MALTBYLEARNINGTRUST
Exceptional Experiences. Successful Lives.

MALTBY ACADEMY

YEAR 8 TERM 2 2024-2025

KNOWLEDGE ORGANISER

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MALTBY ACADEMY

OUR **KEY DRIVERS**

RESILIENCE

Learn from failures, work through problems and never give up. Be better today than you were yesterday.

ASPIRATION

Aim high and set yourself challenging goals both academically and personally. What does the future hold for you?

COMMUNITY

Accept support and offer it. Give something back to the Academy and the community.

RESPONSIBILITY

Be responsible for your actions, celebrate successes and learn from your failures. Do not make excuses.

CONFIDENCE

Don't be afraid to get things wrong. Believe in yourself and your abilities and step outside your comfort zone.

Contents

Introduction

Foundational Knowledge and Retrieval Practice

If we try and build a house on sand it will fall down, as the foundations are not secure and over time will disappear. That's a bit like what happens if your teacher tries to get you to understand complex ideas, but you haven't yet grasped the basics on which to connect the new information, and therefore you cannot build on it and develop what scientists call **schema** in your mind.

To support you in having foundational knowledge in each subject, your teachers have identified some key basic knowledge that they will teach you first, but then you will be asked to consolidate this by reviewing it at home and completing a quiz about it for homework - this process is called **retrieval.**

Research tells us that the process of **keep reviewing key chunks of material by reading it**, **rehearsing it, trying to recall it** and **checking you got it right** will help you to remember it longer term, so that you feel more confident in your lessons when teachers do refer to it.

Introduction

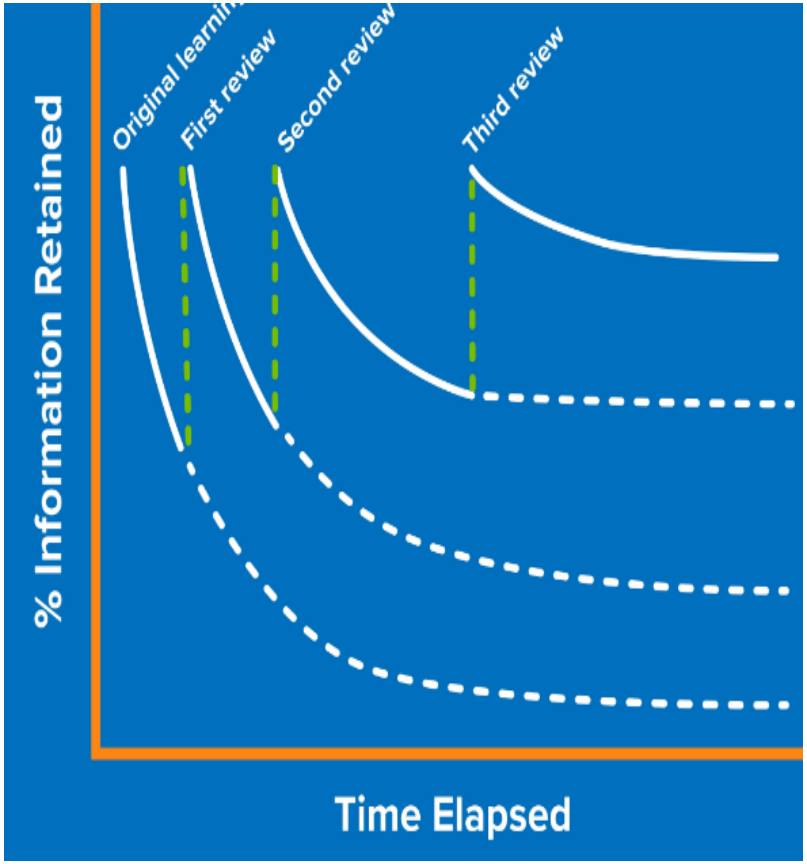
The Forgetting Curve

A psychologist called Hermann Ebbinghaus discovered that shortly after you have learned something, you quickly forget some of it. He represented this process with this' **forgetting curve'.**

He found however that if you reviewed that information at specific time points after having first learned it – the rate at which you forget can be reduced. He called this **'spaced practice'**

To help you to remember key information your teachers will do the following:

- Identify in lesson key terms or pieces of information that are important to learn.
- Tell you which bits of the subject knowledge organiser to review and recall at home.
- Set you a homework quiz to check what you can recall.
- In future quizzes include some questions already tested.
- Revisit key questions that most of the class struggled with.



English

Using this knowledge organiser:
Every **Week A** you will be given **ten pieces of vocabulary**.

Across this week, you will need to find a coherent definition for each piece of vocabulary and practice the spelling. This will be tested as part of your English lessons, across that week.
In **Week B**, you will use these same words to complete a short piece of **writing**. You will use the information on this sheet to support you.
At the end of the term, you will complete a project that utilises all you have learnt across this half term.

Short Stories through the Ages:

An opportunity to explore a wide range of perspectives, viewpoints and contexts, Short Stories Through the Ages covers a whole host of gripping tales.

From the tension and terror of The Tell-Tale Heart; the heartbreak and empathy we learn through The Yellow Wallpaper; the power and pressure felt in The Miner at Home; the shock and suspense in Lamb to the Slaughter to the thrill and awe of A Sound of Thunder, these short stories give us an in depth understanding into society and the individuals within it.

Week A/B 1:
1. Dreary
2. Ponder
3. Weary
4. Bleak
5. Surcease
6. Radiant
7. Wrought
8. Sorrow
9. Obeisance
10. Pallid

Week A/B 2:
1. Acute
2. Passion
3. Resemble
4. Sufficient
5. Vex
6. Mortal
7. Crevice
8. Unperceived
9. Instinct
10. Definitive

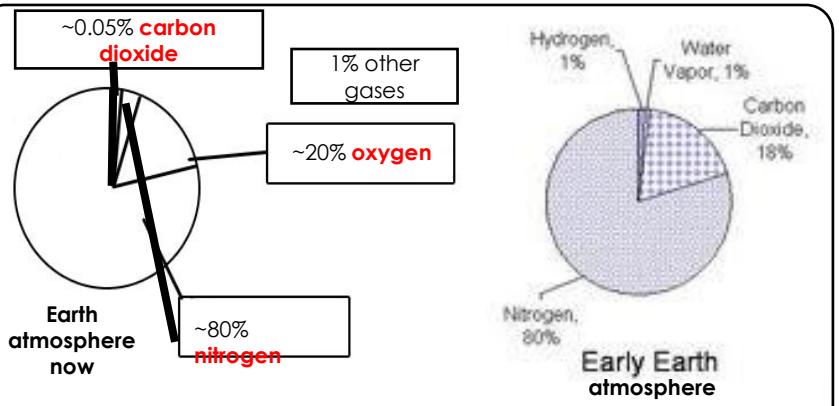
Week A/B 3:
1. Seldom
2. Ancestral
3. Felicity
4. Hysterical
5. Tendency
6. Distraught
7. Flamboyant
8. Provoke
9. Shouldering
10. Bulbous

Week A/B 4:
1. Amiable
2. Confidential
3. Ascertain
4. Conspicuous
5. Grudging
6. Discontented
7. Irritable
8. Shrewd
9. Indignation
10. Solemn

Week A/B 5:
1. Uneasy
2. Bewildered
3. Motionless
4. Dazed
5. Peculiar
6. Sloped
7. Consoling
8. Exasperated
9. Frantic
10. Nausea

Week A/B 6:
1. Quaver
2. Severe
3. Finicky
4. Foundations
5. Infinitesimally
6. Disproportion
7. Subtle
8. Delirium
9. Lunge
10. Wrenched

Science: Earth



Earth's atmosphere now compared to the Early Earth's atmosphere

- Early Earth's atmosphere had more **carbon dioxide** than Earth's atmosphere does now.
- Earth's atmosphere now has more **oxygen** than early earth.
- The amount of **nitrogen** has stayed fairly constant.

How the atmosphere has changed from 4.6 billion year ago:

Volcanoes = volcanoes cover the earth. These released **carbon dioxide** water **vapour** and nitrogen compounds into the air.

Oceans = when the earth **cooled** all the water vapour **condensed** to makes the oceans. Carbon dioxide levels **decreased** as this dissolves into the oceans.

Algae = because there was now **water** algae evolved.

Plants = algae evolved into plants.

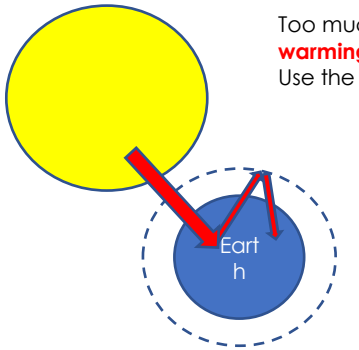
Algae and plants both do **photosynthesis** which massively decreased **carbon dioxide** levels and increased **oxygen** levels

Animals = because there is now **oxygen** in the air, animals were able to evolve. They do the process of **respiration**

Combustion = this is another word for **burning** This releases **carbon dioxide** into the air.

Separate these into the correct column below:
Car fumes, burning methane, deforestation, photosynthesis, dissolving in oceans, landfill sites, rice fields, grazing cattle.

Increases carbon dioxide levels	Decreases carbon dioxide levels
Car fumes Burning methane Deforestation Landfill Rice fields Grazing cattle	Photosynthesis Dissolving in oceans

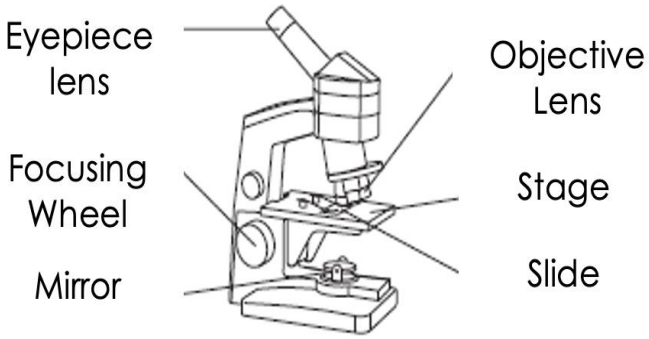


Too much greenhouse gases in the atmosphere causes **global warming**
Use the picture to explain what this is, and what it causes.

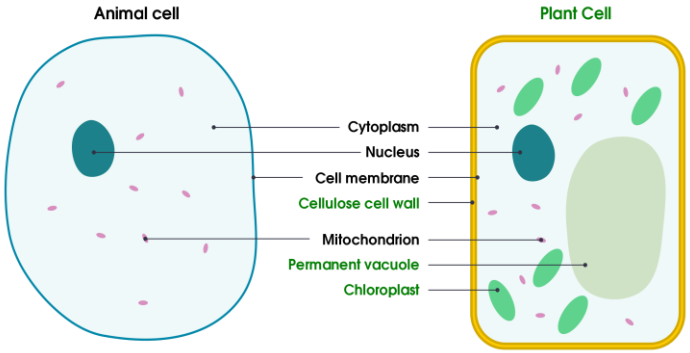
The suns heat **energy** hits the Earth.
Some of it is **absorbed** and some of it is **reflected** out to space.
The layer of greenhouse gases **traps** this heat energy increasing the **temperature** of the earth.
This will **melt** the ice caps, causing **flooding,** habitat loss, **extinctions** and extreme **weather**

Science: Organisms

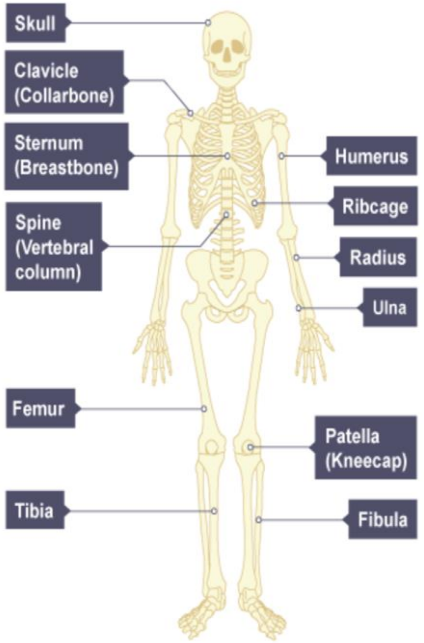
Parts of a Light Microscope



Parts of Cells



Human Skeleton



The skeleton is for protection, movement, support and making blood cells.

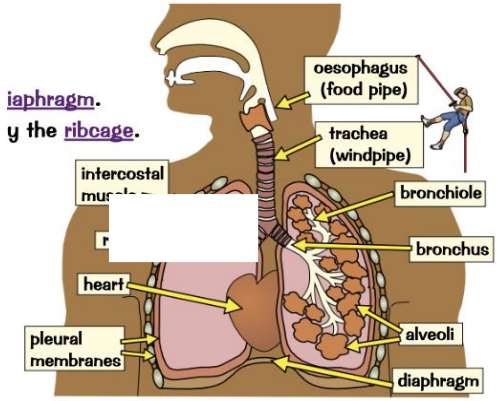
Cardiac muscle: only found in the heart. Contain cells that act as a pacemaker which makes the cardiac muscle contract and so the heart beats.
Smooth muscle: found in internal organs and blood vessels. Involuntary which means we don't think about using them. Smooth in appearance
Skeletal/striated muscle: attached to the skeleton by tendons. Voluntary, which means we do think about using them. They are used for movement and stability. Striated (stripy) in appearance.

Muscles work in antagonistic (opposite) pairs. When one is relaxed, the other is contacted.

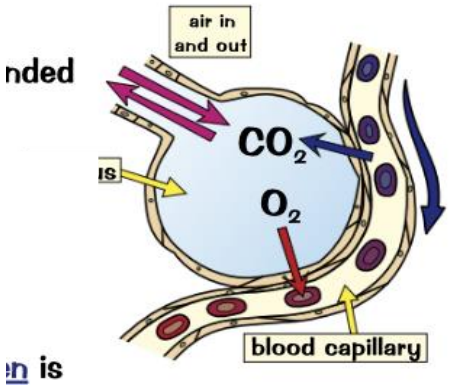
Organisation: Cell --> Tissue --> Organ --> Organ System --> Organ System

Science: Organisms

Respiratory System



Structure of Alveoli

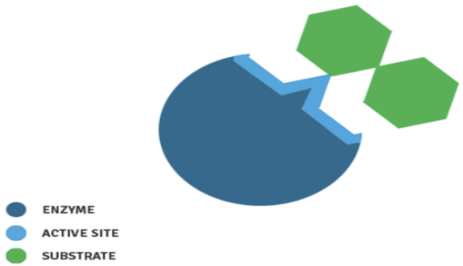


Each lung contains millions of alveoli (air sac ch are surrounded by a network of blood capillaries. This is where gas exchange happens. Oxygen diffuses into red blood cells from alveoli and carbon dioxide diffuses out of blood plasma into alveoli.

Balanced Diet: all the nutrients needed to stay healthy in the right proportions for that person.

Enzyme: biological catalyst (speed up chemical reactions) present in all cells and is a type of protein. Break down large food molecules (insoluble) into small food molecules (soluble).

Starch: iodine stays orange-brown if starch is not present. Iodine turns blue-black if starch is present.
Protein: Biuret solution stays blue if protein is not present. Biuret solution turns pink or purple if protein is present.
Lipids: Sudan III splits into two layers with the top layer being bright red if lipids are present. If not, then no lipids are present.
Sugars: Benedict's solution stays blue if no sugars are present/ Benedict's solution turns green (some sugar) orange (more sugar) or red (a lot of sugar). Benedict's must be heated with the food sample before.

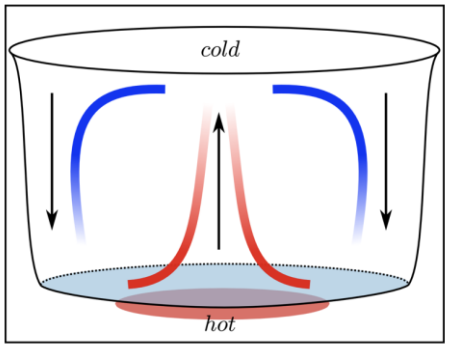


Science: Energy

- Thermal energy is transferred from hot to cold.
- Temperature and heat are **NOT** the same.
- Temperature is a measure of how hot or cold an object is in degrees Celsius (°C).
- Heat is the amount of thermal energy an object has in Joules (J).
- Heating an object changes the movement of the particles.
- In a solid the particles vibrate more.
- In a liquid and a gas, the particles move faster and vibrate more.
- The particles themselves **DO NOT** get hotter.

Conduction: Particles transfer energy by colliding with other particles when they vibrate.
Thermal conductor: material that allows heat to move through it quickly, e.g. metal.
Thermal insulator: material that only allows heat to move slowly through it, e.g. plastic, polystyrene, water.

Convection



- Type of thermal energy transfer in gases and liquids.
- Convection is the flow of heat through a fluid from places of higher temperature to places of lower temperature by movement of the fluid itself.
- Liquid and gas particles are free to move.
- Particles with more kinetic energy move from hotter regions to cooler regions, taking their thermal energy with them.

Work Done: a measure of energy output. Calculated by multiplying the force in Newtons (N) by distance (m).

Lever: a simple machine made of a rigid rod resting on a pivot. A force acting on an object can cause it to turn about the pivot.

History: British Empire

Write like an Historian

Empire	
Variations: Empires Imperial Imperialism	Definition: A group of countries or areas controlled by another power.
Use it in a sentence: The British Empire was the largest in human history, controlling over 25% of the Earth.	
Links to: Colonies Trade Empires Dominion Commonwealth Culture	Digging deeper: Which countries were part of the British Empire?

Colonialism	
Variations: Colony Colonies Colonial	Definition: When a country takes control of another land or people.
Use it in a sentence: The Scramble for Africa was the height of European colonialism in Africa.	
Links to: Expansion Imperialism Conquest Exploration	Digging deeper: What impact did colonialism have on India and Africa?

Independence	
Variations: Independent	Definition: To be free and not be controlled by others.
Use it in a sentence: India achieved its independence from Britain in 1947.	
Links to: Freedom Self-rule Liberation Uncontrolled	Digging deeper: What problems did India face after gaining its independence?

History: British Empire

Write like an Historian

Exploitation	
Variations: Exploit Exploiting Exploiter Exploited	Definition: To treat someone unfairly in order to benefit from their work.
Use it in a sentence: Africa's natural wealth and resources were exploited by European empires.	
Links to: Stealing Wealth Resources Trade Unfair Powerless	Digging deeper: In what ways did the British Empire seek to exploit its colonies?

Partition	
Variations: Partitioned Partitioning	Definition: To divide a country or state into parts.
Use it in a sentence: The British Raj was partitioned into India and Pakistan after it gained independence in 1947.	
Links to: Division Broken up Separated Splitting up Segregation	Digging deeper: What were the consequences of the Partition of India in 1947?

Oppression	
Variations: Oppress Oppressing Oppressor Oppressed	Definition: Cruelty or unjust treatment by one person or country to another.
Use it in a sentence: In order to keep control of its colonies, the British Empire ruled through oppression.	
Links to: Tyranny Abuse Mistreatment Unfairness Cruelty	Digging deeper: What examples of oppression by the British Empire have we studied?

History: Industrial Revolution Write like an Historian

Causes	
Variations: Bring about Give rise to Lead to Result in	Definition: A person or thing that gives rise to an action, phenomenon or condition.
Use it in a sentence: One cause of the Industrial Revolution was the increasing population.	
Links to: Population Empire Coal and Iron New Ideas Production Transport Links	Digging deeper: Why did the Industrial Revolution happen?

Transport Revolution	
Variations: Move Transfer Transportation Take Carry	Definition: The movement of people or goods from one place to another.
Use it in a sentence: The different methods of transportation needed improving due to the poor state of the roads.	
Links to: The Turnpike Trust – Roads Canals Railways	Digging deeper: Why did Britain need a better road system?

Inventions	
Variations: Origination Creation Innovation Devising Designing	Definition: The process of creating something that has never been made before.
Use it in a sentence: The different inventions created during the Industrial Revolution helped improve farming, manufacturing, transportation and communication.	
Links to: Key inventors - Alexander Graham Bell Michael Faraday Richard Arkwright James Watt Henry Bessemer	Digging deeper: Who was the greatest industrialist inventor and why?

History: Industrial Revolution Write like an Historian

Factories/Workhouses	
Variations: Works Yard Mill Shop floor Manufacturing facility	Definition: A building or group of buildings where goods are manufactured and assembled.
Use it in a sentence: In factories, children had to work with dangerous machinery and had to crawl underneath where adults could not reach.	
Links to: Children Poor conditions Crime and punishment Bow Street Runners Police	Digging deeper: How did factories benefit from using children?

Migration	
Variations: Moving Relocation Resettling	Definition: The movement of one person or people to another location, place of residence or country.
Use it in a sentence: During the Industrial Revolution there was mass migration from the countryside to cities, and people moving from Ireland to England for work.	
Links to: Coal seams Steel Iron Textiles Water Housing	Digging deeper: Why did people migrate during the Industrial Revolution?

Public Health	
Variations: Hygiene Sanitation Community health Health service Health care	Definition: The health of the population as a whole and subject to government regulation and support.
Use it in a sentence: Public health was a concern during the Industrial Revolution due to the horrendous state and smell of the River Thames that was labelled as the 'Great Stink' in 1858.	
Links to: The Great Stink Joseph Bazalgette John Snow	Digging deeper: Who had the biggest impact on public health between John Snow and Joseph Bazalgette?

Geography - Crime

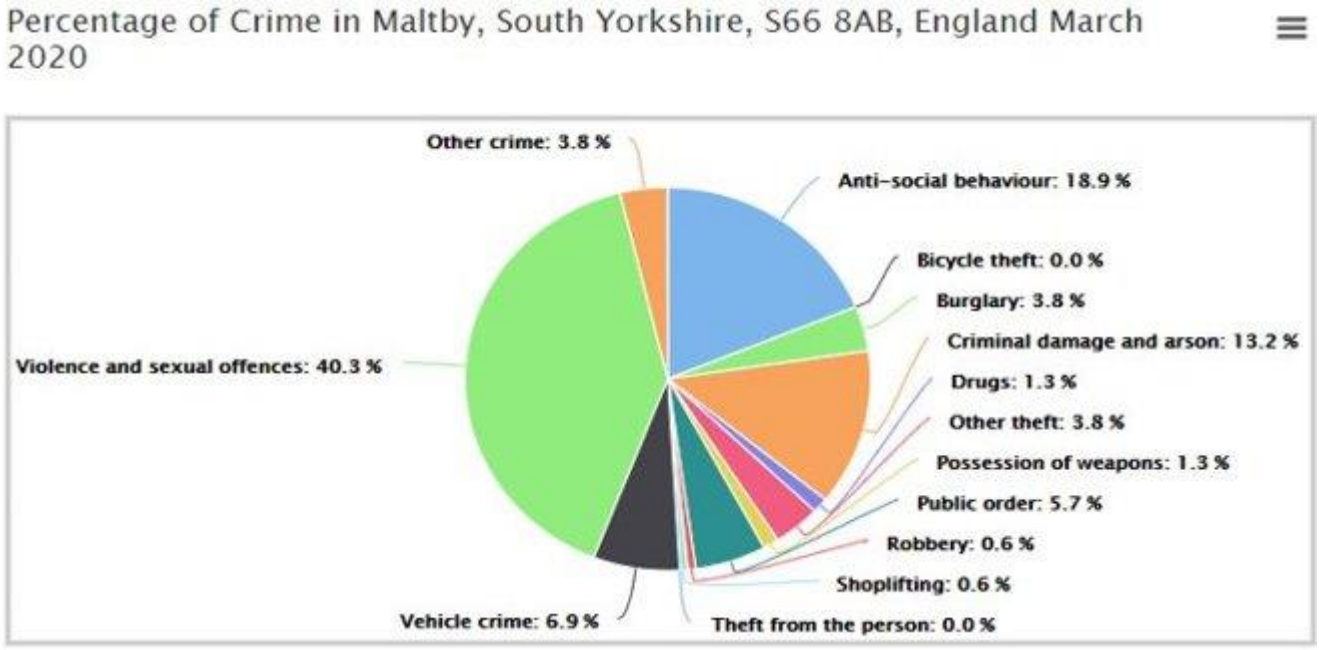
Strategies

CYBERCRIME – involves stealing confidential information via the internet – thieves can steal vast amounts of money.

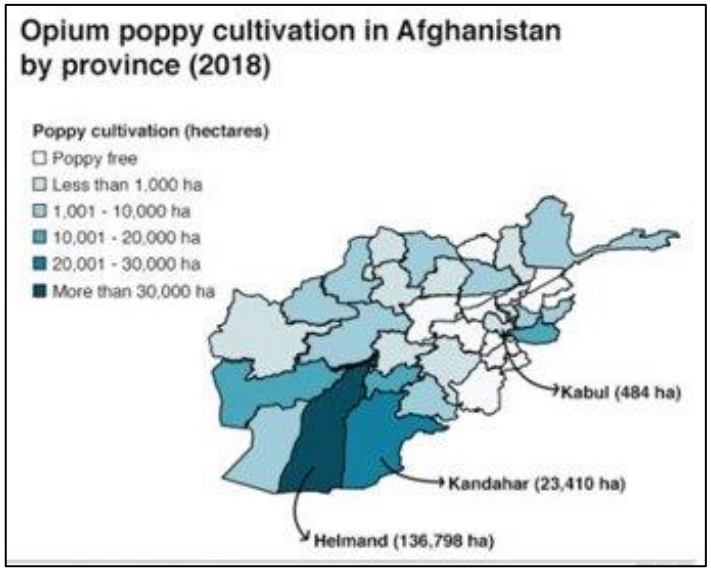
Social deprivation is the extent to which a person, or a community, lacks what they really need to have a good life, such as work, money, housing, and services. E.g. a person who has no employment, no money, poor quality housing and no access to training or education which might help them achieve more can be said to be socially deprived.

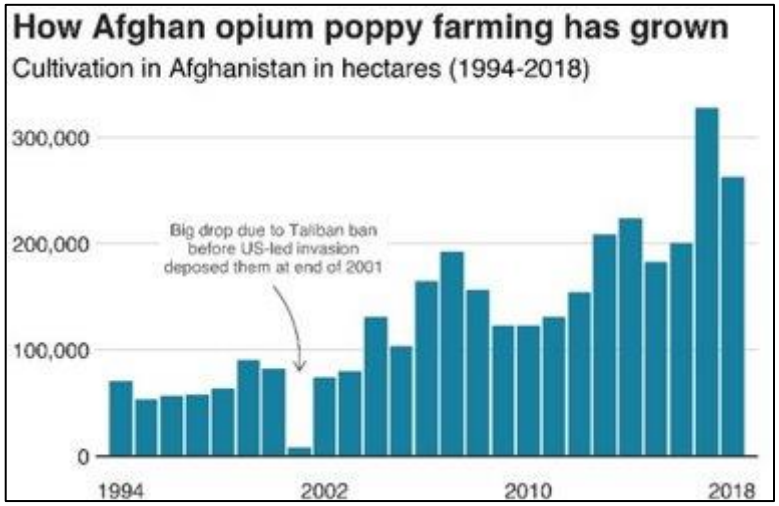
Ways to combat crime in Geography

DESIGNING AREAS & houses to make it more difficult for crimes to be committed.
ADDING WARNINGS and alarms so that people are more aware of when crimes are being committed.
TRACKING GOODS and people after a crime has been committed.
CREATING DEFENSIBLE SPACE and increasing surveillance of public and private places.



Geography - Crime





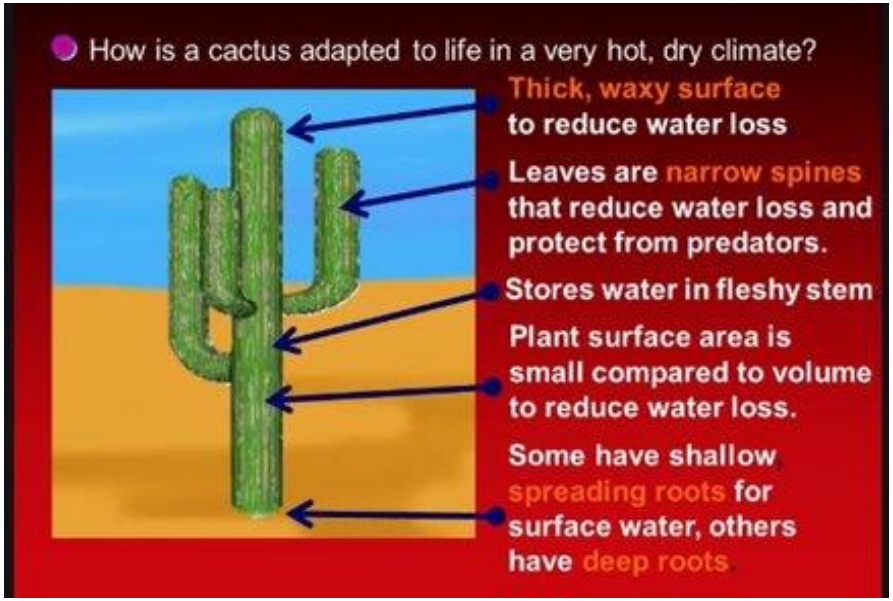
•**SOCIAL**: Something that affects someone's lifestyle. This could affect wealth, religion, buying habits, education, family & their own destiny.
•**ECONOMIC:** Something that affects the income of a country/its citizens.
•**ENVIRONMENTAL:** Something that affects a local environment – destruction of buildings, killing of crops/livestock.

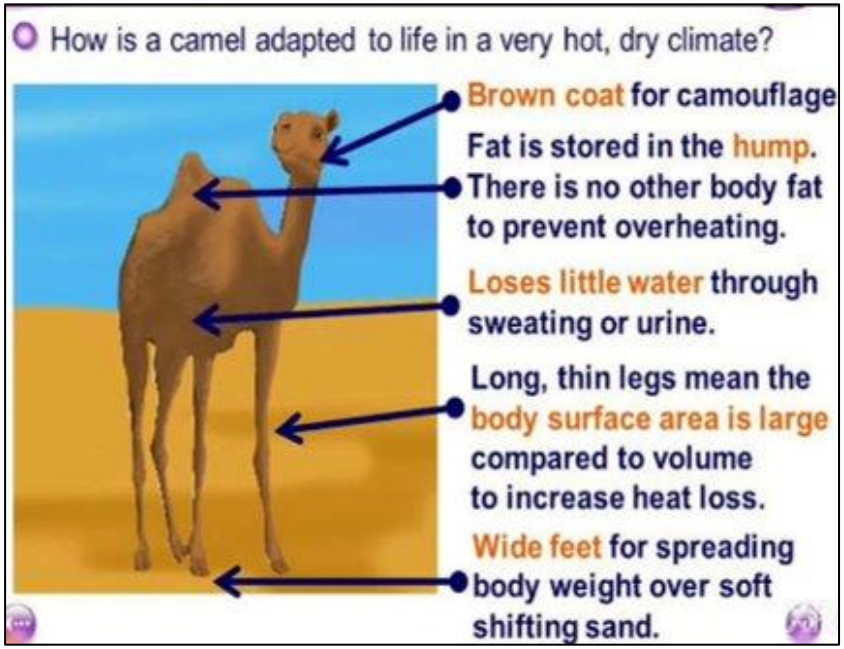
Geography - Deserts

Desertification is the process by which fertile land becomes desert, typically because of drought, deforestation, or inappropriate agriculture.

Development is a measure of how economically, socially, culturally or technologically advanced an area is.

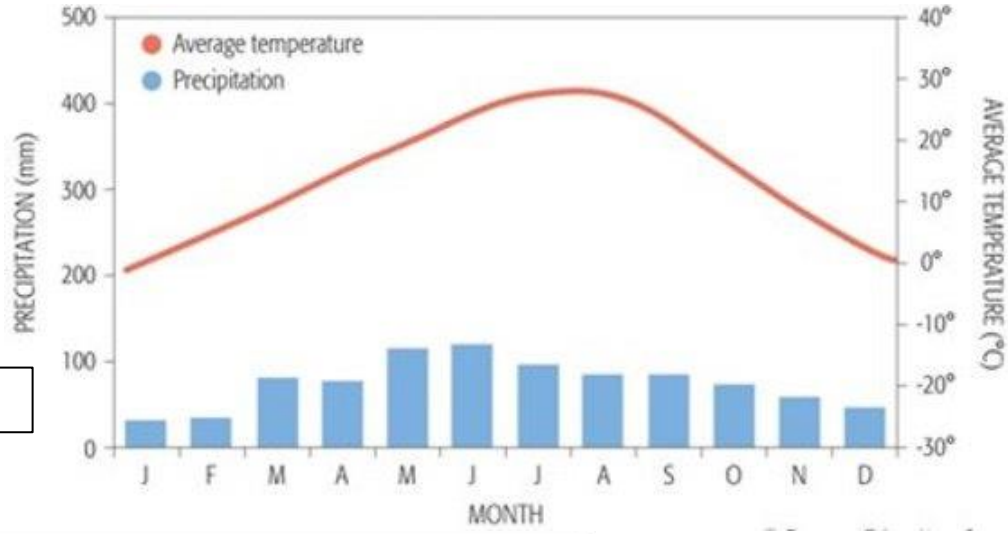
Adaptation Definition
An adaptation is a way an animal or plant changes to help it survive or live in its natural environment.





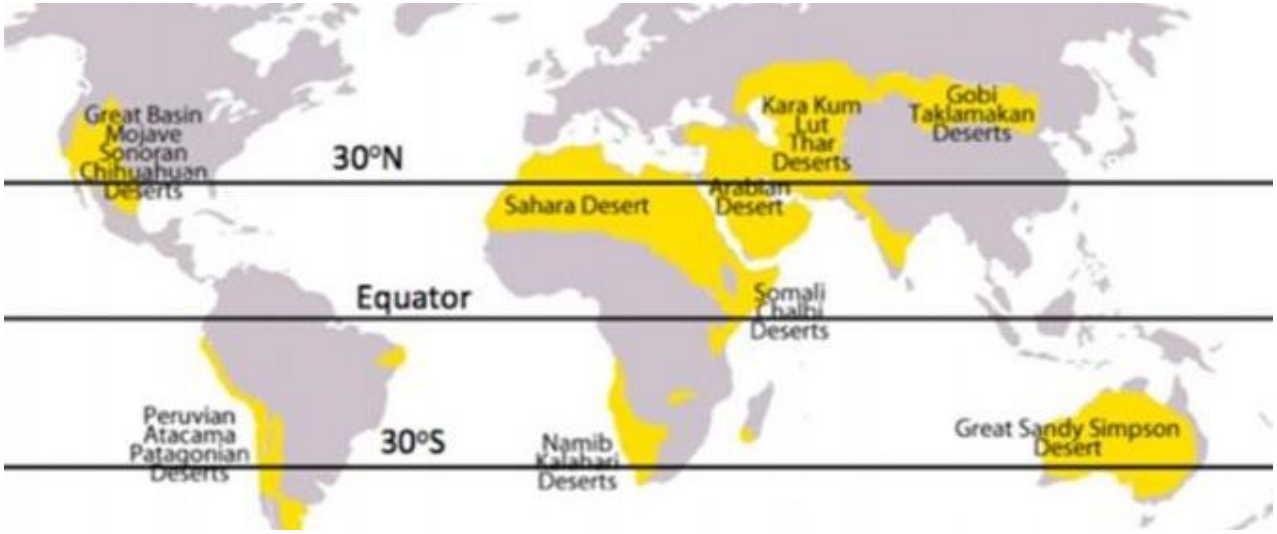
Geography - Deserts

Climate Graph



Climate

Climate Data for the Sahara Desert												
Month	**J**	**F**	**M**	**A**	**M**	**J**	**J**	**A**	**S**	**O**	**N**	**D**
Precipitation (mm)	5	5	4	3	2	0	0	1	0	3	2	6
Temperature (°C)	30	33	36	39	42	41	39	37	38	39	35	30



Desert Locations

Spanish – Food & Drinks

Key verbs	Food / drink		opinion	Justification	Justification
Para el desayuno tomo.. (for breakfast, I have..) **Normalmente tomo..** (I normally have..) **siempre tomo** (I always have) **me gusta tomar** (I like to have) **me encanta beber** (I love to drink)	**avena** **cereales con leche** **fruta** **huevos revueltos** **una manzana** **un plátano** **una tostada con:** **mantequilla** **miel** **mermelada** **un vaso de leche** **un café con leche** **un café solo** **un té** **zumo de naranja**	porridge cereal with milk fruit scrambled eggs an apple a banana toast with: butter honey jam a glass of milk a white coffee a black coffee a tea orange juice	Me gusta(n) Porque.. (I like it/them because..) Me encanta(n) Porque.. (I like it/them because..)	**el café me despierta** **la fruta es sana** **es muy sano/a** **es delicioso/a** **es rico/a** **es crujiente** **la miel es dulce** ***-las frutas son buenas para la salud-*** **la avena te da energía** **me da energía** **me llena**	coffee wakes me up fruit is healthy it is very healthy it's delicious it's tasty it's crunchy honey is sweet *-fruit is good for your health-* porridge gives you energy it gives me energy It fills me up
Para el almuerzo: (For lunch) **Para la merienda:** (For tea) **Para la cena:** (For dinner) **normalmente como…** (I normally eat…) **a veces como…** (sometimes I eat) **me encanta comer** (I love to eat…) **Mi plato favorito es…** My favourite dish is…	**arroz** **atún** **carne** **chucherías** **comida basura** **comida italiana** **curry de pollo** **ensalada verde** **galletas** **gambas fritas**	rice tuna meat sweets fast/junk food Italian food chicken curry green salad cookies fried prawns		**es (muy/bastante):** **sabroso/a** **delicioso/a** **rico/a** **conveniente** **nutritivo/a** **saludable** **picante** **salado/a** **dulce** **contiene:** **mucha proteína** **muchos nutrientes** **muchos minerales** **ingredientes tradicionales** **soy vegano/a** **soy vegetariano/a**	It is (very/quite): tasty delicious delicious convenient nutritious healthy spicy salty sweet it contains: a lot of protein a lot of nutrients a lot of minerals traditional ingredients I'm vegan I'm vegetarian

Spanish – Negatives

Key verbs	Food / drink		opinion	Justification	Justification
Para el desayuno tomo.. (for breakfast, I have..) **Normalmente tomo..** (I normally have..) **siempre tomo** (I always have) **me gusta tomar** (I like to have) **me encanta beber** (I love to drink)	**avena** **cereales con leche** **fruta** **huevos revueltos** **una manzana** **un plátano** **una tostada con:** **mantequilla** **miel** **mermelada** **un vaso de leche** **un café con leche** **un café solo** **un té** **zumo de naranja**	porridge cereal with milk fruit scrambled eggs an apple a banana toast with: butter honey jam a glass of milk a white coffee a black coffee a tea orange juice	No me gusta(n) Porque.. (I don't like it/them because..) No lo tomo porque (Idon't have it because) No me gusta nada Porque.. (I really don't like it/them because..)	**el café sabe mal** **el pan es asqueroso** **el sabor es muy soso** **es amargo y ácido** **la miel es demasiado dulce** **la fruta es aburrida** **los cereales son insípidos** **no me da energía** **no me llena** **sabe a perro mojado** **se queda pegado en mis dientes**	coffee tastes bad bread is disgusting the taste is very bland it is bitter and acidic honey is too sweet fruit is boring cereals have no taste it doesn't give me energy It doesn't fill me up It tastes like a wet dog It gets stuck in my teeth
Para el almuerzo: (For lunch) **Para la merienda:** (For tea) **Para la cena:** (For dinner) **normalmente como…** (I normally eat…) **a veces como…** (sometimes I eat) **me encanta comer** (I love to eat…) **Mi plato favorito es…** My favourite dish is…	**arroz** **atún** **carne** **chucherías** **comida basura** **comida italiana** **curry de pollo** **ensalada verde** **galletas** **gambas fritas**	rice tuna meat sweets fast/junk food Italian food chicken curry green salad cookies fried prawns		**es (demasiado):** **amargo/a** **grasiento/a** **insípido/a** **malsano/a** **salado/a** **seco/a** **picante** **dulce** **contiene mucha grasa** **es asqueroso/a** **me repugna** **me deja un sabor malo en la boca** **sabe a perro mojado** **soy alérgico/a a los mariscos** **soy alérgico/a a los cacahuetes**	it is (too): bitter fatty bland/tasteless unhealthy salty dry spicy sweet it contains a lot of fat it's disgusting it disgusts me it leaves a bad taste in my mouth it tastes like wet dog (idiom) I'm allergic to seafood I'm allergic to peanuts

Spanish – Healthy Eating

Key verbs	Infinitive	Quantity	Food
Es aconsejable it is advisable Es recomendable it is recommended Es esencial it is essential Es muy importante it is very important Es ideal it is ideal Se debe you must Tienes que you have to	comer / tomar to eat / have beber to drink consumir to consume evitar to avoid llevar una dieta variada to have a varied diet llevar una dieta equilibrada to have a balanced diet	mucho/a/os/as a lot of demasiado/a/os/as too much/many poco/a/os/as a little cinco porciones diarias de fruta y verdura 5 daily portions of fruit and veg	agua water comida nutritiva nutritious food comida sana healthy food comida basura junk food comida grasienta fatty food comida rápida fast food bebidas azucaradas sugary drinks Chucherías goodies azúcar sugar grasa fat
No es aconsejable it is not advisable No es recomendable it is not recommended No es esencial it is not essential No se debe you must not No tienes que you don't have to			

Computing

Iteration

Algorithms consist of steps that are carried out (performed) one after another. Sometimes an **algorithm** needs to **repeat** certain steps until told to stop or until a particular condition has been met.

Iteration is the process of repeating steps.

Data Types

String - holds alphanumeric data as text

Integer - holds whole numbers

Float - holds numbers with a decimal point

Boolean - holds either 'True' or 'False'

Writing error-free code

When writing **programs**, **code** should be as legible and error free as possible. **Debugging** helps keep **code** free of **errors** and documenting helps keep **code** clear enough to read.

Syntax errors

Syntax is the spelling and grammar of a **programming language**. In **programming**, a **syntax error** occurs when:

- there is a **spelling mistake.**
- there is a **grammatical mistake.**

Selection

When designing **programs**, there are often points where a **decision** must be made. This **decision** is known as **selection** and is implemented in **programming** using **IF statements**.

Operator	Meaning	Example	Evaluates to
==	equal to	7==7	True
!=	not equal to	6!=7	True
>	Greater than	7>6	True
<	Less than	5<8	True
>=	Greater than or equal to	6>=8	False
<=	Less than or equal to	7<=7	True

Variables

A **variable** is a location in **memory** in which you can temporarily store text or numbers. It is used like an empty box or the Memory function on a calculator. You can choose a name for the box (the "**variable name**") and change its contents in your **program.**

Functions

Functions are special keywords that do a specific job. **Functions** appear in purple.

print() and **input()** are examples of functions

```
print ("What is your name?")
firstname = input()
print ("Hello,",firstname)
```

Religious Studies

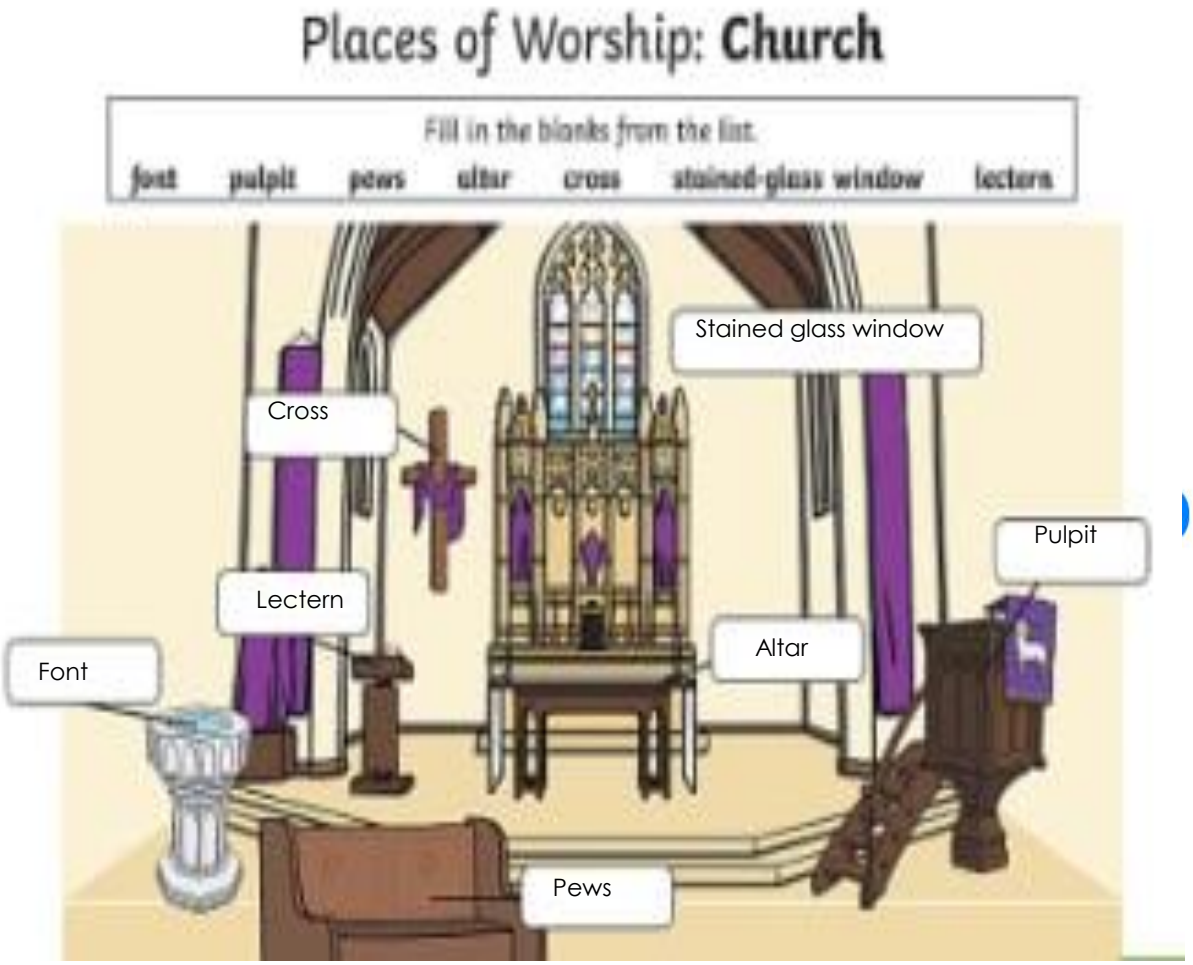
Key Words:
Church- A Christian place of worship
Mosque – A Muslim place of worship
Vihara- A Buddhist place of worship
Scared- Deeply special to religious believers
Worship- An act carried out to glorify or show respect for God

A **church** is a place where Christians assemble to **worship** God. Some are very old while others are very modern, any type of building can be used as a church. Areas in the church include the sanctuary, the most holy area; the nave, the main area where people sit; the altar, which is used for the ritual known as the Eucharist or Holy Communion. The pulpit is where the minister gives their sermon, and they uses the lectern to read the Bible out loud during services. Christian religions or denominations that use churches can range from Catholic, Protestant, Non-denominational, and other different religions. Catholic churches are normally elaborate in design and architecture.

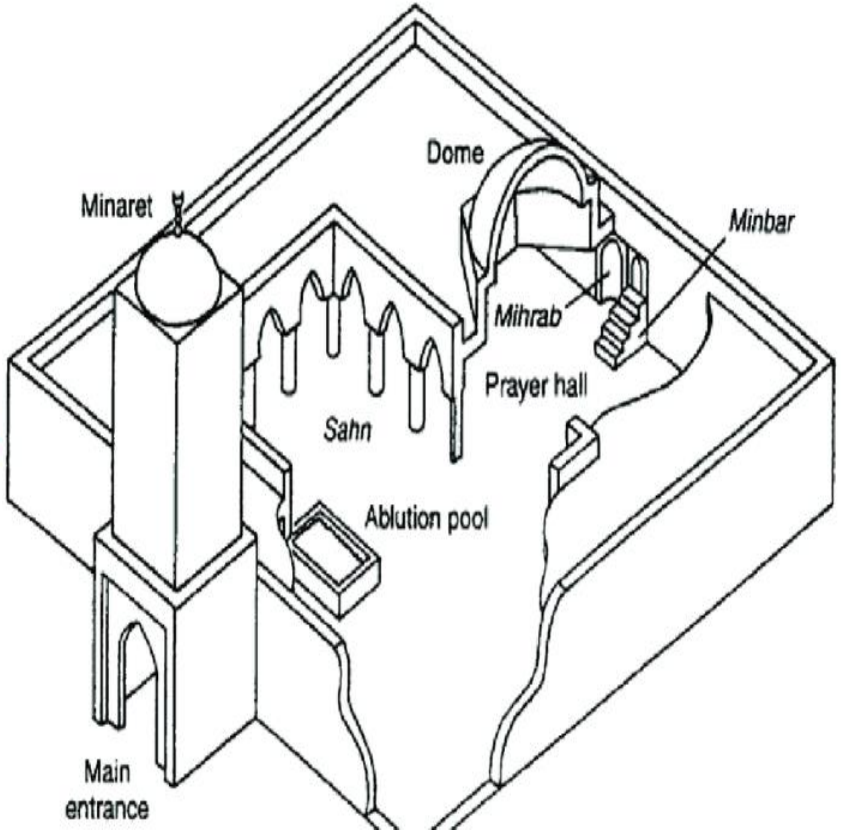
A mosque is a place of prayer for Muslims, or followers of the religion of Islam. The first **mosque** was the courtyard in the home of Muhammad, Islam's founder. Today many mosques are large buildings with beautiful towers and domes.
The inside of a mosque always includes an open space for **worship**. Rugs or mats may cover the floor. A nook in one wall, called a *mihrab*, shows the direction of Mecca, Islam's holiest city. To the right of the *mihrab* is a platform or small tower, called a *minbar*. Religious leaders climb steps up to the *minbar*, where they speak to the worshippers. Every mosque must also have a source of running water for washing. Muslims are required to wash before prayer.

Buddhist temples are known as **Viharas**. Viharas are important centers of Buddhist worship, they are often home to a community of Buddhist monks or nuns. Viharas can be very simple structures or be more elaborate, sometimes decorated in gold leaf like in the image opposite.
In addition to serving as places of worship and study, viharas may also serve as centers of social and cultural activity, hosting festivals and ceremonies.

Religious Studies



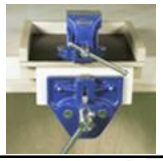
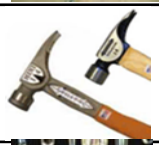
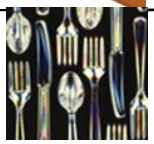
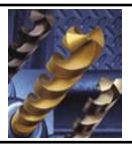
Inside a Mosque



Design Technology –Properties of Metals

Property
Hardness – Resistance to scratching, cutting and wear.
Elasticity – The ability to get back to its original shape after it has been misshapen.
Malleability – The ability to be easily pressed, spread and hammered into shapes.
Work hardness – When the structure of the metal alters as a result of consistent hammering or strain.
Ductility – The ability to be stretched without breaking.
Brittleness – It will break easily without bending.
Compressive strength – Very strong when under pressure.
Tensile strength – Very strong when stretched.
Toughness – Resistance to breaking, bending or deforming.

Design Technology-Types and Use of Materials

Metal type	Metal uses	Melting point	Example product
Mild steel - A ductile and malleable metal. Mild steel will rust quickly it is in frequent contact with water. Properties – iron mixed with 0.15-0.29% carbon.	Used as Nuts and bolts, Building girders, car, bodies, gates, etc.	1600°C	
Cast iron - Is a very strong when it is in compression and is also very brittle. Properties – It is re-melted pig iron with small quantities of other metals. It consists of 93% iron and 4% carbon plus other elements.	Used as car Brake discs, car cylinders, metalwork vices, manhole covers, machinery bases eg: The pillar drill.	1200°C	
High carbon steel / Tool steel - Is a very strong and very hard, resistant to abrasion. It is also known as 'high carbon' steel or 'medium' steel. Properties – Up to 1.5% carbon content.	Used for hand tools such as screwdrivers, hammers, chisels, saws, spring and garden tools.	1800°C	
Stainless steel - is very resistant to ware and water corrosion and rust. Properties – It is an alloy of iron with a typical 18% chromium 8% nickel and 8% magnesium content.	Used for kitchen sinks, cutlery, teapots, cookware and surgical instruments.	1400°C	
High speed steel - is a metal containing a high content of tungsten, chromium and vanadium. However it is very brittle but is also very resistant to wear.	Used for drill bits, lathe tools, milling cutters on milling machines. It is used where high speeds and high temperatures are created.	1400°C	

Art, Craft & Design

AO1	AO2	AO3	AO4
Develop ideas through investigations, demonstrating critical understanding of sources.	Refine work by exploring ideas, selecting and experimenting with appropriate media, materials, techniques and processes.	Record ideas, observations and insights relevant to intentions as work progresses.	Present a personal and meaningful response that realises intentions and demonstrates understanding of visual language.
25% of your project mark	25% of your project mark	25% of your project mark	25% of your project mark
Theme exploration. Mindmaps / Collected images. Facts & statistics. Interviews. Artist research & analysis. Art movements & time periods. Trips, museums & galleries.	Experimenting with different materials. Improvements. Testing ideas. Contact sheets with selections. Repeating ideas in materials. Developed ideas.	Observational drawings. Photography. Annotations. Ideas. Planning for tests or photoshoots. Thumbnail sketches.	Final outcomes. Final design plan explaining links to prior learning. Meaningful connections within the work.

Art, Craft & Design

Hundertwasser

Hundertwasser was an Austrian visual artist and architect who also worked in the field of environmental protection.
He stood out as an opponent of "a straight line" and any standardisation, expressing this concept in the field of building design and architecture.

Gaudi

Over Gaudí's nearly fifty years of independent practice, he concocted and realized some of the most imaginative architectural forms in history, all of them in his native Catalonia, which have since become synonymous with the region's identity

Phlegm

Sheffield based **Phlegm** is now a **street art** muralist who first developed his illustrations in **comics**. This **artist** manages to draw his environment into a narrative and spray paint it on large walls.

Art, Craft & Design

Surrealism Where recognisable objects, places, people are combined in unnatural or unusual ways

Architecture The art or practice of designing and building structures and especially habitable one

Graffiti Usually unlawful writing or drawing on a public surface

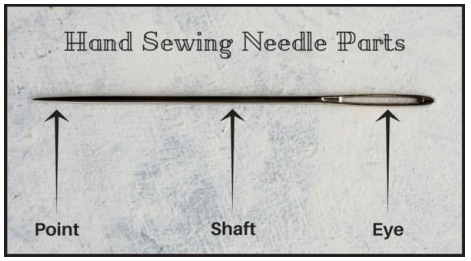
Embroidery The decorating of fabric with patterns or pictures sewn onto the material.

Cotton Cotton fabric is derived from the fibers surrounding the seeds of cotton plants, which emerge in a round, fluffy formation once the seeds are mature.

Embroidery hoop Keeps the tension of your fabric taut and even which helps to make your stitches look neater and stop the fabric puckering up in areas with no stitches

Needle threader A needle threader is **a device for helping to put thread through the eye of a needle**

Floss bobbin Small cards that you can wrap your threads around to keep them untangled



Performing Arts: Silent Movie

Skills and techniques

Mime – acting without words
Facial expressions – showing emotion through the face
Body language – showing emotion through the body
Still image – a still picture created physically
Slapstick Comedy - a style of humor involving exaggerated physical activity that exceeds the boundaries of normal physical comedy
Extreme Physicality – Over the top physical movement and Body Language
Placards - can be used to give the audience some extra factual information
Reaction shots - to show a character's reaction to someone or something that has occurred

Text related terminology

Stage directions – where actors are stood on stage
Atmosphere – the mood created
Key moments – main points in a play
Character relationships – how characters interact

How does an actor bring a character to life?

How can a performer enhance the atmosphere of a scene?

Questions for further thought

How can a performer create comedy?

What makes an engaging piece of drama?

Stage Positions

Upstage

Centre stage

Downstage

Audience

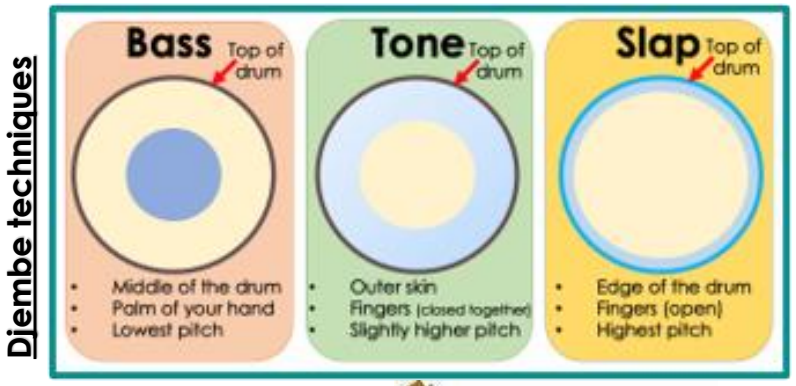
Damsel in distress
She always ends up being captured by the Vilain
Madly in love with the hero.

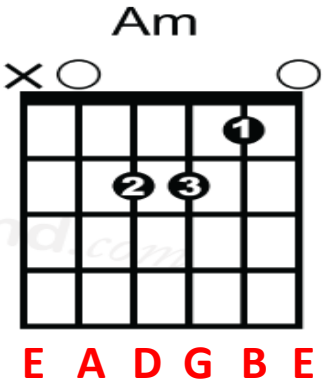
Hero
He is brave but not very smart
Very self-absorbed
Is madly in love with the Damsel

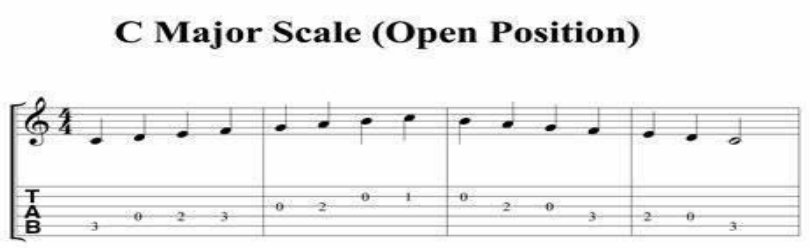
Vilain
Wants nothing more than to cause disruption
Evil minded

Side Kick
Side Kick to the Vilain
Very Dumb
Always makes mistakes

Music







Band Work

Key Words

Timing – When hits or notes are played at the correct point with other musicians

Notes – Single sounds played at a certain pitch

Chord – A group of notes played together

Beat – A pattern of hits on a drum or drumkit, played repeatedly

Lyrics – The word in a song separate from the tune/main melody

Melody – The organisation of notes to form a tune, often sang by a singer

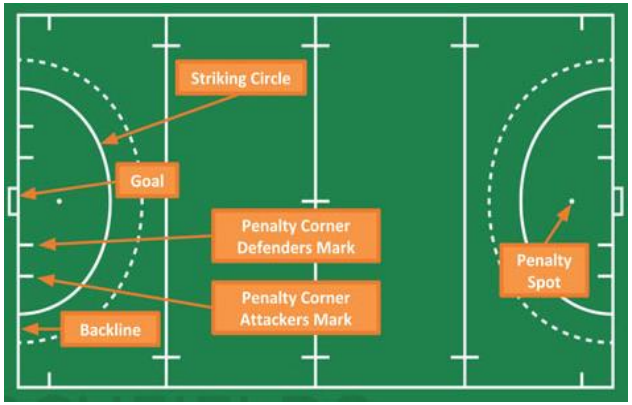
TAB – How melodies are notated for stringed instruments

Rehearsal – the act of practicing with a clear goal in mind

Count-in – The count of beats done by a band member before the song starts (usually a four-beat count)

PE-Hockey

Key vocabulary
Open Stick Dribbling – Use the flat side of the stick. Left hand at the top of stick and right hand halfway down.
Indian Dribbling – Stick rolls over the ball pushing it from right, then left.
Push Pass – Hands apart pushing action with no backswing. Use to help a player make the ball travel over a distance.
Centre pass – Taken at the start of a match and after a goal is scored.
Block tackle– Stick flat to the ground and slightly tilted forward to block a hockey ball.
Jab tackle – Jabbing motion to knock the ball away from the opponent.



Skills	
First touch	Controlling the ball as it comes to you
Passing	Moving the ball from one person to the next
Hit	Any contact with the ball using a swinging motion of the stick. This stroke is used to make long passes or take shots on goal.
Flat stick tackle	Tackle using the open face of the stick and with both hands on the stick
Dribble	To control the ball with short strokes of the stick while on the move, alternating the ball from the right side of the body to the left side of the body in order to elude defenders.
Jab	To poke continuously at the ball in an attempt to make the attacking player lose possession.
Marking	To poke continuously at the ball in an attempt to make the attacking player lose possession.

Rules	
Rule 1	You may only use the flat side of your stick.
Rule 2	10 field players plus a goalie play at one time.
Rule 3	The field hockey game lasts for two 30 minute halves.
Rule 4	Substitutions – the field player must exit the field at the 50, only then can the new player step onto the field.
Rule 5	The ball cannot go in the air, especially on free hits. This is judged by the discretion of the ref. The exception is a shot on goal, as long as there is not a player in the direct line of the ball and no one is in harm's way.
Rule 6	The ball cannot hit your feet.
Rule 7	You cannot raise your stick above your waste during regular play. If you are taking a free hit, it is up to the discretion of the ref.
Rule 8	You cannot tackle (go for the ball) from behind. You must face your opponent head on (shoulder to shoulder) if you are fighting for the ball.
Rule 9	No third party. It is one vs. one at all times. Once another player tries to go for the ball, a foul is called.

Fitness Components Required
Speed Power Stamina Co-ordination Balance Speed

PE-Football

Key Vocabulary	
Mark	Mark your opponent and win the ball
Intercept	Winning the ball by stopping the ball reaching the player.
Shoot	Push the ball up towards the ring to the net
Dodge	Movement to get away from your defender
Tackle	To win the ball off the opposition
Head	Use the head to clear or head towards goal
1 -2	Pass the ball to a player and get the ball back.

Skills	
Passing	Using the inside of your foot to move the ball towards one of your teams mates
Dribbling	Using the inside and outside of your foot to keep close control of the ball when moving around the pitch.
Defending	Marking an opponent to stop them getting space to pass or shoot.
Tackling	Intercepting the ball that is travelling from one opponent to the other or to dispose an opponent from the ball
Striking	Striking the ball into the net from an attacking play
Heading	Jumping up to win the ball in the air using your head to control the flight of the ball

Positions

1– Goalkeeper
2– Right Fullback
3– Left Fullback
4– Center Back
5– Center Back (or Sweeper, if used)
6– Defending/Holding Midfielder
7– Right Midfielder/Winger
8– Central/Box-to-Box Midfielder
9– Striker
10– Attacking Midfielder/Playmaker
11– Left Midfielder/Wingers

How to Score
Strike the ball into the bottom of the net without the goal keeping saving the shot.

Rules	
Rule 1	Offside is If any part of the head, body or feet is nearer to the opponents' goal line than both the ball and the defender (excluding the goal-keeper)
Rule 2	A throw in is won when the ball comes off the opposition team.
Rule 3	A penalty is won when a player is fouled in the 18-yard box.
Rule 4	When a goal is scored the ball goes back to the centre circle to be restarted. The team that has just conceded the gaol starts with it.
Rule 5	When starting with the ball in the centre circle, the ball must be played backwards.

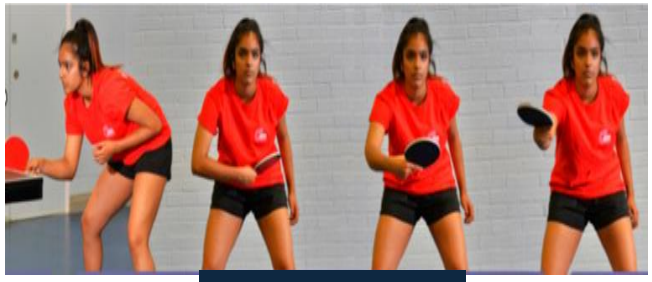
Fitness Components Required				
Speed	**Co-ordination**	**Stamina**	**Power**	**Flexibility**

PE-Table Tennis

Key Vocabulary	
Ready position	The position a person should stand in when preparing to hit the ball
Let	When the point is replayed
Receive	The person who receives the ball from the serve
Bat	The name given to the wooden bat that hits the ball
Serve	The way to start the game
Point	The name given when the player wins the rally
Net	The dividing net that separates the court
Rally	The ball being hit backwards and forwards between two players
Spin	Placing spin on the ball to make it harder to hit the ball
Grip	Holding the bat in the correct position

Rules	
Rule 1	Games are played to 11 points
Rule 2	Alternative serves every two points
Rule 3	Toss the ball up when serving
Rule 4	The serve can land anywhere in singles
Rule 5	In doubles the serve must go right side of the table to the other right side of table
Rules 6	A serve that touches the net and drops over the net is called a 'let'
Rules 7	Alternative hitting when playing doubles
Rules 8	The server must show the ball to the opposition

Skills	
Back hand drive	A shot where the player drives the ball
Forehand drive	A shot where the player drives the ball
Forehand push	A shot where the player pushes the ball
Backhand push	A shot where the player pushes the ball
Serve	The way a player starts the rally



Backhand shot

Forehand shot

Ready Position

Serve

Ready Position The ready position is a key starting point when fielding. It provides you with the best opportunity to catch and/or stop the ball and allows you to move into position quickly.

Fitness Components Required				
Speed	**Co-ordination**	**Stamina**	**Power**	**Flexibility**

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