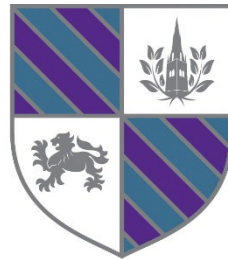


Student Name:



MAGNUS  
CHURCH OF ENGLAND  
ACADEMY

## **Knowledge Organiser: February 2025**

### **Year 10**

*“Wise men and women are always learning, always listening for fresh insights.”*  
*Proverbs 18:15 (The Message)*

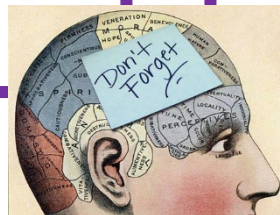
Determination – Integrity – Ambition – Humility – Compassion

## Using Your Knowledge Organiser

Your teachers have worked hard to produce this document for you and have selected the most important knowledge that you will need to know to make good progress in their subjects. **You should aim to learn all the information in your knowledge organiser off by heart.**

Try out some of the strategies listed here to help you achieve this.

1. Read the knowledge organiser and ensure you understand it.  
Try and make links between the information on it and what you already know and do.
2. Look, Cover, Write, Check – the traditional way of learning spellings!
3. Create a Mnemonic – Using the first letters of keywords create a memorable sentence or phrase.
4. Create an acronym – using the first letters of keywords to create a word to prompt you to remember all of the information.
5. Write it out in full on a blank version of the same format.
6. Write it out in note form, reducing it to key ideas or words. Try the same format but a smaller piece of paper.
7. Recreate the knowledge organiser as a series of images and words
8. Write a set of test questions for yourself using the organiser.
  - Answer these without the organiser the next day.
  - Swap your questions with a friend to increase challenge.
  - Turn your questions in to a game by putting them on cards and playing with friends.
9. Chunk the knowledge into smaller bitesize sections of around 5 pieces of information. Concentrate on mastering a chunk before you start on the next.
10. Try to make connections between the information and people you know. E.g. Visualise yourself trying these strategies with a specific teaching group.
11. Talk about the information on the knowledge organiser with another person. Teaching someone else about it helps us learn it.
12. Say the information out loud – rehearse it like learning lines for a play, or sing it as if you are in a musical!



**Year 10 Half term three key vocabulary**

<b><u>English Language</u></b> Comment Evidence Dramatic Exciting View Tone Effect Bias Article Impression	<b><u>English Literature</u></b> Dramatic irony Cliffhangers Stage directions Dramatic tension Well-made play Morality play Crime thriller Pre and Post War Britain The Titanic Socialism	<b><u>Maths</u></b> Sine Cosine Tangent Since rule Cosine rule Non-right angled triangle Re-arrange Perpendicular Subtended Hypotenuse	<b><u>Maths</u></b> Adjacent Trigonometry Radius Inverse Proportion	<b><u>Science - Biology</u></b> Population Community Ecosystem Abiotic factors Biotic factors	<b><u>Science-Chemistry</u></b> Hydrocarbon Alkaline Alkene Combustion Boiling point Viscosity Flammability Polymer Saturated molecule Unsaturated molecule
<b><u>Science – Physics</u></b> Force Scalar Vector Displacement Magnitude Friction Resultant force Centre of mass Equilibrium Newton’s second law Mass	<b><u>History</u></b> Inoculation Vaccination Symptom Diagnosing Purging Astrology Flagellation Urine Chart Infirmary Apothecary	<b><u>Geography</u></b> Urbanisation Sustainable urban living Water conservation Energy conservation Waste recycling Integrated transport system Brownfield site Greenbelt area Urban regeneration	<b><u>French</u></b> Noun Adjective Verb Connective Opinion verb Infinitive Frequency expression Conjugate Adjectival agreement Wow phrase Exclamation	<b><u>Core RS</u></b> Afterlife Eternity Funeral Heaven Hell Judgement Medium Nibbana Near death experience Paranormal activity	<b><u>GCSE RS</u></b> Karuna Metta Loving-kindness meditation The Five Moral Precepts Kamma The Six Perfections Generosity Morality Patience Energy Meditation
<b><u>Business</u></b> Globalisation Imports Exports Domestically Tariff Protectionist measure Trading block Marketing Mix Aesthetics Product portfolio	<b><u>Child Development</u></b> Growth Cell Health visitors Head circumference Centile chart Hormones Nutrients Holistic development Milestones Developmental norms	<b><u>Acting</u></b> Devising Audience Hook Style Performance Skills Stylistic quantities Purposes Inter-relationships Tension	<b><u>Musical Theatre</u></b> Analyse Comment Compare Consider Define Describe Discuss Evaluate Explain Outline	<b><u>Art</u></b> Response Primary source Experiment Annotate Review Reflect Independent Formal elements Analyse Media	<b><u>Sociology</u></b> Home education Vocational education Specialist school Faith school Academies Free Schools Independent schools State schools Grammar school Comprehensive school
<b><u>Technology</u></b> A static load A dynamic load Tension Tensile Compression Compression strength Torsion Torsional strength Bending Shear	<b><u>iMedia</u></b> Visual Identity Visualisation Diagram Mind Map Moodboard Central Subject Node Topic Node Sub Node Connector/Branch/Line Conventions Concept sketches	<b><u>Hospitality and Catering</u></b> Contract caterer General manager Head chef/ executive chef Sous chef Chef de partie Commis chef Canteen/ buffet/ carvery Table service Vending service	<b><u>Music</u></b> Pianissimo Piano Mezzo piano Mezzo forte Forte Fortissimo Crescendo Diminuendo Accelerando Rallentando/Ritardando Ritenuto Rubato	<b><u>Construction</u></b> Plasterboard Masonry Sub-soil Polymers Maintenance Aggregates Disposal Recycle Hard-core Rubble	<b><u>PE</u></b> Aerobic endurance Muscular endurance Muscular strength Speed Flexibility Body composition Power Agility Reaction time Balance Coordination

# Year 10 English Language

## Box 1: Vocabulary– possible impressions:

Term	Definition
<b>Threatening</b>	Having a frightening or hostile manner.
<b>Loving</b>	Showing or feeling great love or care.
<b>Domineering</b>	Asserting one's will in an arrogant way.
<b>Controlling</b>	Having the ability to decide how something is done or what someone does.
<b>Friendly</b>	Behaving in a kind and pleasant way.
<b>Welcoming</b>	Behaving in a polite and friendly way to a guest or someone new.
<b>Negative</b>	Not desirable or optimistic (so pessimistic).
<b>Aggressive</b>	Ready or likely to attack or confront.

## Box 2: Impressions

Factors which affect our **impressions**: of someone:

- **Non-verbal communication**: the act of sending messages without verbal communication: facial expressions, body language, gestures., body positions.
- **Physical features**: a distinguishing element of a face or body. For example, eyes, nose, mouth, lips, eyebrows, height, weight, size.
- **Clothing, accessories, hairstyles**.
- **Voice and speech**: regional accents, dialects, tone, manner (way of doing something/ how), volume.
- **Surrounding environment**:
- **Behaviour**: how one acts towards others.
- **Status**: a person's situation financial, social, position or rank in relation to others.
- **Attitude, beliefs, ideas**: religious, political, opinions, views.

## Box 3: Tier Three Vocabulary:





Term	Definition
<b>Comment</b>	A strong feeling deriving from one's circumstances, mood, or relationships with others.
<b>Evidence</b>	A description of something that makes people feel strong emotions.
<b>Dramatic</b>	(Of an event or circumstance) sudden and striking.
<b>Exciting</b>	Causing great enthusiasm and eagerness.
<b>View</b>	Regard in a particular light or with a particular attitude.
<b>Tone</b>	The writer's use of words and writing style to convey his or her attitude towards a topic.
<b>Effect</b>	A change which is a result or consequence of an action or other cause.
<b>Bias</b>	Prejudice for or against a person or specific group, particularly in a way considered to be unfair.
<b>Article</b>	a piece of writing included with others in a newspaper, magazine, or other print or online publication.
<b>Impression</b>	An idea, feeling, or opinion about something or someone, especially one formed without conscious thought or on the basis of little evidence.

## Box 4: Transactional Writing: Article (POV):

- A article should be **biased** and show a viewpoint.
- Typical subjects covered in articles are as follows: controversial topics, sport, leisure, history, hobbies, home, craft, music, famous figures.
- An article should include a headline: catchy, a pun, statement, word play.
- An article should be structured in the following way: Headline/ heading, opening, x3 main ideas/ arguments, conclusion.
- A well-structured paragraph should include the following: a discourse marker to begin, a topic sentence, exploration of this idea, examples, anecdote, supporting evidence, professional views, statistics.

# Year 10 — 'An Inspector Calls', by J. B. Priestley





## 1. Context— *An Inspector Calls* was written by J.B. Priestley, and was first performed in the UK in 1946. However, it is set in 1912.

<b>J. B Priestley</b> 	<p>John Boynton Priestley was born in Yorkshire in 1894. He fought in the first world war and came very close to death on a couple of occasions. In the 1930s, Priestley became concerned with the effects of social inequality in Britain, and in 1942 set up a new political party, the Common Wealth Party. It merged with the Labour Party, and it was integral in developing the welfare state.</p>
<b>Pre and Post War Britain</b> 	<p>Before the First World War, there was deemed to be a general air of complacency regarding the prospect of any war taking place. There were strong distinctions between upper and lower classes, and women were subservient to men in society. After the Second World War ended in 1945, class distinctions had been greatly reduced by the two wars, and women had earned a more valued place in society (they had filled in for men whilst there were away at war). After 1945, there was a greater desire for social change.</p>
<b>The Titanic</b> 	<p>RMS Titanic was a British passenger liner that sank in the North Atlantic Ocean in the morning hours of 15th April 1912. As around 1.500 people died, it was one of the deadliest commercial maritime disasters in modern history. In '<i>An Inspector Calls</i>', Birling claims this, thus immediately losing respect from the audience.</p>
<b>Socialism</b> 	<p>Socialism is an approach to economic and social systems that is characterised by social ownership, democratic control, high levels of equality. Socialist regimes are generally concerned with ensuring that disparities between wealth and social status are erased across society. After the two World Wars, British society was far more open to socialist ideas. In '<i>An Inspector Calls</i>', the Inspector harbours socialist attitudes.</p>



## 3. Dramatic Devices:

<b>Dramatic Irony</b>	Arthur Birling suggests that the Titanic is unsinkable, and yet the audience knows it sank on its maiden voyage.
<b>Cliffhangers</b>	At the end of Act One, the Inspector appears and says 'Well?' to Gerald, leaving the audience to wonder how Gerald is implicated.
<b>Stage Directions</b>	The precise directions detailing Gerald 'gravely' stating his involvement with Daisy Renton adds more detail to aid the actor's delivery.
<b>Dramatic Tension</b>	The audience feels an increase in tension as the await information regarding how each character is implicated in Eva Smith's death.

## 2. Key Themes:

<b>Age</b> 	<p>Priestley uses age to show the different prevailing attitudes in society at the time. The older characters represent an outdated way of thinking; characters such as Arthur and Sybil believe in only looking after themselves and their family. The younger characters (Sheila and Eric) represent new attitudes towards caring about others in society.</p>
<b>Social Responsibility</b> 	<p>All of the family are forced to reflect upon their behaviour towards Eva Smith/Daisy Renton, and consider how responsible they are for her death. Some characters admit responsibility and feel guilt more readily, such as Sheila and Eric. On the other hand, characters such as Arthur and Sybil are more unwilling to accept responsibility for the girl's demise.</p>
<b>Class and Gender</b> 	<p>Class and gender are also predominant themes in the play. Eva Smith's position in society is severely weakened because she is from a lower class background and she is also a woman. Because of biases related to class and gender, Birling is dismissive of the hundreds of working class women looking for a pay-rise, whilst Mrs Birling refers to her a 'a girl of that sort' in a derogatory manner.</p>
<b>The Supernatural</b> 	<p>The presence of the Inspector weaves a supernatural element into the play. His surname (Goole) is certainly a play on the word 'ghoul' (a ghost). He is unheard of by other members of the police force, leading the characters to at first dismiss him as a hoer, yet he seems to have prior knowledge of the characters' actions, and foresees the suicide before it happens.</p>

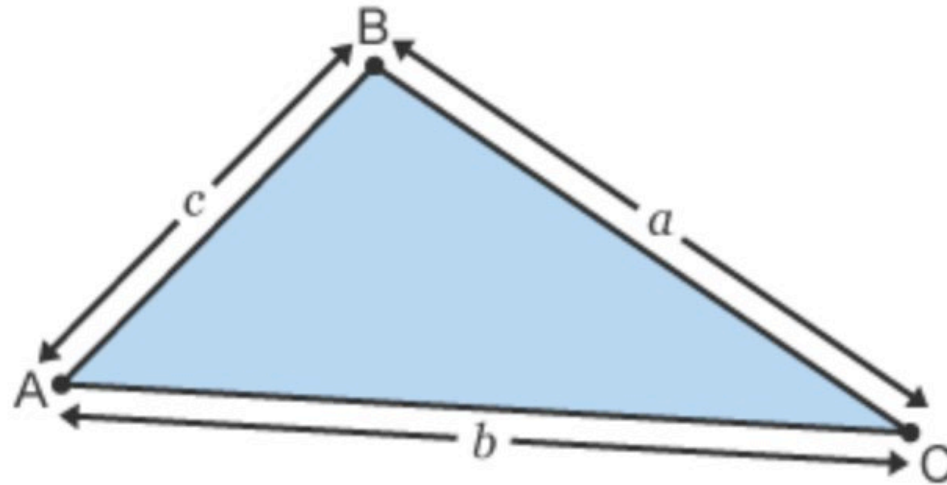
## 4. Form:

<b>Well-Made Play</b>	<ul style="list-style-type: none"> <li>A popular type of drama from the 19th century.</li> <li>The events build to a climax.</li> <li>Primarily concerned with events that happened before the play.</li> <li>Plot is intricate and complex.</li> </ul> 
<b>Morality Play</b>	<ul style="list-style-type: none"> <li>These were most popular during the 15th and 16th centuries.</li> <li>They taught the audience lessons that focussed on the seven deadly sins.</li> <li>Characters who committed these sins were punished.</li> </ul>
<b>Crime Thriller</b> 	<ul style="list-style-type: none"> <li>As the name suggests, this involves a gripping tale based around a crime.</li> <li>The audience receives clues and must guess what has happened before the end.</li> <li>All is revealed by the climax.</li> </ul>

## Subject Terminology

Sine	A trigonometric ratio
Cosine	A trigonometric ratio
Tangent	A trigonometric ratio
Sine Rule	A rule used to find missing sides or angles
Cosine Rule	A rule used to find missing sides or angles
Non-right angled triangle	A triangle without a right angle
Re-arrange	Solving an equation to find a desired outcome

## The Sine Rule



To calculate missing angles we use:

$$\frac{\sin A}{a} = \frac{\sin B}{b} = \frac{\sin C}{c}$$

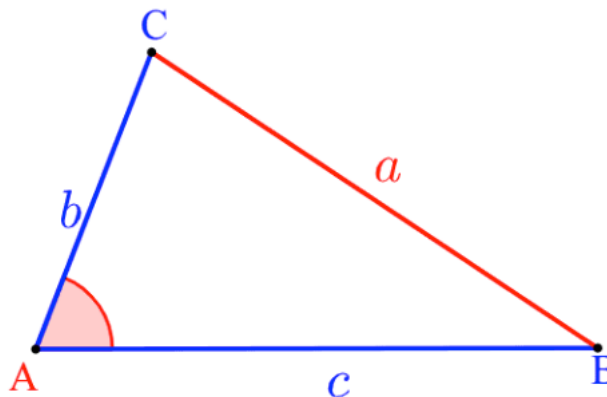
To calculate missing lengths we use:

$$\frac{a}{\sin A} = \frac{b}{\sin B} = \frac{c}{\sin C}$$

## The Cosine Rule

To calculate missing lengths

$$a^2 = b^2 + c^2 - 2bc \cos A$$



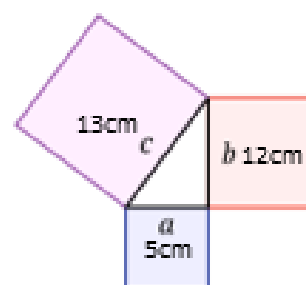
To Calculate missing angles

$$\cos A = \frac{b^2 + c^2 - a^2}{2bc}$$

Subject Terminology	
Tangent	A line perpendicular to a radius of a circle, touching the circumference at only one point
Perpendicular	Lines meeting at right angles
Subtended	When an angle is created by lines extending from the ends of an arc or curve
Hypotenuse	The longest side of a right angled triangle
Opposite	The side directly across from the angle
Adjacent	The shorter side of a triangle that forms the angle being calculated with
Trigonometry	The study of lengths and angles in triangles
Radius	A line from the circumference of a circle to the centre
Inverse	The opposite of an operation or function, ie the inverse of addition is subtraction

### Pythagoras' Theorem

$a^2 + b^2 = c^2$ : This formula states that the square of the hypotenuse of a right angled triangle is equal to the sum of the squares of the other two sides.



In the example above, substitute the values into  $a^2 + b^2 = c^2$ .

$$5^2 + 12^2 = 169$$

$$\sqrt{169} = 13$$

### Right-angled Trigonometry

SOH stands for:

$$\sin(\theta) = \frac{\text{Opposite}}{\text{Hypotenuse}}$$

CAH stands for:

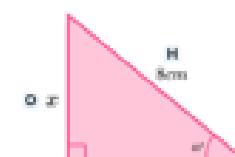
$$\cos(\theta) = \frac{\text{Adjacent}}{\text{Hypotenuse}}$$

TOA stands for:

$$\tan(\theta) = \frac{\text{Opposite}}{\text{Adjacent}}$$

#### SOHCAHTOA

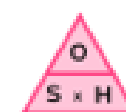
These ratios connect the sides and angles of right angled triangles.



$$\sin(40) = \frac{x}{8}$$

$$8 \times \sin(40) = x$$

$$5.1423... = x$$



$$O = S \times H$$

$$x = \sin(40) \times 8$$

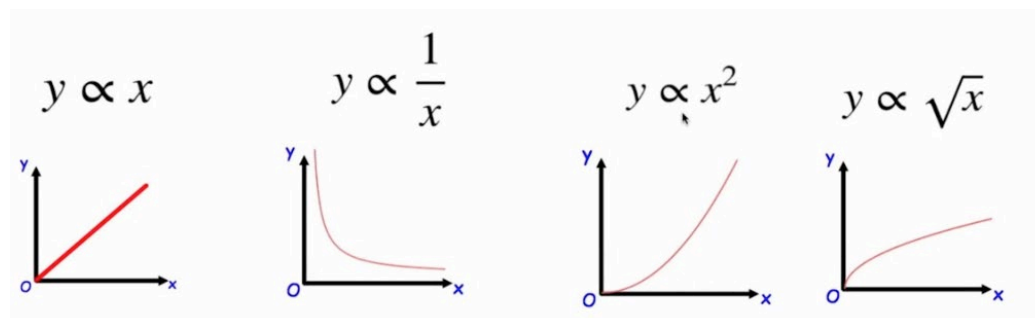
$$x = 5.1423...$$

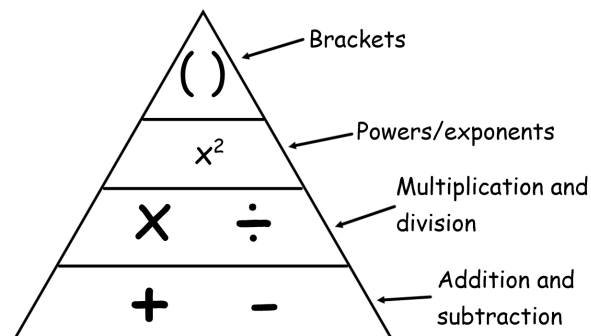
$$x = 5.1 \text{ (1 d.p.)}$$

### Proportion - A comparative measure between values

	$\div 5$	$\times 7$	
Number of biscuits	5	1	7
Cost (p)	80	16	112
	$\div 5$	$\times 7$	

### Proportion Graphs



**Order of Operations****Inverse Operations**

$$+ \longleftrightarrow -$$

$$\times \longleftrightarrow \div$$

$$\square^2 \longleftrightarrow \sqrt{\square}$$

$$\square^3 \longleftrightarrow {}^3\sqrt{\square}$$

**Multiplying Integers**

If the signs are the same, the result is positive.

$$+ \times + = + \quad - \times - = +$$

$$+ \times - = - \quad - \times + = -$$

**Adding Negative Numbers**

<b>+ add +</b>	Add the numbers; end result is a positive E.g. $3 + 5 = 8$
<b>+ add -</b>	Find the difference between the numbers; end result takes the sign of the number with largest magnitude. E.g. $3 + -5 = -2$
<b>- add -</b>	Add the integers; end result is a negative $-3 + -5 = -8$

**Square Numbers**

$$1 \times 1 \text{ or } 1^2 = 1$$

$$2 \times 2 \text{ or } 2^2 = 4$$

$$3 \times 3 \text{ or } 3^2 = 9$$

$$4 \times 4 \text{ or } 4^2 = 16$$

$$5 \times 5 \text{ or } 5^2 = 25$$

$$6 \times 6 \text{ or } 6^2 = 36$$

$$7 \times 7 \text{ or } 7^2 = 49$$

$$8 \times 8 \text{ or } 8^2 = 64$$

$$9 \times 9 \text{ or } 9^2 = 81$$

$$10 \times 10 \text{ or } 10^2 = 100$$

$$11 \times 11 \text{ or } 11^2 = 121$$

$$12 \times 12 \text{ or } 12^2 = 144$$

**Cube Numbers**

$$1^3 = 1 \times 1 \times 1 = 1$$

$$2^3 = 2 \times 2 \times 2 = 8$$

$$3^3 = 3 \times 3 \times 3 = 27$$

$$4^3 = 4 \times 4 \times 4 = 64$$

$$5^3 = 5 \times 5 \times 5 = 125$$

**Column Addition**

$$\begin{array}{r} 1 \\ 29 \\ + 35 \\ \hline 64 \end{array}$$

9+5=14  
14 is more than 10!

**Column Subtraction**

$$\begin{array}{r} 5 \cancel{6} \cancel{4} \\ - 27 \\ \hline 37 \end{array}$$

(10+4=14)

$$14$$

**Written methods****Multiplication (Grid method)**

$$26 \times 5$$

$\times$	20	6
5	100	30

The 26 is broken into 20 and 6. These numbers are multiplied as shown.

The results are then added,  $100 + 30 = 130$ .

**Division (Bus stop)**

$$186 \div 6$$

$$\begin{array}{r} 0 \ 3 \ 1 \\ 6 \overline{) 1 \ 8 \ 6} \\ \underline{6} \phantom{00} \\ 12 \phantom{0} \\ \underline{12} \phantom{0} \\ 0 \end{array}$$

6 doesn't divide into 1, so the 1 carries.

6 divides into 18, 3 times.

6 divides into 6, once.

**Rounding (to different degrees of accuracy)**

**\* 5 and above rounds up \***

**24.356** To the nearest integer (whole number)

24

**24.356** To 3 significant figures (starting at first non-zero digit)

24.4

**24.356** To 2 decimal places (digits after the decimal point)

24.36

Draw in your line then check the number to the right



## Competition in plants and animals

**Competition:** The process by which organisms compete for limited resources

Animals	Plants
Food	Light
Territory	Space
Mates	Water and minerals
Habitat	

## Adaptations to hot and cold climates

Hot climates		Cold climate
Animals	Plants	Animals
Large surface area to volume ratio to let heat out	Small surface area to leaves to prevent transpiration	Small surface area to volume ratio to keep heat in
Camouflage to avoid predation or to aid predation	Store water (succulents)	Camouflage to avoid predation or to aid predation
Thin fur	Large surface area of root to absorb rain water	Thick fur
Active in the morning or at night when temperature is lower	Deep roots to absorb water deep underground	Hibernate or migrate during the winter

**Adaptations:** Special features that help an organism to survive in their habitat

Subject Terminology	Definition
Population	The number of individuals with a species living in a certain area at a certain time
Community	A group of interdependent living organisms in an ecosystem
Ecosystem	The interactions between the living and non living aspects of a habitat
Abiotic factors	The non-living factors of an ecosystem such as light, temperature and oxygen levels
Biotic factors	The living factors of an ecosystem such as competition, predation and disease

## Measuring distribution – Key practical

1. Choose two habitats to be sampled that vary in an abiotic factor (light levels in an open field compared to under a tree).
2. Decide on an appropriate species to be studied (daisies or dandelions)
3. Divide the study habitat 1 into a grid (shown below)
4. Randomly sample habitat 1 using a quadrat (shown below)
5. Repeat multiple times within habitat 1
6. Repeat steps 1-5 in habitat 2
7. Compare your results to decide whether or not the abiotic factor affected the distribution of your chosen species

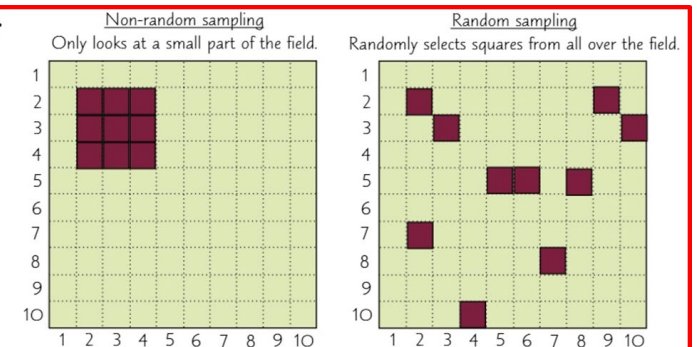
### Improving validity

1. Random sampling
2. Same sized quadrat
3. Repeat multiple times



A quadrat (square frame)

- **Divide** the field into a **grid**.
- **Label the grid** along the bottom and up the side with numbers.
- Use a **random number generator** (e.g. on a computer or calculator) to select coordinates, e.g. (2,7).
- Place your quadrats at these coordinates to take your **samples**.



## Calculating the mean rate of reaction

$$\text{mean rate of reaction} = \frac{\text{quantity of reactant used}}{\text{time taken}}$$

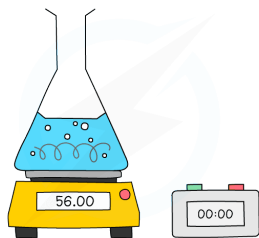
$$\text{mean rate of reaction} = \frac{\text{quantity of product formed}}{\text{time taken}}$$

Rates of reaction can use several units, including:

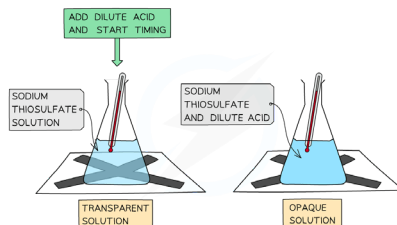
- g/s or g/min
- cm<sup>3</sup>/s or cm<sup>3</sup>/min.
- mol/s or mol/min.

## Practical methods used to measure the rate of reaction

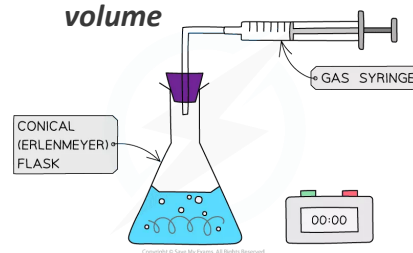
## Measuring mass changes on a balance



## Measuring concentration change: Turbidity



## Measuring changes in gas volume

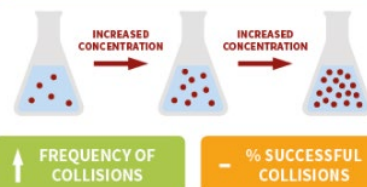


## Factors affecting the rate of a reaction

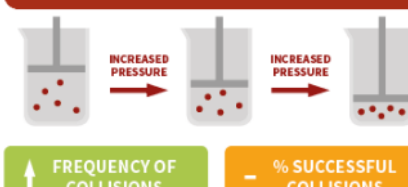
## COLLISION THEORY



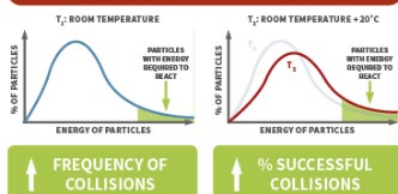
## INCREASE CONCENTRATION OF REACTANTS



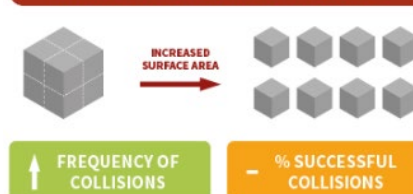
## INCREASE PRESSURE OF REACTION



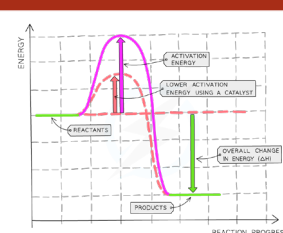
## INCREASE TEMPERATURE OF REACTION



## INCREASE SURFACE AREA OF REACTANTS



## USE A CATALYST IN THE REACTION



## Subject terminology

## Definition

Dynamic equilibrium

A reversible reaction when the forward and reverse reactions occur at the same rate

Reversible reaction

A reaction that occurs in both directions at the same time.

Concentration

The mass of a substance dissolved in a known volume of a liquid. The higher the concentration the greater the number of particles are present.

Pressure

Force exerted over an area. The greater the pressure, the greater the force exerted over the same area.

Rate of reaction

Refers to the speed at which the products are formed from the reactants in a chemical reaction

Activation energy

The minimum amount of energy that colliding particles must have for them to react.

Catalyst

A substance that changes the rate of a chemical reaction without being changed by the reaction itself.

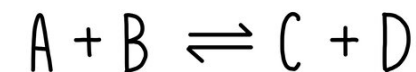
Frequency

The total number of times an event occurs

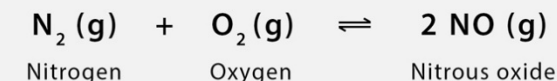
Surface area

The amount of space covering the outside of a three-dimensional shape.

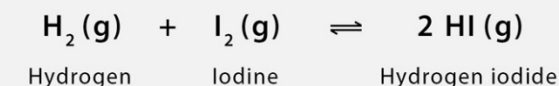
## Reversible reactions



A reversible reaction occurs when the products of a reaction can turn back into the reactants.



The symbol  $\rightleftharpoons$  has two half arrowheads, one pointing in each direction. It shows that the reaction is reversible



## Alkanes

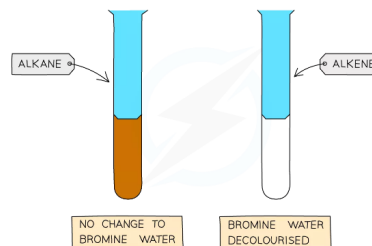
Alkanes are saturated hydrocarbons – each carbon atom forms a single bond

General formula of an alkane:  
 $C_nH_{2n+2}$

Name	Structural formula	Molecular formula
Methane	$\begin{array}{c} \text{H} \\   \\ \text{H}-\text{C}-\text{H} \\   \\ \text{H} \end{array}$	$CH_4$
Ethane	$\begin{array}{c} \text{H} \quad \text{H} \\   \quad   \\ \text{H}-\text{C}-\text{C}-\text{H} \\   \quad   \\ \text{H} \quad \text{H} \end{array}$	$C_2H_6$
Propane	$\begin{array}{c} \text{H} \quad \text{H} \quad \text{H} \\   \quad   \quad   \\ \text{H}-\text{C}-\text{C}-\text{C}-\text{H} \\   \quad   \quad   \\ \text{H} \quad \text{H} \quad \text{H} \end{array}$	$C_3H_8$
Butane	$\begin{array}{c} \text{H} \quad \text{H} \quad \text{H} \quad \text{H} \\   \quad   \quad   \quad   \\ \text{H}-\text{C}-\text{C}-\text{C}-\text{C}-\text{H} \\   \quad   \quad   \quad   \\ \text{H} \quad \text{H} \quad \text{H} \quad \text{H} \end{array}$	$C_4H_{10}$

## Testing for alkenes

Bromine water is an orange solution of bromine. It becomes colourless when it is shaken with an alkene. Alkenes can decolourise bromine water, but alkanes cannot.

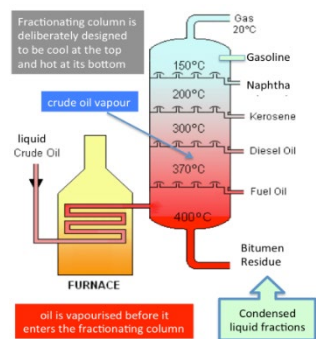


## Subject terminology

## Definition

Hydrocarbon	A compound containing hydrogen and carbon atoms only
Alkane	Saturated hydrocarbon with the general formula $C_nH_{2n+2}$
Alkene	Unsaturated hydrocarbon containing at least one $C=C$ and with the general formula $C_nH_{2n}$
Combustion	An exothermic reaction between a fuel and oxygen
Boiling point	The temperature at which liquid turns into a gas.
Viscosity	The ease of flow of a liquid
Flammability	The ease of ignition
Polymer	A polymer is a large molecule formed from many identical smaller molecules (monomers).
Saturated molecule	Molecules that contain single bonds only
Unsaturated molecule	Molecules that contain some double bonds between their carbon atoms

## Fractional distillation



### Small molecules:

- Low boiling point
- Volatile
- Flows easily
- Ignites easily

### Large molecules:

- High boiling point
- Not very volatile
- Viscous
- Does not ignite easily

Hydrocarbons evaporate when they meet their boiling point and condense and are collected when they reach a temperature below their boiling point.

The longer the hydrocarbon chain the higher the boiling point, this is because more energy is needed to break the intermolecular forces in between the molecules.

## Cracking

Cracking is the name given to breaking up large hydrocarbon molecules into smaller and more useful ones.

### THERMAL CRACKING VERSUS CATALYTIC CRACKING

Thermal cracking is the process of breaking down large compounds into small compounds at high temperatures and high pressures

Involves cracking by applying high temperatures and pressures

The temperature ranges between 500-700 degrees Celsius

Pressure used is about 70 atm

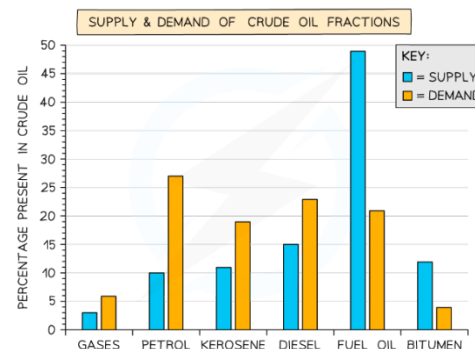
Catalytic cracking is the breakdown of large compounds into small hydrocarbons using an acid catalyst

Involves cracking by adding catalysts along with moderate temperature and pressures

The temperature ranges between 475-530 degrees Celsius

Pressure used is about 20 atm

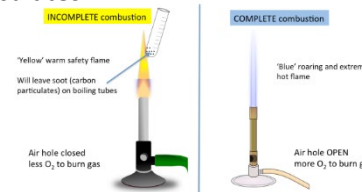
## Supply and demand



## Combustion

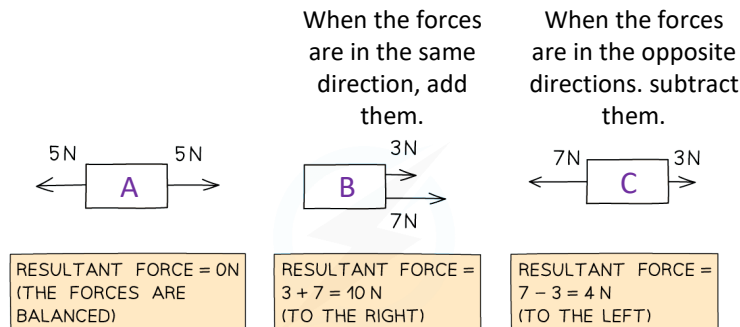
Complete combustion: A fuel burns in excess oxygen, carbon dioxide and water are the products.

Incomplete combustion: A fuel burns with insufficient oxygen supply, can produce carbon monoxide and particulates



SCALAR	VECTOR
DISTANCE	DISPLACEMENT
SPEED	VELOCITY
TIME	ACCELERATION
ENERGY	FORCE
MASS	WEIGHT
	MOMENTUM

### Calculating resultant forces



### Newton's First Law

When the forces are **balanced/in equilibrium**/there is **no resultant force**

(like block A above):

- A moving object will continue to move in the same direction at the same speed.
- A stationary (still) object will stay at rest (stay still)

When the forces are not balanced/not in equilibrium/there is a resultant force

The object will either (like blocks B and C above):

- speed up
- slow down
- change direction.

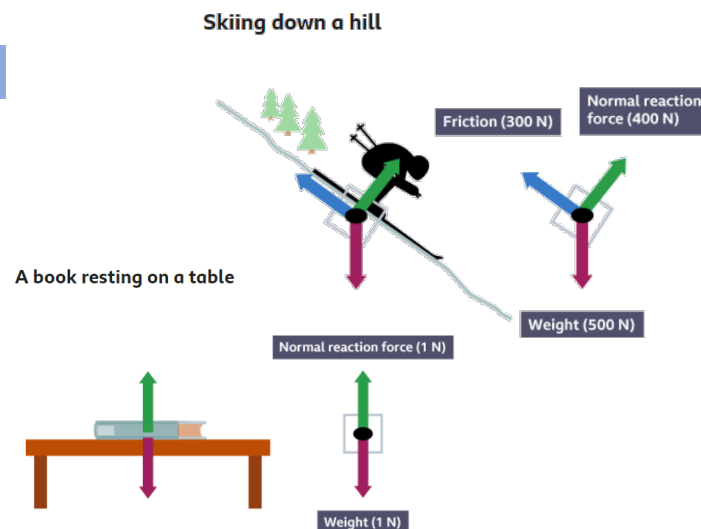
Subject Terminology	Definition
Force	A push or a pull that acts on an object due to the interaction with another object. Measured in Newtons, N.
Scalar	Quantities that have magnitude only e.g. speed, temperature, mass
Vector	Quantities that have magnitude and direction e.g. velocity, displacement, force
Displacement	Displacement is the distance moved in a straight line, in a given direction, from the starting point.
Magnitude	A scientific word that means size.
Friction	A contact force that acts between two surfaces that are sliding or trying to slide across each other.
Resultant force	A single force which can replace all the forces acting on an object and have the same effect.
Centre of mass	The point in an object where all the mass of an object appears concentrated.
Equilibrium	There is no overall (resultant) force.

### Free body Diagrams

Show the forces acting on an object in a free body diagram. The arrows represent the size and direction of the forces acting.

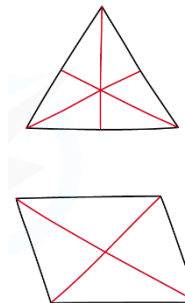
When drawing a force diagram:

- represent the object with a small box or dot
- draw the arrows with a pencil and ruler
- draw the arrows from the centre of the box or dot
- label the arrow with the name of the force and the size of the force

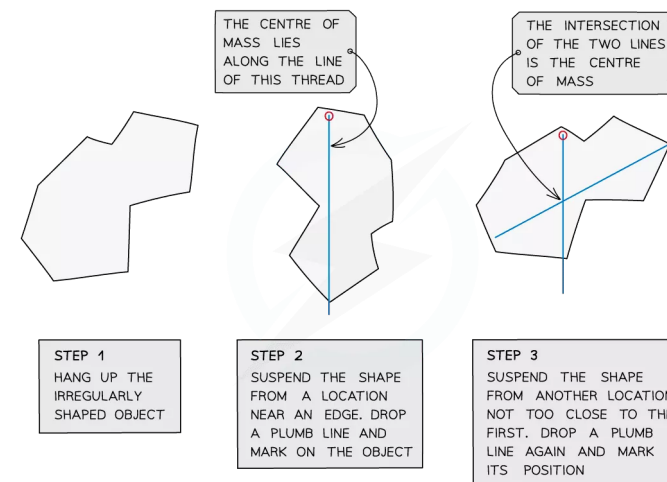


### Finding the centre of mass of regular objects

The centre of mass is located at the centre of the lines of symmetry.



### Finding the centre of mass of irregular objects





## Investigating the effect of force on acceleration Required Practical

1

Equally spaced chalk lines (eg 20 cm apart)

Use the ruler to measure intervals on the bench and draw straight lines the bench at these intervals.

2

Toy car String Pulley Weight stack

Attach one end of the string to the trolley, then pass the string over the pulley and attach to the 1N weight stack at the other end.

3

Release the toy car or trolley at the same time as you start the stopwatch.

4

Press the stopwatch (lap mode) at each line on the bench and for the final time at 100 cm.

5

Record the times in your results table.

6

light gate 0.00 2 Force / h Plot point

Total mass of trolley + weights = 1.5kg  
Mass of each weight = 0.05kg (50g)

Applied force 3N

Take 20N off the weight stack and add it to the trolley and repeat steps 1-5.

## A skydiver reaching terminal velocity

A

WEIGHT > DRAG FORCE

B

WEIGHT = DRAG FORCE

C

WEIGHT = DRAG FORCE

Copyright © Science My Friends. All Rights Reserved.

THE SKYDIVER IS IN FREEFALL.  
THEIR VELOCITY INCREASES DUE TO THE DOWNWARD FORCE OF THEIR WEIGHT.

THE INCREASE IN VELOCITY MEANS AIR RESISTANCE ALSO INCREASES AND ACCELERATION DECREASES.

EVENTUALLY THE SKYDIVER REACHES A VELOCITY WHERE THEIR WEIGHT EQUALS THE FORCE OF AIR RESISTANCE.  
THEIR ACCELERATION IS 0.  
THIS IS THE TERMINAL VELOCITY.

### Mass vs Weight

**Mass** is how much matter an object contains.

Mass is a constant for a body and does not change with location.

The kilogram is a unit of mass.

**Weight** is the force exerted on a mass by gravity.

Weight is not a constant. It changes from place to place.

The Newton is a unit of weight.

**Weight**

490 N

**Mass**

50 kg

**Weight**

82 N

sciencenotes.org

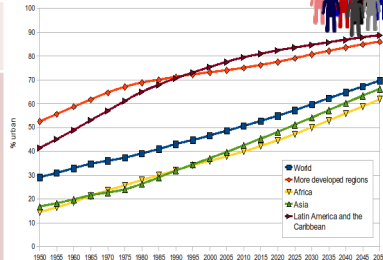
Subject Terminology	Definition
Newton's second law	The acceleration of an object is proportional to the resultant force acting on it and inversely proportional to the object's mass
Resultant force	A single force which can replace all the forces acting on an object and have the same effect.
Mass	The amount of matter an object is made up of. Measured in kg. A scalar.
Weight	The force acting on an object due to gravitational attraction. Measures in Newtons. A vector.
Acceleration	The rate of change of velocity. Measured in $\text{m/s}^2$ . A vector.
Terminal velocity	Maximum speed of an object falling through a fluid, reached when the forces on the object are balanced
Stopping distance	Thinking distance + stopping distance.
Thinking distance	The distance travelled during a person's reaction time.
Braking distance	The distance taken to stop once the brakes are applied.
Elastic deformation	An objects returns to its original shape once the forces deforming it are removed.
Hooke's Law	The extension of a spring is directly proportional to the force applied as long as the limit of proportionality is not exceeded.
Elastic limit	The maximum amount that an object can be stretched or squashed before it is no longer able to return to its original shape.
Limit of proportionality	The point where force and extension are no longer directly proportional and Hooke's Law no longer applies.
Directly proportional	Shown on a graph by a straight line through the origin.
Elastic potential energy	The energy stored in a stretched, squashed or twisted object.
Spring constant	The measure of the stiffness of a spring. Measured in $\text{N/m}$

## What is Urbanisation?

This is an increase in the amount of people living in urban areas such as towns or cities. In 2007, the UN announced that for the first time, more than 50 % of the world's population live in urban areas.

Where is Urbanisation happening?

Urbanisation is happening all over the world but in LICs and NEEs rates are much faster than HICs. This is mostly because of the rapid economic growth they are experiencing.



## Causes of Urbanisation

Rural - urban migration (1)

The movement of people from rural to urban areas.

Push

- Natural disasters
- War and Conflict
- Mechanisation
  - Drought
- Lack of employment

Pull

- More Jobs
- Better education & healthcare
- Increased quality of life.
- Following family members.

Natural Increase (2)

When the birth rate exceeds the death rate.

Increase in birth rate (BR)

Lower death rate (DR)

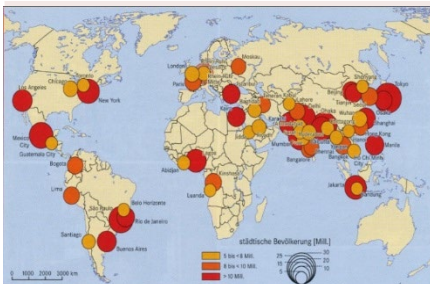
- High percentage of population are child-bearing age which leads to high fertility rate.
- Lack of contraception or education about family planning.

- Higher life expectancy due to better living conditions and diet.
- Improved medical facilities helps lower infant mortality rate.

## Types of Cities

Megacity

An urban area with over 10 million people living there.



More than two thirds of current megacities are located in either NEEs (Brazil) and LICs (Nigeria). The amount of megacities are predicted to increase from 28 to 41 by 2030.

## Sustainable Urban Living

Sustainable urban living means being able to live in cities in ways that do not pollute the environment and using resources in ways that ensure future generations also can use them.



Water Conservation

This is about reducing the amount of water used.

- Collecting rainwater for gardens and flushing toilets.
- Installing water meters and toilets that flush less water.
- Educating people on using less water.



Creating Green Space

Creating green spaces in urban areas can improve places for people who want to live there.

- Provide natural cooler areas for people to relax in.
- Encourages people to exercise.
- Reduces the risk of flooding from surface runoff.

Energy Conservation



Using less fossil fuels can reduce the rate of climate change.

- Promoting renewable energy sources.
- Making homes more energy efficient.
- Encouraging people to use energy.



Waste Recycling

More recycling means fewer resources are used. Less waste reduces the amount that eventually goes to landfill.

- Collection of household waste.
- More local recycling facilities.
- Greater awareness of the benefits in recycling.

## Unit 2a

AQA

# Urban Issues & Challenges

## Sustainable Urban Living Example: Freiburg



Background & Location

Freiburg is in west Germany. The city has a population of about 220,000. In 1970 it set the goal of focusing on social, economic and environmental sustainability.



Sustainable Strategies

- The city's waste water allows for rainwater to be retained.
- The use of sustainable energy such as solar and wind is becoming more important.
- 40% of the city is forested with many open spaces for recreation, clean air and reducing flood risk.

## Integrated Transport System



This is the linking of different forms of public and private transport within a city and the surrounding area.

Brownfield Site



Brownfield sites is an area of land or premises that has been previously used, but has subsequently become vacant, derelict or contaminated.

## Traffic Management



Urban areas are busy places with many people travelling by different modes of transport. This has caused urban areas to experience different traffic congestion that can lead to various problems.

Environmental problems

- Traffic increases air pollution which releases greenhouse gases that is leading to climate change.



Economic problems

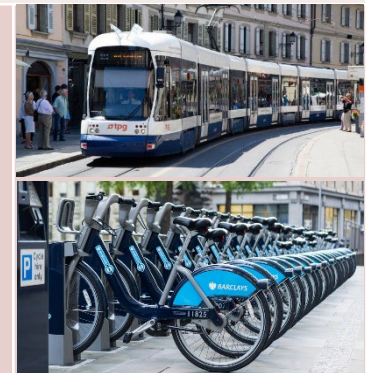
- Congestion can make people late for work and business deliveries take longer. This can cause companies to lose money.

Social Problems

- There is a greater risk of accidents and congestion is a cause of frustration. Traffic can also lead to health issues for pedestrians.

## Congestion Solutions

- Widen roads to allow more traffic to flow easily.
- Build ring roads and bypasses to keep through traffic out of city centres.
- Introduce park and ride schemes to reduce car use.
- Encourage car-sharing schemes in work places.
- Have public transport, cycle lanes & cycle hire schemes.
- Having congestion charges discourages drivers from entering the busy city centres.



## Traffic Management Example: Bristol

In 2012 Bristol was the most congested city in the UK. Now the city aims to develop its integrated transport system to encourage more people to use the public transport. The city has also invested in cycle routes and hiring schemes.



## Greenbelt Area



This is a zone of land surrounding a city where new building is strictly controlled to try to prevent cities growing too much and too fast.

Urban Regeneration



The investment in the revival of old, urban areas by either improving what is there or clearing it away and rebuilding.

Urban Change in a Major UK City: London		Urban Change in a Major NEE City: Lagos Case Study	
Location and Background	City’s Importance	Location and Background	City’s Importance
London is a city in the south-east of the UK. It has a population of 10 million people. The city was founded by the Romans and grew dramatically during the industrial revolution. Docks and ports traded around the world.	The city enjoys a large sporting heritage with famous athletes and football clubs. <ul style="list-style-type: none"><li>• London is the centre of UK trade and a hub of financial trade</li><li>• London attracts graduates from all over the UK and the world to work in it s many expanding businesses. UK’s wealthiest city</li><li>• Major UK transport hub – airports etc</li></ul>	Lagos is located in the southwest of Nigeria on the coast of the Gulf of Guinea. It was the capital of Nigeria until 1991.	Has 80 of industry in Nigeria <ul style="list-style-type: none"><li>• Accounts for 25% GDP</li><li>• 80% of imports and 70% of exports pass through the docks</li><li>• Media centre and huge film industry</li><li>• One of highest standards of living in Africa</li><li>• Hosted African cup of Nations tournament</li><li>• ICT centre of West Africa</li><li>• Home to most financial institutions</li></ul>
Migration to London	City’s Opportunities	Migration to Lagos	City’s Opportunities
During the industrial revolution, the population dramatically increased with people migrating from nearby rural communities.	Social: Cultural mix, lots of recreation facilities and tourist attractions. Lots of bars and restaurants and theatres.	The city was initially a fishing village but developed into a thriving colonial sea port. Since 1970s and the oil boom thousands of people migrate daily.	More schools and universities <ul style="list-style-type: none"><li>• Growing industry – fashion, finance and film (Nollywood)</li><li>• Healthcare available</li><li>• 68% have secondary education (40% of people in rural areas don’t get a primary education)</li><li>• Above average healthcare, education and employment – 9 years education, 53 years life expectancy</li></ul>
With attraction of making money and getting a job people came from all over the world. Lots of people from India, Nigeria, Jamaica.	Economic: Major world financial centre, highly skilled workforce. Likely to be employed in managerial/professional roles, which earn more money.	Rural to urban migration has accounted for most of this growth in the last 50 years due to poor rural services, low wages, land shortages and climate change. People come from within Nigeria and from surrounding countries.	2 power stations planned. <ul style="list-style-type: none"><li>• Wealthy houses and businesses have generators</li><li>• Rich have pipes water</li><li>• Rest use public taps, boreholes or buy from vendors</li></ul>
One of the most multicultural places on the planet.	Environmental: Urban greening –increase the % of green spaces in a city. Rooftop gardens - better quality of life, reduce flooding, wildlife habitats. Lots of parks for walking and a better environment	60% live in slums <ul style="list-style-type: none"><li>• Most in Lagoon area e.g. Makoko</li><li>• Lack basic facilities, communal toilets, waste put into the lagoon causing disease. 3km to communal water point</li><li>• Crime in the slums an issue</li><li>• Eco Atlantic – New city of 250, 000</li></ul>	More jobs in Lagos in both the formal and informal economy <ul style="list-style-type: none"><li>• Evo Atlantic – new financial hub – 150, 000 jobs</li><li>• Nollywood film indu</li></ul>
Recent migration from Eastern Europe. Due to free movement from the EU.	London Olympic Regeneration Projects		
City Challenges		City Challenges	Sustainable Transport System
Social: Urban deprivation, inequalities in housing, education, health, employment. House prices too high, unequal incomes, children do not get equal exam grades, people in wealthy areas live longer than those in poor areas. Different cultures do not always mix.	<b>Why was it needed:</b> Socially deprived area of Newham Lea Valley was a former industrial area now in decline Lack of school spaces Idea to improve the area through regeneration – reuse the land, new homes, improve infrastructure and buildings <b>Success</b> Socially – Athletes village used for new housing estate/new school/unemployment fell Economically: new tube station/improved infrastructure/9bn of investment Environmentally- new parkland, improve water quality River Lea <b>Problems</b> Socially – new rents too high, people moved out of their homes to make the new housing Economically – 5bn over budget – could be spent on deprivation Environmentally – much wildlife relocated, 3.3 mill tonnes of CO2	Shanty towns are established around the city, typically on unfavourable land, such as swamps and the lagoon <ul style="list-style-type: none"><li>• There are a severe shortage of housing, schools and healthcare centres available.</li><li>• The city suffers from a high crime rate that includes gun/gang violence and drugs.</li><li>• The rapid urbanisation causes dangerous levels of pollution and traffic congestion.</li><li>• Large scale social inequality, is creating tensions between the rich and poor.</li></ul>	The authorities have introduced a Bus Rapid Transport System <ul style="list-style-type: none"><li>• A separate bus lane is used</li><li>• 200,000 people are transported every day to the CBD on Lagos Island</li><li>• This will be incorporated into an integrated transport system linking buses, taxis (danfos), ferries and railways.</li><li>• In 2016 a new light railway opened and further rail routes are planned</li></ul>
Economic: Employment rate is above national average 10% - major issue. Lack of integration between cultures.			
<b>Environmental:</b> Urban sprawl has led to increased pressure and decline of greenfield sites around the city. Dereliction – lots of empty brownfield sites. Waste disposal and air pollution – lots of traffic. Waste – lots of waste, incineration and landfill, developing more recycling.			



Medieval (1250 – 1500) Approaches to TREATMENT and PREVENTION	
Religious/supernatural:	Prayer; saying mass; fasting; going on pilgrimage – all advised as <u>religious “treatments”</u> . Some believed <u>disease was a punishment sent by God</u> , therefore you should not try to treat.
Humoural Treatments:	Physician suggested a treatment for each symptom, including bleeding and purging; bathing (only available to rich); remedies (made from herbs and spices)
Prevention:	<u>PRAY!</u> Practice basic hygiene (as recommended in the Regimen Sanitatis); purifying bad air (e.g. carrying a sweet-smelling “posy”; some measures were taken to keep towns clean, like clearing animal corpses)
Who cared for the Sick?	The <u>Physician</u> was university educated; expensive so only available if you were rich. Diagnosed illness by: observing sample of urine/faeces/blood and consulting astrological charts. <u>Apothecary</u> mixed the herbal remedies. <u>Surgeon</u> performed basic operations and bleeding. Approx. 1,100 <u>Hospitals</u> by 1500, 30% run by Church. Provide clean place to rest and eat well. Many hospitals were places for travellers to stay. Emphasis on Care not cure. Most people cared for at <u>home</u> (kept clear, fed, herbal remedies). This was considered to be a woman’s role.

Renaissance (1500 – 1700) Approaches to TREATMENT and PREVENTION	
Religious/supernatural:	Time of discovery, scientific progress and experiments. The church had less control over life so there was a chance for the spread of new ideas.
Treatment	<u>Transference</u> – disease could be transferred to an object by rubbing it. Lots more <u>herbal remedies</u> available from newly discovered lands of the New World. The new science of chemistry resulted in lots of <u>chemical cures</u> . <u>Apothecaries</u> and <u>surgeons</u> were better trained. <u>Less hospitals</u> available because many of these had been run by the monasteries, which were closed by Henry VIII.
Prevention:	Ideas about cause of disease had advanced, but treatments were still not effective. Therefore, prevention still very important. <u>Cleanliness</u> still important, though less use of public baths since arrival of syphilis. <u>Moderation</u> avoiding too much alcohol, cold, food etc. To <u>reduce miasma</u> homeowners in some towns had to pay a fine if they did not clean outside their homes.

C18th – C19th (1700 – 1900) Approaches to TREATMENT and PREVENTION	
Hospitals:	<u>Florence Nightingale</u> : Nurse in Crimean War 1854; hospitals appalling. Made changes to way wounded soldiers treated; <u>Sanitation</u> (clean hospital, bedding etc); <u>Nurses</u> to provide care & <u>good meals</u> provided. Mortality rate (% of wounded dying) <u>fell from 40% to 2%</u> Upon return to GB Nightingale set up <u>nursing college</u> , designed <u>hospital wards</u> & wrote “Notes on Nursing”.
Treatment	<u>Koch and Pasteur</u> – Pasteur was the first to suggest that <u>Germs</u> cause disease. He published his idea in <u>1861</u> called the <u>Germ Theory</u> . He argued that microbes in the air caused decay not the other way round. – Koch used dye to <u>identify microbes</u> . He linked specific disease to the particular microbe that caused them. This technique was called ‘ <u>Microbe hunting</u> ’. He identified several disease such as tuberculosis (1882) and Cholera (1883).
Prevention:	<u>Edward Jenner</u> developed <u>vaccination</u> to protect against smallpox. Previously people had been inoculated (given a small dose of disease to develop immunity). 1776 Jenner worked out you could make someone immune to smallpox by injecting a small amount of Cowpox. Lots of opposition from Church, inoculators and scientists.

TECHNICAL VOCABULARY	
Inoculation	Protecting someone from a disease by giving them a weakened version.
Vaccination	A substance which gives someone a weakened form of a disease to protect them from it.
Symptom	A negative side effect of the disease, e.g. a runny nose is a symptom of a cold.
Diagnosing	The process of trying to work out what illness a patient has.
Purging	A natural treatment that tried to rebalance the humours by giving the patient something to make them vomit or a laxative to make them defecate.
Astrology	The study of the movement of planets and the stars.
Flagellation	Flogging, whipping or beating oneself to punish someone for their sins or show a dedication to God.
Urine Chart	A tool used by a physician to help them diagnose a patient’s illness. They would look at a sample of the patients urine and compare it to a colour chart to determine why they were ill.
Infirmary	A hospital.
Apothecary	Mixed herbal remedies to try and create a cure for an illness.

Modern (1900 - ) Approaches to TREATMENT and PREVENTION	
<u>Technology/Chemical Cures:</u>	<ul style="list-style-type: none"><li>• <u>Magic bullet</u> = attacks disease, not body</li><li>• <u>Salvason 606</u> = first developed to attack syphilis</li><li>• <u>Penicillin</u> = 1928 <u>Alexander Fleming</u> noticed that in his lab, some mould was killing bacteria in a dirty petri dish (it had drifted in through the window). He didn’t study further but published his findings. <u>Florey and Chain</u> were studying antibiotics. They read Fleming’s work and tested it successfully in <u>1940</u> on mice. They couldn’t however produce large quantities. When US joined WW2 in 1941, Florey and Chain got backing from big <u>American Drug Companies</u> to mass produce.</li><li>• <u>Technology</u> has helped to identify and combat diseases</li></ul>
Prevention:	<u>Government</u> has assumed responsibility for Public Health. Compulsory vaccinations. Laws to provide health environment (e.g. Clean Air Act 1956) Communication about health risks of lifestyle choice (e.g. anti-smoking campaigns)

Theory of four humours	Theory that the body is made up of four humours. If one humour is out of balance then you will fall ill.
Theory of opposites	The idea to treat illness by re-balancing the humour.
Miasma	The theory that disease was caused by bad or dirty air and this led to illness and death.
Islamic beliefs	Doctors in hospitals ‘For every disease Allah has given a cure’. Mental illness is treated with compassion. Avicenna’s book the Cannon of Medicine documented 760 drugs.
Christian beliefs	Believed in ‘Care not cure’, illness and disease are a punishment from God for committing sins. Medical understanding based on Galen and Hippocrates’ ideas. Human dissections are banned by the Church. 700 Hospitals in England – used for rest, rather than treatment.
Spontaneous Germination	An old belief that germs are the result of disease and decay, rather than the cause of them. This idea is now known to be false.



Kings would have had Royal Physicians attached to them. These Royal Physicians would have provided top levels of care and would have been paid well.

The Royal College of Physicians was established in 1518 by King Henry VIII. It played a key role in the development of medical practice and raising standards and shaping public health.

## MONARCHY

In the medieval period the Church was very important in the development of medicine. The Church advocated the care of the "sick and needy".

Furthermore, the majority of Schools and Universities were run by the Church so they were influential in teaching Medicine and Medical practice. Also, hospitals would have been attached to religious buildings.

## RELIGION

Throughout History there have been numerous invasions for a variety of reasons.

Invasion led to developments in medicine through ideas being shared during the Crusades.

Development in Penicillin was crucial to the allies invasion of Normandy (Operation Overlord) during World War Two.

## INVASION

The government's attitude to public health changed over time and after several epidemics of disease such as cholera they began to realize that they must take further responsibility for public health.

From 1860's onwards the government began to take more action to improve living conditions in cities.

## POLITICAL REFORM

# Public Health– Medicine through Time

## HISTORICAL SUBSTANTIVE CONCEPTS

## IDEOLOGY

The ideas of the cause of disease was based on the ideas of Hippocrates and Galan, doctors from the Greek and Roman periods. The power of the Church continued to influence medieval thinking.

This meant that most people in the medieval period believed the Theory of the Four Humors, Miasma, God and supernatural .

## CONFLICT

The majority of tasks for the King of England was to defend the country and keep it peaceful. He was not interested in Public Health.

## REVOLUTION

Louis Pasteur and the Germ Theory – In 1861 French scientist Louis Pasteur came up with the Germ Theory which challenged the idea of Spontaneous Generation and finally led the way to understand the true cause of disease!

A HUGE breakthrough!

## TAX & ECONOMY

The government did not take any taxes to improve peoples health or medicine, so no money was spent to improve medicine.

Only during a crisis (the Black Death) did the government aim to tackle public health.

## GCSE Dance Knowledge Organiser

Exam command words

**Analyse:** Separate information into components and identify characteristics to be able to explain and interpret.

**Comment:** Present an informed opinion.

**Compare:** Identify similarities and/or differences.

**Consider:** Review and respond to information given.

**Define:** Specify meaning.

**Describe:** Set out characteristics.

**Discuss:** Present key points taking into account different ideas, characteristics and/or features.

**Evaluate:** Judge from available evidence and make an informed design on the effectiveness.

**Explain:** Set out purposes or reasons.

**Give:** Produce an answer from recall.

**How:** State in what ways.

**Identify:** Name or characterise.

**Interpret:** Translate information into recognisable form demonstrating an understanding of meaning.

**Name:** Identify correctly.

**Outline:** Set out main characteristics.

**State:** Express in clear terms.

**Suggest:** Present a possible case or possible answer.

**Tick:** Put a mark to indicate something is correct.

**What:** Specify something.

**Which:** Specify from a range of possibilities.

**Why:** Give a reason or purpose.

Knowledge, understanding and skills for performance

### Expressive skills

Projection.  
Focus.  
Spatial awareness.  
Facial expression  
Phrasing  
Musicality  
Sensitivity to other dancers  
Communication of choreographic intent

### Physical skills

Posture  
Alignment  
Balance  
Coordination  
Control  
Flexibility  
Mobility  
Strength  
Stamina

### Technical skills

Action  
Space  
Dynamics  
Relationships  
Timing  
Rhythmic content  
Moving in a stylistically accurate way

### Mental Skills

Prep for performance:  
Systematic repetition  
Mental rehearsal  
Rehearsal discipline  
Planning of rehearsal  
Response to feedback  
Capacity to improve

During performance:  
Movement memory  
Commitment  
Concentration  
Confidence

### Safe Practice

Prep for performance:  
Warming up  
Cooling down  
Nutrition  
Hydration

During performance:  
Safe execution  
Appropriate dance wear:  
footwear  
hairstyle  
clothing  
absence of jewellery

### Action

Travel  
Turn  
Elevation  
Gesture  
Stillness  
Use of different body parts  
Floor work  
Transfer of weight

### Dynamics

Fast/slow  
Sudden/sustained  
Acceleration/deceleration  
Strong/light  
Direct/indirect  
Flowing/abrupt

### Spatial Content

Pathways  
Levels  
Direction  
Size of movement  
Patterns  
Spatial design

### Relationship Content

Lead and follow  
Mirroring  
Action and reaction  
Accumulation  
Complement and contrast  
Counterpoint  
Contact  
Formations

### Choreographic processes

Researching  
Improvising  
Generating  
Selecting  
Developing  
Structuring  
Refining and synthesising

### Structuring devices and form

Binary  
Ternary  
Rondo  
Narrative  
Episodic  
Beginning/middle/end  
Unity  
Logical sequence  
Transitions

### Choreographic devices

Motif and development  
Repetition  
Contrast  
Highlights  
Climax  
Manipulation of number  
Unison and canon

### Features of production

**Staging/set:** Eg- projection, furniture, structures, backdrop, screens and features of these such as colour, texture, shape, decoration, materials.

**Lighting:** Eg- Colour, placement, direction, angles etc.

**Properties:** Eg- Size, shape, materials, how used etc.

**Costume:** Footwear, masks, make up, accessories, Features such as colour, texture, material, flow, shape, line, weight, decoration and how they define character or gender, identify characters, enhance or sculpt the body and enhance the action.

**Dancers:** Number and gender.

**Aural setting:** Eg: Song, instrumental, orchestral, spoken word, silence, natural sound, found sound, body percussion, style, structure and musical elements such as tone, pitch and rhythm.

**Dance for camera:** Eg- Placement, angle, proximity, special effects.

### Choreography key words

**Stimulus:** The starting point for a dance piece.

**Motif:** A short phrase of movement that reflects a stimulus.

### Choreographic intention:

What the choreographer would like the audience to learn about the dance.

### Choreographic approach:

How the choreographer created movement material eg- improvisation, collaboration, choreographic tasks.

### Communication of choreographic intent

Mood  
Meaning  
Idea  
Theme  
Style/style fusion

### Performance environment

Proscenium arch  
End stage  
Site-sensitive  
In-the-round

## Key Knowledge:

### Devised theatre - frequently called collective creation -

- Is a method of theatre-making in which the script or (if it is a predominantly physical work) performance score originates from collaborative, often improvisatory work by a performing ensemble.
- The ensemble is typically made up of actors, but other categories of theatre practitioner may also be central to this process of generative collaboration, such as visual artists, composers, and choreographers.
- This process is similar to that of commedia dell'arte and street theatre. It also shares some common principles with improvisational theatre; however, in devising, improvisation is typically confined to the creation process: by the time a devised piece is presented to the public, it usually has a fixed, or partly fixed form.



### TECHNICAL VOCABULARY

Devising	is a method of <b>theatre</b> -making in which the script or (if it is a predominantly physical work) performance score originates from collaborative, often improvisatory work by a performing ensemble.
Audience	An <b>audience</b> is a group of people who participate in a show or encounter a work of theatre.
Hook	used at the beginning of a play to engage an audience's curiosity
Style	Indicates a specific way of performing.
Performance	The act of presenting a play or a piece of music or other entertainment to an audience.
Skills	The elements needed to create or achieve something.
Stylistic Qualities	The qualities of the piece that make it a certain style. E.g. Naturalism
Purposes	The reason for which something is created. E.g. 'The purpose of the play is to teach.'
Inter-relationships	The way in which two or more things are related to each other.
Tension	As the audience anticipates certain outcomes in the plot, the <b>tension builds</b> . An obvious example of rising tension is in a mystery or whodunit.

### Key Skills:

Analysis  
Collaboration  
Communication  
Imagination  
Improvisation  
Rehearsal  
Team Work

Test out  
your ideas  
before  
dismissing  
them.

## Structure of a devised play

Make the transitions  
interesting.

Target audience- What effect  
do you want to have?

Divide into bite sized  
chunks

### Use Theatrical technique to punctuate it:

Freeze,  
repetition,  
gesture,  
characterisation,  
movement, slow  
motion, titles,  
thought tracking

# Music terms and signs

## Glossary - Eduqas GCSE Music



Dynamics					
<i>pp</i>	<i>p</i>	<i>mp</i>	<i>mf</i>	<i>f</i>	<i>ff</i>
PIANISSIMO	PIANO	MEZZO PIANO	MEZZO FORTE	FORTE	FORTISSIMO
very soft (v.quiet)	soft (quiet)	moderately soft	moderately loud	loud	very loud
<b>crescendo (cresc.)</b>			<b>diminuendo (dim.)</b>		
gradually getting louder			gradually getting quieter		

Tempo					
LARGO	LENTO/ ADAGIO	ANDANTE/ MODERATO	ALLGRETTO	ALLEGRO/ VIVACE	PRESTO
v.slow	slow	walking pace/ moderate	quite fast	quick/lively	very quick
<ul style="list-style-type: none"><li>• <b>Accelerando:</b> gradually getting faster</li><li>• <b>Rallentando/ritardando:</b> gradually getting slower</li><li>• <b>A tempo:</b> return to the original speed</li><li>• <b>Ritenuto:</b> in slower time</li><li>• <b>Rubato:</b> rhythms are played in a more free/flexible way ('robbed time').</li></ul>					

Time values			
NOTE	NAME	LENGTH (duration)	REST
	Semibreve	4 beats	
	Minim	2 beats	
	Crotchet	1 beats	
	Quaver	½ beats	
	Semiquaver	¼ beats	
A dot after the note increases its length by half:			
	Dotted minim		
	Dotted crotchet		
Groups of quavers/semiquavers are usually beamed together:			

Terms and signs		
#	Sharp	Raises a note by a semitone.
b	Flat	Lowers a note by a semitone.
	Natural	Cancels a previous sharp or flat for a note.
	Staccato	Detached.
	Slur	Play smoothly.
	Tie	Hold the notes for the full value of the tied notes.
	Accent	Emphasize the note (play forcefully).
	Pause	Hold the note longer.
<i>sfz</i>	Sforzando	Sudden stress/ accent.



# Music terms and signs

## Glossary - Eduqas GCSE Music



### Key signatures

C Major

G Major D Major A Major E Major

F Major Bb Major Eb Major Ab Major

F C G D A E B

Order of sharps # → ← Order of flats b

time signature

treble clef

stave

barline

repeat sign

bass clef

key signature

notes on the lines

notes in the spaces

### Treble clef notes

### Bass clef notes

### Time signatures

Two crotchet beats per bar: simple duple

Two dotted crotchet beats per bar: compound duple

Three crotchet beats per bar: simple triple

Three dotted crotchet beats per bar: compound triple

Four crotchet beats per bar: simple quadruple

Four dotted crotchet beats per bar: compound quadruple

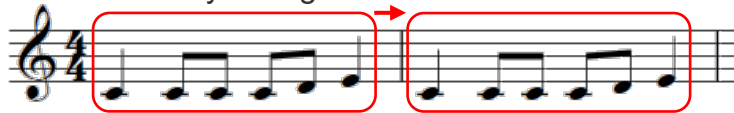
A triplet is when three notes are played in the time of two.

# MELODY

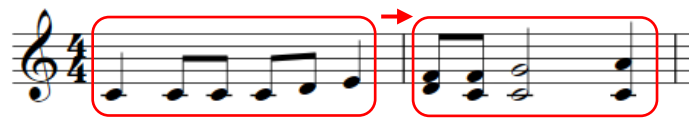
**Direction** Rising Falling



**Repetition** Doing the same thing again, without any changes.



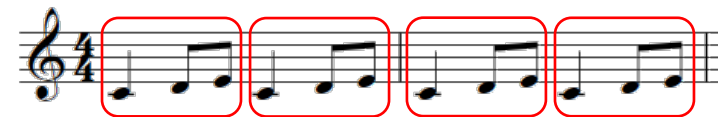
**Contrast** Doing something completely different.



**Imitation** Doing the same thing again, with some changes (similar).



**Ostinato** A short repeated idea.



**Chromatic** The melody uses notes that aren't in the scale / key of the piece.



High or low.

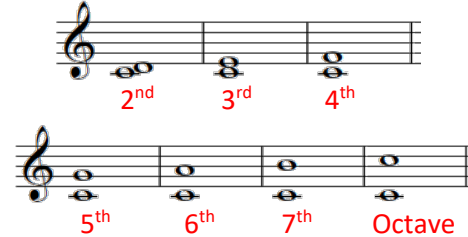
**Range**



Big or Small.



**Interval** The distance between two notes



\*Count the start note & end note

Conjunct (Moving In Step)

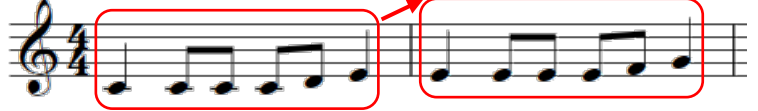
**Type of movement**



Disjunct (Moving In Leaps)



**Sequence** Doing the same shape idea but at a different pitch.



**Triadic** The tune is based on notes from the chords / triads.



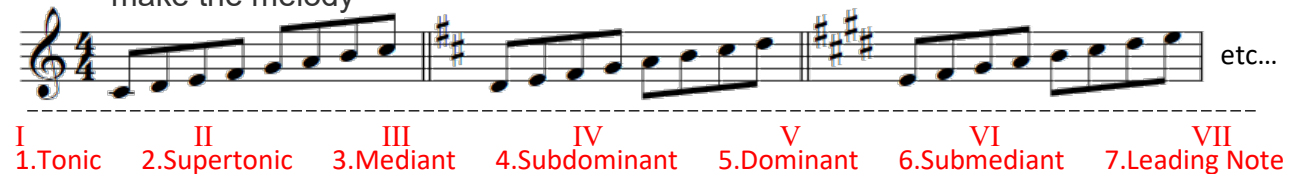
**Ornaments** Trills



**Mordents**



**Scale** The series of notes in a key that are used to make the melody



Assessment Taxonomy					
LIMITED	BASIC	EMERGING COMPETENT	COMPETENT & CONSISTENT	CONFIDENT & ASSURED	EXCEPTIONAL
Unstructured Clumsy Disjointed Minimal Elementary	Deliberate Methodical Superficial Unrefined Simplistic Tentative	Reflective Predictable Growing Control Broadening Endeavour Safe	Informed Purposeful Secure Engaged Skilful Thoughtful Cohesive	Advanced Convincing Comprehensive Focused Perceptive Refined Resolved Risk-taking	Accomplished Inspired Intuitive Insightful Powerful Extraordinary Unexpected Outstanding
1-12 marks	16-24 marks	28-36 marks	40-48 marks	52-60 marks	64-72 marks

Observational drawing in different media.

Initial research

Research will cover the 4 different themes of; man-made, people, environment and natural world. For each theme you will produce a double page of primary resources and research an artist, produce a copy of their work and then a response to their work. This will cover another double page.

Use your own photos not pictures from the internet.

TECHNICAL VOCABULARY	
Response	A reaction (to the work of an artist)
Primary source	Observed first hand
Experiment	To test (with different art media)
Annotate	Explanatory notes
Review	Evaluate
Reflect	Reconsider and modify
Independent	On your own
Formal Elements	The Formal Elements are the parts used to make a piece of artwork. They should be commented on when discussing your own work
Analyse	To examine in detail
Media	Different art equipment like paint

Research on chosen artist

Annotation explains links to artist and reflects on use of media

Copy of chosen artist.

Response to chosen artist using own photo to draw from.



## Technical principles – Knowledge organiser

<u>What</u>	<u>Definition</u>	<u>What</u>	<u>Definition</u>
<b>A static load</b>	Does not move	<u>NET</u>	2D object which is cut scored and folded into a 3d. Cut lines shown as solid lines
<b>A dynamic load</b>	Moving	<u>Carbon footprint</u>	is the amount of carbon produced from its raw material being made to its product.
<b>Tension</b>	pulling force is applied to either end of a material Stretching	<u>Ecological and social footprint</u>	
<b>Tensile</b>	resist being pulled apart	<u>Folding and bending</u>	techniques can be used to improve the mechanical and physical properties of a material
<b>Compression</b>	occurs when a pushing force is applied to either end of a material	<u>Laminating</u>	bonding two or material to improve its strength, stability and flexibility.
<b>Compression strength</b>	the ability of a material to resist being compressed or squashed	<u>Fabric interfacing</u>	Used in textiles and garments to add support, strength and structure to areas that are needed. These are sewn in Collars in shirts - Peak in the baseball caps.
<b>Torsion</b>	when something is twisted two ends of the material rotate the opposite way.	<u>Folding and bending</u>	Materials manipulated through reshaping can gain many physical advantages
<b>Torsional strength</b>	is the ability of a material to resist being twisted	<u>Curves, arches and tubes</u>	can also be added to give more strength whilst using minimum material
<b>Bending</b>	occurs when both sides are under compression and tension.	<u>Ecological and social footprint</u>	This measures the impact of a persons life on the environment by quantifying the amount of Co2 that are being used.
<b>Shear</b>	occurs when a force applies on an object in a perpendicular to its length	<u>Safe working conditions</u>	In Britain we have employment protect laws that protect us workers. The law holds accountability to the company/ Boss!!!  Heath and Safety Executive HSE
<b>Strengthening and enhancing materials</b>	To strengthen or enhance its strength you need to consider the forces that it will have upon it.	<u>Ecological issues in the design and manufacturing</u>	When products are made, natural resources are used, so designers and manufacturers have to make decisions which have a direct impact on the consumption of the earths resources
<b>Webbing</b>	Webbing is a strong fabric woven into strips from yarns, which are often made of synthetic fibres such as nylon or polyester, or even Kevlar Very light but strong and flexible	<u>Deforestation</u>	cutting down of trees
<b>Stiffening Materials</b>	Materials can be <i>laminated</i> to improve strength.	<u>Mining</u>	used to gather finite materials Surface and underground mining!
<b>Interfacing</b>	to stiffen a fabric	<u>Drilling</u>	getting oil and gas
<b>Farming</b>	A huge proportion of the earths crust is used as farmland. 11% - agriculture. 36% - growing crops		

Residential	Non- residential
<b>NON PROFIT MAKING</b> <ul style="list-style-type: none"><li>Care homes- Beaumond House</li><li>Armed forces- Army, navy</li><li>Prisons</li><li>Boarding schools- Wellow</li></ul> <b>Services provided- Accommodation, food and drink</b>	<b>NON PROFIT MAKING</b> <ul style="list-style-type: none"><li>Canteens in offices</li><li>Food supplied in schools, nurseries</li><li>Day care</li><li>Meals on wheels for the elderly</li></ul> <b>Services provided- Food and drink only</b>
Residential commercial	Non –residential- commercial
<b>PROFIT MAKING</b> <ul style="list-style-type: none"><li>Hotels</li><li>Farmhouses</li><li>Bed and breakfasts</li><li>Air B &amp; B</li><li>Holiday parks</li></ul> <b>Services provided- Accommodation, food, drinks, housekeeping, conference facilities</b>	<b>PROFIT MAKING</b> <ul style="list-style-type: none"><li>Restaurants</li><li>Cafes and coffee shops</li><li>Mobile vans- ice cream</li><li>Street food vendors</li><li>Pubs and bars</li></ul> <b>Services provided- Food and drink only to eat in or take away</b>

TECHNICAL VOCABULARY	
Contract caterer	Supply food and drink at facilities as well as staff where it is not already provided.
General manager	Responsible for the day to day running of the business
Head chef/ executive chef	In charge of kitchen, menu planning, Work rotas, ordering food and training staff
Sous chef	Day to day running of the kitchen, directly in charge of food production, covers for the head chef on holidays or if off sick
Chef de partie	Responsible for a particular section, the larger the kitchen, the more sections it has. Vegetables, sauces and soups, desserts.
Commis chef	Trainee sous chef, assists the head chef, takes on easier tasks
Canteen/ buffet/ carvery	Help yourself, can choose what you want, informal, quick, value for money, less staff, less skill, pre-prepare- Poor portion control
Table service	Orders are taken at the table, less choice, more staff required, more skilled chefs. More overheads
Vending service	24/7 limited choice, accurate portion control, no staff required. cheap

LO1 – (1.1)

Suppliers
<ul style="list-style-type: none"><li>Need to be reliable, deliver regularly</li><li>Guarantee good quality ingredients</li><li>Compatible market prices</li></ul> <p>There can be <b>primary @ source</b>- the grower or the farmer direct.</p> <p>Benefits-</p> <ul style="list-style-type: none"><li>saves on packaging</li><li>Reduced carbon footprint</li><li>Attractive to conscientious customers</li><li>Fresher produce</li><li>Know where it’s come from</li><li>Competitive prices as there isn’t a middle man</li></ul> <p><b>There are Secondary @ wholesaler</b></p> <ul style="list-style-type: none"><li>Can buy in bulk, cheaper, less packaging</li><li>Good choice</li><li>Offer delivery service</li><li>Specialist ingredients</li></ul> <p><b>There are tertiary @ retailers/ cash and carry</b></p> <ul style="list-style-type: none"><li>More expensive</li><li>Great choice</li><li>May not deliver</li><li>Shorter shelf life/ less fresh</li></ul>

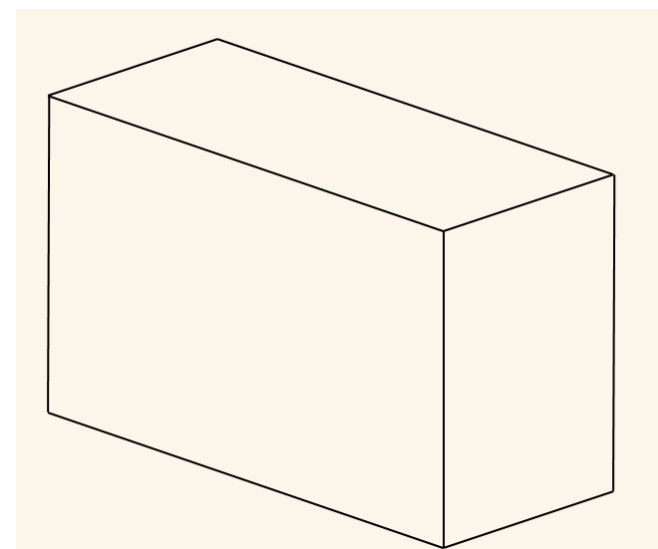
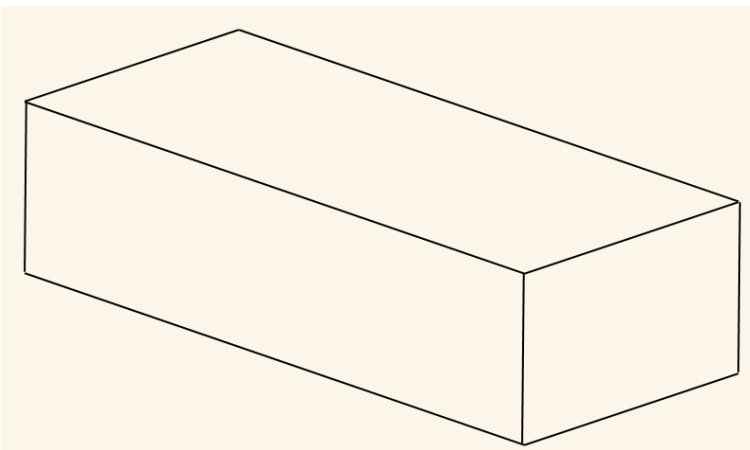
Standards ratings	Food hygiene standards
<b>1 *star - open 7 days a week</b> <ul style="list-style-type: none"><li>A reception</li><li>Breakfast</li><li>Bar</li></ul>	0- Urgent improvement required 1- Major improvement necessary 2- Some improvement required 3- Standards generally satisfactory 4- Hygiene standards are good 5- Hygiene standards are excellent
<b>2* Star- All of above with a higher standard</b>	<b>Restaurant standards</b> <b>Michelin star</b> - Top restaurants only 1- Very good 2- Excellent 3- Exceptional <b>AA Rosette</b> – Scored 1-5 1= good, better than the local competition 5= Comparative to the best in the world  <b>Who rates establishments?</b> <ul style="list-style-type: none"><li>Tourist boards</li><li>Guests</li><li>Social media reviews</li><li>Expedia, trip advisor</li><li>Organisations like AA</li></ul>
<b>3* Star-</b> <ul style="list-style-type: none"><li>Dinner</li><li>Room service</li></ul>	
<b>4* Star-</b> <ul style="list-style-type: none"><li>24hr room service</li><li>More staff</li><li>Restaurant</li></ul>	
<b>5* Star-</b> <ul style="list-style-type: none"><li>Open all year</li><li>Customer care</li><li>Spa, gym, pool</li><li>Concierge, valet parking</li><li>Restaurant open for all meals, often more than one.</li></ul>	

### Brick dimensions

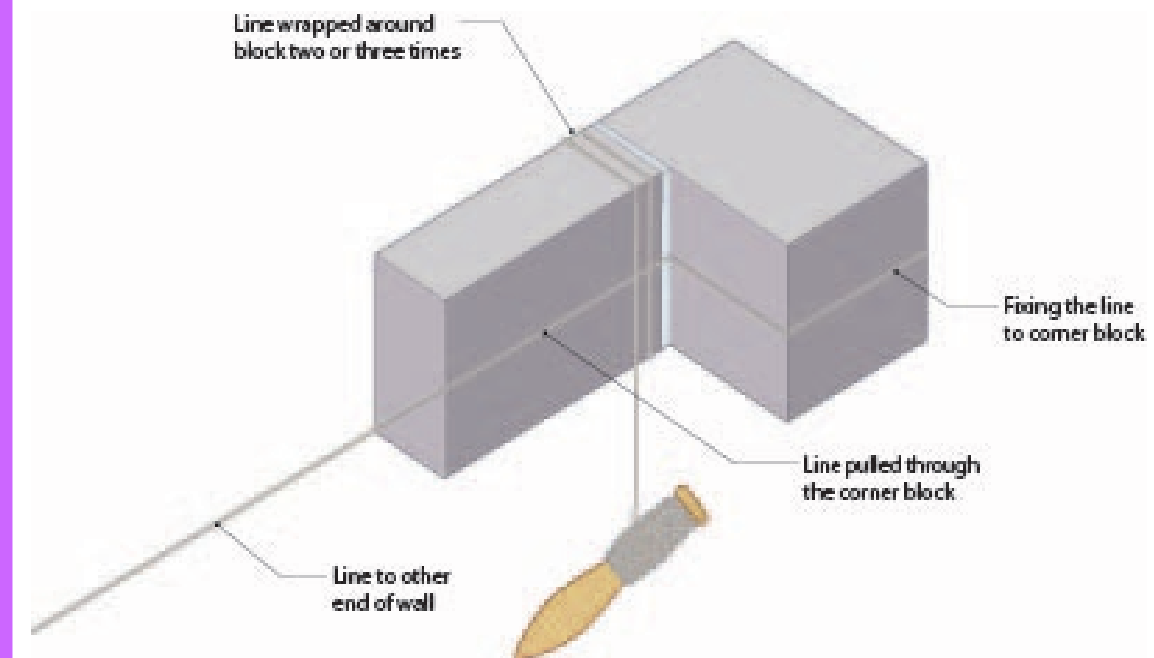
What is the length of a brick?  
What is the width of a brick?  
What is the depth of a brick?  
How thick is a mortar joint?

### Block dimensions

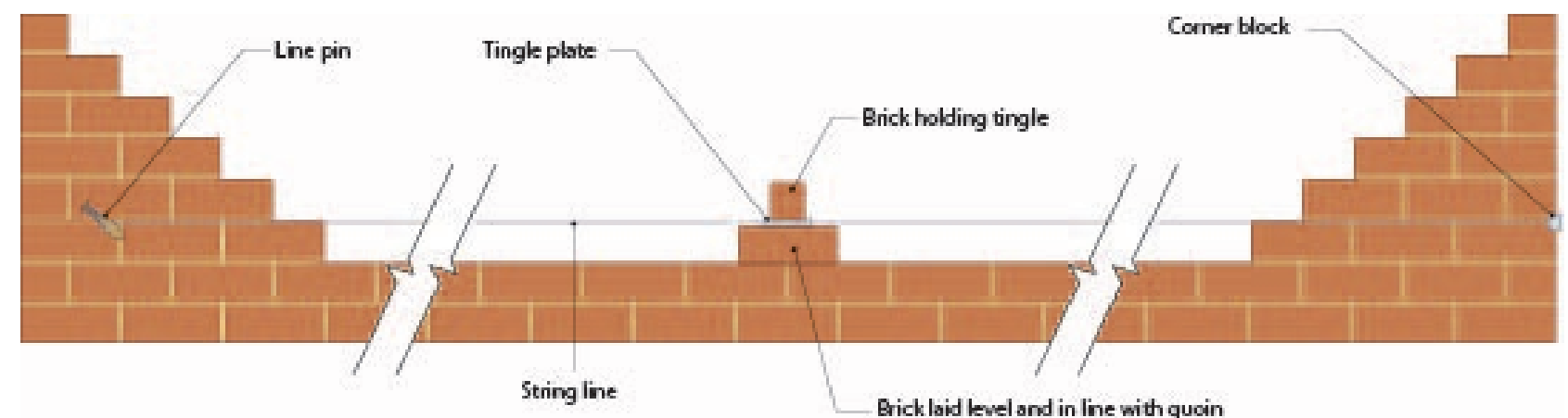
What is the length of a block?  
What is the width of a block?  
What is the depth of a block?



There are different methods of holding in place a string line so you can build to it.



- How does the tingle plate work?
- Why is it required?
- When would you use it?



Evidence to support a belief in life after death	
	Why might this support a belief in life after death?
Near Death Experiences	These are first hand accounts from those who have been near to death, providing information about what happens after life earth ends. Accounts often share similarities i.e. bright lights or seeing loved ones.
Past Life Memories	People have provided details of a previous life which when researched have been proven to be accurate, with other possible way to know this information.
Ghost Sightings	Ghosts are believed to be the spirits of the dead which appear in visible from to the living. A reliable witness may claim to have seen someone who is known to have died. Some believe these have unfinished business on earth which prevents them passing over completely.
Receiving a message from medium	People have received messages from mediums containing information that links directly to deceased loved one. Often there is no other way could have gathered that information.

Beliefs about heaven

1. Heaven is a spiritual existence of peace and happiness in the eternal presence of God.
2. It is often depicted as above the earth, a place where good people go after death for eternity.
3. Heaven is only for Christians as you have to believe in God to guarantee a place in heaven.
4. You have to believe in Jesus and live a good life to go to heaven.
5. Believers in God, not just Christians, will go to heaven.
6. It is a place of reward for both faith and good actions in life.



Beliefs about hell

1. Some Christians understand it to be a state of existence without God.
2. Traditional paintings depict it as a fiery place of eternal torment, suffering, torture and terror ruled by the Devil (Satan). It is usually depicted as below the earth.
3. Hell is the place where those who don't believe in God or Jesus go for eternity after death.
4. If you live an immoral life then you will go to hell.
5. Hell is an eternal state cut off from God. Any person not acknowledging God or follow God's teachings in their lifetime would face that eternity.




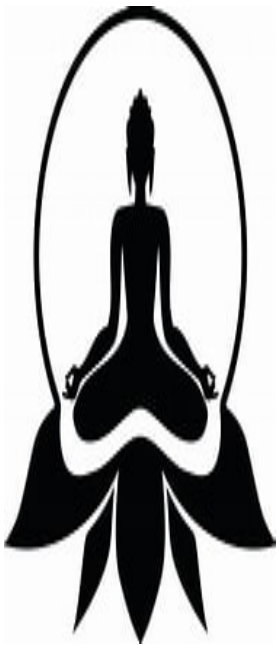
SUBJECT TERMINOLOGY	
Afterlife	The belief in continued existence in some form after physiological death. The belief that some aspect of an individual survives after death—usually, the individual's soul—is common to the great majority of the world's religions.
Eternity	Endless life after death.
Funeral	A ceremony or service held shortly after a person's death, usually including the person's burial or cremation.
Heaven	a place regarded in various religions as the place where God and the angels reside, and of the good after death.
Hell	a place regarded in various religions as a spiritual realm of evil and suffering, often traditionally depicted as a place of perpetual fire beneath the earth where the wicked are punished after death.
Judgement	The belief that a person will be judged by God to decide their destiny in the afterlife.
Medium	A person who claims to be able to communicate with dead people in the spirit world.
Nibbana	A Buddhist word meaning ‘quenching’ of the activities of the world and its suffering.
Near death experience	An occurrence in which a person comes very close to dying and has memories of a spiritual experience (such as meeting dead friends and family members or seeing a white light) during the time
Paranormal activity	Events or phenomena such as telekinesis or clairvoyance that are beyond the scope of normal scientific understanding.
Rebirth	The process of being reincarnated or born again.
Reincarnation	The belief that an individual does not live just one life, but that they live multiple lives, one after the other..
Revelation	The divine or supernatural disclosure to humans of something relating to human existence.
Spiritualism	A system of belief or religious practice based on supposed communication with the spirits of the dead, especially through mediums.

Tibetan Wheel of Life	
	<ol style="list-style-type: none"><li>1. To Buddhists, existence is a cycle of life, death, rebirth and suffering that they seek to escape altogether, and the Tibetan Wheel of ife shows this.</li><li>2. The Tibetan Wheel of Life illustrates the process of dependent arising (the idea that all things change and all things are interconnected) in relation to human life, death and rebirth.</li><li>3. The Wheel is divided into five or six realms, or states, into which a soul can be reborn. It is held by a demon. Around the rim are depicted the twelve stages of dependent origination.</li><li>4. The frightening figure holding the wheel is Yama, the Lord of Death or Monster of Impermanence. He has three eyes and wears a crown of skulls. Yama symbolises the impermanence of everything. The beings he holds are trapped in eternal suffering by their ignorance of the nature of the universe. Buddhism teaches that death is not the end and is not to be feared.</li><li>5. The outer circle is 12 links or stages of a human’s life (nidanas); the 12th link (old age and death) leads to the first link (ignorance). This shows the Buddhist teaching of rebirth; the wheel shows the cycle of birth, death, then rebirth this cycle is called <b>samsara</b>.</li><li>6. Depicted in the spokes of the wheel are the six (originally, five) realms of rebirth (<i>gatis</i>): the god realm, the realm of the <i>asuras</i> (originally included in the god realm), the realm of the hungry ghosts (<i>pretas</i>), the hell realm, the animal realm, and the realm of human beings.</li></ol>




Karuna (compassion); Metta (loving-kindness)	
When Buddha became enlightened what choice did he face?	He faced the question of what to do next – keep the knowledge and understanding to himself or share and teach others?
Why did Buddha decide to share his knowledge?	Buddha could see hardship in the world and he wanted to share his knowledge of how to overcome it out of compassion for those who were suffering. This compassion is called karuna.
What is Karuna one of?	Karuna is one of the four sublime states in Buddhism which are loving-kindness; compassion; sympathetic joy (happiness for others) and equanimity (maintaining stability and calm in the face of happiness and suffering).
For Buddhists why do wisdom and compassion go together?	Wisdom and compassion should be developed together as you cannot have one without the other or it could become unskilful.
What is metta and why should Buddhists develop this?	Metta is loving-kindness; showing a benevolent, kind friendly attitude towards other people. Buddhists develop this to dissolve away acting out of greed, ignorance or hatred.
What are the 5 steps in loving-kindness meditation?	It consists of five steps to grow loving-kindness: - 1. Yourself 2. A good friend 3. A ‘neutral’ person 4. A ‘difficult person’ 5. All four of these people gradually followed by all other people.

The Five Moral Precepts
<p>The Five Moral Precepts are: -</p> <ol style="list-style-type: none"><li>1/ To not take life.</li><li>2/ To not take which is not given to you.</li><li>3/ To not take anything that is a misuse of the senses or sexual misconduct.</li><li>4/ To avoid wrong speech.</li><li>5/ To avoid intoxicants that cloud the mind.</li></ol> <p>Due to these precepts many Buddhists are vegetarian or vegan; they will not steal from, manipulate or exploit other people; they shouldn’t engage in sexual activity that causes harm to others; Buddhists should speak truthfully, kindly and helpfully and they should avoid alcohol or drugs as these hinder calm and awareness.</p> <div></div>



Kamma and rebirth	
What is kamma?	A person’s actions; the idea that skilful actions result in happiness and unskilful ones in suffering.
What are skilful and unskilful actions rooted in?	Skilful – good, ethical actions and behaviours such as generosity, compassion and understanding. Unskilful – bad, unethical actions or behaviours such as craving, greed, hatred and ignorance.
According to Buddhists what do your actions impact on?	Your actions impact on your happiness and suffering right now but also in your future rebirths, as t links to which realm you are reborn into.
How is the idea of kamma empowering?	Buddhists can change the future through their actions, bu cultivating skilful mental states and actions.
How does kamma link to the Eightfold Path?	Kamma is concerned with right actions which is one of the elements of the Eightfold Path they need to reduce suffering to achieve enlightenment.
Why is kamma so important in Buddhism?	Kamma is an incentive to cultivate a more skilful way of life- you benefit more, other people benefit as well.

The Six Perfections	
	<p>The Six perfections: -</p> <ol style="list-style-type: none"><li>1/ Generosity or giving</li><li>2/ Morality</li><li>3/ Patience</li><li>4/ Energy</li><li>5/ Meditation</li><li>6/ Wisdom</li></ol>
<p><b>Generosity</b> – 3 main types of giving – giving material goods; giving protection from fear. Buddhists should give without expecting anything in return.</p> <p><b>Morality</b> – most Buddhists follow the five moral precepts. Mahayana Buddhists try to follow 5 more – not talking about other people’s errors or faults; not to praise oneself and speak badly of others; not to be stingy; not to be angry and not to speak badly of the 3 refuges.</p> <p><b>Patience</b> – a Bodhisattva embodies patience, tolerance and endurance. Buddhists should learn to endure personal hardship or suffering, to practice compassion and to have patience.</p> <p><b>Energy</b> – this is the cultivation of mental energy and strength; Buddhists should put effort into their practice of the Dhamma.</p> <p><b>Meditation</b> – this helps Buddhists develop the concentration and awareness needed to achieve the sixth perfection, which is wisdom.</p>	

Subject **Child Development: Growth and Development Y10a.**



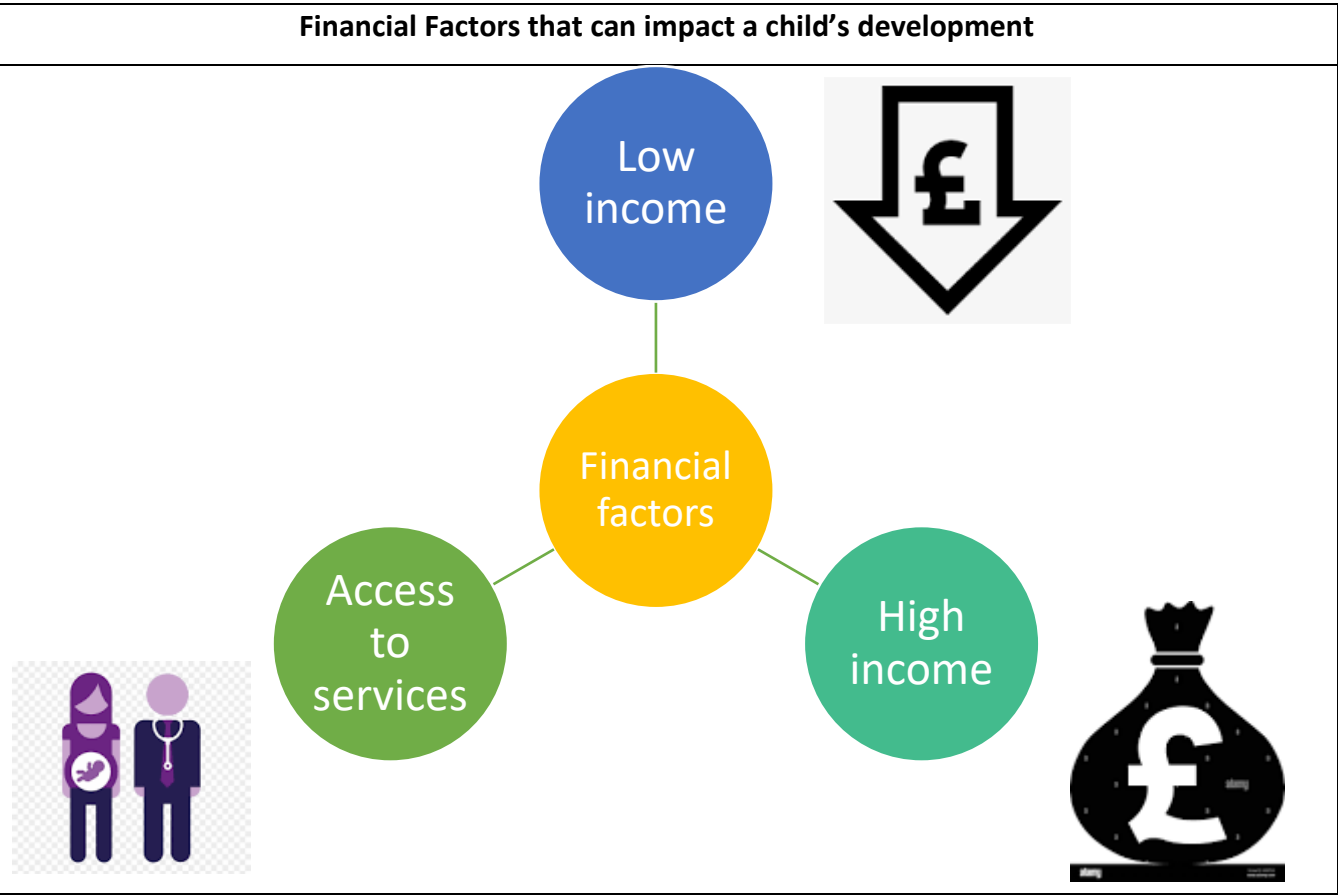
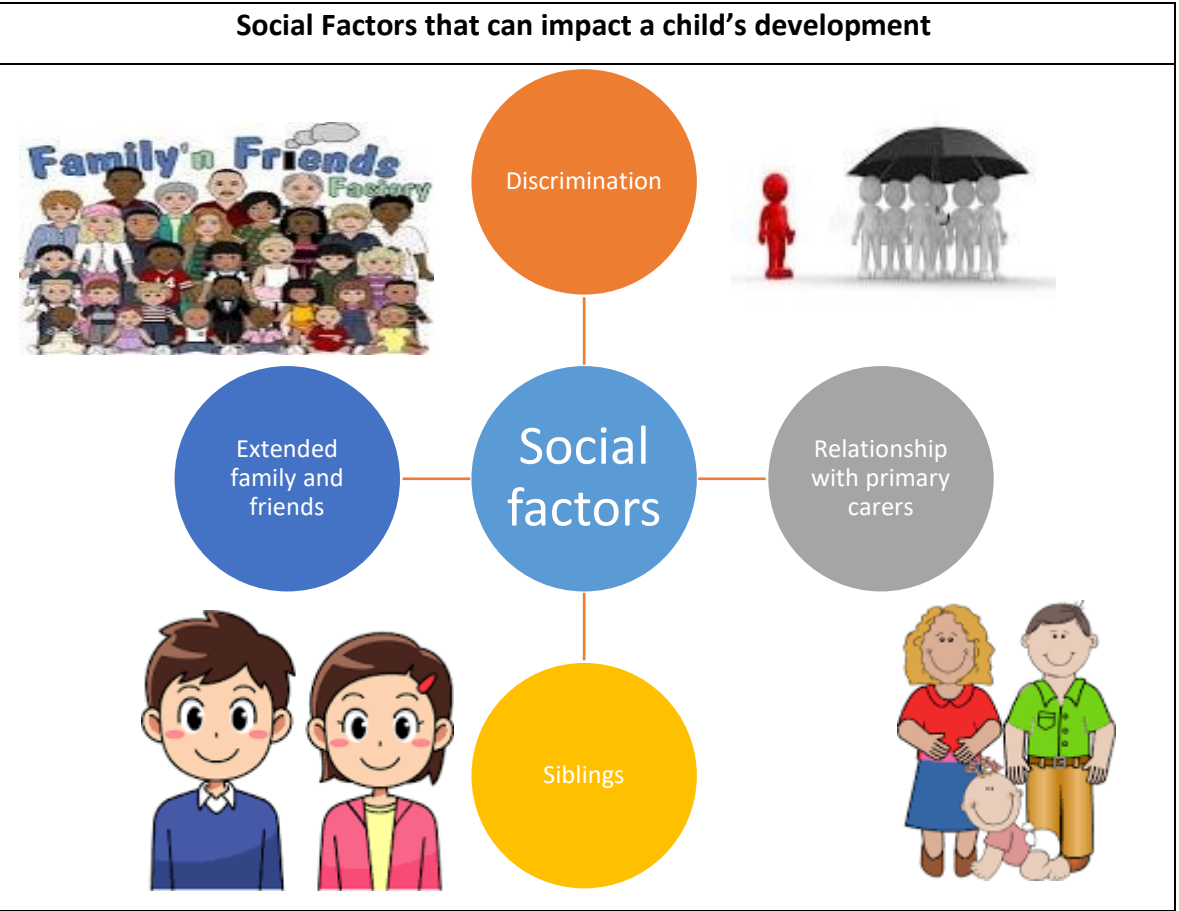
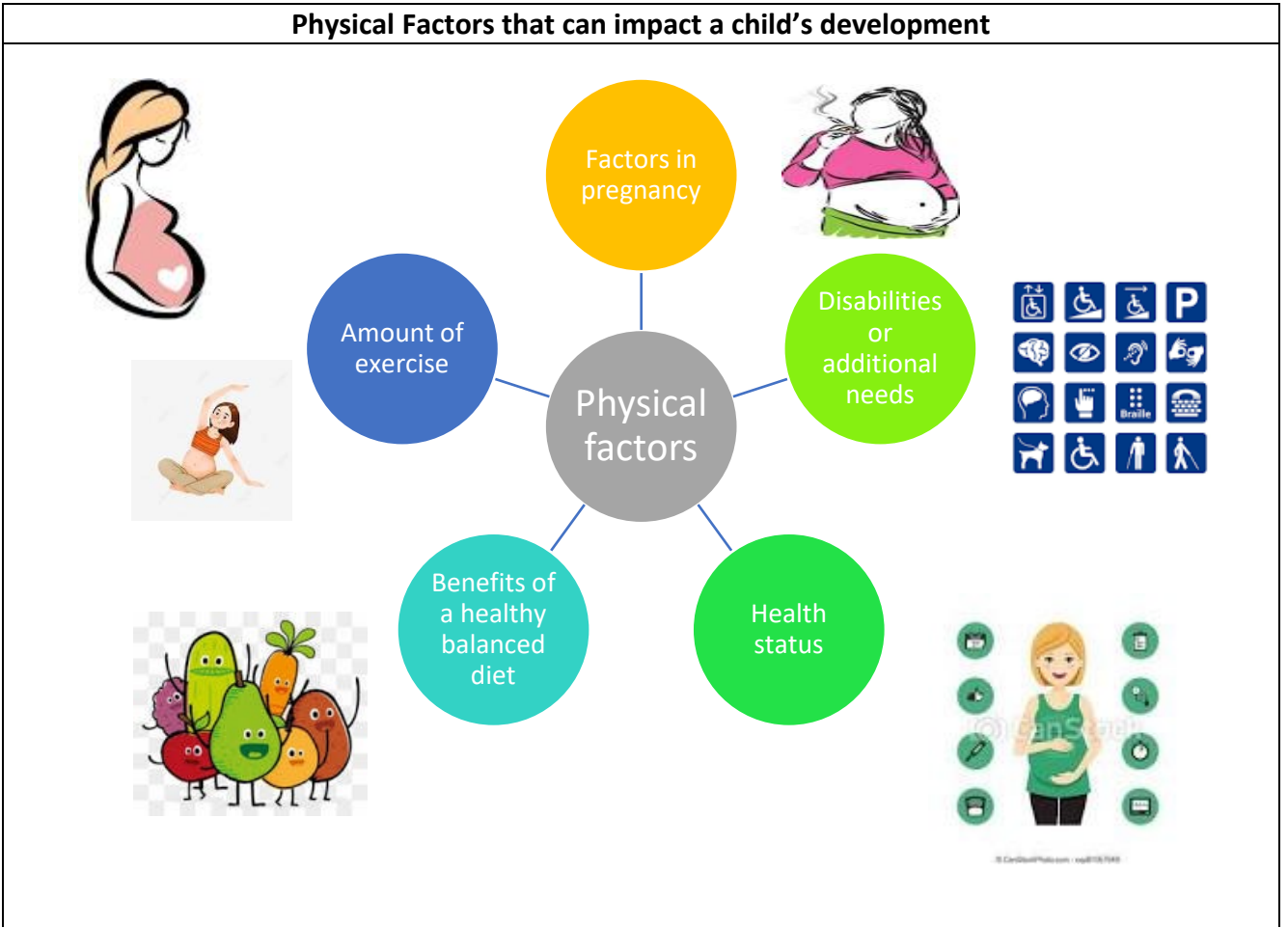
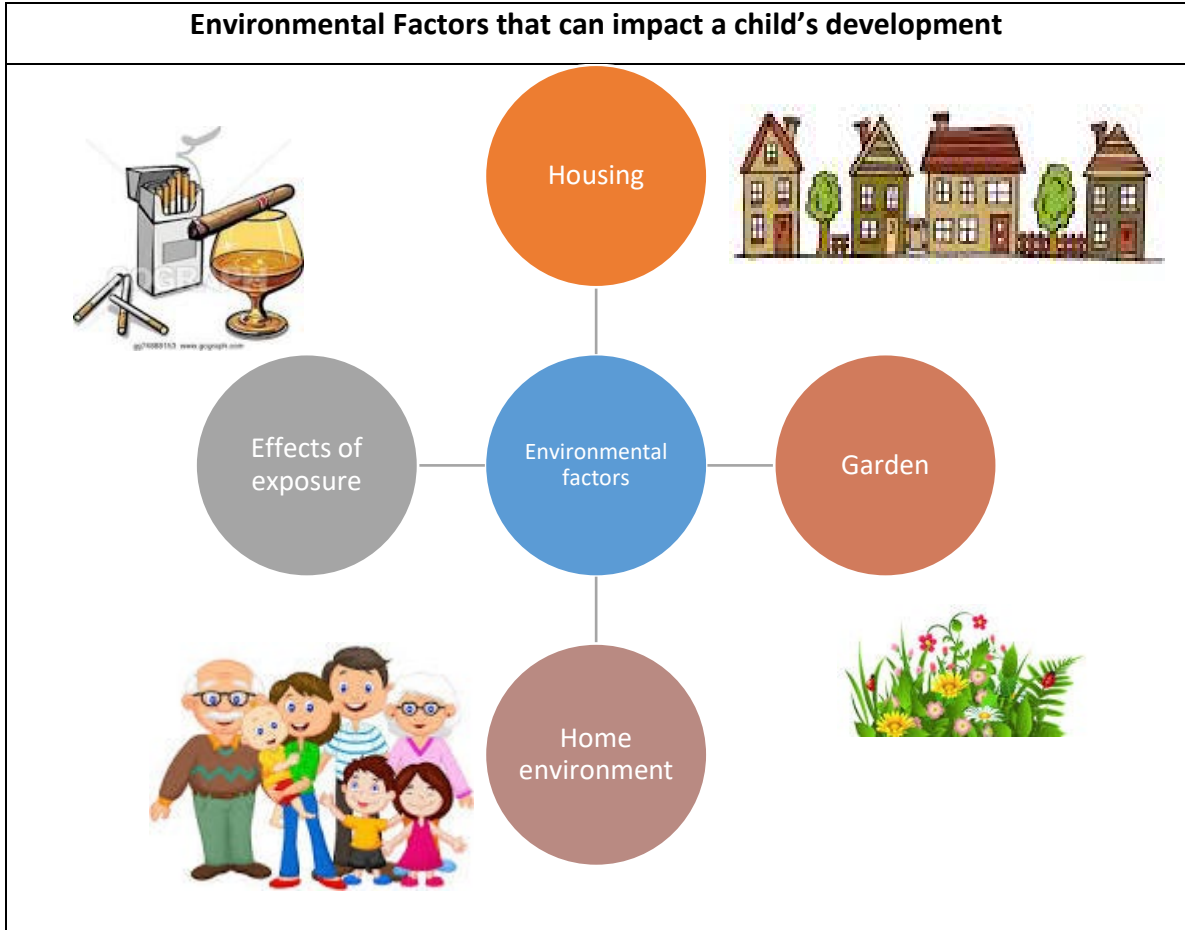
Growth	
What is growth a major feature of?	Childhood.
Why does growth take place?	Certain cells in the body keep dividing.
What does a division in cells in children mean?	Increases in height and weight, bones become longer and skeleton changes, development of muscles as well.
Who measures children?	Health visitors.
What measurements are plotted on a centile chart?	Height, weight and head circumference.
If children are not growing as expected what can this be a sign of?	Possible medical problems or a sign that the child is not eating the right quantity or type of food.
How can heredity affect growth?	Some medical conditions affecting growth can be inherited.
Why do bodies need nutrients?	Bodies need these in order for muscles, bones and organs to keep healthy and grow.
How much sleep do children need?	Babies need between 12-14 hours a day, young children need 10-12 hours.
How can emotional influences affect child’s	If children have long periods of unhappiness, they are less likely to sleep or eat well- more likely to be ill.

Development	
What is development?	The skills and knowledge we gain over time.
Do children develop at an even pace across all areas?	No some may have good language skills but not be able to kick a ball.
Why is it important to know the milestones for the different ages?	Can help you plan activities and spot any child that may need more support.
What are the 5 key development areas?	Physical, Cognitive, Communication and Language, Emotional and Behavioural and Social.
What’s the difference between gross and fine motor movements?	Gross are large movements of the arms and legs, fine are small movements usually of the hands.
What are fine manipulative movements?	Complex or intricate movements of the hands- turning the lid of a bottle, tripod grasp.
What is perception?	The ability to become aware of something using the senses.
Which development area and skills are used in reading a	Communication and language- reading it. Physical- turning the page.
Which development area and skills are used in playing	Physical- drawing the noughts or crosses. Cognitive- deciding where to play.
Why are role models important?	Children copy skills and attitudes from them.

TECHNICAL VOCABULARY	
Growth	The division of cells.
Cell	A tiny part of the body.
Health visitors	Health professionals who advise families with children.
Head circumference	Measurement of the head from above the eyebrows to around the back of the head.
Centile chart	A chart on which measurements are marked and compared with those of other children of the same age.
Hormones	Chemicals that can trigger cell division, creating subsequent growth.
Nutrients	Substances found in food that are essential for health and growth.
Holistic development	The development of a child, taking into account all aspects of what they can do, not just one single area of development.
Milestones	Skills or pieces of knowledge that a child has acquired.
Developmental norms	The milestones that are associated with a particular age group.

Development of different ages across the development areas			
	0- 18 months	18 months – 3 years	3 years -5 years
Physical	<b>3m</b> reflexes disappear; lift head + shoulders; watches fingers. <b>6m</b> rolls + turns; sits with support; holds a toy. <b>9m</b> sits; crawls; stands; passes toys; drinks cup. <b>12m</b> walks with handheld; pincer grasp; finger feeds. <b>15m</b> walks alone, grasps crayons and scribbles.	<b>18m</b> walks steadily; stops safely; climbs stairs; rides a balance bike and sit + ride toys. <b>2y</b> runs; throws a ball; walks up and down stairs; holds chunky pencils; draws circles and lines. <b>2y 6m</b> jumps from a small step; kicks a large ball and copies lines.	<b>3y</b> walks on tip toe; balances; rides a trike; catches and kicks a large ball; tripod grasp; cuts paper with scissors. <b>4y</b> runs and avoids obstacles; good balance; copies letters; draws a person. <b>5y</b> runs, climbs, skips, hops; likes ball games; good pencil control.
Cognitive	<b>3m</b> – attention span increase; recognises routines. <b>6m</b> recognise familiar objects/people. Respond to carers voice; explores objects; weaning. <b>9m</b> smiles at own face (mirror); looks for dropped toys; likes peekaboo, songs+ rhymes. <b>12m</b> knows own name; imitates actions.	<b>18m</b> knows name; can point to body parts; curious; knows where things belong. <b>2y</b> recognises pictures in a book; enjoys simple make-believe play. <b>2y 6m</b> knows full name; asks the names of people and objects.	<b>3y</b> matches + names colours; sorts objects; understands time passing; can ‘write’ (mark make on paper). <b>4y</b> counts to 10; repeats songs + rhyme; simple problem solving. <b>5y</b> concentrates longer; writes own name; recognises own name; simple sums; interested in reading + writing.
Communication and Language	<b>6 weeks</b> smiles <b>3m</b> stops crying when picked up <b>6m</b> babbles; laughs; vocalises. <b>9m</b> tuneful; joins in pat a cake; dada, mama. <b>12m</b> first words; pointing; copies; understands.	<b>18m</b> says words; gestures; understands more; repeats. <b>2y</b> says over 50 words; 2 words joined; enjoys books. <b>2y 6m</b> says 200 words; learns new words quickly; simple sentences.	<b>3y</b> clear speech; asks why? Uses personal pronouns and plurals; listens to stories; understands most instructions. <b>4y</b> talks about past and future; tells stories; likes jokes; asks questions; listens. <b>5y</b> fluent speech; grammatically correct; wide vocabulary; understand complex instructions.
Social	<b>3m</b> likes attention + cuddles. <b>6m</b> familiar people + strangers <b>9m</b> cries without their carers <b>12m</b> likes games peekaboo <b>15m</b> watches others playing.	<b>18m</b> understands ‘you’ ‘me’ ‘mine’. Imitates household tasks. <b>2y</b> undress and dress with help; toilet training; more independent. <b>2y 6m</b> eats with a spoon; plays with others; <u>does not share.</u>	<b>3y</b> plays with others; starting to share and take turns. <b>4y</b> shows sensitivity; independent; good sense of humour. <b>5y</b> choses friends; understands rules; enjoys <u>team games.</u>
Emotional	<b>3m</b> like care routines <b>6m</b> recognises emotions <b>9m</b> specific attachment <b>12m</b> curious; explores <b>15m</b> some independence; jealousy.	<b>18m</b> mood swings dependent-independent <b>2y</b> cannot wait, wants demands met asap; can be distracted from tantrums. <b>2y 6m</b> self-identity; coping with emotions; tests boundaries from adults.	<b>3y</b> can wait; more co-operative; uses language to express feelings; makes requests. <b>4y</b> confident; self-assured; personal care; turns to adult for comfort when hurt or ill. <b>5y</b> close friendships; copes with emotions; resilient; adults need to sort conflicts.

Subject **Child Development: Factors that can impact development Y10b.**





Business and globalisation	
What has globalisation led to?	The growth of multinationals.
What 3 ways does globalisation affect businesses?	Imports, exports and business locations.
Give a positive and negative concerning imports in a country.	Positive – business may stock a larger range of products Negative – may be less demand for domestically produced goods.
What are the benefits of exporting goods?	Provides domestic business with a wider target market and the opportunity to sell around the world.
How does globalisation affect business locations?	Businesses can choose to locate offices/premises abroad due to the ease of international trade, communication and travel. Can open outlets abroad to enter new markets.
What is international trade?	The buying and selling of goods and services between countries.
What are the barriers that can prevent business from engaging in international trade?	Tariffs (tax that is imposed). Trading bloc – countries that agree to trade between themselves
How do businesses complete internationally?	Using the internet and e-commerce. – allows businesses to trade 24/7.
Why might businesses need to change elements of their marketing mix?	In order to compete internationally.
What elements could change?	Price, place, promotion and product.



Ethics, the environment and business	
What do ethical behaviours include?	Treating workers, suppliers + consumers fairly, ethical sourcing of materials, caring for the community and meeting government legislation
What are the advantages for an ethical business?	Consumers will pay a higher price for ethically sourced products. Happier employees.
What will a business that behaves unethically attract?	Negative media attention, damaged reputation and brand value.
What is the trade-off between ethics and profits?	The actions taken to behave ethically can be negative on profits.
What considerations must be taken into account regarding the environment?	Pollution, use of non-renewable resources, long term damage to the environment, waste disposal, reducing packaging and carbon footprint.
What audit do large businesses usually carry out?	Green audit to assess their impact on the environment.
What do some businesses that use wood have a policy of?	Planting a tree for every one that they cut down and use.
Give examples of pressure groups	Greenpeace, the Fairtrade Foundation, Wold Wide Fund for Nature.
What activities do pressure groups use?	Boycotts, social media campaigns, viral marketing, protests, petitions, media campaigns, lobbying.
Why do pressure groups do the above?	Media attention to put pressure on a business’s marketing mix.

TECHNICAL VOCABULARY	
Globalisation	When businesses operate on an international scale and gain international influences or power.
Imports	The flow of goods and services into a country from another country.
Exports	The flow of goods and services out of a country to another country.
Domestically	At home or within a businesses’ home country.
Tariff	A tax imposed on imports or exports
Protectionist measure	An action taken by a government to reduce the flow of imports into the country.
Trading block	A group of countries that agree to act together to promote trade between themselves.
Marketing Mix	The 4 P’s of marketing, which are product, price, promotion and place.
Aesthetics	The visual attractiveness of something.
Product portfolio	The range of goods and services offered by any one business.

The marketing mix	
What are the 4 P’s of the marketing mix?	Product, Price, Promotion and Place.
What is a product?	Might be a physical item or a service.
What is the key to a successful product?	To ensure it provides customers with benefits that they want.
What has to be considered in the design mix?	Function, aesthetics and function.
What do we mean when we say a product must be financially viable?	This means producing the product for a cost that allows the business to make a profit.
How can cost affect aesthetics?	You could use cheaper materials to lower costs but this may make the product uglier.
What are the 4 stages of a product’s life cycle?	Initial introduction, growth, maturity and decline and discontinuation or extension.
What are the two simplest extension strategies?	Lowering prices Increasing advertising
What is a more complex extension strategy?	A total rebrand of a product, may need a new name, logo and promotion campaign.
How can a business differentiate their products?	Ensure that it has unique functions that rivals do not Have a unique style or design Create and use a distinctive brand Provide excellent customer service consistently Ensure the product is high quality



**The Marxist perspective of education**

Marxists believe that at school students learn how to fulfil their future roles in the capitalist world of work. They do not see this as benefiting the whole of society, or individuals themselves, but only the capitalist class (bourgeoisie).

**We learn to do this through The Hidden Curriculum:**

1. **Hierarchy:** The hierarchy in school can be seen to reflect the structure of society and in the workplace.
2. **Competition:** School encourages competition between students e.g. sports, exam results.
3. **Social Control:** Rules, regulations, obedience and respect for authority.
4. **Gender role allocation:** teacher expectations and subject choice
5. **Lack of satisfaction:** Preparing students for boring, meaningless and repetitive jobs is a similar experience to employees at work

**The functionalist perspective of education**

- Schools prepare children for the same universalistic standards, the opposite of the particularistic standards from homelife.
- Schools promote a value consensus: encouraging students to achieve highly and providing rewards to encourage them to maximize their potential. Students are also competing on equal terms in the classroom.
- **Meritocracy:** student's achievements are based on their abilities and efforts, not on social class, gender or ethnicity.
- **Role allocation:** students are matched to the correct job based on their skills and knowledge.

**The feminist perspective of education**

- There are inequalities in the education system between boys and girls.
- Education reinforces patriarchal views. For example, girls may be encouraged to study subjects like Health and Social Care and Home Economics; reinforcing the idea that a woman's role is in the family or in a caring capacity.
- Teachers may expect certain behaviours from boys but not tolerate them from girls, such as 'rowdy' or 'boisterous' behaviour; again encouraging girls to behave in certain ways because of traditional gendered expectations.
- The structure of the school also highlights patriarchal inequalities in society. Many of the top positions in schools are taken by men, whilst most of the serving and cleaning staff are women. This sends out a message that men should be in more powerful positions than women.

**SUBJECT TERMINOLOGY: types of education**

<b>Home education</b>	teaching children at home using parents or tutors.
<b>Vocational education</b>	work-related qualifications and training.
<b>Specialist schools</b>	Raise standards of achievement based on their strengths e.g.
<b>Faith Schools</b>	Schools that are run with a religious ethos
<b>Academies</b>	Taken out of local authority control. Private sponsors can help to raise achievement.
<b>Free Schools</b>	Schools that can be set up and run by groups of parents, teachers, businesses etc.
<b>Independent schools</b>	Public and private schools (fee paying)
<b>State schools</b>	Free schools for all students regardless of ability
<b>Grammar school</b>	Selective schools with an entry test (usually the 11+)
<b>Comprehensive school</b>	Mixed ability schools, non-selective

**SUBJECT TERMINOLOGY: key terms**

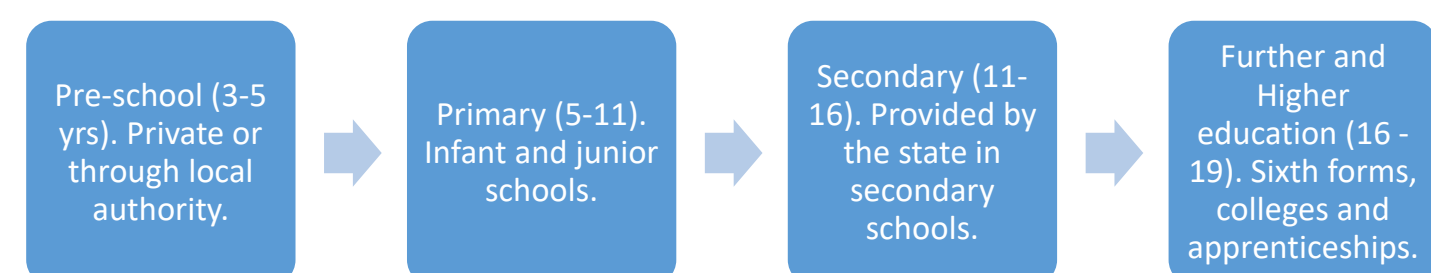
<b>Material deprivation</b>	The lack of material resources due to lack of money. For example lack of equipment, uniform, money for trips, etc
<b>Cultural deprivation</b>	The incorrect values and attitude to succeed in education.
<b>Cultural capital</b>	The correct values and attitude to succeed in education.
<b>Labelling</b>	When a teacher applies a definition to a student based on their class, gender or ethnicity, not on factual information.
<b>The self-fulfilling prophecy</b>	When a student internalises the label applied to them by a teacher and 'lives up' to it.
<b>Banding/setting</b>	the way schools categorise students by ability for their learning
<b>Subcultures</b>	Groups of students who share the same values. These are often anti-school or pro-school.
<b>Hidden curriculum</b>	Lessons taught in school which aren't directly on the curriculum, such as punctuality.
<b>Secondary socialisation</b>	The process of learning which runs throughout our lives. Schools are an agent of secondary socialisation.
<b>Meritocracy</b>	The functionalist view that education provides opportunities for all students to succeed, regardless of their background.

Influences on educational attainment	Major points	Sociologists
<b>Cultural factors</b>	Working-class groups may not have the appropriate values, language codes and parental encouragement needed to succeed at school. They may be used to blame working-class groups and the way they are socialised. Some, such as Marxists, argue that the working class do not possess the <b>cultural capital</b> to succeed at school. This refers to economic and cultural factors such as language skills and interests, and knowledge of art, theatre and literature. Others argue that some working-class groups may not possess <b>social capital</b> . This refers to the ability to navigate the education system and to achieve success.	<b>Hyman (1960s-70s)</b> <b>Bourdieu</b> <b>Becky Francis</b>
<b>Material factors</b>	Some theories refer to money and the things that can be bought, which might help children to succeed, such as equipment, tuition and internet access. They also refer to the living conditions of the children such as housing, space to complete homework, heating, and adequate food and clothing. They affect where children can afford to live and the school they can attend; children who are without these necessities are said to be in material deprivation.	<b>Noble</b> <b>Ball</b>
<b>School</b>	The school children attend, the way it is organised, and resources they have access to may also affect achievement. Schools may have a middle-class ethos or irrelevant curriculum which may cause children to disengage from school. Teachers may attach labels to children which are often associated with social class, gender and ethnicity. Middle-class pupils are more likely to be labelled as ideal. Children may see themselves in the context of their labels and live up to them. Children may disengage from school and form anti-school subcultures. Some schools may have a patriarchal or racist culture.	<b>Diane Reay</b> <b>Hargreaves</b> <b>Willis</b>



<b><u>1944 Education Act</u></b> <ul style="list-style-type: none"> <li>Equal chance to develop talents, free state run education</li> <li>Introduction of a meritocratic system in which children received an education based on their academic ability rather than the ability of their parents to pay.</li> <li>Introduction of the 11+ exam and the Tripartite System: <ul style="list-style-type: none"> <li>➢ Secondary Modern</li> <li>➢ Secondary Technical</li> <li>➢ Grammar</li> </ul> </li> </ul>	<b><u>1965: The Comprehensive System</u></b> <ul style="list-style-type: none"> <li>One school for everyone- all abilities and social classes.</li> <li>No labelling as a failure, seen as fairer.</li> <li>Each school has a specific 'catchment'</li> </ul>	<b><u>1988 Education Act</u></b> <ul style="list-style-type: none"> <li>Introduction of the marketisation of education- consumer choice and competition. Focus on parental choice, funding based on student numbers and more freedom for schools.</li> <li>The introduction of the National Curriculum- core subjects for ages 5-16.</li> <li>Introduction of testing- GCSE examination.</li> </ul>	<b><u>1997 New Labour Educational Policy</u></b> <ul style="list-style-type: none"> <li>Raising Standards: providing nursery places for 3-4 year olds, reducing class sizes, national literacy &amp; numeracy schemes, 'special measures', 'value-added' feature on league tables.</li> <li>Reducing inequality: introduction of Educational Maintenance Allowance (EMA), Aim Higher Programme, The Sure Start programme and Connexions.</li> <li>Promoting Diversity &amp; Choice- Introduction of specialist and faith schools.</li> </ul>	<b><u>Since 2010 policies</u></b> <ul style="list-style-type: none"> <li>New style academies</li> <li>Free Schools</li> <li>Pupil Premium</li> </ul>
---	---	---	--	--

Arguments <b>for</b> vocational education	Arguments <b>against</b> vocational education
<ul style="list-style-type: none"> <li>It will lead to a more skilled, better-qualified workforce that will make Britain more competitive</li> <li>Functionalists believe it shows the importance the education system has to provide skills and expertise needed by industry &amp; the economy.</li> </ul>	<ul style="list-style-type: none"> <li>The emphasis on skills training disguises the fact that the problem is not that young people lack necessary skills for work it's that there is no work for skilled young people.</li> <li>Marxists argue it is viewed as lower status compared to purely academic qualifications.</li> <li>Seen as replicating the Tripartite system</li> </ul>



C1: Drills and Practices	
Unopposed stationary drills	These break down skills into their most basic form. They are practiced without moving. <i>Example: two people stood 5m apart passing a ball in netball.</i>
Drills with the introduction of travel	By adding movement such as walking or jogging you can now help performers develop more complex skills. <i>Example: Passing and moving in groups of 3 in football.</i>
Drills with passive opposition	This is where there is an opposition or obstacle, but they don't interfere with the drill. <i>Example: Dribbling in and out of cones in football.</i> <i>Example: Passing the ball over an opposition in netball.</i>
Drills with active opposition	These are drills with an opposition who is actively trying to disrupt the activity. This puts pressure on the performers and encourages them to think about decision making. <i>Example: 3v2 in netball or football.</i>

C2: Drills to improve performance

Organisation

Having all the drills set up in advance with the correct equipment needed

Demonstration

Show the participants what you are asking them to do using the correct technique

Teaching Points

You must explain what the performers need to do with specific detail on how to perform the technique you are teaching. Example: you must pass with the instep of your foot.

Support

Observe the participants and physically help them if they are struggling

