



# ***SUMMER KNOWLEDGE ORGANISER***

## ***YEAR 7***

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# Art & Design

## Literacy / key words

**Relief** – A type of sculpture where three-dimensional elements are attached to a flat surface

**Abstraction**- Art that doesn't look exactly like real life; instead, it changes or simplifies shapes, colours, or features.

**Distortion**- Changing or twisting the shape of something, like making a face look stretched, squashed, or unusual.

**Line Work**- The use of lines in art, like how Jover uses bold or delicate ink lines to create details and expressions.

**Expression**- Showing emotions or feelings in art, often through exaggerated features, colours, or shapes.

## Loui Jover's use of shape

Loui Jover uses shapes in his collages to create bold and expressive art. He often combines simple, flowing shapes with sharp, jagged lines to add drama and movement. Jover uses the natural shapes of torn paper and layers them to build his portraits, creating interesting textures and uneven edges. These shapes give his work a raw, emotional feel, making his collages look unique and full of energy. Loui Jover also uses shapes to highlight important parts of his portraits, like the eyes or mouth.

## YEAR 7 Distorted portraits

### Colour in Pablo Picasso's work

Picasso used colours to show feelings. For example, in his "Blue Period," he used mostly blue shades to create sad and lonely moods. In his "Rose Period," he used warmer colours like pink and orange to create happier, softer feelings.

## Different types of distorted portrait

### **Cut and Rearrange-**

Draw or print a portrait, cut it into pieces, and rearrange them in a mixed-up or jumbled way.

### **Stretch and Squash-**

Change the proportions by making some parts longer, wider, or smaller than usual (e.g., a long nose or tiny eyes).

### **Fragmentation-**

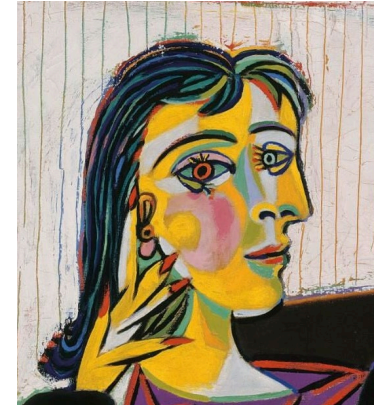
Divide the portrait into geometric shapes or sections, then draw each piece in a different style or angle.

### **Mirror Effects-**

Split the face in half and flip one side like a mirror, or make one side look completely different from the other.

## Pablo Picasso

Pablo Ruiz Picasso was a Spanish painter, sculptor, printmaker, ceramicist, and theatre designer. He is known for co-founding the Cubist movement, and for the wide variety of styles that he helped develop and explore.



## Loui Jover

Loui Jover is an Australian painter and artist. He is known for his artwork in ink wash paintings on vintage book pages. In his works, he uses a wide range of different materials and techniques to establish new means of expression.



## Distortion examples



## Extra - Read/watch/do

- Understanding Picasso- <https://www.bbc.co.uk/bitesize/topics/zqhy4wx/watch/zhr4q6f>
- Understanding Loui Jover- <https://obsessedwithart.com/book-page-art-loui-jover/>
- Improving drawing skill- <https://bingedrawing.com/portrait/get-better-at-drawing-faces/>

### Colour and mood

Colours can make us feel different moods and emotions in art. Here's how different colours might affect us:

**Red**- Red is a strong colour that can feel exciting, powerful, or even angry. It's great for showing energy, love, or danger.

**Blue**- Blue often feels calm, peaceful, or sad. It's like the colour of the sky or the ocean, making us think of quiet and relaxing places.

**Yellow**- Yellow is a happy and bright colour. It can remind us of sunshine, making us feel cheerful and full of energy.

**Green**- Green feels fresh and natural, like plants and grass. It can make us feel calm, safe, or even full of hope.

**Purple**- Purple is a creative and mysterious colour. It's often linked to royalty or magic, making us think of special or unusual things.

**Orange**- Orange is warm and fun, often reminding us of autumn leaves or sunsets. It's a colour that feels friendly and full of life.

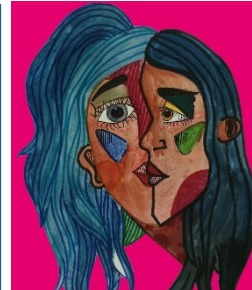
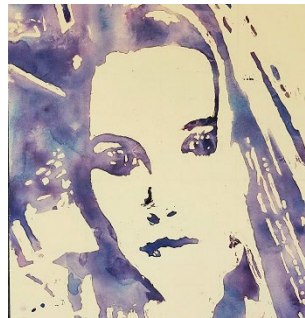
**Black**- Black can feel serious, strong, or mysterious. It's often used to show sadness or power in art.

### You will be assessed on

- Term 1 - Self-Portrait (tonal shading)
- Term 2 - Negative space (oil pastel transfer)
- Term 3 - Picasso portrait (watercolour)

### Collage

A collage is an art technique where you glue different materials like paper, fabric, or photos onto a surface to create a new image. It's a way to mix colours, textures, and shapes for unique effects.



### Watercolour

Watercolour is a painting method using water to spread colour smoothly and lightly across the paper. It's great for creating soft, transparent layers and blending colours easily.

### Wax resist

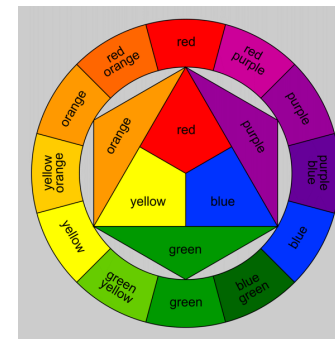
Wax resist is a fun art technique where you use wax, like crayons or a candle, to draw on paper and then paint over it. The wax stops the paint from sticking, so your drawing shows through, creating cool patterns or designs. It's like magic!



## What techniques will I learn?

### Colour theory

Colour theory is the study of how colours work together in art. It helps us understand things like the colour wheel. It also explains how colours can look good together, like warm colours making us feel happy, or cool colours making us feel calm.



### Links to curriculum

**English and History** - In our lessons, we will look at a different artist each time and talk about their artwork, helping you learn to describe and discuss what you see.

### Relief sculpture

Relief sculpture is a type of artwork where shapes and designs are carved or built onto a flat surface, so they stick out but are still part of the background. It's like a mix of drawing and sculpture—parts of it pop out, but it's not fully 3D. You might see this on coins or carved walls!





## Tableau – A still image

**Slow Motion** – Exaggerated movement at a slower speed used to highlight an important moment

**Characterisation** – Using appropriate vocal and physical skills to perform as a character different to yourself

**Dialogue** – The words spoken between 2 or more characters

**Marking the moment** – Highlighting the most important part of the scene using a tableau, slow motion, lighting or sound to make it clear to the audience

**Body as object** – When performers use their body to create an object e.g. a table or a car

**Narration** - Adding a spoken commentary for the audience about the action onstage.

## Charlie & the Chocolate Factory



## FACIAL EXPRESSIONS

## LEVELS

## AUDIENCE AWARENESS

## GESTURES

## STILLNESS



Competitive, Spoilt, Arrogant, Careless

## PEER EVALUATION - WAGOLL

Tom's group used tableau effectively. I could see that Tom was using facial expressions such as wide eyes to portray the character of Augustus. He projected his voice so I could clearly hear him. In order to improve, Tom could use an accent to help with his characterisation.



## 'The Hero', Respectful, Resilient, Happy



## Whiny, Bratty, Spoilt, Ungrateful



Lazy, Addicted, Arrogant, Snobby



Greedy, Silly, Brutish, Lazy

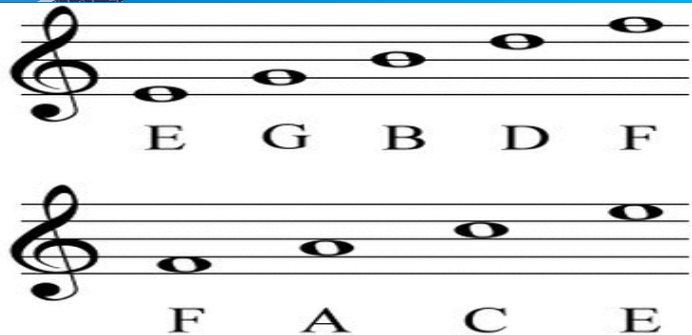
## Keywords to recap and use

Pitch Pace Pause Tone Volume Accent Gesture Posture Facial Expressions Projection Diction Thought Track Multi-role  
Split Focus Audience

**Evaluative words:** successful improve effective captivating interesting focus



G  
F  
E  
D  
C  
B  
A  
G  
F  
E  
D  
C  
B  
A  
G  
F  
E  
D  
C  
B  
A  
G  
F  
E  
D  
C  
B  
A



For the **treble** clef, people use acronyms to remember the **line** letter names. We say 'A rhyme for the lines'

For example:

Every **G**ood **B**oy **D**eserves **F**ootball  
Every **G**reen **B**us **D**rives **F**ast

See if you can make one using the letters E, G, B, D, and F that is easy for you to remember!

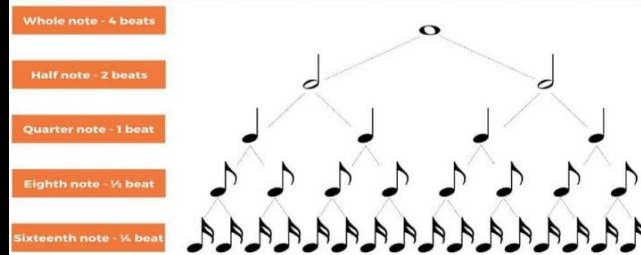
E G B D F

The **space** notes are easy to remember. 'If it's in a **space** then spell out **FACE**'

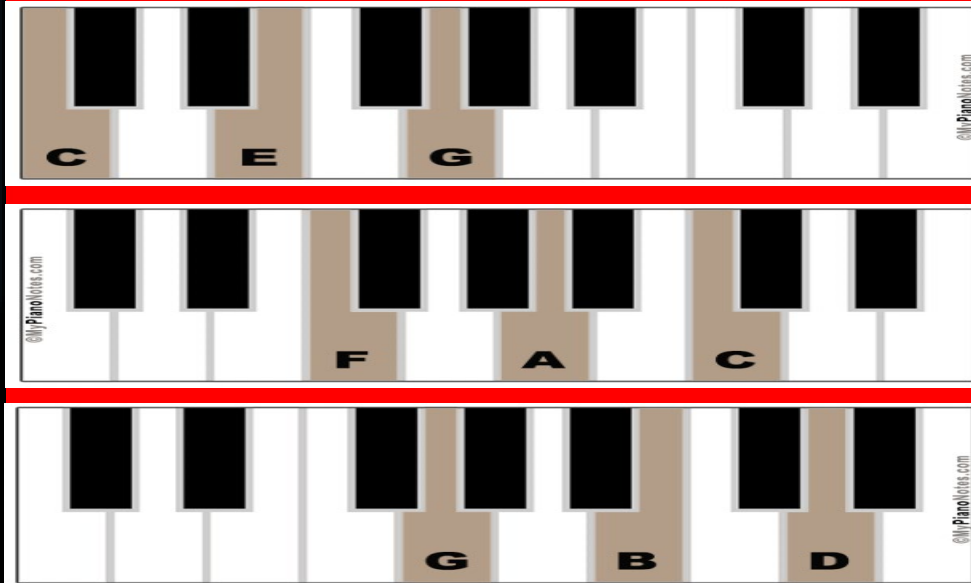
**KEY WORDS:** Treble Clef Staff Notation Lines Spaces  
Rhyme F-A-C-E Ledger Lines Pitch Chord Ascending /Descending  
Semibreve Minim Crotchet Quaver Rest

## Keyboard Work 1

Year 7 Summer Term



### Adding chords: Using the LEFT hand



**REMEMBER:** Always name notes from the bottom to the top  
**NOTICE:** If you move line-space-line-space the alphabet appears! Only letters A-G



**KEY WORDS AND MEANINGS: Tier two words in red. Tier three words in blue.**

<b>Treble Clef</b>	A musical sign that indicates the pitch is suitable for RIGHT HAND piano or instruments such as flute, violin and trumpet.
<b>Chord</b>	A collection of notes played at the same time
<b>Melody</b>	The tune
<b>Rhythm</b>	Different lengths of notes create a pattern called rhythm. This fits into the steady beat or pulse
<b>Stave/ Staff</b>	The five lines that music is written on
<b>Sharp</b>	Raising a note by one semitone
<b>Flat</b>	Lowering a note by one semitone
<b>Pitch</b>	How high or low the sound is
<b>Ascending</b>	Rising in pitch
<b>Descending</b>	Falling in pitch

# English

## Literacy (spellings)

1. **Rebellion** – going against established order
2. **Resistance** – fighting against something/ someone
3. **Oppression** – being treated as lesser/ having rights taken away
4. **Illiterate** – being unable to read/write
5. **Systemic** – an idea or problem built into an organisation or society that is greater than individuals
6. **Verse** – story told in poetry
7. **Exploit** – take advantage of
8. **Coercion** – manipulate or control
9. **Aspiration** – having dreams/ ambitions
10. **Non-Fiction** – text based in 'real' events e.g. a newspaper

## Adjectives - character (Q)

- Rebellious
- Cruel/ callous
- Loving/ kind
- Bitter/ disappointed
- Abusive/ controlling
- Traumatized
- Paranoid
- Ambitious/Determined
- Stubborn/ defiant
- Naïve/ ignorant
- Brave
- Obedient/ disobedient

## Summer 1: Run Rebel

### Purpose of Non-Fiction



## Key characters:

**Amber Rai** – British-Punjabi teenager protagonist (main character). Wants to be a runner, but faces resistance from her family

**Tara** – one of Amber's best friends.

**David** – one of her best friends

**Mum** – Amber's mum. She is illiterate and works in a sweatshop

**Dad** – An abusive alcoholic who is also illiterate

**Ruby** – Amber's older sister who was forced into an arranged marriage

**Tiya** – Ruby's young daughter (Amber's niece)

**Jas** – Ruby's husband

**Miss Sutton** – Amber's running coach and PE teacher

**Gemma Griffin** – a classmate Amber often bullies; were once friends

**Mr Jones** – Amber's history teacher

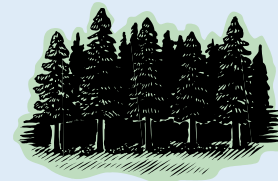
**Harpreet** – an older girl in Amber's community who ran away for a 'love' marriage

**Beena** – David's mum who runs a domestic violence refuge

**The Man** – a neighbour who was rumoured to have killed his disobedient daughter

## DAFOREST TECHNIQUES

- **Direct address** (using 'I' to speak directly to the audience)
- **Alliteration** (repeating same sound e.g. 'Amazing Amber')
- **Facts** (statistics/ true information)
- **Opinion**
- **Rhetorical question/ Repetition**
- **Emotive language** (language with strong emotion e.g. 'scream/shout' rather than 'say')
- **Superlative** (showing highest degree e.g. 'most/ fastest')/**similes** (comparing with like/as)
- **Triplet** (list of 3)
- **Hyperbole** (exaggeration for effect)
- **Anecdote** (example drawn from real life)
- **Metaphor** (comparing directly, without like or as)





## WRITING ORGANIZER – Formal Letter

**RECIPIENTS ADDRESS**

NAME  
STREET  
TOWN  
POSTCODE

**WRITER'S ADDRESS**

Street  
Town  
POSTCODE

DATE

**NAME OR TITLE**

DEAR SIR / MADAM

INTRODUCTION...

MAIN POINT OF THE LETTER...

2<sup>nd</sup> POINT OF THE LETTER...

3<sup>rd</sup> POINT OF THE LETTER...

Conclusion of letter...

YOUR NAME

**EXPLAIN WHY YOU ARE WRITING**

**Action Paragraph: Reinforce what you want to happen. ( Apology, Promotion, Application etc. )**

## Features of news articles

News articles tell you about something that happened in the world.



### Purpose

News articles are informative and tell you facts about an event. They explain:

- **what** happened
- **when** the event happened
- **where** the event happened
- **who** it happened to
- **why** the event happened

### Layout

- News articles have a large, snappy **headline** to draw the reader's interest.
- The text is split into **columns** and **paragraphs** to make it easier to read.
- **Pictures and captions** give the reader more information.



### Language

News articles are usually quite formal and serious. The language isn't too complicated, so everyone can understand it. They use the past tense and the third person.



### Speech

News articles often use direct or reported speech to show people's opinions, emotions or experiences of the event.

## Non-Fiction sentence starters:

- (Topic) are/are not...because...
- One example is...
- The best/worst/most ridiculous...is...
- The fact that... (*add fact*) proves...
- It is completely/totally/absolutely...
- If (topic) are banned ... because...
- Admittedly/ On the one hand/ Some might argue that...
- However/ Undeniably/ Yet...
- We must/ should... because...

## High tier punctuation:

- ! = shows strong emotion
- ? shows a question
- ;(connects two main clauses/ 'replaces and/but' or full stop)
- :(introduces list, separate subordinate clause, 'replaces because')
- ( ) (introduces extra information, subordinate clause)
- ... – (introduces extra information, subordinate clause)
- (one dash shows a pause)
- ... ellipsis, showing an idea trailing off, building suspense

## Paragraph rules



## Sentence Forms

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

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

**Compound:** Sentence with two main clauses linked with ; or a connective 'The lord was evil; he was plotting against the king.'

**Complex:** Main clause with 1 or more subordinate clause 'Although it was night, the streets were crowded'

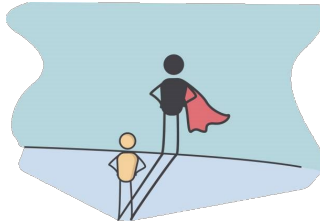
### Literacy (spellings)

1. Informative
2. Persuasive
3. Introduction
4. Conclusion
5. Audience
6. Anecdote
7. Emotive
8. Repetition
9. Rhetorical question
10. Counter argument

### Role models suggestions:

- Malala Yousafzai
- Martin Luther King
- Alan Turing
- Emmeline Pankhurst
- Marcus Rashford
- Maya Angelou
- Sophia Duleep Singh
- Mary Woolstencraft
- Marsha P Johnson
- Ann Lister
- Toussaint L'ouverture
- Harriet Tubman
- Simone Biles
- Hayao Miyazaki
- George Washington Carver

## Summer 2: Speaking and Listening



### Role Models: *How should I choose?*

Inspirational (has great qualities everyone should learn from)

Revolutionary (changed the world for the better)

Innovative (came up with new ideas)

Perseverance/ Resilience (overcame great difficulties)

Creative

Talented (the best at something!)

Moral (represented important qualities)

Courageous (stood up for their beliefs/ ambitions against oppression)

### High tier punctuation:

! = shows strong emotion

? shows a question

;(connects two main clauses/ 'replaces and/but' or full stop)

:(introduces list, separate subordinate clause, 'replaces because')

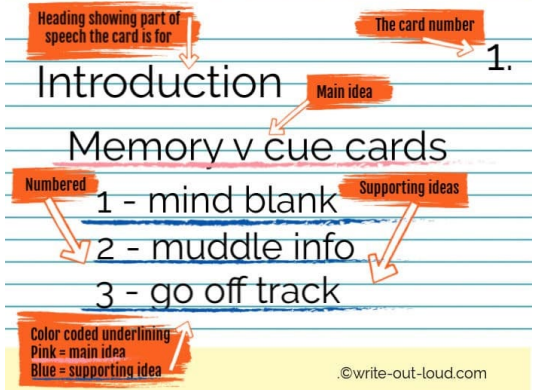
( ) (introduces extra information, subordinate clause)

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### How to make cue cards



### DAFOREST TECHNIQUES

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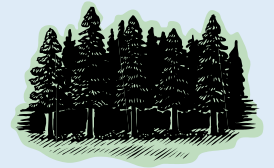
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**Anecdote** (example drawn from real life)

**Metaphor** (comparing directly, without like or as)



### Intro:

- Have you ever...?/ Did you know...?
- (Person) is... (describe)...
- Imagine...

### 1: Explain WHO your role model is

- They were born.../Their background is...
- When they were growing up...
- They were determined to...

### 2: Achievements

- So why should you/we care? Well...
- One of their greatest achievements was...
- Furthermore, they wanted/ needed to/had to...
- Therefore, I think/feel they are...

### 3: Challenges/ admirable qualities

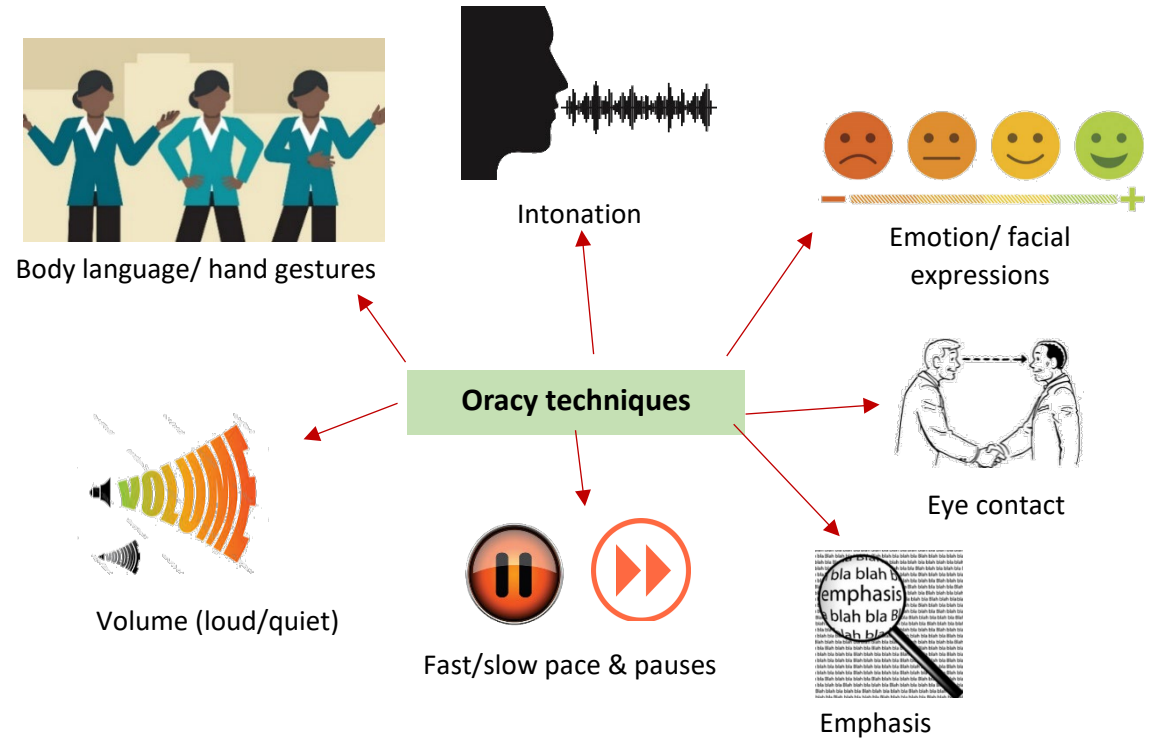
- They overcame/ struggled with/ had to face...
- However, they were able...
- I admire/respect them because they were able to...
- Despite having to... they were able to...

### 4. TIF: Counterargument

- Some might argue that... (explain another viewpoint)
- However, /But/ conversely ... (counter)

### 5. Conclusion

- In conclusion...
- You/ We must (think/feel/do) to...
- Clearly, they are...



**To present your speech effectively, use the 5 Ss.**

**Stride:** Walk to the platform with energy and purpose.

**Stand:** Don't distract your audience in the first instance by moving around- get them to focus on you.

**Smile:** It relaxes you and helps you engage with the audience.

**Speak:** Be ready to start speaking- you are in control

**Stay:** When you have finished, look around, nod or smile and take applause before leaving the stage.



# GEOGRAPHY - Ecosystems

## Literacy / key words

**Adaptation** – the process of a plant or animal evolving over time to become suited to its environment.

**Biodiversity** – the variety (different types) of plants and animals in an ecosystem.

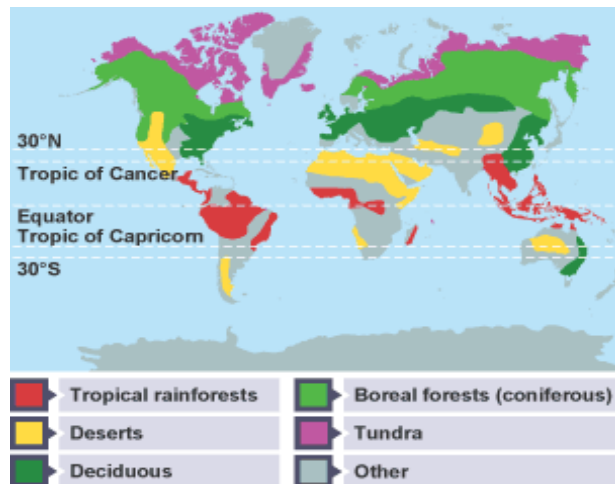
**Biome** – a large-scale ecosystem, covering vast sections of continents e.g. tropical rainforests and deserts.

**Coral bleaching** – a process where parts of coral begin to die off, causing them to turn white.

**Ecosystem** – a community of plants and animals that interact with each other and their surroundings e.g. a forest, pond.

**Tundra** – a vast, flat, treeless Arctic region of Europe, Asia, and North America in which the subsoil is permanently frozen.

## Content

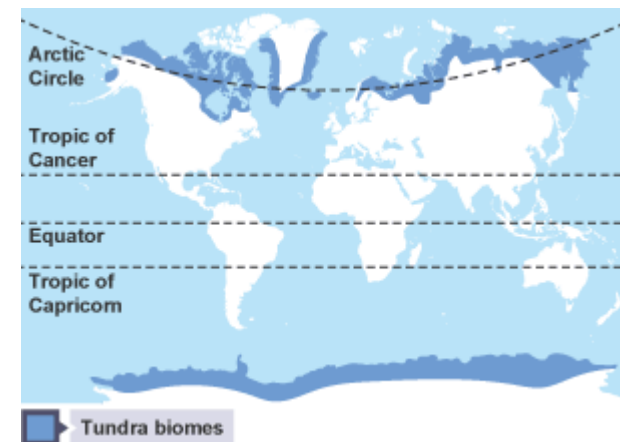


### What are the world's biomes like?

The biomes of the world are affected by the amount of sunlight they get throughout the year as well as the amount of rainfall they receive. This is because plants rely on sunshine and rainfall to grow. When these two things are limited, fewer plants and less variety of plants can grow, leading to animals having to be specifically adapted to low levels of nutrients at different times of the year.

### The Tundra

Tundra biomes are found in and below the polar biome, e.g. Russia, Greenland, Canada, Alaska and Scandinavia. Snow covers the ground for much of the year and restricts plant growth to small species such as grasses and low shrubs. Species such as Arctic wolves have thick fur and they are camouflaged against the snow. Lichen is a mossy type of plant which does not need deep soils or much sunlight to grow.



### The Great Barrier Reef is the

largest coral reef on Earth. A barrier reef is a long, narrow coral formation that lies parallel to the shoreline of a landmass and is mostly underwater. The Great Barrier Reef is in the Coral Sea, off the north-eastern coast of Australia. It extends 1,250 miles (2,000 kilometres) from north to south.

There are at least 300 types of hard coral on the reef. Other animals include sponges, anemones, worms, snails, lobsters, crayfish, prawns, jellyfish, and giant clams.

## Extra - Read/watch/do

- Read: The Incredible Ecosystems of Planet Earth by Rachel Ignotofsky
- Watch: Planet Earth on BBC iPlayer
- Do: Go for a walk through a woodland e.g. Delamere Forest, or Wythenshawe Park. Consider the different species you can see and how the climate has affected them. You may also consider how humans have adapted the ecosystem to suit their own needs.

## You will be assessed on:

- Your ability to describe features of ecosystems, using specific facts.
- Your ability to link features of ecosystems to one another.
- To explain how changing part of an ecosystem can have an impact on another.

## Links to curriculum:

- We have already studied the importance of soil in helping plants to grow.
- We have looked at plant and animal adaptations in the Arabian Desert.
- In GCSE Geography you may study tropical rainforests and hot deserts.



# GEOGRAPHY - Tourism

## Literacy / key words

**Conflict** – a disagreement or argument, a clash of ideas.

**Decline** – to reduce in quality or amount.

**Disposable income** – the amount of money people have to spend on non-essential items, such as holidays.

**Ecotourism** – tourism that is focussed on protecting the environment.

**Rejuvenation** – when something is given 'new life' by being modernised, or made to appear new again.

**Tourism** - the businesses and organisation of supporting holidays and visits to places of interest.

Skill – Describing:

- Use specific geographical terms
- Use specific facts about a place
- Give more than one feature and say what they are like
- Consider how features change over time

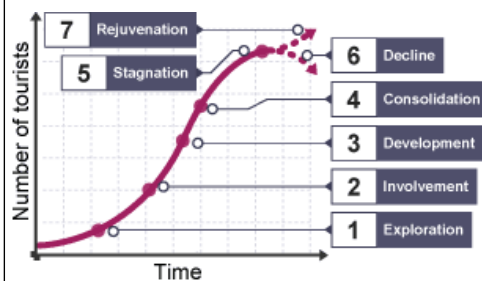
## Content

### Why has the tourism industry grown?

- Advances in technology meaning that travel is now easier, quicker and more affordable
- The growth of the internet means it is easier than ever before to book holidays
- Improvements in workers rights means that paid holidays for employees, makes it easier to take time off
- More disposable income due to changes such as smaller average family size and more families with two incomes, means some people have more money to spend on themselves

### How does tourism change over time?

- Places become popular due to a beautiful feature, as time goes on more and more people start to visit and the industries to support this tourism grow.



Over time the tourist facilities start to become run down and high numbers of tourists spoil its appeal so people stop visiting.

## Conflicts of tourism

### Social

- Culture and traditions can be lost with the influx of new people to an area.
- If a resort is popular it can result in overcrowding and traffic jams.

### Economic

- Tourism provides an alternative source of income, that might be more appealing than the jobs that used to be in the area e.g. farming.
- Money is frequently lost due to as hotels are often owned by foreign firms.

### Environmental

- The natural environment can become damaged as tourists increase waste and pollution. New buildings may damage natural habitats and disrupt fragile ecosystems.
- Infrastructure such as motorways and airports are improved.

## Ecotourism

Ecotourism is a sustainable form of tourism. It tries not to damage the environment and respects local culture and customs.

Ecotourism or **green tourism** aims to give jobs to local people whilst protecting the environment. Ecotourists travel in small groups and often visit reserves where the scenery and wildlife is protected and managed.



## Extra - Read/watch/do

Consider the features of places that are appealing to tourists and the impacts they have by:

- Reading a travel magazine e.g. Wanderlust or a travel guide e.g. Lonely Planet
- Watching travel guides that showcase a location
- Going on a day out e.g. Wythenshawe Park, The Imperial War Museum or Alton Towers

## You will be assessed on:

- Your ability to describe the features of tourism and how these change over time.
- Explain the impacts of tourism, both positive and negative.
- Describe conflicts between different groups and their perspectives on tourism.

## Links to curriculum:

- Sustainability is a key theme throughout KS3 and KS4 Geography.
- Y7 unit o Ecosystems helps us to understand some of the appeal of visiting Kenya.
- Social, environmental and economic impacts are visited frequently throughout KS3 and KS4.

# History

## Topic 4 – Medieval Rebellion

### Literacy / key words

#### King John and the Magna Carta:

**Magna Carta** – A document signed in 1215 that limited the power of the king and granted rights to barons.

**Barons** – Wealthy landowners who advised the king and controlled large areas of land.

**Feudal System** – A system where the king granted land to nobles in exchange for loyalty and military service.

**Excommunication** – Expulsion from the Church, a punishment used by the Pope against disobedient rulers.

**Rebellion** – An uprising against authority, such as the barons' rebellion against King John.

**Runnymede** – The location where King John signed the Magna Carta.

**Provisions of Oxford (1258)** – A set of reforms imposed by barons to limit the king's power and create a council to govern.

**Parliament** – A group of representatives who helped make decisions in government, first formed under Simon de Montfort.

**Peasants' Revolt** – A major uprising in 1381 led by peasants against high taxes and feudal oppression.

**Poll Tax** – A tax that everyone had to pay equally, regardless of wealth, which triggered the Peasants' Revolt.

**Wat Tyler** – Leader of the Peasants' Revolt, who was later killed by the king's men.

**Serfdom** – The status of peasants who were tied to the land and forced to work for their lords.

**Villeins** – Unfree peasants who had to work for their lord and could not leave their land.

**Black Death (1347-1351)** – A deadly plague that killed a third of Europe's population and led to labour shortages.

### Who are the key individuals involved in rebellion?

**King John** – The unpopular king who was forced to sign the Magna Carta due to his unfair rule and high taxes.



**Henry III** – King of England (1216-1272), son of King John, known for his conflicts with the barons.



**Simon de Montfort** – A baron who led a rebellion against Henry III and established an early form of Parliament.



**Richard II** – The 14-year-old king during the Peasants' Revolt who tricked the rebels with false promises.



**John Ball** – A priest who inspired peasants with radical ideas about equality.



### Why did John have to sign the Magna Carta?



King John was forced to sign the Magna Carta in 1215 because he was an unfair and unpopular king. Here are the main reasons:

**High Taxes** – John kept raising taxes to pay for wars, which made the barons (powerful landowners) very angry.

**Losing Wars** – He lost important land in France, making him look weak and untrustworthy.

**Arguments with the Church** – He had a big fight with the Pope and was even banned from church for a while.

**Unfair Rules** – John would punish people without a fair trial and take land or money whenever he wanted.

The barons rebelled and forced John to agree to the Magna Carta, which limited his power and gave people more rights.

### What made a good medieval King?



#### 1. Strong Leadership

A good king needed to be a strong leader to make important decisions and lead his people, especially in times of war. If a king was weak, his enemies might try to take his land or overthrow him.

#### 2. Fairness and Justice

Medieval kings had to make sure that laws were followed and that punishments were fair. If a king was unfair or cruel, his people might rebel against him. A just king kept his kingdom peaceful and strong.

#### 3. Bravery in Battle

Many kings had to fight in wars to defend their kingdom or expand their land. A brave king earned the respect of his knights and soldiers, making them more willing to fight for him.

#### 4. Wisdom and Intelligence

A king needed to be wise to make good decisions about money, alliances, and war. A foolish king could make mistakes that led to poverty, rebellions, or defeat in battle.

#### 5. Loyalty to His People

A good king had to care for his people and protect them. If he ignored their needs, they might turn against him or support someone else who wanted to be king.

#### 6. Strong Alliances

Kings often made alliances (friendships) with other rulers by marrying into powerful families or making agreements. This helped protect their kingdom from attacks and made them more powerful.

#### 7. Religious Faith

Religion was very important in medieval times. A good king was expected to support the church and follow Christian teachings. Many people believed that a king was chosen by God, so being religious helped him keep his people's trust.

### Why did Henry III fall out with Simon de Montfort?



Henry III and Simon de Montfort fell out for several key reasons:

**Money Problems** – Henry III often needed money but spent it unwisely, such as on wars and expensive projects. Simon de Montfort and other barons were frustrated by his financial mismanagement.

**The Provisions of Oxford (1258)** – The barons, led by Simon, forced Henry to accept new rules called the *Provisions of Oxford*, which limited the king's power and gave the barons more control over decisions. Henry later ignored these rules, making Simon angry.

**Personal Rivalry** – At first, Henry and Simon were allies, and Simon even married Henry's sister. But over time, their relationship soured because Simon felt Henry was unfair and did not keep his promises.

**Civil War (Second Barons' War, 1264-1267)** – Their disagreements led to war. Simon de Montfort led the barons against Henry in battle. Simon won at first, even capturing the king, but he was later defeated and killed.

In short, Henry and Simon fell out because Henry was a poor ruler who ignored the barons, and Simon wanted more control to protect England from bad leadership.



### Why did the peasants' revolt?

The Peasants' Revolt of 1381 happened because many people in England were angry about how they were being treated. Here are the main reasons:

**High Taxes** – The government introduced a new tax called the **Poll Tax**, which everyone had to pay, rich or poor. Many peasants could not afford it, and tax collectors were harsh.

**The Black Death** – The plague (1347-1351) killed many people, so there were fewer workers. Peasants thought they should get better wages, but the government stopped them from earning more money.

**Unfair Laws** – The **Statute of Labourers (1351)** forced peasants to work for the same low wages as before the Black Death, even though their work was more valuable.

**Weak Leadership** – King Richard II was only 14, and his advisors were unpopular. Many people blamed them for the problems in the country.

**Anger at Local Lords** – Peasants were forced to work for landowners without fair pay. Some lords treated them cruelly, and this made people furious.

**Inspiration from Leaders** – A preacher called **John Ball** and a rebel leader named **Wat Tyler** encouraged peasants to fight for their rights.

### Extra - Read/watch/do

The Peasants' Revolt: <https://www.bbc.co.uk/bitesize/articles/zyb77yc>

The Provisions of Oxford: <https://www.parliament.uk/about/living-heritage/evolutionofparliament/originsofparliament/birthofparliament/simondemontfort/provisionsofoxford/#:~:text=The%20Provisions%20of%20Oxford%20were,the%20contemporary%20counties%20of%20England.>

The Story of the Magna Carta: <https://www.youtube.com/watch?v=wWKTy1NlxZE>

### You will be assessed on

Knowledge of King John's reign, signing of the Magna Carta, the fall out between Henry III and Simon de Montfort, reasons for the Peasants' Revolt.

### Links to curriculum:



Geography

English



## Topic 5 – The Tudors

### Literacy / key words

**Rebellion** – An act of resistance or defiance against authority, especially against a ruler or government.

**Monarch** – A king or queen who rules a country, such as Henry VIII or Elizabeth I.

**Tudors** – The royal family that ruled England from 1485 to 1603, starting with Henry VII and ending with Elizabeth I.

**Reformation** – A religious movement in the 16th century that led to the creation of Protestant churches and challenged the authority of the Pope.

**Protestantism** – A branch of Christianity that emerged from the Reformation, rejecting the authority of the Pope.

**Church of England** – The Protestant church established by Henry VIII in 1534 after he broke away from the Catholic Church.

**Heretic** – A person who holds religious beliefs that go against the official teachings of the Church.

**Excommunication** – A punishment by the Pope that expels a person from the Catholic Church.

**Spanish Armada (1588)** – A fleet sent by Catholic Spain to invade England; it was defeated by Elizabeth I's navy.



### Who was Henry VIII?

He was King of England from 1509 to 1547. He established the **Church of England**, a Protestant church which split off from the **Catholic Church** in Rome. He did this because he wanted an heir and he wanted a new wife. He had six wives:



Catherine of Aragon who was Mary's mother. Henry divorced her.

Anne Boleyn who was Elizabeth's mother. Henry ordered her to be beheaded.

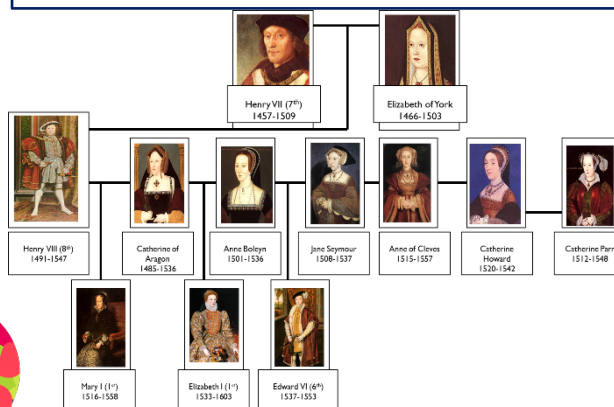
Jane Seymour who was Edward's mother. She died shortly after her son's birth.

Anne of Cleves was divorced by Henry.

Catherine Howard was beheaded.

Catherine Parr who outlived Henry.

Some historians believe he was a good king. He was well educated and multi-lingual. However he was also brutal and ordered thousands of executions!



### Who was Elizabeth I?

**Elizabeth** ruled from 1558-1603.

She was Henry's youngest daughter and was unlikely to ever rule. She ruled for a 45-year reign. She is best known for:



1. leading England to victory against Spain in the Spanish Armada.
2. making the country a Protestant kingdom once again.
3. Ordering the execution of her cousin Mary, Queen of Scots, who plotted against her
4. Overseeing a period of English exploration to the New World (Americas)
5. Remaining unmarried throughout her life, meaning she had no heir and meaning the Tudor dynasty stopped with her.

### Who were Edward VI and Mary I?

Henry's children ruled after him. He wanted a male heir and this was his main motivation for marrying so many times.

**Edward VI** ruled from 1547-1553. He was only a boy, he was sickly, and he died at the age of 15. He ruled England as a Protestant just like his father. He had no child as an heir.



**Mary I** ruled from 1553-1558. She was Henry's eldest daughter. She married the King of Spain, she turned the country back into a Catholic kingdom. She was known as "Bloody Mary" because she ordered the burning of nearly 300 Protestants at the stake. She had no child as an heir.



### What problems existed in Tudor times?

**Religious turmoil** between Protestants and Catholics. Even though they were both Christians, they wanted to worship in their own respective ways.



**War** was an issue. Early on in the Tudor period there was war with Scotland and France. Later on there was war with Spain.



**Poverty** was incredibly widespread. Poor people sometimes resorted to crime and attacked people



**Succession** was an issue for Elizabeth as she did not have an heir. There were multiple plots against her.

### Extra - Read/watch/do

The Tudor dynasty: <https://www.historyextra.com/period/tudor/guide-tudors-history-key-moments-facts-timeline-kings-queens/>

Henry VIII's reformation: <https://www.bbc.co.uk/bitesize/articles/zgkcr2p>

The reign of Elizabeth I: <https://www.hrp.org.uk/hampton-court-palace/history-and-stories/elizabeth-i/#gs.kxhxl>

### You will be assessed on

The reign of Henry and Elizabeth, the Reformation; its causes and consequences, Elizabeth's rule as a woman.

### Links to curriculum:





## Topic 6 – The Stuarts

### Literacy / key words

**Divine Right of Kings** – The belief that the king was chosen by God and had absolute authority.

**Parliament** – The governing body of England, made up of the House of Commons and House of Lords.

**Petition of Right (1628)** – A document limiting the king's power, stating he could not raise taxes without Parliament's approval.

**Ship Money** – A tax traditionally used for naval defence that Charles I extended to all of England, causing widespread anger.

**Personal Rule (1629-1640)** – A period when Charles I ruled without calling Parliament, leading to tensions.

**Long Parliament (1640-1660)** – The session of Parliament that challenged Charles I's rule and played a key role in the Civil War.

**Royalists** – Supporters of Charles I, also known as Cavaliers.

**Parliamentarians** – Supporters of Parliament, also known as Roundheads.

**New Model Army** – A professional army created by Parliament in 1645, led by Oliver Cromwell.

**Lord Protector (1653-1658)** – The title taken by Oliver Cromwell when he ruled England as a military dictator.

**Rump Parliament** – The remnant of Parliament after Pride's Purge, responsible for executing Charles I

### What caused the English Civil War?

Political, economic and religious tensions caused the relationship between King Charles I and his Parliament to break down. He ruled on his own without them for years. When he called them back they tried to get him to agree to new rules. He refused. He tried to arrest rebellious MPs by storming into the House of Commons. In 1642 he declared war on Parliament and both sides began to build their forces up for war.

### What happened during the English Civil War?

The war was fought from 1642 until 1646 and then it started again briefly from 1648 to 1649. Both sides won some battles but soon enough Parliament was able to defeat the King in numerous battles. The two sides were:

#### Parliamentarians

- Their soldiers were known as Roundheads
- Most of them came from the south of the country
- They were supported by the navy
- They had access to more money
- Oliver Cromwell trained them into the New Model Army



#### Royalists

- Their soldiers were known as Cavaliers
- Most of them came from the north and more rural areas
- They expected support from foreign kings
- They were better trained at the start of the war
- They used cavalry



### What problems did the Stuarts face?

**Religious tension** was still high as it had been during the Tudor period.

The **Gunpowder Plot** of 1605 was an attempt to blow up the Houses of Parliament by Catholic plotters. It was stopped at the last moment.

**Political tension** was high as king and parliament had different opinions on how to run the country. This would cause a **civil war!**

**Plague** badly affected England during the Stuart period, especially in 1665. The Great Plague of 1665 caused thousands to die.

**The Great Fire of London** caused much of the capital to burn in 1666. The city needed much rebuilding after this disaster.



### Why did the king lose his head?

By January 1649 it became clear that King Charles I had no interest in respecting Parliament's demands. He was put on trial and he was to be beheaded. This was a way of setting an example that the English people would not tolerate a king who did not have their best interests. The Parliamentarians ruled the country under Oliver Cromwell and changed the country.



### Extra - Read/watch/do

Charles I: [https://www.bbc.co.uk/history/historic\\_figures/charles\\_i\\_king.shtml](https://www.bbc.co.uk/history/historic_figures/charles_i_king.shtml)  
<https://www.hrp.org.uk/banqueting-house/history-and-stories/the-execution-of-charles-i/#gs.kxi5y4>

The English Civil War: <https://www.english-heritage.org.uk/learn/histories/the-english-civil-wars-history-and-stories/>

### You will be assessed on:

The reign of Charles I, the split between Parliament and the King, causes and consequences of the Civil War, Oliver Cromwell.

### Links to curriculum:





# Religion and Ethics

## Literacy / key words

**Allah** – the Arabic term for God.

**Prophet** – A messenger of God.

**Muhammad (pbuh)** – the most important prophet in Islam, he received the Qur'an.

**Qur'an** – Holy Book of Islam.

**Hadith** – Sayings of the Prophet Muhammad (pbuh).

**Sunni** – A branch of Islam that follows the succession of Abu Bakr.

**Shia** – A branch of Islam that follows the succession of Ali.

**Shahadah** - declaration of Faith.

**Salah** - prayer.

**Zakat** - charity, giving 2.5% of wealth to charity.

**Sawm** – Fasting (not eating) for Ramadan.

**Hajj** – Islamic Pilgrimage.

**Ramadan** – Islamic month when Muslims fast.

## The Five Pillars of Islam

- 1) Shahadah – the declaration of faith says that: "There is no God, but Allah and Muhammad is His messenger."
- 2) Salah – prayer, Muslims pray five times per day.
- 3) Zakat – charity, giving 2.5% of wealth to charity.
- 4) Sawm – fasting (not eating or drinking) during the months of Ramadan. Muslims do not eat or drink anything during daylight hours for a month.
- 5) Hajj – pilgrimage there is a pilgrimage (religious journey) to Makkah that every Muslim should complete at least once in their lifetime.

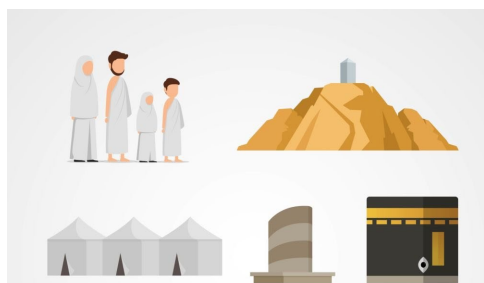


## YEAR 7 What is Islam?

### Hajj

Hajj is the fifth pillar of Islam. It is a pilgrimage to Makkah in Saudi Arabia where the prophet Muhammad (pbuh) was born and where the Ka'aba (house of Allah) is. Makkah is the holiest site in Islam.

- Hajj takes six days
- Pilgrims who have completed Hajj are cleansed of their sins.
- After completing Hajj a Muslim can use the title Hajji.



### Sawm

Sawm is the fourth pillar of Islam. It is fasting (not eating or drinking) during daylight hours for the month of Ramadan. Before sunrise Muslims will get up early to have a meal called **Suhur** and after sunset, they have a meal called **Iftar**.



## Extra - Read/watch/do

BBC Bitesize – Facts about Islam - <https://www.bbc.co.uk/bitesize/articles/znhjcqt>

BBC Teach – My Life, My Religion: Islam (YouTube Playlist) - [https://youtube.com/playlist?list=PLcvEcrrF\\_9zIOMts7w1FRLb1pVFYaEo20&si=XYCEmmLf\\_670NGdJ](https://youtube.com/playlist?list=PLcvEcrrF_9zIOMts7w1FRLb1pVFYaEo20&si=XYCEmmLf_670NGdJ)

## Keywords

### Does God Exist?

**Atheist**- someone who does not believe in God

**Agnostic**- when you're not sure if God exists.

**Theist**- believer in God.

**Monotheism**- belief in one God.

### What is God like?

**Eternal** - without beginning or end, timeless.

**Creator**- start point of the Universe and life on Earth.

**Transcendent** – beyond this world, God cannot fit into our categories.

**Omnipotent**- all powerful

**Omniscient**- all knowing.

**Omnibenevolent**- all loving/all good.

## Cosmological/First Cause Argument for the Existence of God

### St Thomas Aquinas

St Thomas Aquinas (1225-1274 CE) argued that **all things that happen have a cause**, for example when a football travels through the air we know it is because a player kicked it but if we were to go further back we might say that player kicked the ball because the last player passed it to them and the player before passed it to them and so on. **Aquinas argued all the causation and motion we observe can be traced back to God**, who is an uncaused cause or unmoved mover.

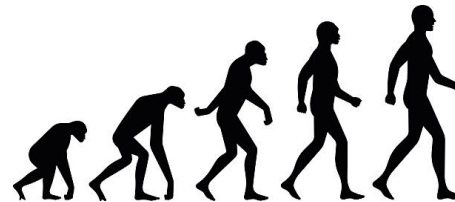
## YEAR 7 Does God exist?

### What is Humanism?

Humanism is the **rejection of Religious teaching** in favour of **reason**. Humanists may have a variety of different beliefs but they are united by the belief that it is possible to **live an ethical life without Religion**. They base ethical decisions on **Empathy & Reason**. They also believe that this is the only life that we have and therefore we should focus on being happy in this life rather than in an afterlife.

### Richard Dawkins

Richard Dawkins argues that science explains and proves the big bang theory and that humans and life evolved on Earth. This contradicts religious stories about creation.



## Teleological/Design Argument for the Existence of God

### William Paley

William Paley (1743-1805) **compared the design of the universe to finding a watch**. He argued that if you were walking and found a watch lying on the grass and saw how complicated it was you would have to assume someone made it. Even if you had never seen a watch before as each part works together to tell the time you would still assume that someone had designed it. Paley compared this to the design of the world. **Someone who looks at the universe must conclude that there is a designer because of how perfectly the universe fulfils its function of sustaining life.**



### Mackie

J. L. Mackie argues that God cannot be both omnipotent and omnibenevolent while evil exists.



Omniscient

Omnipotent

### You will be assessed on your ability to:

- Understand and correctly use of key vocabulary.
- Explain key concepts/ideas.
- Use evidence (scripture / theory) to support your arguments

### Links to curriculum (lenses):

Theology – we will continue to build on our understanding of Abrahamic traditions from the previous units.  
Sociology – we will consider the importance of Islamic practices in developing a more holistic understanding of the religion.  
Philosophy – we will explore the 'big questions' around the existence of God, using what we have learned about the different understandings of God from our previous units.



DECIMALS

Key Words

**Decimal:** A number that contains a point  
**Ascending Order:** Place in order, smallest to largest.  
**Descending Order:** Place in order, largest to smallest.

Tip

- Add digits when ordering decimals.
  - The number of zeros tells you the number of places to move the digits.
- Rounding rules:**  
A value of 5 to 9 rounds the number up.  
A value of 0 to 4 keeps the number the same.

Key Concepts

Multiply/Divide by powers of 10

10 000	1000	100	10	1	•	$\frac{1}{10}$	$\frac{1}{100}$	$\frac{1}{1000}$
					•			

Multiplying

X 10    digits move LEFT 1 space  
X 100    digits move LEFT 2 spaces  
X 1000    digits move LEFT 3 spaces



Dividing

÷ 10    digits move RIGHT 1 space  
÷ 100    digits move RIGHT 2 spaces  
÷ 1000    digits move RIGHT 3 spaces



Examples

Ordering Decimals

0.3, 0.21, 0.305, 0.38, 0.209  
Add zeros so that they all have the same number of decimal places.  
0.300, 0.210, 0.305, 0.380, 0.209  
Then they can be placed in order:  
0.209, 0.21, 0.3, 0.305, 0.38

Multiplying/Dividing by powers of 10

$3.4 \times 100$

100	10	1	•	$\frac{1}{10}$
		3	•	4
3	•	4	0	

Round 3.527 to:

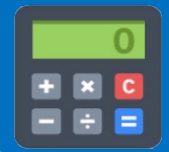
- a) 1 decimal place  
 $3.5\overset{\color{red}2}{7} \rightarrow 3.5$   
b) 2 decimal places  
 $3.52\overset{\color{red}7}{} \rightarrow 3.53$

Questions

- 1) Order 1.52, 1.508, 1.5, 1.05, 1.51  
2) Work out a)  $1.35 \times 10$  b)  $0.6 \times 100$   
c)  $4.5 \div 100$   
3) Round 5.657 to 2dp

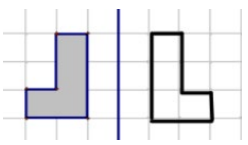
ANSWERS: 1) 1.05, 1.5, 1.508, 1.51, 1.52 2) a) 13.5 b) 60 c) 0.045 3) 5.66

TRANSFORMATIONS

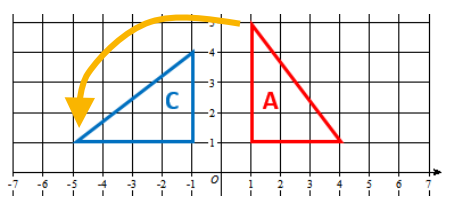


Key Concept

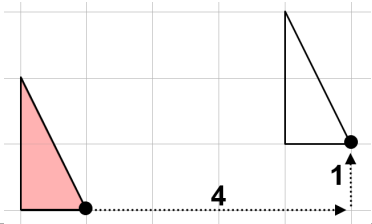
Reflection



Rotation



Translation



TIP

- Use tracing paper to avoid mistakes.
- When describing transformations, look at how many marks are available and see if you have put enough to get the marks.

Key Words

**Co-ordinate:** A pair of numbers which describe the position on a grid.

**Transformation:**

This means the shape has 'changed'.

**Reflection:** This means a shape has been flipped.

**Rotation:** This means a shape has been turned.

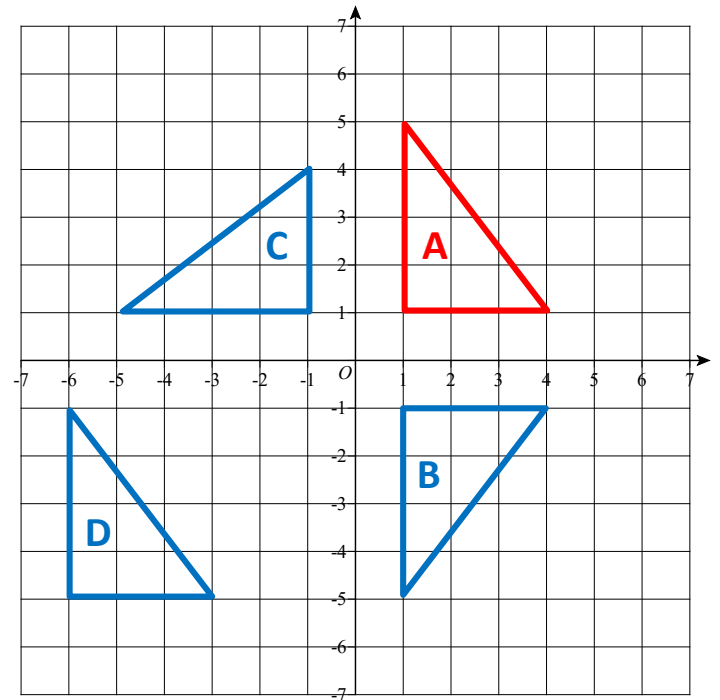
**Translation:** This means a *movement* of the shape.

Examples

a) Reflect A in the x-axis, label it B.

b) Rotate A 90°, anti-clockwise about (0,0), label it C.

c) Translate A in the vector  $\begin{pmatrix} -7 \\ -6 \end{pmatrix}$ , label it D.



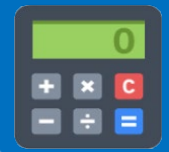
Questions

Draw a grid like the one above.  
Plot a triangle with vertices (6,2), (3, 2) and (4, 5).

a) Reflect the triangle in the y-axis. b) Translate the triangle  $\begin{pmatrix} -3 \\ -4 \end{pmatrix}$

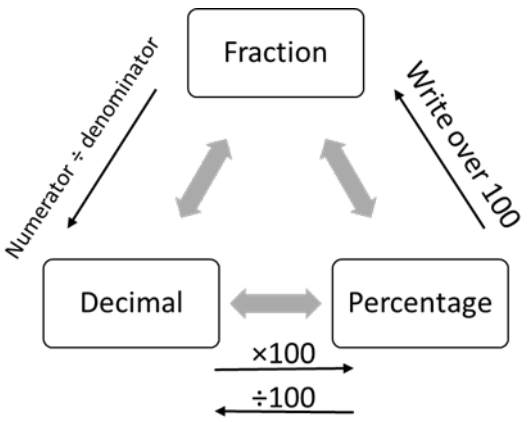
ANSWERS: a) (-6,2), (-3,2) and (-4,5) b) (1,1), (0,-2) and (3,-2)





FRACTIONS & PERCENTAGES OF AMOUNTS

Key Concepts



Key Words

**Percentage:** Is a proportion that shows a number as parts per hundred.

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

Examples

Non-Calculator

$$\frac{3}{4} \text{ of } 32 = 32 \div 4 \times 3 = 24$$

16% of 240

$$\left. \begin{array}{l} 10\% = 24 \\ 5\% = 12 \\ 1\% = 2.4 \end{array} \right\} = 24 + 12 + 2.4 = 38.4$$

Calculator

Find 32% of 54.60 =  $0.32 \times 54.60 = 17.472$

Tip

There is a % function on your calculator.

To find 25% of 14 on a calculator:  
2, 5, SHIFT, (, ×, 1, 4, =

Questions

- 1) Find these fractions of amounts:  
a)  $\frac{1}{3}$  of 15    a)  $\frac{1}{5}$  of 65    a)  $\frac{2}{7}$  of 14    a)  $\frac{4}{9}$  of 45
- 2) a) 35% of 140    b) 21% of 360

ANSWERS: 1) a) 5 b) 13 c) 4 d) 20    2) a) 49 b) 75.6



CALCULATING PROBABILITY

Key Words

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

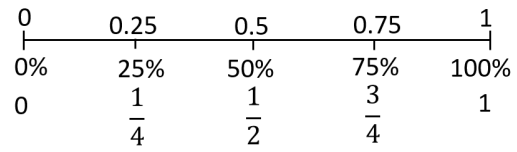
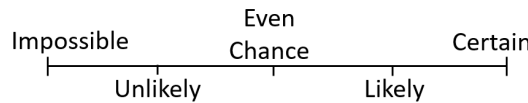
**Impossible:** The outcome cannot happen.

**Certain:** The outcome will definitely happen.

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

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

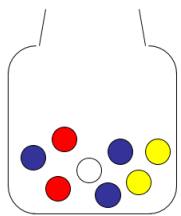
Key Concepts



- Probabilities can be written as:
- Fractions
  - Decimals
  - Percentages

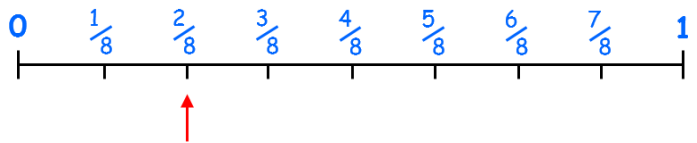
Examples

1) What is the probability that a bead chosen will be **yellow**. Show the answer on a number line.



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

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



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

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

Tip

Probabilities always add up to 1.

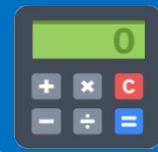
Formula

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

Questions

In a bag of skittles there are 12 red, 9 yellow, 6 blue and 3 purple left. Find: a) P(Red) b) P(Yellow) c) P(Red or purple) d) P(Green)

ANSWERS: 1) a)  $\frac{12}{30} = \frac{2}{5}$  b)  $\frac{9}{30} = \frac{3}{10}$  c)  $\frac{15}{30} = \frac{1}{2}$  d) 0



# INTRODUCTION TO EQUATIONS

## Key Concept

### Inverse Operations

Operation	Inverse
+	—
—	+
×	÷
÷	×
$x^2$	$\sqrt{x}$

### Tip

Answers can be:

- Integers
- Decimals
- Fractions
- negatives

## Key Words

**Unknown:** A letter which represents a number we do not know the value of.

**Terms:** The numbers and letters in the expression or equation.

**Inverse:** The operation which will do the opposite.

## Examples

$x + 9 = 16$ $-9 \quad -9$ $x = 7$	$x - 12 = 20$ $+12 \quad +12$ $x = 32$	$\frac{x}{3} = 5$ $\times 3 \quad \times 3$ $x = 15$	$2x + 5 = 14$ $-5 \quad -5$ $2x = 9$ $\div 2 \quad \div 2$ $x = 4.5$
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$\frac{x}{4} - 2 = 4$ $+2 \quad +2$ $\frac{x}{4} = 6$ $\times 4 \quad \times 4$ $x = 24$	$2(3x + 5) = -14$ <b>expand</b> $6x + 10 = -14$ $-10 \quad -10$ $6x = -24$ $\div 6 \quad \div 6$ $x = -4$
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$2x + 7 = 5x + 1$ <b>-2x</b> <b>(smallest x term)</b> $+7 = 3x + 1$ $-1 \quad -1$ $6 = 3x$ $\div 3 \quad \div 3$ $2 = x$
---

## Questions

- 1)  $x + 8 = 19$
- 2)  $y - 25 = 15$
- 3)  $2y = 82$
- 4)  $\frac{t}{4} = 7$
- 5)  $\frac{p}{2} - 6 = 2$
- 6)  $3(2x - 3) = 15$
- 7)  $4x - 8 = 2x + 1$

ANSWERS: 1)  $x = 11$ , 2)  $y = 40$ , 3)  $y = 41$ , 4)  $t = 28$ , 5)  $p = 16$ , 6)  $x = 4$ , 7)  $x = 4.5$



A

## Introducing (2) regular verb conjugation.

**Étudier = 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	😊 Ça m'intéresse
♥ J'aime	Ça m'amuse
✕ Je n'aime pas	😡 Ça m'énerv
✕✕ Je déteste	Ça m'ennuie
➦ Je préfère	Ça me stresse
Je pense que	
je trouve que	

D

## Connectives

Aussi /en plus	also /furthermore
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 AVOW



### Extra: read/ watch/do

Linguascope.com Beginners French 'La Vie Au Quotidien'

KS3 Bitesize French. Adjectives in French

### You will be assessed on:

5. Respond to photo card stimulus-school
4. written response to bullet points: -school subjects- opinions- school day
5. Summer Exam – in all 4 skills on all content from the year

### Links to curriculum

Cultural capital: Mardi Gras.

Linguistic progression example: 'er' present tense conjugations.

Adjectival agreement





<b>H</b>	un = 1	seize = 16
	deux = 2	dix-sept = 17
	trois = 3	dix-huit = 18
	quatre = 4	dix-neuf = 19
	cinq = 5	vingt = 20
	six = 6	vingt et un = 21
	sept = 7	vingt-deux = 22
	huit = 8	vingt-trois = 23
	neuf = 9	vingt-quatre = 24
	dix = 10	vingt-cinq = 25
	onze = 11	vingt-six = 26
	douze = 12	vingt-sept = 27
	treize = 13	vingt-huit = 28
	quatorze = 14	vingt-neuf = 29
	quinze = 15	trente = 30
		trente et un = 31

**lundi**  
**samedi**  
**mardi**  
**dimanche**  
**mercredi**  
**jeudi**  
**vendredi**

<b>J</b>	<b>Quelle heure est-il? • What time is it?</b>
Il est ...	It's ...
huit heures	eight o'clock
huit heures dix	ten past eight
huit heures et quart	quarter past eight
huit heures et demie	half past eight
neuf heures moins vingt	twenty to nine
neuf heures moins le quart	quarter to nine
midi	midday
minuit	midnight
midi/minuit et demi	half past twelve (midday/midnight)

<b>K</b>	<b>L'emploi du temps • The timetable</b>
À [neuf heures]	At [nine o'clock]
j'ai [sciences].	I've got [science].
le matin	(in) the morning
l'après-midi	(in) the afternoon
le mercredi après-midi	on Wednesday afternoon
la récréation/la récré	breaktime
le déjeuner	lunch

**Les minutes**

..moins cinq	11	12	1	..cinq
..moins dix	10		2	..dix
..moins le quart	9		3	..et quart
..moins vingt	8		4	..vingt
..moins vingt-cinq	7		5	..vingt-cinq
	6			..et demie

**L**

**Frequencies**

100%	toujours
85%	d'habitude
75%	normalement
60%	souvent
50%	parfois
40%	de temps en temps
30%	rarement
20%	pas souvent
10%	presque jamais
0%	jamais



A

## Tenses

## REGULAR PRESENT TENSE

	-ER	-IR	-RE
Je	e	is	s
Tu	es	is	s
Il/Elle/On	e	it	
Nous	ons	issons	ons
Vous	ez	issez	ez
Ils/Elles	ent	issent	ent



C

## Opinions &amp; Pronouns

See Summer 1 previous pronoun phrases

Il aime  
Nous adorons  
Ils détestent

Je crois que=  
I believe that

E

Ce que j'aime le plus, c'est  
Ce que m'énerve c'est  
Ce que je trouve dégoûtant c'est..

## Frequencies

Premièrement/d'abord *firstly*  
Deuxièmement *secondly*  
Finalement *finally*

F

## Adjectives

Sucré(e)]	Sweet
Délicieux (euse)	Delicious
Dégoutant(e)	Disgusting
affreux[euse]	Awful
savoureux [euse]	Savoury
sain [e]	healthy
Bon(ne) pour la santé	Good for your health
Mauvais(e) pour la santé	Bad for your health

B

## Irregulars

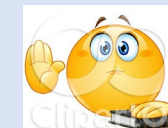
Indicative present	boire	croire	voir
Je	bois	crois	vois
Tu	bois	crois	vois
Il / Elle / On	boit	croit	voit
Nous	buvons	croyons	voyons
Vous	buvez	croyez	voyez
Ils / Elles	boivent	croient	voient

G

## Take A VOW



très (very); vraiment (truly)  
assez (quite); un peu (a bit)  
trop (too); tellement (so)



## Extra: read/ watch/do

Linguascope.com Beginners French 'La Vie Au Quotidien'  
KS3 Bitesize French. Adjectives in French

## You will be assessed on:

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- Summer Exam – in all 4 skills on all content from the year

## Links to curriculum

Cultural capital: school day and subjects studied in France, use of 24 hour clock

### Qu'est-ce que • What do you eat?/ tu manges? What are you eating?

Je mange ...	I eat/I'm eating ...
du fromage	cheese
du poisson	fish
du poulet	chicken
du steak haché	beefburger
du yaourt	yoghurt
de la pizza	pizza
de la purée de pommes de terre	mashed potatoes
de la glace à la fraise	strawberry ice-cream
de la mousse au chocolat	chocolate mousse
de la tarte au citron	lemon tart
des crudités	chopped, raw vegetables
des frites	chips
des haricots verts	green beans

### The partitive article

The partitive article means 'some'. It has a different form with masculine, feminine and plural nouns. *de l'* is used before a vowel sound or silent h.

le poulet (chicken)	→	du poulet (some chicken)
la glace (ice-cream)	→	de la glace (some ice-cream)
l' eau (water)	→	de l' eau (some water)
les frites (chips)	→	des frites (some chips)



La carte, s'il vous plaît

Voilà, monsieur / madame. Que voulez-vous comme boisson?

Je voudrais...

Et comme entrée?

Je prends...

Et que voulez-vous comme plat principal?

Je voudrais...

Voulez-vous un dessert?

Oui, je voudrais...

Après le repas

L'addition, s'il vous plaît.

**Menu prix fixe**

**ENTRÉES**

**PLATS**

**DESSERTS**

### C'est combien?

- Combien coûte la salade?
- Elle coûte 7 euros.
- Combien coûte le café?
- Il coûte 2 euros.
- C'est combien?
- Ca fait 9 euros.



J'ai faim.



J'ai soif.



### Mots nombres de 20 à 1 000

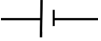

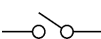

20	vingt	70	soixante-dix
30	trente	80	quatre-vingts
40	quarante	90	quatre-vingt-dix
50	cinquante	100	cent
60	soixante	1 000	mille



# Science

## 7J Current Electricity

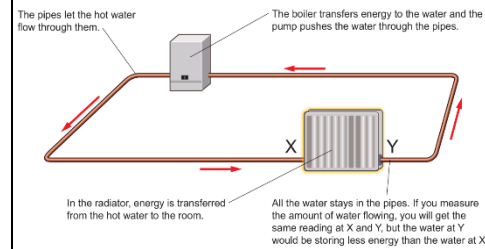
### 1. Switches and Current

<b>Component</b>	Something in a circuit.
<b>Switch</b>	Closing a switch completes the circuit allowing the current to flow.
<b>Bulbs</b>	Electricity flowing through makes the filament glow.
<b>Current</b>	The amount of electricity flowing around a circuit. Measured in amperes (A).
<b>Current in a Series Circuit</b>	Current is not used up as it goes around the circuit, it is the same everywhere.
<b>Ammeter</b>	Used to measure current.
	Cell circuit symbol
	Bulb circuit symbol
	Switch circuit symbol
	Ammeter circuit symbol

### 2. Models for Circuits

<b>Models</b>	A way of showing or representing something.
<b>Advantages of Using Models</b>	Allow us to help think about complicated ideas in science.
<b>Charges</b>	An electric current is a flow of charges carrying energy from the cells to the components.
<b>Conductors</b>	Charges can move through them easily (e.g. metals).
<b>Insulators</b>	Charges cannot move through them easily.

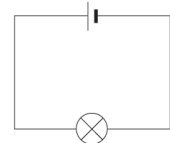
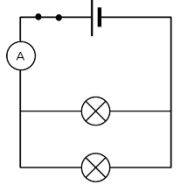
### Model Example



### Model Example Explanation

- Boiler represents the cell
- Pipes represent the wires
- The radiator represents a component
- Water represents the current

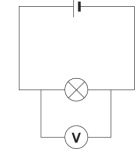

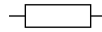
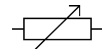
### 3. Series and Parallel Circuits

<b>Series Circuit</b>	A circuit with all the components in one loop.
<b>Series Circuit Diagram</b>	
<b>Parallel Circuit</b>	A circuit with branches that split apart and join again.
<b>Parallel Circuit Diagram</b>	
<b>Parallel Circuit Advantages</b>	Each bulb/component can be turned on individually. If one bulb/component breaks the components in other branches stay on (unlike a series circuit).
<b>Current in a Parallel Circuit</b>	The current splits when it reaches a branch. The current in all the branches add up to the current in the main part of the circuit.

### Adding Bulbs

If you add bulbs into a series circuit the current gets smaller and the bulbs dimmer. In a parallel circuit if you add bulbs on different branches they stay bright.

### 4. Changing the Current

<b>Voltage</b>	A way of saying how much energy is transferred by electricity. The voltage of the cell helps push the charges around the circuit. Measured in volts (V).
<b>Voltmeter</b>	Used to measure voltage.
<b>Connecting a Voltmeter</b>	Voltmeters are connected across a component. 
<b>Voltage in a Series Circuit</b>	The voltage across all the components adds up the voltage across the cell.
<b>Resistance</b>	How difficult it is for electricity to flow through something.
<b>Resistor</b>	A component that makes it difficult for electricity to flow-reduces size of current.
	Voltmeter circuit symbol
	Resistor circuit symbol
	Variable resistor circuit symbol

### 5. Using Electricity

<b>Hazard</b>	Something that could cause harm.
<b>Risk</b>	The chance that a hazard will cause harm.

### Electricity Risks

Can cause fires, burns to the body and stop the heart from working.

### Reducing Risks

Don't touch bare metal parts of plugs, don't poke things into sockets, keep water away from electricity, don't plug too many things into a socket and never use a damaged wire.

### Fuse

A wire that melts if the current is too high, breaking the circuit.

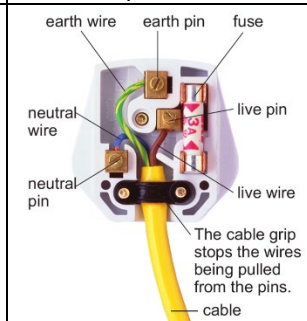
### Circuit Breaker

Cuts off the current if it is too high.

### Plug Wires

**Live** and **neutral** wires make an appliance work; **earth** wire is for safety.

### Plug Diagram



### Extra - Read/watch/do: -

[https://www.bbc.co.uk/bitesize/topics/zgy39j6/articles/zi\\_m8kty#z76wdp3](https://www.bbc.co.uk/bitesize/topics/zgy39j6/articles/zi_m8kty#z76wdp3)

[https://www.bbc.co.uk/bitesize/topics/zgy39j6/articles/z2\\_tjwnb#z7jijs](https://www.bbc.co.uk/bitesize/topics/zgy39j6/articles/z2_tjwnb#z7jijs)

[https://www.bbc.co.uk/bitesize/topics/zgy39j6/articles/zs\\_3htrd#z2gbbqt](https://www.bbc.co.uk/bitesize/topics/zgy39j6/articles/zs_3htrd#z2gbbqt)

[https://www.bbc.co.uk/bitesize/topics/zgy39j6/articles/z3\\_4yf82](https://www.bbc.co.uk/bitesize/topics/zgy39j6/articles/z3_4yf82)

<https://app.senecalearning.com/classroom/course/419c7523-d408-4bc7-9b96-f7f12abdacae/section/fe9e0074-225e-45c5-b1f3-35fd87c89864/session>

**You will be assessed on:** -You will have an end of topic test combined with topics 7J&L Current, electricity and sound.



## 7L Sound

### 1. Making Sounds

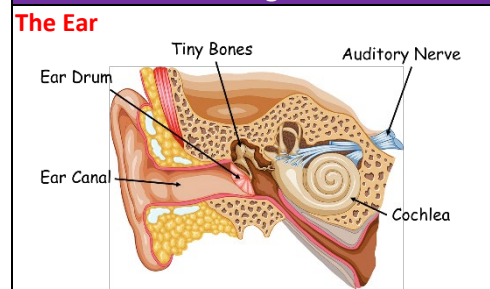
<b>Making Sounds</b>	Sounds are made by something vibrating.
<b>Intensity</b>	How loud or soft a sound is- its volume.
<b>Pitch</b>	How high or low a sound is.
<b>Frequency</b>	The number of vibrations each second. The higher the frequency the higher the pitch.
<b>Hertz (Hz)</b>	The units for measuring frequency.
<b>Amplitude</b>	The size of vibrations. The bigger the amplitude the louder the note.
<b>Humans Making Sounds</b>	Two flaps (vocal folds) across the windpipe vibrate when air moves across them.
<b>Grasshoppers Making Sounds</b>	Male grasshoppers chirp by rubbing one leg against a wing.
<b>Gorillas Making Sounds</b>	Male gorillas thump their chests or thump the ground to threaten other males.

### 2. Moving Sounds

<b>Moving Sounds</b>	Sounds can only travel through a medium (a solid, liquid or gas).
<b>Vacuum</b>	A completely empty space. Sound cannot travel through.
<b>Particles</b>	Tiny pieces of matter that make up everything.
<b>Sound Moving Through the Air</b>	Air particles vibrate and cause nearby particles to vibrate so the vibrations spread through the air.
<b>Sound Wave</b>	Formed by the moving vibrations.

<b>Pressure Wave</b>	The air particles are pushed together in some place (high pressure) and spread out in other places
<b>Sound Wave Frequency</b>	The number of waves passing a point per second.
<b>Sound Wave Amplitude</b>	The distance moved by air particles as the sound wave passes.
<b>Energy</b>	Energy is transferred from one place to another by sound waves. They do not transfer particles.
<b>Speed of Sound</b>	Sound travels faster in solids because the particles are close together.
<b>Moving Away from A Source</b>	As you move away from a source of sound, the energy carried has spread out further so there is less energy for your ear to detect- it sounds quieter.

### 3. Detecting Sounds



<b>Ear Protection</b>	Loud sounds damage our ears- people who work in noisy surroundings need ear protection. Certain soft materials (carpets, curtains, etc.) also absorb energy transferred by sound waves.
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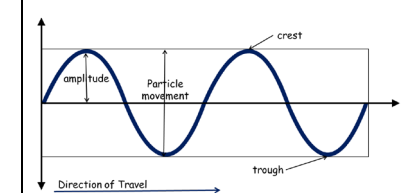
<b>How Ears Detect Sounds</b>	<ol style="list-style-type: none"> <li>1. sound waves enter the ear canal.</li> <li>2. the eardrum (a thin membrane) vibrates.</li> <li>3. vibrations pass to the tiny bones which amplify the vibrations.</li> <li>4. vibrations pass to the liquid inside the cochlea.</li> <li>5. tiny hairs inside the cochlea detect vibrations and create electrical signals (impulses).</li> <li>6. impulses travel along the auditory nerve to the brain.</li> </ol>
<b>How Microphones Detect Sounds</b>	Sounds make a thin sheet of materials (a diaphragm) vibrate and electrical circuits convert these vibrations into electrical currents.
<b>Decibels (dB)</b>	The units for measuring the loudness of a sound.
<b>Auditory Range</b>	The range of frequencies an organism can hear 20Hz – 20000Hz in humans
<b>Infrasound</b>	Sounds below 20Hz
<b>Ultrasound</b>	Sounds above 20000Hz
<b>4. Using Sound</b>	
<b>Using Sound</b>	Sound is often used for communication.
<b>Transmitted</b>	Energy from sound waves goes through some materials.
<b>Reflected</b>	Energy from sound waves bounces off some materials.
<b>Using High Frequency Waves</b>	<ul style="list-style-type: none"> <li>• Treat injuries</li> <li>• Clean delicate objects by making tiny bubbles that loosen dirt when the burst.</li> </ul>
<b>Echo</b>	A reflected sound

<b>Echolocation</b>	Used by animals (bats, dolphins, etc.) to find their way around/find prey.
<b>Sonar</b>	Pulse of ultrasound is given off and reflected by the sea bed. It is then detected by sonar equipment to find the depth.

### 5. Comparing Waves

<b>Longitudinal Waves</b>	Particles vibrate in same direction wave is moving.
<b>Transverse Waves</b>	Particles vibrate at right angles to direction wave is moving.

#### Transverse Wave Diagram



<b>Superposition</b>	As waves pass through each other their effects add up or cancel out.
<b>Superposition Diagram</b>	<p>The diagram illustrates two types of wave superposition. The top part shows constructive interference where two waves in phase add together to form a larger wave. The bottom part shows destructive interference where two waves out of phase cancel each other out, resulting in a flat line.</p>

#### Extra - Read/watch/do :-

<https://www.bbc.co.uk/bitesize/topics/zm9mxbk/articles/z38m7yc>

<https://app.senecalearning.com/classroom/courses/419c7523-d408-4bc7-9b96-f7f12abdaca6/section/ce7bdb2a-0867-4e76-9c4a-1e42641e76e9/session>

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## 8A Food and Nutrition

### 1. Nutrients

<b>Diet</b>	The food that you eat- provides the raw materials your body needs for energy.
<b>Nutrients</b>	Food substances that provide the raw materials- carbohydrates, fats, proteins, vitamins, minerals
<b>Carbohydrates</b>	Starch and sugars
<b>Fats</b>	Liquid fats are oils. Fats and oils are called lipids.
<b>Fibre</b>	Made of plant cell walls- not used by the body. Helps food move through the intestines and stops them getting blocked.
<b>Uses of Water</b>	<ul style="list-style-type: none"> <li>•a lubricant</li> <li>•dissolves substances to be carried around body</li> <li>•fills up cells, holding shape</li> <li>•sweat to cool you down</li> </ul>
<b>Food Labels</b>	Show the amounts of different nutrients in food.
<b>Starch Food Test</b>	Add 2 drops of iodine. If it turns <b>blue-black</b> starch is present.
<b>Protein Food Test</b>	Add 5 drops of biuret solution. If it turns <b>purple</b> protein is present.
<b>Fat Food Test</b>	Rub on some white paper and hold up to the light. fats will leave a greasy mark

### 2. Uses of Nutrients

<b>Uses of Carbohydrates</b>	The body's main source of energy. <i>Bread, potatoes, pasta</i>
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<b>Uses of Fats</b>	Another source of energy that is stored in your body. Some is stored under the skin to insulate the body. <i>Dairy products, fried food</i>
<b>Maintaining Mass</b>	The amount of fuel you use needs to be balanced by the amount you eat.
<b>Kilojoules (kJ)</b>	The units for measuring the energy in food.
<b>Respiration</b>	The process that releases energy from food.
<b>Energy Needs</b>	Depends on age, sex and how active you are.
<b>Uses of Proteins</b>	Make new cells allowing us to grow and repair our bodies. <i>Meat, fish, cheese, beans, milk</i>
<b>Uses of Vitamins and Minerals</b>	Used in small amounts to maintain health.
<b>Vitamin A</b>	Needed for healthy skin and eyes.
<b>Vitamin C</b>	Helps cells in tissues stick together properly.
<b>Calcium</b>	Needed to make bones.
<b>Iron</b>	Makes red blood cells.

### 3. Balanced Diets

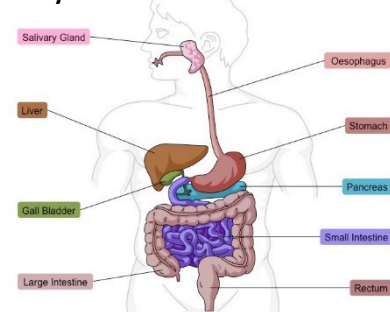
<b>Balanced Diets</b>	Eating a range of foods in the right amounts.
<b>Malnutrition</b>	Having too much / too little of a nutrient in your diet.
<b>Deficiency Disease</b>	Caused by lacking certain nutrients for a long time.
<b>Kwashiorkor</b>	Lack of protein causing a 'pot belly'.
<b>Night Blindness</b>	Lack of vitamin A.
<b>Scurvy</b>	Lack of vitamin C causing painful joints and bleeding gums.

<b>Rickets</b>	Lack of calcium / vitamin D causing bones not to form properly.
<b>Anaemia</b>	Lack of iron causing tiredness and shortness of breath.
<b>Starvation</b>	Lacking nearly all nutrients needed.
<b>Obesity</b>	Caused by eating food containing more energy than you need.
<b>Heart Attack</b>	Fat clogs arteries so little blood reaches the heart.
<b>Reference Intakes</b>	How much of each nutrient should be eaten in a day.

### 4. Digestion

<b>Digestion</b>	Turning large insoluble molecules into small soluble ones.
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#### Digestive System



<b>Mouth</b>	Teeth grind food and saliva helps digest food.
<b>Gullet</b>	(oesophagus / food pipe) Muscles contract pushing the food down.
<b>Stomach</b>	Food churned with acid.
<b>Small Intestine</b>	More digestive juices added- small digested molecules absorbed into body.
<b>Large Intestine</b>	Water is removed from undigested food- faeces formed.
<b>Rectum</b>	Stores faeces

<b>Anus</b>	Faeces pushed out body- egestion.
<b>Gut Bacteria</b>	Microorganisms needed to help digest food.
<b>Enzymes</b>	Substances that speed up the breaking down of large molecules- biological catalysts.

### 5. Absorption

<b>Digesting Starch</b>	<p>The diagram shows a large starch molecule (a chain of yellow hexagons) being acted upon by an enzyme (a blue shape). The starch molecule is broken down into smaller glucose molecules (individual yellow hexagons).</p>
<b>Blood</b>	Digested nutrients dissolve in the blood plasma and are carried around the body to cells.
<b>Diffusion</b>	Movement of particles from an area of high concentration to low concentration.
<b>Small Intestine Adaptations.</b>	Has lots of tiny finger-shaped villi to increase surface area. Each villus has a folded top that forms microvilli. Villi walls are one cell thick for easier diffusion.
<b>Alcohol</b>	Causes fewer digestive enzymes to be released and can damage villi.

*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.*

## 8B Plants and their Reproduction

### 1. Classification and Biodiversity

<b>Classification</b>	Sorting organisms into groups based on their characteristics.
<b>Kingdoms</b>	The five largest groups (each can be split into smaller groups)- <i>animals, fungi, protocists, prokaryotes and plants.</i>
<b>Plants</b>	Members of the plant kingdom have cellulose cell walls, are multicellular and make their own food.
<b>Scientific Name</b>	We give organisms scientific names using the names of the last two groups- the genus and the species.
<b>Scientific Name Advantages</b>	Scientific names are agreed around the world so there is no confusion. Some species have the same common name in different places.
<b>Biodiversity</b>	The number of difference species in an area.
<b>Advantages of High Biodiversity</b>	Recover faster from disasters and useful substances can be found (medicines).
<b>Extinct</b>	When an organism dies out completely.

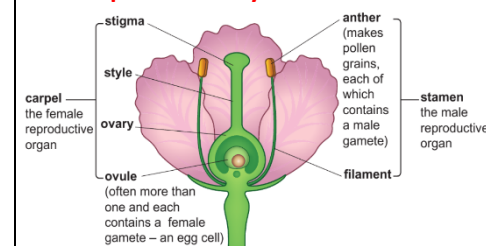
### 2. Types of Reproduction

<b>Sexual Reproduction</b>	Two organisms breeding to produce offspring.
<b>Hybrids</b>	The offspring of two different species- they are not fertile.
<b>Fertile</b>	Can produce offspring.
<b>Inherited Variation</b>	Characteristics inherited from parents (due to DNA).

<b>Gametes</b>	Sex cells
<b>Zygote</b>	The fertilised egg cell formed when the male and female gamete join.
<b>Asexual Reproduction</b>	Reproduction involving only one parent- produces offspring identical to the parent (clones).
<b>Runners</b>	An example of asexual reproduction used by strawberry plants. They spread over the ground and sprout roots to grow new identical plants.
<b>Tubers</b>	An example of asexual reproduction used by potato plants. They are underground stems (potatoes) that contain a store of food that can grow into a new plant.
<b>Using Asexual Reproduction</b>	Gardeners take cuttings of leaves/stems to grow new plants quickly and cheaply.

### 3. Pollination

#### Plant Reproductive System



<b>Pollen</b>	Male gamete that ripens inside the anthers.
<b>Pollination</b>	The pollen grain carried away and transferred to the stigmas of another plant can be by animals/wind/water/

<b>Plant Adaptations for Animal Pollination</b>	Brightly coloured petals, nice scent and nectar attract animals (mainly insects). The structure also makes it easier for animals to pick up / leave pollen grains.
<b>Plant Adaptations for Wind Pollination</b>	Pollen is smooth and light to float through air. large anthers and stigmas hang outside the flower to catch the wind.
<b>Self-Pollination</b>	Pollen grains from a plant land on the stigma of the same plant.
<b>Cross-Pollination</b>	Pollen transferred from one plant to another.

### 4. Fertilisation and Dispersal

<b>Pollen Tube</b>	Formed when a pollen grain reaches a stigma of the same species. It grows down to the ovule.
<b>Fertilisation</b>	The egg cell and the male gamete from the pollen grain join together to form a zygote.
<b>Cell Division</b>	The process by which the cell splits into two.
<b>Embryo</b>	Formed when the cells divide again and again.
<b>Seed</b>	The ovule becomes a seed. Inside the seed is the embryo and a food source.
<b>Seed Coat</b>	Hart outer coating of seed to protect it.
<b>Germinate</b>	The seed starts to grow.
<b>Fruit</b>	The ovary swells up and forms the fruit around the seed.
<b>Seed Dispersal</b>	The spreading of seeds away from the parent plant.

<b>Attracting Animals</b>	Fruits are fleshy, soft, juicy and taste good to attract animals for seed dispersal.
<b>Egested</b>	Seeds are passed out by animals in their faeces.
<b>Other Seed Dispersal Methods</b>	Wind, water and explosions- useful so that new plants aren't in competition with the parent plant.

### 5. Germination and Growth

<b>Resources</b>	What a plant needs to grow/germinate.
<b>Respiration</b>	The process of releasing energy from glucose.
<b>Respiration Word Equation</b> glucose + oxygen → carbon dioxide + water	
<b>Dormant</b>	Slow life processes but still alive- such as in a seed.
<b>Photosynthesis</b>	A process that plants use to make their own food.
<b>Photosynthesis Word Equation</b> carbon dioxide + water → glucose + oxygen	
<b>Starch</b>	Glucose is converted to starch to store it.
<b>Chloroplasts</b>	Traps light energy needed for photosynthesis.
<b>Interdependent</b>	Organisms that depend on one another.

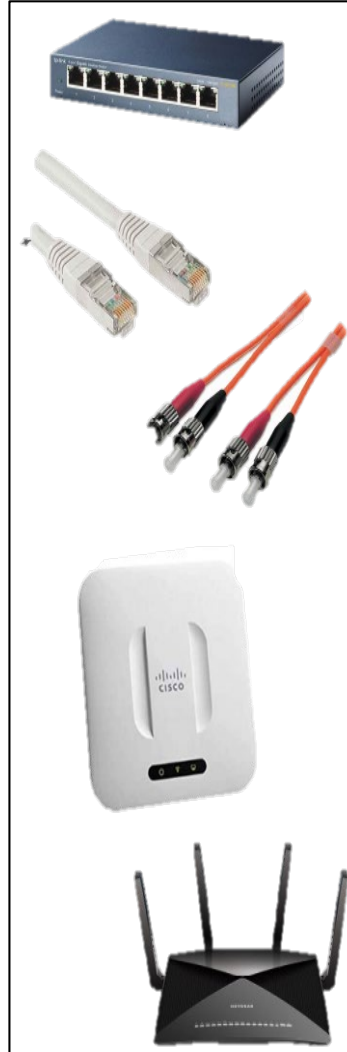
*Work through memorising the information – highlight each definition once you know it. When you have completed your highlighting completed the gap fill and activities on the second sheet to support your retrieval practice.*



# Computer Science Knowledge Organiser

## Year 7 Networks

Key Words	
Bandwidth	Amount of data that can be moved from one point to another in a given time.
Buffering	Data arriving slower than 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**

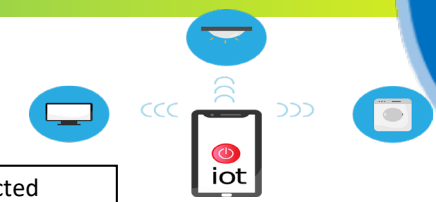
A computer network can be either wired or wireless.

- 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

**Server**—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

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

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

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.

**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.

### Operators

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

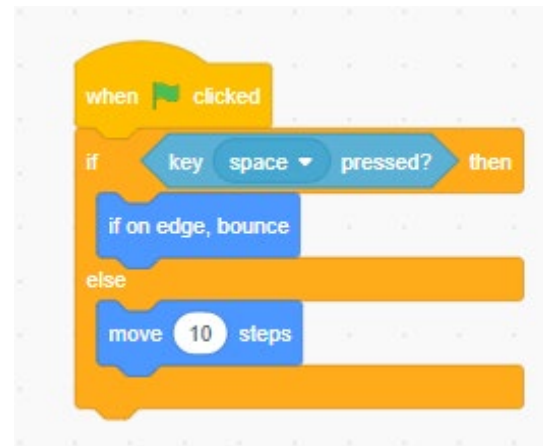
**Variables** are used to store data for use in a program. They can store lots of different types of data such as names and scores.  
So set variable score to equal 0  
If I score a goal then increase variable by 1

**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.

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.





# Computer Science Knowledge Organiser



## DIGITAL SKILLS

### IMPACT OF TECHNOLOGY

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

**PASSWORDS**  
are like underpants



Never share them



Change them often



Keep them Private

#### 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/>

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

# Design and Technology . polymers

## Literacy / key words

Thermoforming polymer	Physical properties	Working properties
Acrylic (PMMA)	Hard, brittle, shiny, available in a wide range of colours	Resists weather well, can be cut, folded and polished well, scratches easily, used for car lights, visors and baths
High impact polystyrene (HIPS)	Rigid, cheap, available in a lot of colours	Can be cut and vacuum formed easily, food safe but toxic when burned, used for CD cases and yoghurt pots
High density polythene (HDPE)	Stiff, strong, lightweight	Lightweight and flexible, can be recycled well, used for washing baskets, pipes and chairs
Thermosetting polymer	Physical properties	Working properties
Melamine formaldehyde	Hard, brittle	Food safe, printable surface, used for picnic wear
Polyester resin	A resin and a hardener, sets clear and smooth	Strong, heat resistant and good insulator, used as waterproofing and for encapsulating items
Urea formaldehyde	Smooth finish, limited colours	Heat resistant, hard, brittle and easily injection moulded, used for electrical fittings

## ACCESSFM

- **Aesthetics** – How visually appealing is the design?
- **Cost** Is the product affordable to make or buy?
- **Customer** Who is the target audience for this?
- **Environment** How eco-friendly or sustainable is it?
- **Safety** Is it safe for users to operate?
- **Size** Are the dimensions suitable for its purpose?
- **Function** Does it perform its intended function effectively?
- **Materials** Are the materials appropriate?

## CAD and CAM

Computer Aided Design (CAD) drawing allows products to be manufactured using Computer Aided Manufacture (CAM) Computer aided manufacture is very fast and accurate and requires less human intervention.

### CAD

Techsoft 2d design



### CAM

Laser cutter

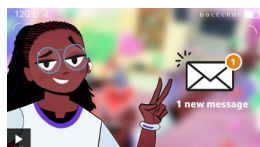


## Extra - Read/watch/do

### Watch:

the problems with plastics video

<https://www.bbc.co.uk/bitesize/articles/z4d62v4>



You will be assessed on

- Your knowledge of polymers
- Your ability to analyse exiting products
- Your completed product (ball bearing maze)

Links to curriculum

### Make

select from and use a wide and complex range of materials and components, taking into account their properties

# Design and Technology . Timbers

## Literacy / key words

Softwood	Physical s and Working properties	Manufactur ed board	Physical and Working properties
Larch	Pale coloured with a contrasting darker grain, knotty. Durable, easy to machine, high sap content gives it good water resistance, used for exterior building and flooring	Medium-density fibreboard (MDF)	Smooth, light brown, can be veneere. Smooth and easy to finish, absorbs moisture so not suitable for outdoor use, used for kitchens and flat pack furniture
Pine	Pale coloured with aesthetically pleasing grain. Lightweight, easy to form, used for construction and decking	Plywood	Odd number of layers of veneer glued at 90 degree angles for strength, aesthetically pleasing outer layer Easy to cut and finish, can be stained or painted, used for shelving, construction and toys
Spruce	Pale cream with an even grain. Easy to form, takes stain colour well, used for construction and furniture	Chipboard	Compacted wood chips, laminated with a variety of coverings, end cuts are difficult to finish Strong but absorbent to water, used for veneered worktops and flooring
Hardwood	Physical properties and Working properties		
Ash	Pale coloured, narrow grain Flexible and good for steam bending, tough, used for sports equipment		
Teak	Teak is a durable, oily wood with a tight grain. It is moisture resistant, making it a good choice for outdoor use, eg outdoor furniture. It is also used in boat decks, chopping boards and flooring.		
Oak	Moderate-brown colour with unique and attractive grain markings Tough and durable, polishes well, used for quality furniture		



## Extra - Read/watch/do

**Watch:**  
FSC



<https://www.youtube.com/watch?v=HBScUXDIF90&t=2>

You will be assessed on

- Your knowledge of timbers.
- Your ability to evaluate a final product
- Your completed product (desk tidy)

Links to curriculum

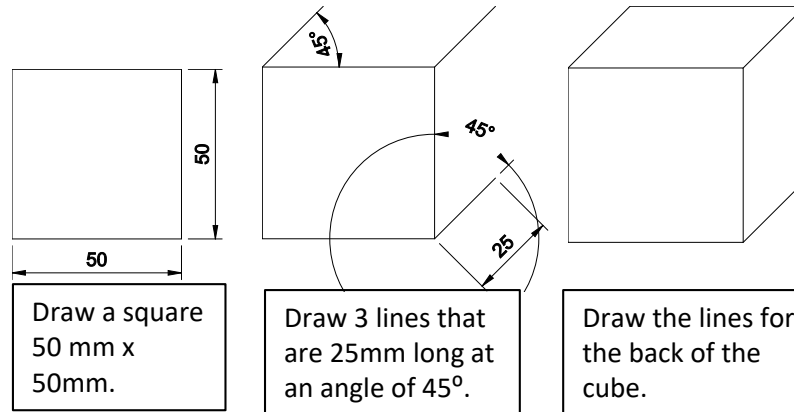
## Make

Select from and use specialist tools, techniques, processes, equipment and machinery precisely, including computer-aided manufacture.

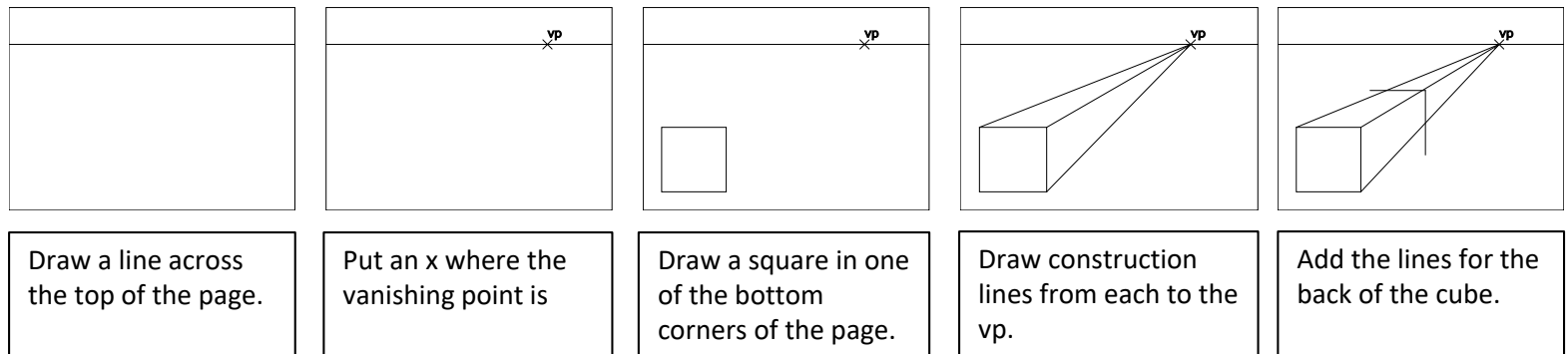


## Literacy / key words

### Oblique drawing

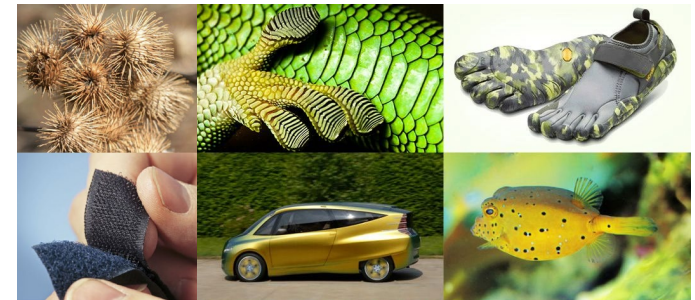


### One point perspective



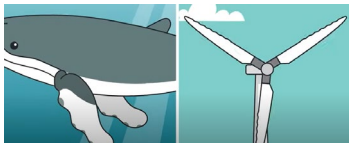
### Biomimicry

Biomimicry is when designers copy ideas from nature to solve problems. For example, **Velcro** was inspired by burrs sticking to animal fur, and **bullet trains** were shaped like a kingfisher's beak to reduce noise and drag. Nature's designs often lead to efficient, sustainable solutions.



## Extra - Read/watch/do

**Watch:**  
Biomimicry



<https://www.youtube.com/watch?v=V2GvQXvjhLA>

You will be assessed on

- Your ability to use a range of design/drawing techniques.
- Your ability to write a detailed specification.

Links to curriculum  
**Design**

use a variety of approaches [for example, biomimicry and user-centred design], to generate creative ideas and avoid stereotypical responses