRING 1: ART: Our Manchester	Type	Keyword	Definition
	Tier 2 language	Layering	Placing one element over another. This could be coloured pencil, paint, collage etc…
		Texture	The display of how an object would feel in reality. This can be created through mark making.
		Structure	The underlying connection that holds up the subject, this could be a building or figure.
		Proportion	How the sizes of different parts of a piece of art or design relate to each other.
		Perspective	The representation of three-dimensional objects or spaces in two dimensional artworks.
	Tier 3 language	Scratchboard	A form of direct engraving where the artist scratches off dark ink to reveal a white or coloured layer beneath.
		Hatching	Small lines drawn quickly to represent specific textures such as fur. Hatch lines can be layered up to create tone.
		Cross-hatching	A shading technique involving the use of small, intersecting lines. The closer the lines are together, the darker the tone.
		Stippling	The creation of shading by using small dots. The closer the dots are together, the darker the tone.
		Negative Space	The space around and between the subject of an image. Sometimes the negative space can form another image.

Colour code: BLUE= Tier 3 words ORANGE= Tier 2 words Look out for colour coding during lessons!

Computer Science - Tier 2 and Tier 3 language

SPRING 1: COMPUTER SCIENCE: Promoting a good cause	Type	Keyword	Definition
	Tier 2 language	Audience	A group of people identified as being likely customers of a business or designing your work for.
		Promoting	To attempt to sell or popularise by advertising or publicity.
		Sources	A place, person, or thing (image or video) from which something originates or can be obtained.
		Formatting	Changing the layout of a document to look more professional or fit the purpose.
		Application	The action of putting something into operation.
	Tier 3 language	Digital Tattoo	Online reputation that is permanent.
		Catfishing	A person pretends to be someone there not.
		Creative Commons	A type of copyright license. Allows the copyright owner to say exactly what other people can and can't do with or to their work.
		Licensing	An official permission or permit to do, use, or own something.
		Plagiarism	Using someone else's work or ideas and using them as if they were your own.

SPRING 2: COMPUTER SCIENCE: Networks	Type	Keyword	Definition
	Tier 2 language	Buffering	Data arrived slower that it is being processed.
		Search engine	A website that allows user to look up information on WWW e.g. Bing, Google etc.
		Router	Used to connect two separate networks together across the internet.
		Internet	A worldwide network of computers.
		Hub	Connects a number of computers together. Port allow cables to be plugged in from each connected computer.
	Tier 3 language	Bandwidth	Amount of data that can be moved from one point to another in a given time.
		Internet of Things (IOT)	Takes everyday 'things' and connects them to the internet e.g. smart light bulb, heating etc.
		Protocol	All methods of communication needs rules in place in order to pass on the message successfully. Protocols = set of rules.
		HTTP/HTTPS	HyperText Transfer Protocol (Secure) – Used so data can be understood when set between computers. Secure = Encrypted.
		Browser	Piece of software (code) used to view information on the Internet.

Computer Science - Tier 2 and Tier 3 language

SPRING 1: COMPUTER SCIENCE: Excel

Type	Keyword	Definition
Tier 2 language	Data	Facts and figures in their raw form.
	Row	A row is a series of data banks laid out horizontally in a table or spreadsheet.
	Column	Columns run vertically in the worksheet, and the data goes from up to down.
	Information	Data that has been given structure or meaning.
	Formatting	Formatting in excel is used to change the appearance of the data represented in the worksheet.
Tier 3 language	Conditional formatting	Automatic formatting that is triggered by conditions that you define.
	SUM	Adds a range of cells.
	MAX	Returns the largest value from selected cells.
	MIN	Returns the smallest value from selected cells.
	COUNTIF	Counts the number of cells in a range that meet the given criteria.

SPRING 2: COMPUTER SCIENCE: Scratch

Type	Keyword	Definition
Tier 2 language	Execute	A computer precisely runs through the instructions.
	Sequence	Running instructions in order.
	Blocks	Scratch bricks that we can use to code algorithms.
	Lists	Allow multiple items of data to be held.
	Process	A set of instructions currently being processed by the computer processor.
Tier 3 language	Abstraction	Identify the important aspects to start with.
	Decomposition	Breaking down a problem into smaller parts.
	Algorithm	Precise sequence of instructions.
	Iteration	Doing the same thing more than once.
	Debugging	Looking at where a program might have errors or can be improved.

Design & Technology - Tier 2 and Tier 3 language

SPRING 1: D & T	Type	Keyword	Definition
	Tier 2 language	Properties	The physical, chemical, or mechanical components of a specific product that would determine its functionality and manufacturability.
		Evaluation	Critically consider how effective or successful a design is.
		Development	Refining ideas to produce a final solution; taking into account all the constraints of costs, materials, function, manufacturing, aesthetics etc.
		Renewable	A natural resource or source of energy that is not depleted when used.
		Analysis	To look very closely at the problem. To break down into basic parts so that the problem can be understood. Analysis is used in the early stages of the design process.
	Tier 3 language	Prototype	A simple experimental model of a proposed solution used to test or validate ideas.
		Specification	A list of features that a product should have.
		Biomimicry	The design and production of materials, structures, and systems that are modelled on biological entities and processes.
		Isometric	A drawing system where the dimensions are not reduced to show a perspective effect. An isometric grid is drawn with lines at 30 degrees and 90 degrees to the horizontal.

SPRING 2: D & T	Type	Keyword	Definition
	Tier 2 language	Biodegradable	A capable of being decomposed by bacteria or other living organisms and thereby avoiding pollution.
		Manufactured	A product produced on a large scale using machinery.
		Aesthetics	Attractive - How it looks. Is it a desirable object.
		Consumer	The person who buys or uses the artefact or service.
		Sustainable	The level to which resources can be used without them becoming unavailable in the future.
	Tier 3 language	Photovoltaic	A system that employs solar modules, each comprising a number of **solar cells**, which generate electrical power.
		Deciduous	A tree that sheds its leaves annually.
		Coniferous	A group of trees that have fruit called cones that they do not lose in the winter.

Drama - Tier 2 and Tier 3 language

SPRING 1: DRAMA: Greek Theatre	Type	Keyword	Definition
	Tier 2 language	Mythology	A set of stories about people or creatures that were told a long time ago
		Unison	Doing the same thing at the same time
		Canon	Doing the same movement one after another (like a Mexican wave)
		Ensemble/chorus	A group of actors
		Levels	How high or low a character stands to show status (how powerful they are)
	Tier 3 language	Amphitheatre	Where actors in Ancient Greece used to perform – they are usually made of stone and carved into a hillside
		Theatron	The semi-circular seating area in the amphitheatre
		Parados	Used for the chorus to enter and exit the **Orchestra**
		Orchestra	The semi-circular dancing space where the chorus performed
		Skene	The stage where the actors performed

SPRING 2: DRAMA: Waxworks – Story Telling	Type	Keyword	Definition
	Tier 2 language	Split focus	Two separate scenes occurring at one time- once scene freezes whilst the other scene performs
		Thought tracking	When a character steps out of a scene to address the audience about how they're feeling
		Multi-role	When an actor plays more than one character onstage
		Tension	A growing sense of expectation within the drama, a feeling that the story is building up towards something exciting happening
		Devising	Creating your own performance using your own ideas
	Tier 3 language	Tableau	A still image/freeze frame
		Role-Play	The act of pretending to be somebody else, of taking on a role
		Projection	Speaking clearly enough so the audience can hear what you are saying
		Dialogue	A conversation between two or more people
		Tone	The emotion in the voice to show the audience how the character is feeling

English - Tier 2 and Tier 3 language

SPRING 1: ENGLISH: Transformations	Type	Keyword	Definition
	Tier 2 language	Duality (n.)	Having two or opposite sides
		Petrifying (adj.)/ to petrify	Terrifying
		Malicious (adj.)/ Malice (n.)	Cruel/ wicked
		Hypocrisy (n.)	Caiming to have higher standards or more noble beliefs than is the case
		Metamorphosis (n.)	To transform
	Tier 3 language	Imperatives (n.)	Commands
		Zoomorphism (n.)	Describing humans like animals
		Intensifiers (n.)	A modifier added to an adjective/adverb to make its meaning strong e.g. 'very, extremely, really' etc.
		Narrative Voice (n.)	The perspective or viewpoint the story is told from e.g. first/third person etc.
		Suspense (n.)/ Suspenseful (adj.)	Building tension or anticipation on a story

SPRING 2: ENGLISH: Poetry	Type	Keyword	Definition
	Tier 2 language	Alternative	Considering a different idea.
		Engage	To draw somebody in or to interest them.
		Cackle	An evil laugh.
		Intimidating	To scare or threaten someone.
		Evidence	To provide proof.
	Tier 3 language	Simile	Comparing using the words 'like' or 'as'.
		Metaphor	Comparing something by saying it is something.
		Enjambment	When a sentence in a poem carries on to the next line.
		Sibilance	The repeated 's' sound of different words.
		Repetition	When a word or phrase is repeated.

Food Technology - Tier 2 and Tier 3 language

SPRING 1: FOOD TECHNOLOGY: Hygiene	Type	Keyword	Definition
	Tier 2 language	Contamination	Making something unclean or unsuitable by contact with something else.
		Hygiene	Conditions or practices used to make something clean to help maintain good health /prevent diseases.
		Bacteria	Microscopic organisms not visible with the naked eye. Some are good and some can make us unwell.
		Microbes	Another term used to describe bacteria or viruses
		Protein	A nutrient found in some plant foods (such as lentils, beans and nuts) and animal foods (such as meat, fish, eggs)
	Tier 3 language	High risk foods	Foods high in protein and moisture
		Cross contamination	The transfer of bacteria into food such as from food to food, person to food or equipment to food.
		Ambient temperature	Normal room temperature. 20 - 25°C
		Antibacterial	Working against or prohibiting the growth of bacteria.
		Danger zone	The temperature range in which bacteria thrive. 5 - 63°c.

SPRING 2: FOOD TECHNOLOGY:: Diet and health	Type	Keyword	Definition
	Tier 2 language	Diet	The kinds of food that a person habitually eats .
		Cholesterol	Fatty substance found in the blood.
		Diabetes	A disease in which the body's ability to produce or respond to the hormone insulin is impaired, resulting in abnormal metabolism of carbohydrates and elevated levels of glucose in the blood
		Modify	To change
		Bulk	Being in large quantities. In food these are foods that are filling.
	Tier 3 language	Saturated	This refers to a type of fat found mainly in animal foods such as dairy foods, red meat, pastries, cakes etc . The are the unhealthier types of fat .
		Cardiovascular disease	A term which is used to describe disease of the heart or its blood vessels. This is linked to a poor diet high in fat and sugar.
		Sucrose	Sucrose is produced naturally in plants, from which table sugar is refined.
		Fibre	Correctly referred to as dietary fibre. It includes the parts of plant foods your body can't digest or absorb but aids digestion.

Food Technology - Tier 2 and Tier 3 language

SPRING 2: FOOD TECHNOLOGY: Evaluating food	Type	Keyword	Definition
	Tier 2 language	Aroma	Typically pleasant **smell.**
		Profile	A description of a something such as food.
		Fibrous	A coarse and stringy, like texture such as celery or pineapple
		Bland	Foods that taste unappealingly or tasteless. That **means dull**, flavourless.
		Appetising	Stimulating one's appetite.
	Tier 3 language	Sensory descriptors	Words that describe taste, smell, texture and flavour.
		Olfactory nerves	Special sensory nerves for the sense of smell which plays a part in the way we taste food.
		Organoleptic	A posh term for sensory analysis. Using your sensory organs to test a product. In simple language, taste testing!
		Umami	One of the core tastes including sweet, sour, bitter, and salty.
		Aftertaste	after-effect of flavour leaving a coating in the mouth after chewing food

SPRING 2: FOOD TECHNOLOGY::Food science	Type	Keyword	Definition
	Tier 2 language	Alkali	Something has a pH higher than 7
		Carbon dioxide	A colourless, odourless gas that is used in food production such as for leavening purposes.
		Aeration	To add or the introduction of air into food.
		Hypothesis	A proposed explanation made on the basis of limited evidence.
	Tier 3 language	Enzymic browning	An oxidation reaction that takes place in some foods, mostly fruit and vegetables, causing the food to turn brown.
		Polyphenol oxidase	An enzyme involved in fruit browning found in some fruits such as apples and ripe bananas.
		Leavening	A substance used in dough to make it rise, such as yeast or baking powder.
		Rubbing in	is to coat flour grains with fat by gently rubbing between the fingertips and thumbs, continuing until the mixture resembles coarse breadcrumbs.
		Ascorbic acid	Scientific name for vitamin C; essential for growth and defence against infection

Geography - Tier 2 and Tier 3 language

SPRING 1: GEOGRAPHY: South America

Type	Keyword	Definition
Tier 2 language	Describe	Say what you see, discuss the characteristics
	Molten rock	Melted rock (magma/lava)
	Explain	Say why. 'This is because…'
	Fluctuate	Rise and fall irregularly in number of amount
	Climate	Average weather conditions over a period of 30 years
Tier 3 language	Subduction	The downwards movement of the denser oceanic plate beneath the less dense continental plate
	Subsistence agriculture	The practice of growing crops and raising livestock sufficient only for one's own use
	Commercial agriculture	The production of crops and farm animals for sale, usually with the use of modern technology:
	Tectonic plate	Large sections of the Earth's crust that move due to convection currents
	Deforestation	The cutting down of trees on a large scale

SPRING 2: GEOGRAPHY: Extreme Environments

Type	Keyword	Definition
Tier 2 language	Adaptation	Change an organism makes to better suit its environment
	Exploit	Make full use of a resource, potentially in an unsustainable way
	Precipitation	Any type of water that falls from the sky (rain, snow, sleet, hail)
	Carbon sink	A natural environment that is able to absorb carbon dioxide from the atmosphere
	Social	Something relating to people
Tier 3 language	Cyclone	An area of low pressure, where air is rising
	Anti-cyclone	An area of high pressure, where air is sinking
	Biome	A large scale ecosystem with specific species of flora and fauna living within a particular climate
	Tundra	A biome forming in areas of high pressure, characterised by extreme cold temperature, high wind speeds and low precipitation
	Latitude	A measurement of the distance from the equator

History - Tier 2 and Tier 3 language

SPRING 1: HISTORY: Medieval Realms	Type	Keyword	Definition
	Tier 2 language	motive	A reason for a certain action or behaviour to take place
		reform	To correct and change something, to make an improvement in society
		revolt	An uprising against authority, such as the uprising the barons had against King John
		rule	To have control over people as a leader
		tax	A payment that people in a country to make to support the king and the government
	Tier 3 language	crusade	A military journey in the Medieval period completed by European Christians to recapture the Holy Land
		feudal system	A system of government where people are given land and protection by a lord in return for working and fighting for them
		Magna Carta	Charter granted by King John that recognizes the rights of barons, knights, the church and freemen in England
		pilgrimage	A journey to a shrine or another holy place
		Saracens	A Muslim warrior who would fight the Christians who were on crusade

SPRING 2: HISTORY: Medieval Medicine	Type	Keyword	Definition
	Tier 2 language	consequence	A result of an event happening
		disease	An unhealthy condition caused by bacteria. It causes symptoms which will help people to identify which disease it is.
		famine	A severe shortage of food
		hygiene	Conditions that allow people and the environment to be healthy. Unhygienic conditions cause dirt and disease.
		social	Used to describe anything relating to human society living together (e.g. social factors)
	Tier 3 language	barber surgeon	A medieval doctor who specialised in surgery such as amputations. They received no proper training.
		bloodletting	The medical practice of removing somebody's blood
		Bubonic plague	An infectious disease that was known as the Black Death. It caused swellings called buboes, fever, and could kill people.
		buboes	Swellings under the skin that were a symptom of the Bubonic plague
		cesspit	A pit which would contain great amounts of rubbish and human waste

Maths - Tier 2 and Tier 3 language

	Type	Keyword	Definition
SPRING 1: MATHS	Tier 2 language	Corresponding	Corresponding objects are those that appear in the same place in two similar situations
		Alternate	The word 'alternate' is usually used with pairs of angles, to indicate that each is on opposite sides of a line
		Approximation	An approximation is anything that is similar, but not exactly equal, to something else.
		Estimate	Estimation means having a rough calculation of the value, number, quantity, or extent of something.
		Bisector	A straight line or plane that bisects an angle.
	Tier 3 language	Perpendicular	Perpendicular lines are lines that intersect at a right (90 degrees) angle.
		Tenths	The first digit to the right of the decimal point; one out of 10 equal parts of a whole
		Denominator	he number below the line in a vulgar fraction; a divisor.
		Numerator	the number above the line in a vulgar fraction showing how many of the parts indicated by the denominator are taken

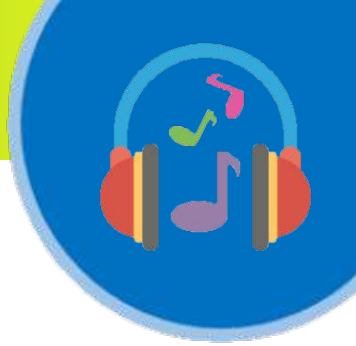
	Type	Keyword	Definition
SPRING 2: MATHS	Tier 2 language	Frequency	How often something happens.
		Calculate	Work out mathematically.
		Solve	To find a solution.
		Substitute	Putting values where the letters are.
		Equivalent	Of equal value.
	Tier 3 language	Proportion	The mathematical comparison between two numbers.
		Coefficient	An integer that is multiplied with the variable.
		Inverse	The opposite of another operation.
		Vertex	The vertices of a solid figure are points where the edges connect and create a corner
		Bar model	A pictorial representation of a problem or concept where bars or boxes are used to represent the known and unknown quantities.

MFL - Tier 2 and Tier 3 language

SPRING 1: MFL	Type	Keyword	Definition
	Tier 2 language	noun	a word used to identify any of a class of people, places, or things
		verb	a word used to describe an action, state, or occurrence such as *hear*, *become*, *happen*
		adjective	a word naming an attribute of (describing) a noun, such as *sweet*, *red*, or *technical*
		conjunction	a word used to connect clauses or sentences or to coordinate words in the same clause (e.g. *and*, *but*, *if*).
		translate	Convert / express the sense of (words or text) in another language.
	Tier 3 language	SHET (Spanish)	Son – (they) are Hay - (there is/ there are) Es ((it) is Tiene) (it) has)
		IESAO (French)	Il y a - there is Est -is Sont -(They) are A - (he/she/it) has Ont – (they) have
		WWWWWW	Who What Where When Why
		AVOW	Adjective Verb Order of Words

SPRING 1: MFL	Type	Keyword	Definition
	Tier 2 language	noun	a word used to identify any of a class of people, places, or things
		verb	a word used to describe an action, state, or occurrence such as *hear*, *become*, *happen*
		Adjectival agreement	**the adjective 'agrees' with the noun it's describing in gender and number**
		conjunction	a word used to connect clauses or sentences or to coordinate words in the same clause (e.g. *and*, *but*, *if*).
		Subject pronoun	**those pronouns that perform the action in a sentence**. They are I, you, he, she, we, they, and who
	Tier 3 language	SHET (Spanish)	Son – (they) are Hay - (there is/ there are) Es ((it) is Tiene) (it) has)
		IESAO (French)	Il y a - there is Est -is Sont -(They) are A - (he/she/it) has Ont – (they) have
		TOPCAT	Tenses Opinions Pronouns Conjuctions Adjectival Agreement Translate
		AVOW	Adjective Verb Order of Words
		PALM	People Action Location Mood

Music - Tier 2 and Tier 3 language



SPRING: MUSIC	Type	Keyword	Definition
	Tier 2 language	Rhythm	Different lengths (durations) of notes mixed together create a rhythm. This fits into the beat.
		Duration	The length of a note
		Tempo	The speed of the music
		Time Signature	A sign (looks like a fraction) that tells us how many beats are in each bar
		Beat	The pulse in music
	Tier 3 language	Semibreve	A note that lasts for 4 beats
		Minim	A note that lasts for 2 beats
		Crotchet	A note that lasts for 1 beat
		Quaver	A note that lasts for ½ of a beat
		Semiquaver	A note that lasts for ¼ of a beat

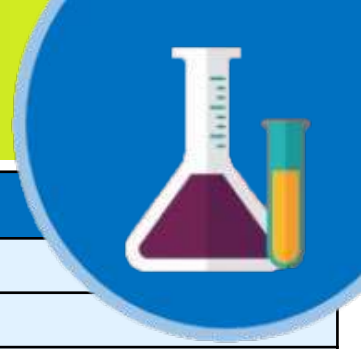
Colour code: BLUE= Tier 3 words ORANGE= Tier 2 words Look out for colour coding during lessons!

Religion and Ethics - Tier 2 and Tier 3 language

	Type	Keyword	Definition
SPRING 1: RE	Tier 2 language	Compassion	To care so deeply you have to act to try and help
		Squall	A storm at sea
		Vulnerable	To feel weak and on your own. Can feel like this within a society.
		Respect	To treat people with care and equality
		Recruit	To enlist or gain someone to belong to your team or group
	Tier 3 language	Baptism	The process of using water to symbolising cleansing and starting a new life. Christians also do this as a welcoming ceremony
		Ministry	The role of going out and teaching people about God
		Trinity	The 3 parts of the one God in Christianity: the father, the son and the holy spirit
		Parable	A story with a hidden symbolic meaning. Jesus told parables
		Miracle	Something which breaks laws of science and therefore seems impossible

	Type	Keyword	Definition
SPRING 2: RE	Tier 2 language	Dedicate	To set aside time for something or a being (God)
		Distinguish	To set yourself apart from others
		Covet	To desire and envy someone's property
		Adultery	To cheat and have sex outside of your marriage
		Commitment	To be dedicated to something or someone
	Tier 3 language	Prophet	A messenger from God
		Sanctify	To set a part and make special for God
		Kosher	'Clean' or 'correct'. The food laws found un the Torah, the Jewish holy scripture
		Omnipotent	All powerful
		Shabbat	The Jewish holy day sanctified for God.

Science - Tier 2 and Tier 3 language



SPRING 1: SCIENCE	Type	Keyword	Definition
	Tier 2 language	Streamlined	Having a form that presents very little resistance to a flow of air or water.
		Adolescence	Time when physical and emotional changes occur in teenagers.
		Population	All the members of a single species that live in a habitat
		Ecosystem	A community and the habitat in which organisms live
		Characteristics	A feature or quality belonging typically to a person, place, or thing and serving to identify them.
	Tier 3 language	Fertilisation	The action or process of fertilizing an egg or a female animal or plant, involving the fusion of male and female gametes to form a zygote.
		Gametes	A mature male or female sex cell which is able to unite with another of the opposite sex in sexual reproduction.
		Ovulation	The release of a mature egg from an ovary
		Continuous	The feature can vary over a range of values e.g. height, weight, leaf area.
		Discontinuous	The feature can only take certain values e.g. blood group.

SPRING 2: SCIENCE	Type	Keyword	Definition
	Tier 2 language	Solution	Is a mixture of a solute and a solvent that does not separate out.
		Filtering	Separation of an insoluble solid from a solution
		Transparent	Allowing light to pass through so that objects behind can be distinctly seen.
		Boiling	Boiling – When there is liquid turning into a gas in all parts of a liquid, creating bubbles of gas in the liquid.
		Hazard	A hazard is something that that can cause harm.
	Tier 3 language	Chromatography	A technique for the separation of a mixture by passing it in solution through a medium in which the components move at different rates.
		Colloid	The solid pieces are smaller so they don't settle out, and the mixture looks cloudy or opaque.
		Distillation	The action of purifying a liquid by a process of heating and cooling.
		Neutralisation	Make (an acidic or alkaline substance) chemically neutral.
		Solubility	A measure of how much solute will dissolve.