



MALBY LEARNING TRUST

Exceptional Experiences. Successful Lives.



MALBY ACADEMY

**YEAR 8 TERM 2 2023-2024
KNOWLEDGE ORGANISER**

WWW.MALBYACADEMY.COM

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.

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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

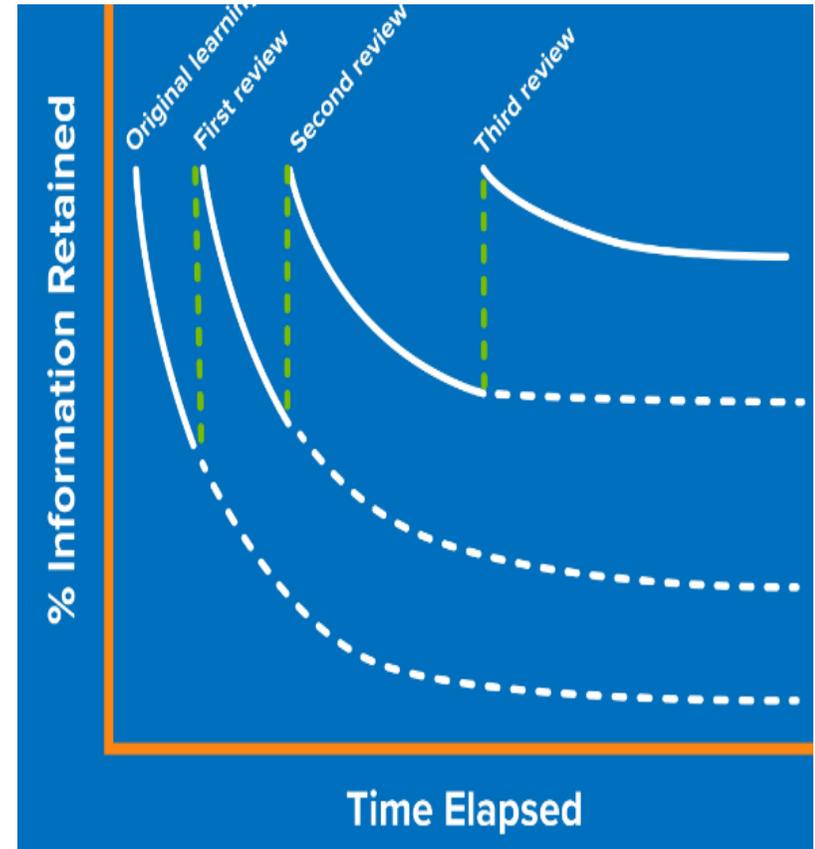
The Forgetting Curve

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: Short Stories Through the Ages

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.

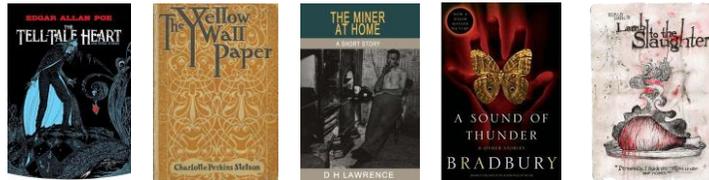
In **Week B**, you will use these same words to complete a short piece of **writing**. You will use the information on this sheet to support you.

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

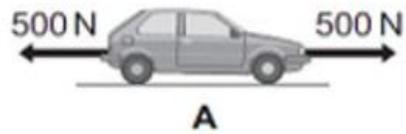
Week A/B 5:

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

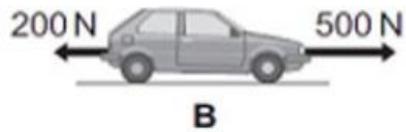
Week A/B 6:

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

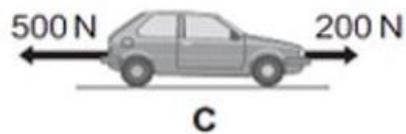
Science: Forces and Pressure



A: Forward and backward force are equal so the car is stationary or moving at a constant speed. Resultant force 0N



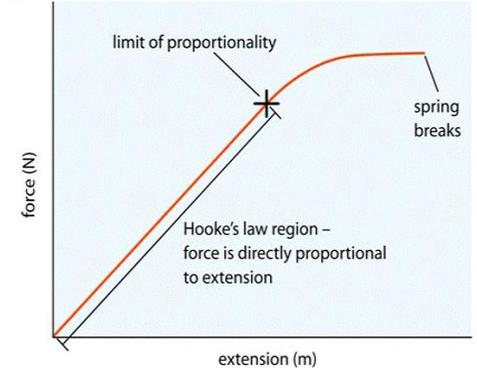
B: The forward force is bigger than the backward one so the car is accelerating. Resultant force 300N right.



C: The backward force is larger than the forward force so the car is decelerating. Resultant force 300 N left.

Force: something, that when applied to an object, changes the shape or motion of the object. It is measured in Newtons (N). It can be a push, pull or twist.

Newton's First Law: An object will remain at rest or move at a constant speed unless it is acted on by an unbalanced force.



- Weight:** downward force due to gravity.
- Upthrust:** upward force exerted on an object in fluid.
- Friction:** resistive force due to two objects in contact.
- Air resistance:** resistive force due to an object moving through air.
- Lift:** force that uses motion to make an object rise up.
- Drag:** all the forces that slow moving objects down (air resistance, friction and water resistance).

Pressure: a force applied over a given area.

$$\text{Pressure (N/m}^2\text{)} = \text{Force (N)} / \text{area (m}^2\text{)}$$

- Knives/ice-skates:** Force is applied over a small surface area, exerting a large pressure onto the surface.
- Tank/snow shoes:** Force is applied over a large area, exerting a small pressure onto the surface.

Hooke's Law: the deformation of an object is directly proportional to the deforming force.

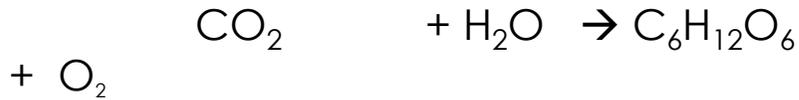
$$\text{Force (N)} = \text{spring constant (N/m)} \times \text{extension (m)}$$

F k e

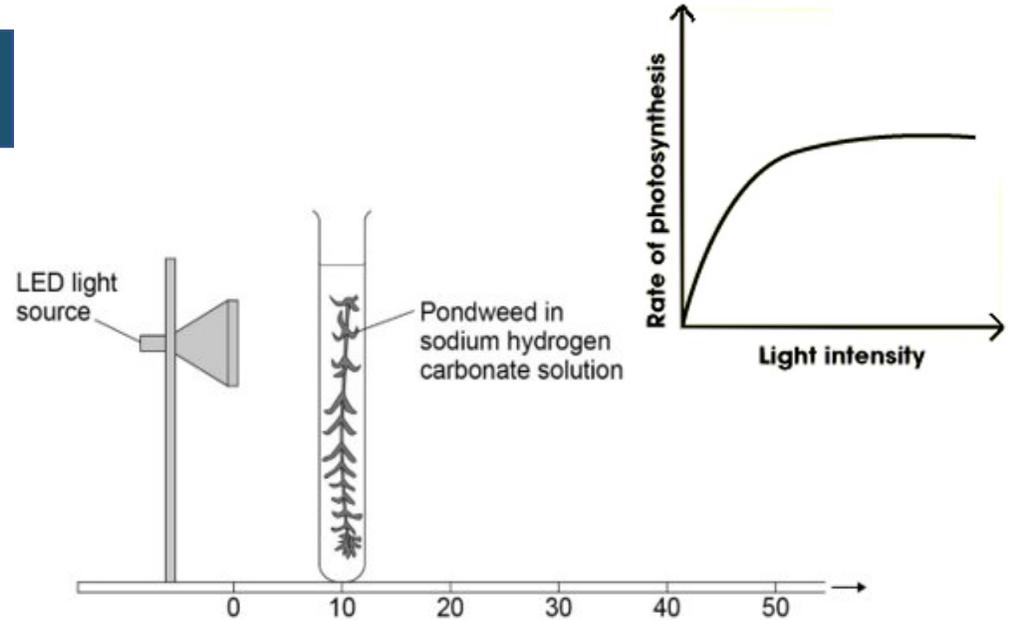
Science: Photosynthesis

- Plants and algae make a sugar called **glucose** which they use as food.
- They are known as **producers**.
- This process is known as **photosynthesis**.
- It is an **endothermic** reaction as it takes in energy from the surroundings.
- '**Photo**' means 'light' and '**synthesis**' means 'to make.'

Carbon dioxide + water → glucose + oxygen



- Carbon dioxide enters through **stomata** (small holes) on the underside of the leaf.
- Water is absorbed by the **roots**.
- Sunlight** powers this chemical reaction.
- Photosynthesis happens in the **chloroplasts**.
- Specifically in **chlorophyll** within them which makes plants green as it is a pigment.



This required practical investigates the affect **light intensity** has on the rate of **photosynthesis** by counting the **number of bubbles of oxygen gas**. The pondweed is moved 10cm away from the lamp and the bubbles are counted. This is **repeated** and a **mean** is calculated. The further the pondweed is from the lamp the less light intensity there is so less bubbles are counted and a decrease in the rate of photosynthesis.

The graph shows tat as light intensity increases so does the rate of photosynthesis as there is a **positive gradient**. However, the rate of photosynthesis stays the same, this is because a different factor is now **limiting photosynthesis**.

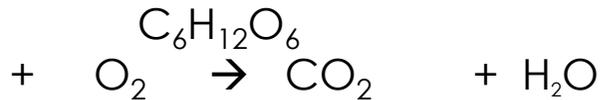
- Temperature
- Carbon dioxide concentration
- Light intensity
- Amount of chlorophyll

Science: Respiration

Misconception: Respiration is NOT breathing, it is a chemical reaction that transfers energy.

- All **organisms** carry out respiration all of the time.
- It happens in the **mitochondria** in the cells.
- Oxygen and glucose are needed.
- This is known as **aerobic** respiration.
- Aerobic means '**with oxygen.**'
- It is the opposite reaction of photosynthesis.

Glucose + oxygen → carbon dioxide + water



- When we exercise our muscles **contract** more.
- This requires more energy to be transferred.
- So the rate of aerobic respiration increases.
- When we do **strenuous** (really hard) exercise we respire **anaerobically**.
- Anaerobic means '**without oxygen**'.

Glucose → lactic acid

- Anaerobic respiration takes place in the **cytoplasm** of cells.
- Muscle **fatigue** (tiredness) and **cramps** are caused by the build up of **lactic acid**.
- Even after strenuous exercise you breath heavily.
- This is to repay the '**oxygen debt,**'
- The amount of oxygen needed to break down the lactic acid in your muscles.

- Plant roots in **waterlogged soil** respire anaerobically as there is no oxygen.
- **Yeast** in bread dough respire anaerobically as there is no oxygen.
- Yeast is a single-celled organism that exists in groups of millions of cells.
- It carries out a type of respiration called **fermentation**.

Glucose + oxygen → carbon dioxide + ethanol

- The carbon dioxide causes bread to **rise**.
- When baked the ethanol evaporates.
- The ethanol makes alcoholic drinks such as beer and wine **alcoholic**.

History: British Empire

Write like an Historian

Empire		Colonialism		Independence	
Variations: Empires Imperial Imperialism	Definition: A group of countries or areas controlled by another power.	Variations: Colony Colonies Colonial	Definition: When a country takes control of another land or people.	Variations: Independent	Definition: To be free and not be controlled by others.
Use it in a sentence: The British Empire was the largest in human history, controlling over 25% of the Earth.		Use it in a sentence: The Scramble for Africa was the height of European colonialism in Africa.		Use it in a sentence: India achieved its independence from Britain in 1947.	
Links to: Colonies Trade Empires Dominion Commonwealth Culture	Digging deeper: Which countries were part of the British Empire?	Links to: Expansion Imperialism Conquest Exploration	Digging deeper: What impact did colonialism have on India and Africa?	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		Partition		Oppression	
Variations: Exploit Exploiting Exploiter Exploited	Definition: To treat someone unfairly in order to benefit from their work.	Variations: Partitioned Partitioning	Definition: To divide a country or state into parts.	Variations: Oppress Oppressing Oppressor Oppressed	Definition: Cruelty or unjust treatment by one person or country to another.
Use it in a sentence: Africa's natural wealth and resources were exploited by European empires.		Use it in a sentence: The British Raj was partitioned into India and Pakistan after it gained independence in 1947.		Use it in a sentence: In order to keep control of its colonies, the British Empire ruled through oppression.	
Links to: Stealing Wealth Resources Trade Unfair Powerless	Digging deeper: In what ways did the British Empire seek to exploit its colonies?	Links to: Division Broken up Separated Splitting up Segregation	Digging deeper: What were the consequences of the Partition of India in 1947?	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		Transport Revolution		Inventions	
Variations: Bring about Give rise to Lead to Result in	Definition: A person or thing that gives rise to an action, phenomenon or condition.	Variations: Move Transfer Transportation Take Carry	Definition: The movement of people or goods from one place to another.	Variations: Origination Creation Innovation Devising Designing	Definition: The process of creating something that has never been made before.
Use it in a sentence: One cause of the Industrial Revolution was the increasing population.		Use it in a sentence: The different methods of transportation needed improving due to the poor state of the roads.		Use it in a sentence: The different inventions created during the Industrial Revolution helped improve farming, manufacturing, transportation and communication.	
Links to: Population Empire Coal and Iron New Ideas Production Transport Links	Digging deeper: Why did the Industrial Revolution happen?	Links to: The Turnpike Trust – Roads Canals Railways	Digging deeper: Why did Britain need a better road system?	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		Migration		Public Health	
Variations: Works Yard Mill Shop floor Manufacturing facility	Definition: A building or group of buildings where goods are manufactured and assembled.	Variations: Moving Relocation Resettling	Definition: The movement of one person or people to another location, place of residence or country.	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: In factories, children had to work with dangerous machinery and had to crawl underneath where adults could not reach.		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.		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: Children Poor conditions Crime and punishment Bow Street Runners Police	Digging deeper: How did factories benefit from using children?	Links to: Coal seams Steel Iron Textiles Water Housing	Digging deeper: Why did people migrate during the Industrial Revolution?	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

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.

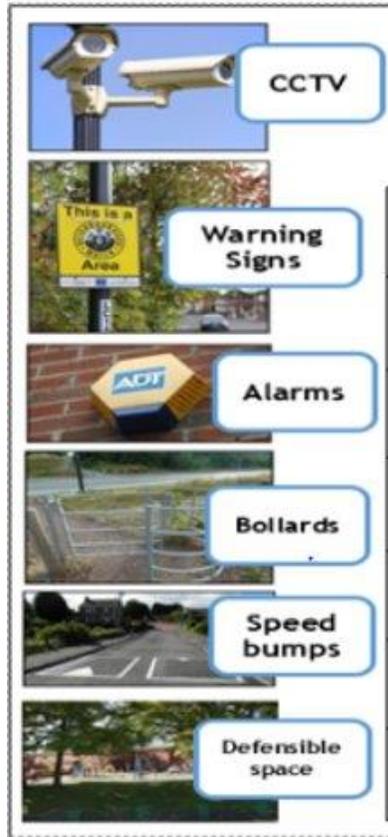
Ways to combat crime in Geography

DESIGNING AREAS & houses to make it more difficult for crimes to be committed.

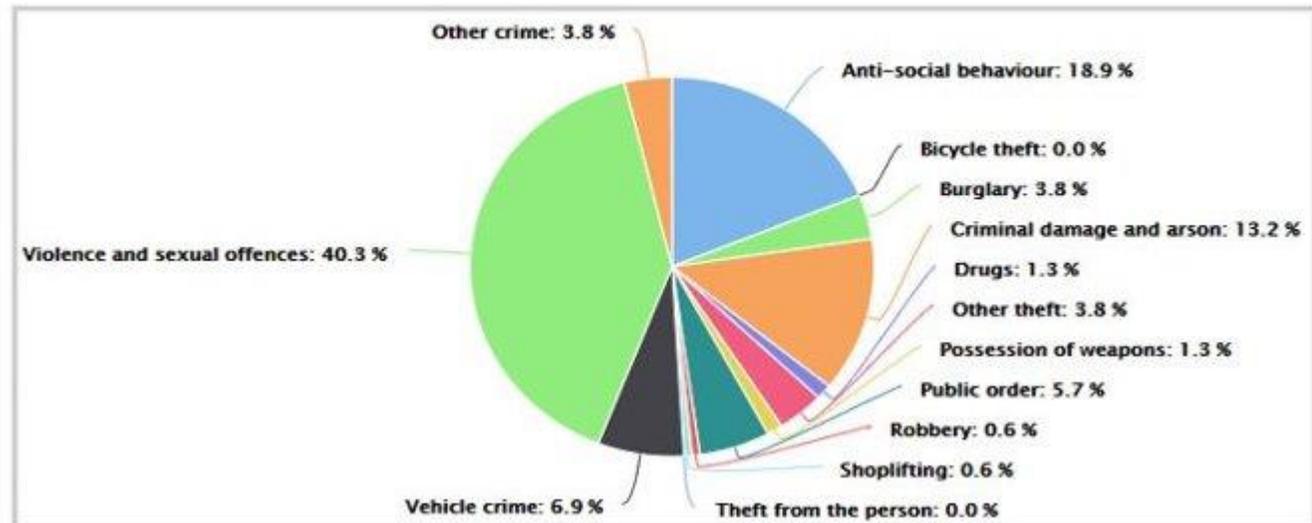
ADDING WARNINGS and alarms so that people are more aware of when crimes are being committed.

TRACKING GOODS and people after a crime has been committed.

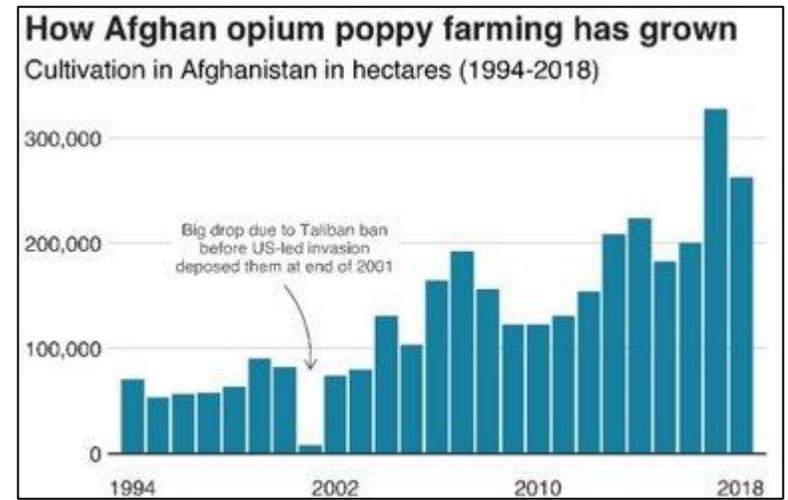
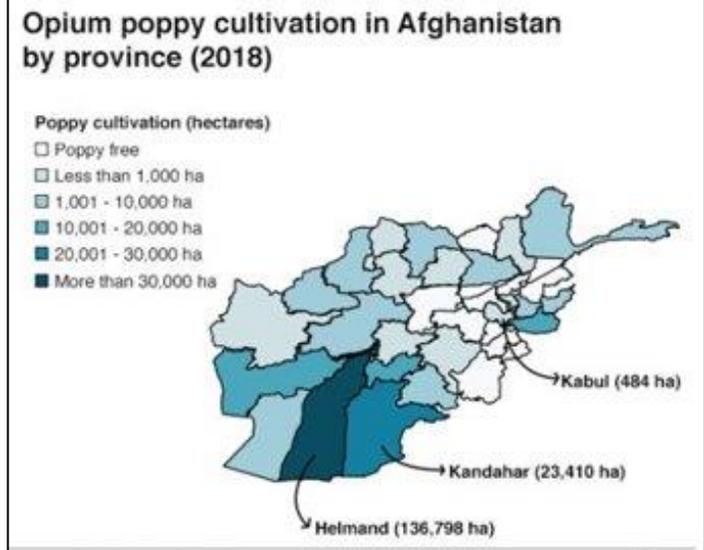
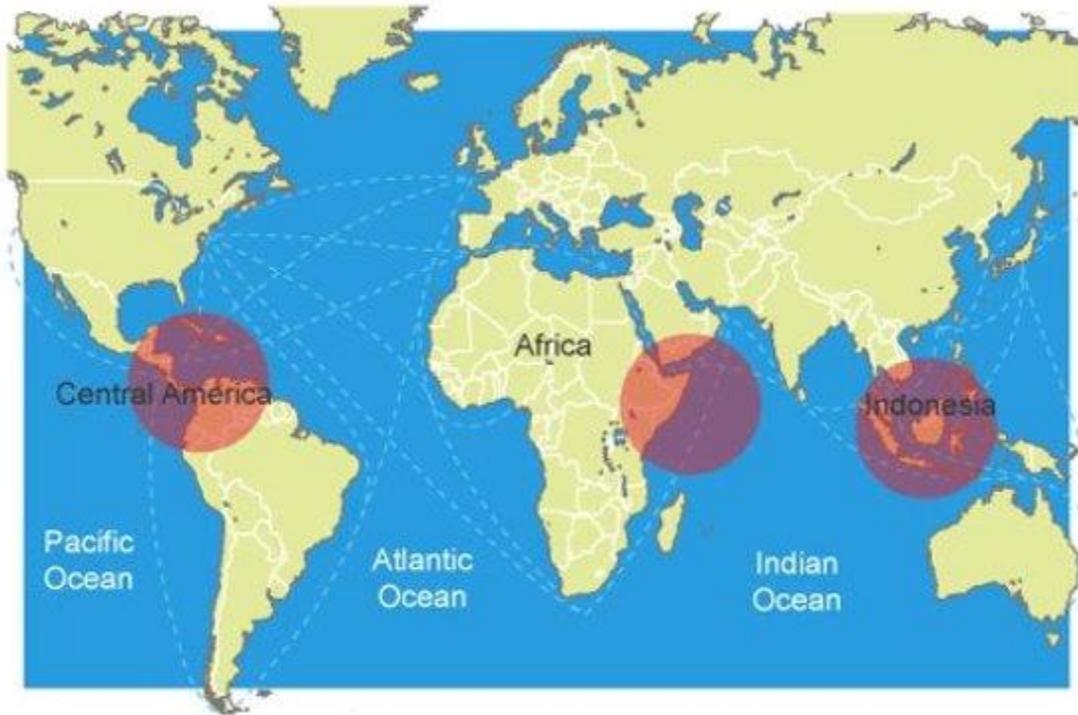
CREATING DEFENSIBLE SPACE and increasing surveillance of public and private places.



Percentage of Crime in Maltby, South Yorkshire, S66 8AB, England March 2020



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.

Keyword

1. Subsistence farming
2. Hunter-gatherers
3. Commercial farming
4. Irrigation

A type of farming where crops and/or livestock are sold to make a profit.

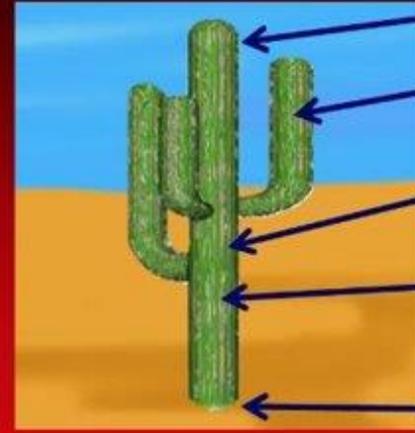
Artificial watering of the land.

Link the keyword and the definition and put in your books.

Farming to produce food for the farmer and their family only.

People who carry out a basic form of farming by hunting animals and gathering fruit and nuts.

How is a cactus adapted to life in a very hot, dry climate?



Thick, waxy surface to reduce water loss

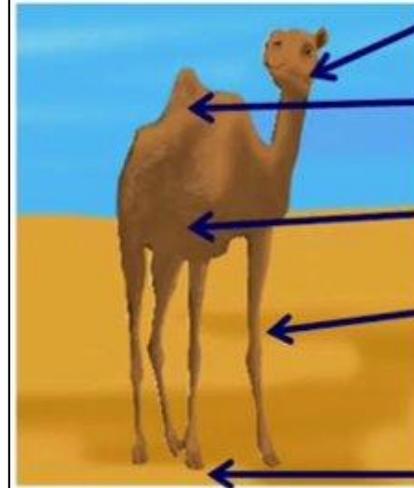
Leaves are narrow spines that reduce water loss and protect from predators.

Stores water in fleshy stem

Plant surface area is small compared to volume to reduce water loss.

Some have shallow spreading roots for surface water, others have deep roots

How is a camel adapted to life in a very hot, dry climate?



Brown coat for camouflage

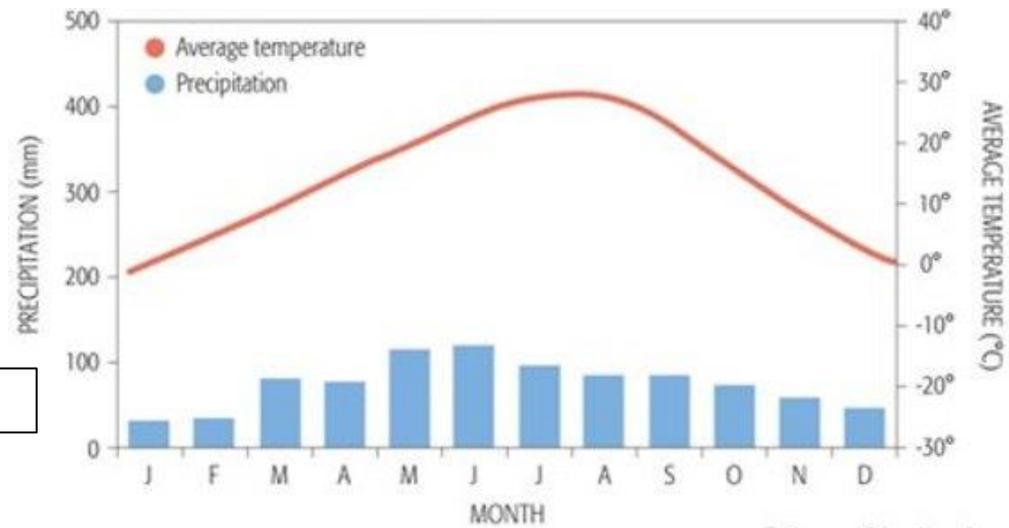
Fat is stored in the hump. There is no other body fat to prevent overheating.

Loses little water through sweating or urine.

Long, thin legs mean the body surface area is large compared to volume to increase heat loss.

Wide feet for spreading body weight over soft shifting sand.

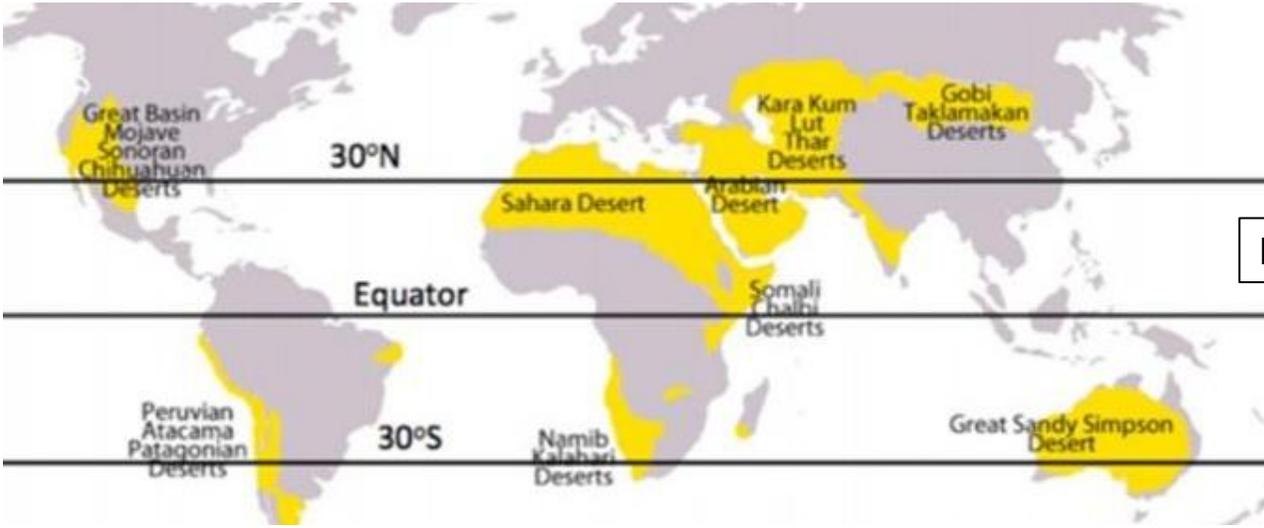
Geography - Deserts



Climate Graph

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

Climate



Desert Locations

Spanish – food & drinks

Key verbs	Food / drink		opinion	Justification	Justification
<p>Para el desayuno tomo.. (for breakfast, I have..) Normalmente tomo.. (I normally have..) siempre tomo (I always have)</p> <p>me gusta tomar (I like to have)</p> <p>me encanta beber (I love to drink)</p>	<p>avena cereales con leche fruta huevos revueltos una manzana un plátano una tostada con: mantequilla miel mermelada</p> <p>un vaso de leche un café con leche un café solo un té zumo de naranja</p>	<p>porridge cereal with milk fruit scrambled eggs an apple a banana toast with: butter honey jam</p> <p>a glass of milk a white coffee a black coffee a tea orange juice</p>	<p>Me gusta(n) Porque.. (I like it/them because..)</p> <p>Me encanta(n) Porque.. (I like it/them because..)</p>	<p>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</p> <p>es (muy/bastante): sabroso/a delicioso/a rico/a conveniente nutritivo/a saludable picante salado/a dulce</p> <p>contiene: mucha proteína muchos nutrientes muchos minerales ingredientes tradicionales</p> <p>soy vegano/a soy vegetariano/a</p>	<p>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</p> <p>It is (very/quite): tasty delicious delicious convenient nutritious healthy spicy salty sweet</p> <p>it contains: a lot of protein a lot of nutrients a lot of minerals traditional ingredients</p> <p>I'm vegan I'm vegetarian</p>
<p>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...</p>	<p>arroz atún carne chucherías comida basura comida italiana curry de pollo ensalada verde galletas gambas fritas</p>	<p>rice tuna meat sweets fast/junk food Italian food chicken curry green salad cookies fried prawns</p>			

Spanish – negatives

Key verbs	Food / drink		opinion	Justification	Justification
<p>Para el desayuno tomo.. (for breakfast, I have..) Normalmente tomo.. (I normally have..) siempre tomo (I always have)</p> <p>me gusta tomar (I like to have)</p> <p>me encanta beber (I love to drink)</p>	<p>avena cereales con leche fruta huevos revueltos una manzana un plátano una tostada con: mantequilla miel mermelada</p> <p>un vaso de leche un café con leche un café solo un té zumo de naranja</p>	<p>porridge cereal with milk fruit scrambled eggs an apple a banana toast with: butter honey jam</p> <p>a glass of milk a white coffee a black coffee a tea orange juice</p>	<p>No me gusta(n) Porque.. (I don't like it/them because..) No lo tomo porque (I don't have it because) No me gusta nada Porque.. (I really don't like it/them because..)</p>	<p>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</p>	<p>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</p>
<p>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...</p>	<p>arroz atún carne chucherías comida basura comida italiana curry de pollo ensalada verde galletas gambas fritas</p>	<p>rice tuna meat sweets fast/junk food Italian food chicken curry green salad cookies fried prawns</p>		<p>es (demasiado): amargo/a grasiento/a insípido/a malsano/a salado/a seco/a picante dulce contiene mucha grasa</p> <p>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</p>	<p>it is (too): bitter fatty bland/tasteless unhealthy salty dry spicy sweet it contains a lot of fat</p> <p>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</p>

Spanish – healthy eating

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

Computing - Programming

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.

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**.

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'

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**.

Arithmetic Operators

Operator	Meaning	Example
+	Addition	$4 + 7 \longrightarrow 11$
-	Subtraction	$12 - 5 \longrightarrow 7$
*	Multiplication	$6 * 6 \longrightarrow 36$
/	Division	$30 / 5 \longrightarrow 6$
%	Modulus	$10 \% 4 \longrightarrow 2$
//	Quotient	$18 // 5 \longrightarrow 3$
**	Exponent	$3 ** 5 \longrightarrow 243$

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

Being a young person or teenager is difficult at times and there are often lots of pressures from family, school and friends. Being a young person or teenager and belonging to a religion can add even more **pressure** but it can also bring many **benefits**.

Key Words & Ideas

Peer Pressure- Feeling like you have to do something because people around you want you to or expect you to.

Identity- Something that makes you who you are: Your nationality, race, religious beliefs, culture, likes and dislikes etc.

Stereotype- A widely held but fixed and oversimplified idea of a particular type of person or thing.

Hijab- A head covering worn by a Muslim woman or girl.

Turban- A symbol of Sikh identity, which is a head covering worn by Sikh men and boys.

Pressures:

- Your religious teaching conflict with what you want to do or what your friends expect of you, e.g. drinking alcohol or dating.
- Your peers don't understand why you dress a certain way.
- Bullying due to obvious differences like dress or observing religious practices such as fasting.
- General pressure to behave towards others in a way that your religion would not support.
- Certain religious views around gender or sexuality may conflict with views accepted by wider society.

Benefits:

- Gives a sense of identity
- Feels like you belong to a community
- Helps with moral decision making
- Emotional support during difficult times
- Creates opportunities to educate others about your beliefs and combat stereotypes and misconceptions.



The UK has become a less religious society than it was just a few years ago, however 42% of people in the UK would describe themselves as Christian (27.5 million people) 6.5% describe themselves as Muslim (3.9 million people) and 1.7% described themselves as Hindu (1 million people).



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 uses of Metals

Metal type	Metal uses	Melting point	Example product
<p>Mild steel - A ductile and malleable metal. Mild steel will rust quickly if it is in frequent contact with water. Properties – iron mixed with 0.15-0.29% carbon.</p>	Used as Nuts and bolts, Building girders, car bodies, gates, etc.	1600°C	
<p>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.</p>	Used as car Brake discs, car cylinders, metalwork vices, manhole covers, machinery bases eg: The pillar drill.	1200°C	
<p>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.</p>	Used for hand tools such as screwdrivers, hammers, chisels, saws, spring and garden tools.	1800°C	
<p>Stainless steel - is very resistant to wear and water corrosion and rust. Properties – It is an alloy of iron with a typical 18% chromium 8% nickel and 8% magnesium content.</p>	Used for kitchen sinks, cutlery, teapots, cookware and surgical instruments.	1400°C	
<p>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.</p>	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

A01

Develop ideas through investigations, demonstrating critical understanding of sources.

25% of your project mark

Theme exploration.
Mindmaps / Collected images.
Facts & statistics.
Interviews.
Artist research & analysis.
Art movements & time periods.
Trips, museums & galleries.

A02

Refine work by exploring ideas, selecting and experimenting with appropriate media, materials, techniques and processes.

25% of your project mark

Experimenting with different materials.
Improvements.
Testing ideas.
Contact sheets with selections.
Repeating ideas in materials.
Developed ideas.

A03

Record ideas, observations and insights relevant to intentions as work progresses.

25% of your project mark

Observational drawings.
Photography.
Annotations.
Ideas.
Planning for tests or photoshoots.
Thumbnail sketches.

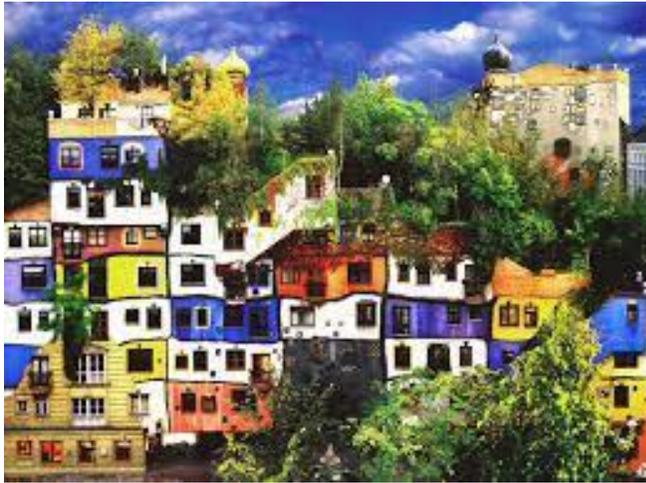
A04

Present a personal and meaningful response that realises intentions and demonstrates understanding of visual language.

25% of your project mark

Final outcomes.
Final design plan explaining links to prior learning.
Meaningful connections within the work.

Art, craft & Design



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



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.

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

Terracotta a lightly marked line used as a guide, as in composing a drawing

Kiln an oven or furnace used to fire (heat) ceramics to very high temperatures.

Ceramics refers to clay which is shaped and then hardened using heat.

Slab flat sheets of clay which can be built with.

Score creating deep marks in the clay to create a rough surface where you will be joining clay together.

Slip a mixture of clay and water which can be used to join two pieces of clay together.

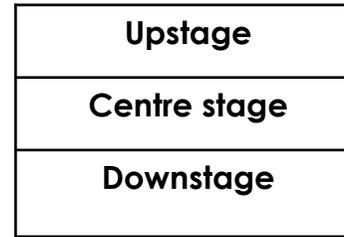
Relief a method in which sculpted pieces of clay are joined onto a solid background of the same material



Performing Arts: Silent Movie



Stage Positions



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

↑ ↑ ↑
Audience



How does an actor bring a character to life?



How can a performer enhance the atmosphere of a scene?



How can a performer create comedy?

What makes an engaging piece of drama?

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



Damsel in distress

She always ends up being captured by the Villain
 Madly in love with the hero.



Hero

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



Villain

Wants nothing more than to cause disruption
 Evil minded



Side Kick

Side Kick to the Villain
 Very Dumb
 Always makes mistakes



CONFIDENCE



ASPIRATION



RESPONSIBILITY



COMMUNITY



RESILIENCE

Music - Notation

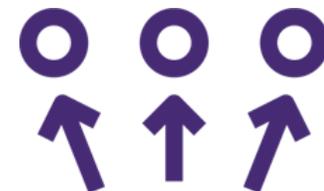
 A **semiquaver** lasts for a **quarter of a beat**

 A **quaver** lasts for **half a beat**

 A **crotchet** lasts for **1 beat**

 A **minim** lasts for **2 beats**

 A **semibreve** lasts for **4 beats**



Learn and memorise the notes of the Staff

Treble Clef Notes



F **A** **C** **E** **Football**

Every **Good** **Boy** **Deserves** **Football**



Lines: Every Good Boy Deserves Football
Spaces: spell F.A.C.E

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 goal 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

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.



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
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



Backhand shot



Forehand shot



Serve

Fitness Components Required				
Speed	Co-ordination	Stamina	Power	Flexibility

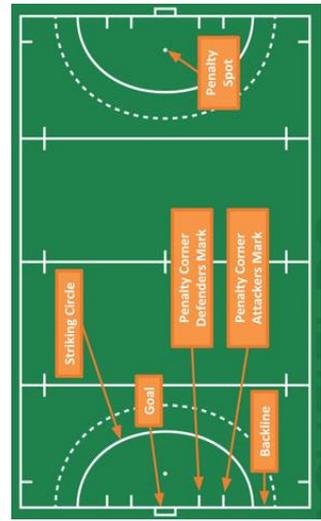
PE-Hockey

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.

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.

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.



Fitness Components Required

Speed

Power

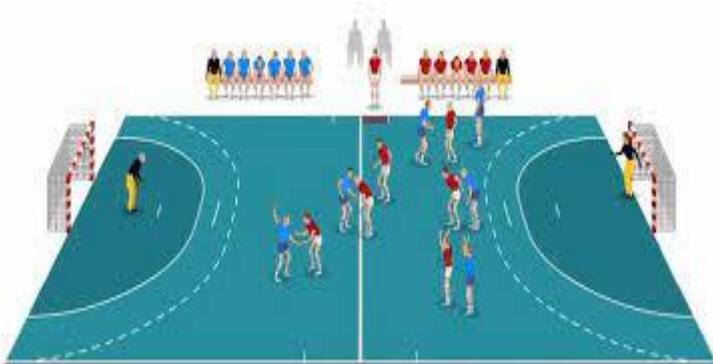
Stamina

Co-ordination

Balance

Speed

PE-Handball



Skills	
Passing	Moving the ball from one person to the next using shoulder, side wrist, bounce, feint passes (stationary or on the move)
Receiving	making a target (signaling), one/two handed catch – stationary and on the move, intercepting.
Shooting	To throw the ball with power either from standing, jumping or from the hip to get the ball in the net past the goalkeeper.
Movement /dribbling	Moving with the ball and dribbling under control to evade opponents through dodging/change of direction.
Defending	Marking an opponent to stop them getting into space to pass or shoot by 'jockeying'/marking/blocking/tackling.

Key vocabulary
Court player – The players playing on the court except goal-keepers are known as court player.
Goalie – A player who defends the goal while opposition attempts to score goals. A goalie or goal keeper is permitted to play inside the goal area
Corner Throw – This is thrown by attacking player from the corner of court.
Free throw – It is allowed to the opposition team while other team does a foul during the game.
Penalty throw – The penalty shot is thrown from a mark at a distance of 7mts from the goal.
Dive shot – It is a way of putting the shot, in order to score a goal, by jumping above the floor towards the goal

Rules	
Rule 1	A handball team comprises seven players on the court at any given time, including a goalkeeper and six outfield players
Rule 2	It is forbidden to snatch the ball with one or both hands or strike or slap the ball from an opponent's hands.
Rule 3	You cannot touch the ball intentionally using any part of the leg below the knee. The game is always played with hands
Rule 4	.A player in possession of the ball may stand stationary for only three seconds before shooting, passing or dribbling.
Rule 5	When dribbling you cannot take more than 3 steps without bouncing the ball and catching it.
Rule 6	Only the goalkeeper is permitted to enter the goal area, and the other players are not allowed to touch the ball when it is on the ground in the goal area.

Fitness Components Required

Speed

Co-ordination

Stamina

Power

Flexibility



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