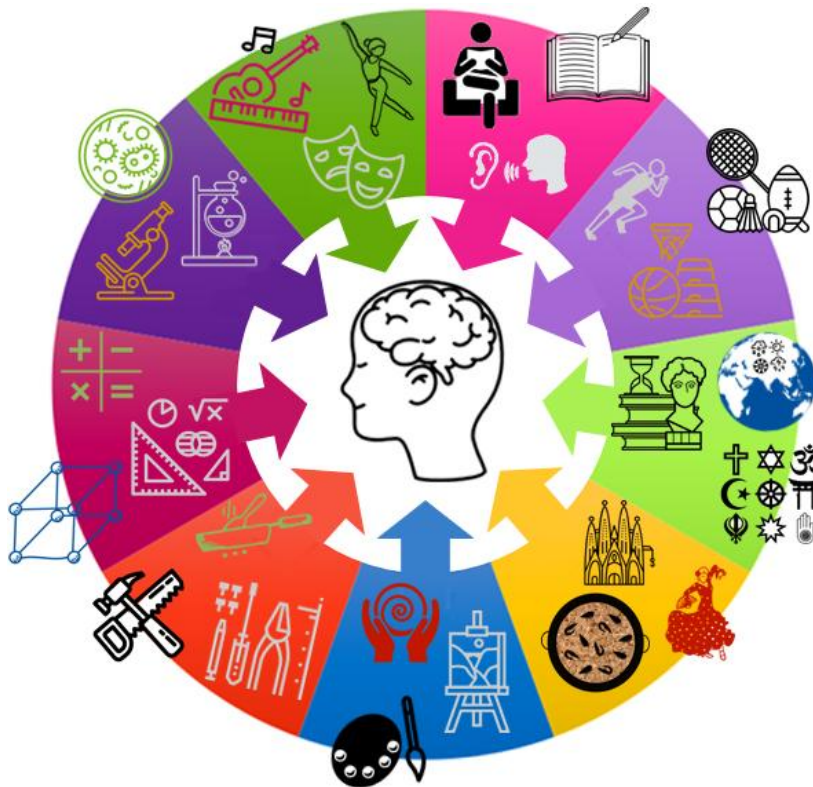


100% book - Year 11 Foundation

Aim to memorise 100% of the knowledge on these Knowledge Organisers.

Term 1



Swindon Academy 2026-27

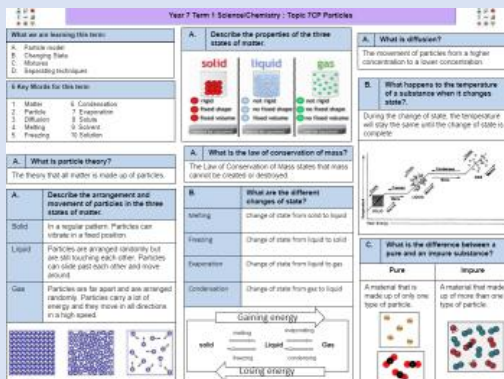
Name:	
Tutor Group:	
Tutor & Room:	

"If you are not willing to learn, no one can help you.

If you are determined to learn, no one can stop you."

How to use your 100% book of Knowledge Organisers and Quizzable Organisers

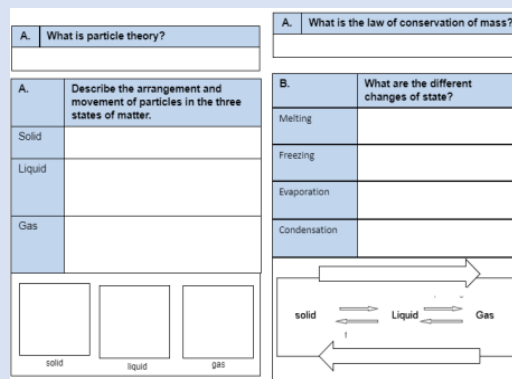
Knowledge Organisers



Knowledge Organisers contain the essential knowledge that you **MUST** know in order to be successful this year and in all subsequent years.

They will help you learn, revise and retain what you have learnt in lessons in order to move the knowledge from your short-term memory to long-term memory.

Quizzable Knowledge Organisers



These are designed to help you quiz yourself on the essential Knowledge.

Use them to test yourself or get someone else to test you, until you are confident you can recall the information from memory.

Top Tip

Don't write on your Quizzable Knowledge Organisers! Quiz yourself by writing the missing words in your prep book. That way you can quiz yourself again and again!

Expectations for Prep and for using your Knowledge Organisers

1. Complete all prep work set in your subject prep book.
2. Bring your prep book to every lesson and ensure that you have completed all work by the deadline.
3. Take pride in your prep book – keep it neat and tidy.
4. Present work in your prep book to the same standard you are expected to do in class.
5. Ensure that your use of SPAG is accurate.
6. Write in blue or black pen and sketch in pencil.
7. Ensure every piece of work has a title and date.
8. Use a ruler for straight lines.
9. If you are unsure about the prep, speak to your teacher.
10. Review your prep work in green pen using the mark scheme.

How do I complete Knowledge Organiser Prep?

Step 1

Check Epraise and identify what words /definitions/facts you have been asked to learn.
Find the Knowledge Organiser you need to use.

Step 2

Write today's date and the title from your Knowledge Organiser in your Prep Book.

Step 3

Write out the keywords/definitions/facts from your Knowledge Organiser in FULL.

Step 4

Read the keywords/definitions/facts out loud to yourself again and again and write the keywords/definitions/facts at least 3 times.

Step 5

Open your quizzable Knowledge Organiser.
Write the missing words from your quizzable Knowledge organiser in your prep book.

Step 6

Check your answers using your Knowledge Organiser. Repeat Steps 3 to 5 with any questions you got wrong until you are confident.

Make sure you bring in your completed Prep notes to demonstrate that you have completed your prep.

AN INSPECTOR CALLS Foundation

1. Context

Playwright: JB Priestley (1894-1984) Dates: Written in 1945 First performed: In Moscow, Russia, in 1945 Era: Edwardian Genre: Drama Set: Fictional town Brumley ‘an industrial city in the north Midlands’ in 1912 Structure: Three Act Play	Biography of Priestley - Born in Yorkshire in 1894. - Fought in the first world war - Became concerned with the effects of social inequality in Britain in 1930s - Set up a new political party in 1942, The Commonwealth Party. It merged with the labour Party and was integral in developing the welfare state
--	--

Pre and Post War – Before the first world war, many people didn’t believe that a war would take place. There were strong distinctions between upper and lower classes, society was deeply patriarchal. 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 After 1945 there was a desire for more sweeping social change.	Socialism – Socialism is a political belief in greater levels of equality. Socialism is generally concerned with ensuring that differences between wealth and social status are erased from society. After the two World Wars British society was far more open to socialist ideas. In <i>An Inspector Calls</i>, the Inspector presents socialist attitudes.
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Social and Moral Responsibility – Attitudes towards social and moral responsibility changed rapidly in the time between when the play was set (1912) and the time the play was written (1945). In 1912 the general attitude of those with social status and wealth was towards looking after one’s own. By the mid-1940s however, the Labour party under Attlee won a landslide election reflecting a wave of enthusiasm towards communal responsibility for everyone in society.	The Titanic – RMS Titanic was a British passenger liner that sank in the North Atlantic ocean in the morning hours of 15th April 1912, killing around 1500 people. The Titanic was designed to be the pinnacle of both safety and comfort, and due to its enormous size and quality was frequently labeled ‘unsinkable’. In <i>An Inspector Calls</i> Birling claims this, thus immediately losing the respect of the audience. It can serve as a symbol of the hubris and arrogance of man.
---	---

FORM – The play fits into three possible forms:

Well-Made Play - A popular type of drama from the 19th century - The events build to a climax - Plot is intricate and complex	Morality Play - Most popular during 15th and 16th centuries - They taught the audience lessons that focused on the seven deadly sins - Characters who committed those sins were punished	Crime Thriller - Involves a gripping tale based around a crime - The audience receives clues and must guess what has happened before the end - All is revealed by the climax
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2. Key Characters

Inspector Goole: An mysterious figure who serves as Priestley’s mouthpiece and advocates social justice. He serves as the Birling’s conscience and exposes their sins.
Mr Arthur Birling: A capitalist and business owner who opposes social change and greater equality. He is a self-made man and lacks the refined manners of the upper classes. Made a fool by Priestley to highlight the arrogance and absurdity of his views.
Mrs Sybil Birling: Her husband’s social superior, Mrs Birling is involved in charity work but contradictorily believes in personal responsibility and looking after one’s-self. Fails to understand her own children.
Sheila Birling: Young and initially enthusiastic, Sheila grows and changes throughout the play, embracing the views of the Inspector and challenging the social indifference of her parents. She becomes wiser and more cautious in her relationship with Gerald.
Eric Birling: In his early twenties, he drinks too much and forces himself upon Eva Smith. Whilst she is pregnant with his child, he steals from his father to attempt to support her. Grows and changes, realises his own wrongs along with everyone else’s. Critical of parents.
Gerald Croft: A businessman engaged to Sheila, Gerald a relationship with Daisy Renton (Eva Smith). Even though he sits between he two generations he is politically closest to Birling and fails to embrace the Inspector’s message, instead seeking to prove he wasn’t real.
Eva Smith: Doesn’t appear in the play, but her suffering and abuse represents that of all the working classes. She also calls herself both Daisy Renton and Mrs Birling. The older characters begin to question whether she really is one person.

3. Central Themes

Social Responsibility	Priestley advocates a socialist message of collective responsibility for one another. The Inspector serves as his voice in conveying this ideology, but the younger generation also come to embrace it. The suffering of Eva Smith highlights the powerlessness of the working classes and the need for a society that protects its most vulnerable.
Age and the Generational Divide	Priestley presents a view that there is hope for change and that it lies with the younger generation. Both Sheila and Eric change for the better, maturing and becoming more empathetic as they come to embrace the Inspector’s message. They also become vocal critics of their parents’ indifference to Eva’s suffering.
Class and Power	Priestley highlights the immense power that business owners wielded over their workers and presents them as arrogant and lacking in empathy. He demonstrates Edwardian society’s preoccupation with wealth and status at the cost of the individual as a way of promoting change in post-WW2 Britain.
Gender	At the time the play was first performed, women had just played a pivotal role in World War 2 and were empowered by the freedom work provided them. In the 1912 setting, we see Sheila’s growing independence vs her mother. However, the play still highlights the awful vulnerability of women and the outdated stereotyping of them.

4. Key Vocabulary

Capitalist	Believing in private wealth and business aimed at making profit for business owners. Independent and self-reliant.
Socialist	Believing in shared ownership, collective responsibility for one another and social equality for all.
Ideology	A political viewpoint or set of beliefs, for example socialism.
Responsibility	Being accountable or to blame for something, or having a duty to deal with something.
Hierarchy	A ranking of status or power e.g. the strict class hierarchy of Edwardian England.
Patriarchy	A society in which power lies with men.
Prejudice	An opposition to or opinion about something/someone based upon what they are e.g. working class, female etc.
Morality	The belief that some behaviour is right and some is wrong.
Proletariat	The working class.
Bourgeoisie	The capitalist class in possession of the means of acquiring wealth.
Aristocracy	The highest class in society and often holding titles passed from father to son, for example Lord and Lady Croft.
Façade	A false front or surface-level illusion, for example the façade of family happiness in the opening scene of the play.
Catalyst	Someone or something that speeds up or triggers an event.
Antithesis	When something is the opposite of something else.

5. Key Terminology, Symbols and Devices

Dramatic Irony	When the audience is aware of something that a character is not aware of, for example Birling believing war won’t happen.
Plot Twist	When a story suddenly departs from its expected path and something very unexpected happens. The final phone call.
Cliffhanger	Each act ends on a particularly dramatic, revealing moment that creates a sense of tension and anticipation.
Stage Directions	When the playwright instructs actors/director to perform in a particular way. Priestley’s are unusually detailed.
Entrances/Exits	Characters frequently leave or enter the stage at dramatic moments. Some characters miss important events.
Lighting	Priestley uses stage directions to indicate how the stage should be lit. Changes to ‘brighter and harder’ for Inspector.
Props	Physical objects used in the play. The photograph plays a key role in identifying Eva. The doorbell interrupts Birling.
Contrast and Juxtaposition	Deliberately placing two very different things along side one another to draw comparisons e.g. Birling and the Inspector.

AN INSPECTOR CALLS Foundation

1. Context

<u>Playwright:</u> <u>Dates:</u> <u>First performed:</u> <u>Era:</u> <u>Genre:</u> <u>Set:</u> <u>Structure:</u>	<u>Biography of Priestley</u> • • • •	
Pre and Post War –	Socialism –	
Social and Moral Responsibility –	The Titanic –	
FORM – The play fits into three possible forms:		
Well-Made Play • • •	Morality Play • • •	Crime Thriller • • •

2. Key Characters

Inspector Goole:
Mr Arthur Birling:
Mrs Sybil Birling:
Shelia Birling:
Eric Birling:
Gerald Croft:
Eva Smith:

3. Central Themes	
Social Responsibility	
Age and the Generational Divide	
Class and Power	
Gender	

4. Key Vocabulary

Capitalist	
Socialist	
Ideology	
Responsibility	
Hierarchy	
Patriarchy	
Prejudice	
Morality	
Proletariat	
Bourgeoisie	
Aristocracy	
Façade	
Catalyst	
Antithesis	
5. Key Terminology, Symbols and Devices	
Dramatic Irony	
Plot Twist	
Cliffhanger	
Stage Directions	
Entrances/Exits	
Lighting	
Props	
Contrast and Juxtaposition	

T1 Y11b & c Science/Chemistry C6 – Rate and extent of chemical change

Rate of reaction.

Measuring the rate of anything always involves a **measurement of time**

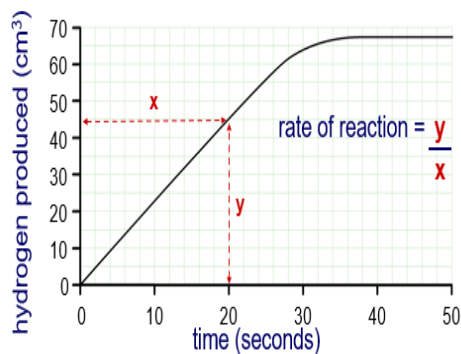
The rate of a chemical reaction can be found using:

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

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

Quantities for reactants or products are measured in **mass in g** or by **volume in cm³**

Rate calculations can be done from tables of data or graphs:



Volume of hydrogen produced = 45cm

Time taken = 20 seconds

$$\text{Rate} = \frac{45 \text{ cm}^3}{20 \text{ s}}$$

20 s

$$\text{rate} = 2.25 \text{ cm}^3/\text{s}$$

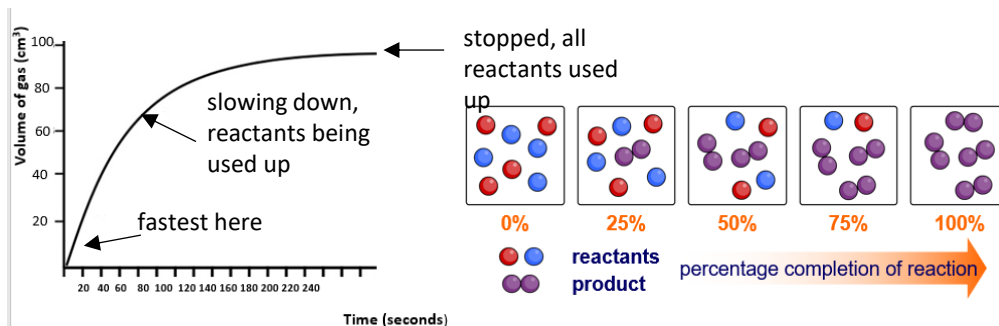
The progression of a chemical reaction

For a reaction to take place, reactant particles have to collide.

The rate of a reaction depends on the **frequency of collisions** and the **energy with which the particles collide**.

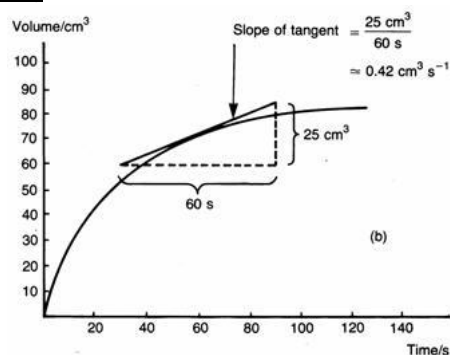
The minimum amount of energy needed to start a reaction is called the **activation energy**.

A reaction is always **fastest at the beginning** and slows down over time as the reactants get used up and the frequency of collisions decreases.



Using a tangent to calculate rate

(HT)

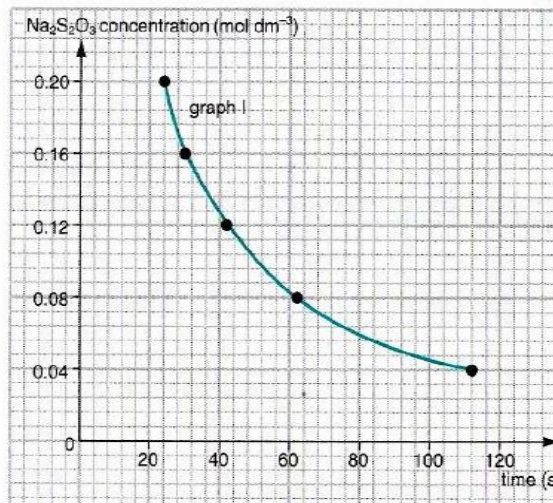


- Draw a line along the point you're interested in. The line should touch the curve at the point given.
- Make a triangle. Try to make the angles either side of the line equal.
- Measure the change in volume and change in time
- Calculate the gradient
- Use units from the axes to determine the units for rate

T1 Y11b & c Science/Chemistry C6 – Rate and extent of chemical change

1. Give two ways of calculating the rate of a reaction
2. What does a rate calculation always have to include?
3. What are solid reactants or products measured in?
4. What are liquid or gaseous products measured in?
5. How is the rate calculated from a graph?

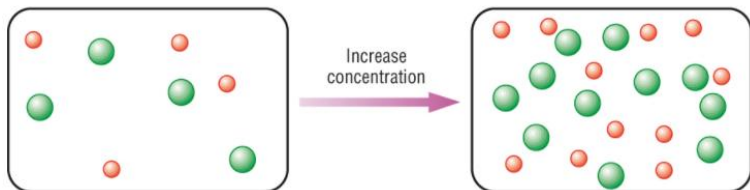
1. What point in a reaction is the fastest?
2. Why does a reaction slow down as it progresses?
3. Why do reactions stop?
4. What two factors affect the rate of a reaction?



1. Describe how to draw a tangent at 50s.
2. Draw the tangent at 50s
3. What will the units for the rate of this reaction be?

T1 Y11b & c Science/Chemistry C6 – Rate and extent of chemical change

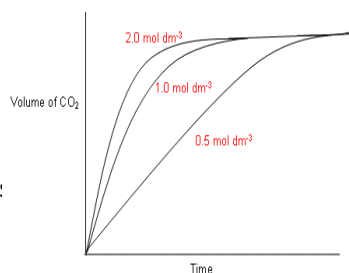
The effect of concentration



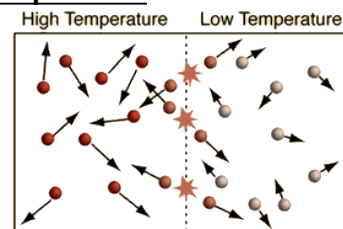
Concentration means number of particles per cm^3

Increasing the concentration of any of the reactants increases the rate of the reaction

This is because there are more particles per cm^3 so there are **more frequent collisions**, increasing the rate.

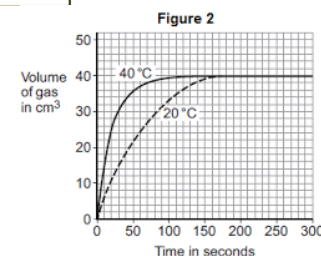


The effect of temperature



Increasing the temperature of the reactants increases the rate of the reaction.

This is because the particles have more kinetic energy and therefore move faster, so there are **more frequent collisions**, increasing the rate.



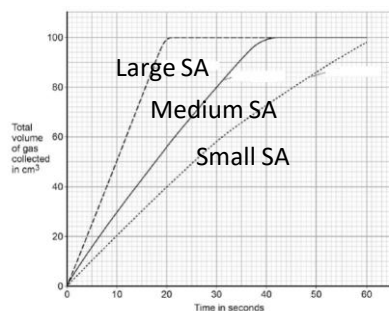
The effect of surface area



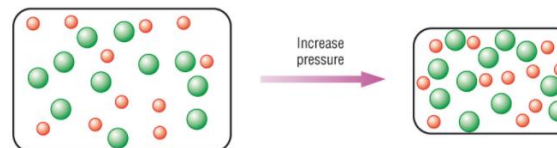
The smaller the pieces of a solid, the higher the surface area. Increasing the surface area of solid reactants increases the rate of reaction.

This is because there is a greater area available for collisions to occur so there are **more frequent collisions**, increasing

the rate.

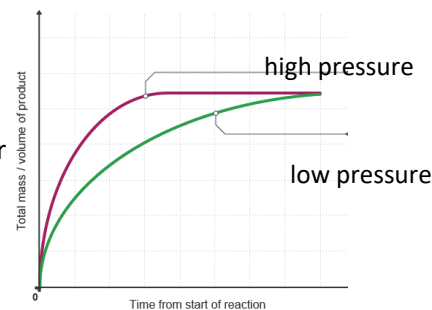


The effect of pressure



Increasing the pressure of gaseous reactions increases the rate of the reaction.

This is because the same number of particles are now in a smaller volume, so there are **more frequent collisions**, increasing the rate.

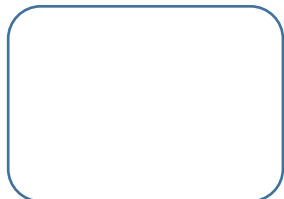
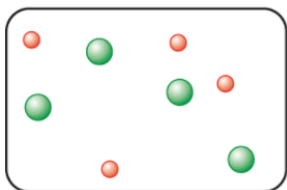


In all cases, the overall amount of product is the SAME, the end point of the reaction is just reached faster

T1 Y11b & c Science/Chemistry C6 – Rate and extent of chemical change

The effect of concentration

1. In the box below, draw a reaction involving a higher concentration of the green reactant molecules.



2. What happens to the rate of a reaction if you increase the concentration?

The effect of temperature

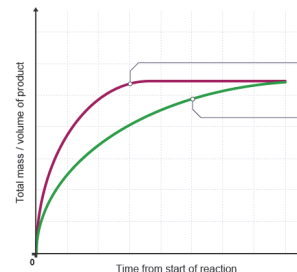
1. Describe how increasing the temperature affects the rate of a reaction.
2. Explain why this happens in terms of particles.

The effect of surface area

1. Reactions involving what sort of reactant are affected by surface area?
2. What type of piece has a large surface area?

The effect of pressure

1. Reactions involving what type of reactants are affected by pressure?
2. Label the diagram with 'low pressure' and 'high pressure'

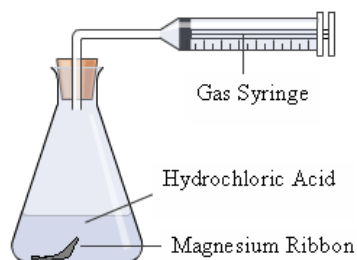
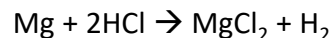


What happens to the overall amount of product if you change the rate of a reaction?

T1 Y11b & c Science/Chemistry C6 – Rate and extent of chemical change

Experiment 1

Using volume of gas collected over time as a measure of the rate



Independent variable: concentration of HCl

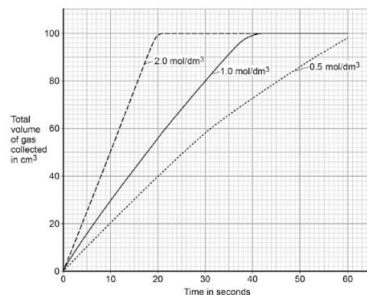
Dependent variable : Volume of gas produced / min

Control variables : volume of HCl, mass of Mg, temperature of acid

Method

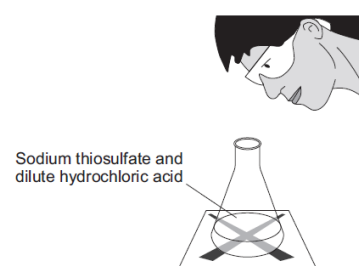
1. Measure 20cm³ 0.5M HCl into a conical flask.
2. Insert 2 x 2cm pieces of Mg and attach a gas syringe
3. Start a stopwatch and measure the volume of gas collected every 20 seconds until the reaction is over.
4. Repeat using different concentrations of HCl.

An increase in the concentration leads to an increase in the rate of the reaction, but the same volume of product overall



Experiment 2

Investigating the effect of changing the concentration of HCl on the rate of reaction



The sulphur being made is insoluble and is what makes the liquid go cloudy

Independent variable: concentration of HCl

Dependent variable : Time taken for the cross to disappear

Control variables : volume of HCl, volume of sodium thiosulphate, temperature of both solutions, concentration of sodium thiosulphate

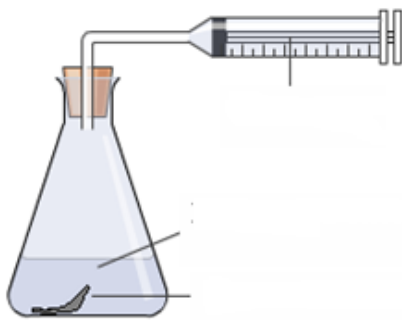
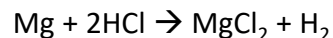
Method

1. Use a measuring cylinder to put 10 cm³ sodium thiosulfate solution into the conical flask.
2. Put the conical flask on the black cross.
3. Put 10 cm³ of 0.5M hydrochloric acid into the 10 cm³ measuring cylinder.
4. Put this acid into the flask. At the same time swirl the flask gently and start the stopwatch.
5. Look down through the top of the flask. Stop the stopwatch when you can no longer see the cross. Record the time.
6. Repeat steps 1-5 using different concentrations of HCl – 1M, 1.5M, 2M and 2.5M

T1 Y11b & c Science/Chemistry C6 – Rate and extent of chemical change

Experiment 1

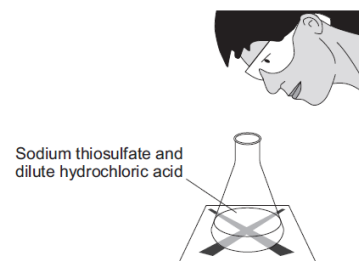
Using volume of gas collected over time as a measure of the rate



1. Label the diagram to show the equipment and chemicals used in this investigation
2. What is the independent variable?
3. Name two control variables.
4. What is a sensible volume of HCl to use?
5. Which piece of equipment, essential for a rate calculation, is not shown?

Experiment 2

Investigating the effect of changing the concentration of HCl on the rate of reaction

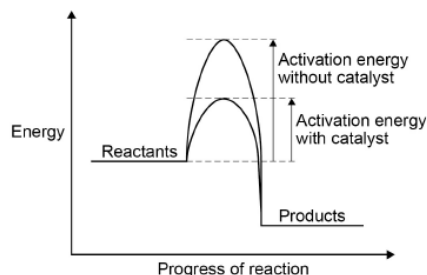


1. What is the dependent variable in this reaction?
2. Why does the solution go cloudy?
3. Name two control variables.

T1 Y11b & c Science/Chemistry C6 – Rate and extent of chemical change

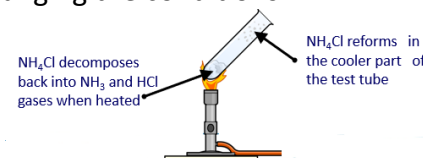
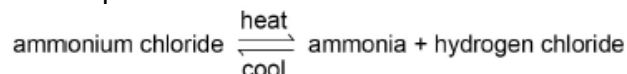
Catalysts

- Catalysts are substances that speed up chemical reactions without themselves being used up.
- They provide a different pathway for the reaction with a lower activation energy.
- Different reactions require different catalysts.



Reversible reactions

These are reactions in which the products can react to produce the original reactants. They are represented by the symbol $\rightleftharpoons$. The direction of the reaction can be changed by changing the conditions. For example:



If a reaction is exothermic in one direction, it is endothermic in the opposite direction.



When a reversible reaction takes place in sealed apparatus, then a point occurs when the forward and backward reactions occur at the same rate. This is **equilibrium**.

The effect of changing conditions on equilibrium (HT)

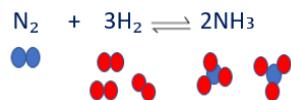
If a system is at equilibrium and a change is made to the conditions, then the system responds to counteract the change.

E.g. – if the temperature is increased, then the system will respond by increasing the rate of the endothermic reaction, to bring the temperature back down

If the concentration of the reactants is increased, then equilibrium will shift right and more products will be made.

In gaseous reactions, a change in pressure will result in equilibrium shifting to the side that restores the pressure.

E.g. :

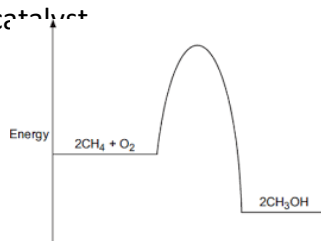


In this reaction, there are 4 moles of gas on the reactants side and only 2 on the product side. If the pressure is increased, equilibrium will shift right as there are fewer moles on the products side, and this will decrease the pressure.

T1 Y11b & c Science/Chemistry C6 – Rate and extent of chemical change

1. What is a catalyst?
2. How do they speed up reactions?

3. Draw on the energy level diagram below to show how it would change in the presence of a catalyst



1. What is a reversible reaction?
2. What symbol is used in an equation to represent a reversible reaction?
3. If a reaction is endothermic in the forward direction, what does this tell us about the backward reaction?
4. If 300J of energy is absorbed during an endothermic reaction, how much will be released in the opposite direction?
5. What is equilibrium?

1. When a change is introduced into a closed system, what does the system respond in order to do?
2. If the temperature of a reaction mixture at equilibrium is increased, what would the change aim to do?
3. What sort of reaction would achieve a drop in temperature?
4. If the pressure is increased in a gaseous reaction, which way would equilibrium shift?

Side with fewest moles/side with most moles

T1 Y11b & c Science/Chemistry C7 – Organic chemistry

Crude oil

Crude oil = a mixture of **hydrocarbons**.

- It is a **non-renewable resource (fossil fuel)**
- Made from remains of dead sea creatures **compressed** over millions of years

Hydrocarbons - molecules containing **hydrogen** and **carbon only**.

Two types of hydrocarbons are **alkanes** and **alkenes**.
The hydrocarbons in crude oil are mostly alkanes.

Alkanes

- Alkanes = **saturated** hydrocarbons.
- Held together by **single covalent bonds**.
- General formula = C_nH_{2n+2}
- Have different boiling points – longer the chain, higher the boiling point

You need to remember the names, and formulas of the first 4 alkanes.

Name of Alkane	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}

Fractional Distillation

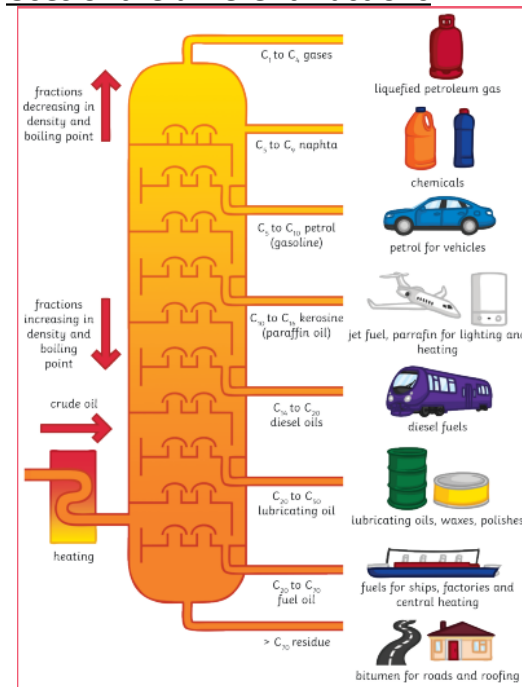
- Used to **separate** the mixtures of hydrocarbons in **crude oil**.

Steps in Fractional Distillation

1. Crude oil enters **fractioning column** and is heated to boiling point so the hydrocarbons evaporate.
2. It is **cooler** at the **top** of the fractionating column and **hotter** at the **bottom**.
3. Vapours rise up the column and, as they rise, they cool
4. The different hydrocarbons condense at different **boiling points**
5. The different 'fractions' have different **properties**

Short-Chain Molecules	Increasing Chain Length	Long-Chain Molecules
		
thin	As chain length increases, the boiling point of the hydrocarbon chains also increases.	thick
	Viscosity describes how easily a substance can flow e.g. treacle is very viscous; it is thick.	
	Flammability is a measure of how easily a substance burns.	

Uses of the different fractions



Supply and demand

Product	Supply in tonnes	Demand in tonnes
petrol	100	300
diesel	200	100
heating oil	250	50

After fractional distillation, we find:

- we have more of the long chain hydrocarbons than we need
- There are not enough short chain hydrocarbons.
- Short chain are more useful as they are more flammable so can be used as fuels.

T1 Y11b & c Science/Chemistry C7 – Organic chemistry

1. What is crude oil? 2. What is a hydrocarbon? 3. What type of hydrocarbons are alkanes? 4. State the general formula for alkanes. 5. Name the first four alkanes. 6. What sort of bonding is found in hydrocarbons?	1. What is the name for the process that results in the separation of the fractions of crude oil? 2. What happens to the boiling point of hydrocarbons as the chain length increases? 3. What happens to the viscosity of hydrocarbons as the chain length increases? 4. What does flammable mean? 5. What are the two changes of state that occur during fractional distillation? 6. Which physical property is used to separate the fractions?	1. What is one use for the hydrocarbons that are between 14 and 20 carbons long? 2. What is the range of lengths of hydrocarbons in fuel oil? 3. What are the smallest hydrocarbons used for? 4. What happens to the flammability of hydrocarbons as the chain length increases 5. What is the range of hydrocarbon lengths found in petrol? 6. What is the problem with supply and demand of the different hydrocarbon chains?
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T1 Y11b & c Science/Chemistry C7 – Organic chemistry

Cracking

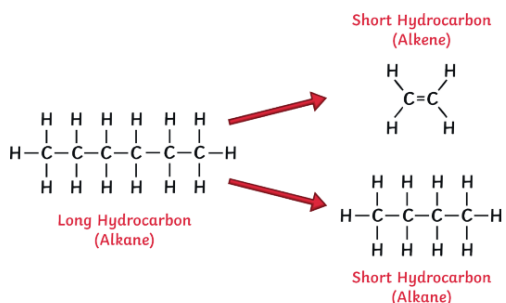
- This is done to solve the problem of having too many long chain hydrocarbons and not enough short ones
- Long hydrocarbons are **broken down** into smaller, more useful hydrocarbons.
- Short chain hydrocarbons are more useful as they are more flammable

Two types of cracking: catalytic and steam cracking.

Catalytic cracking – needs a **high temperature** and a **catalyst**.

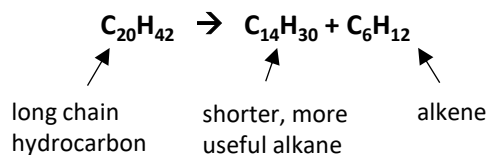
Steam cracking – **high temperature** and **steam**

- Cracking produces a **short-chain alkane** and an **alkene**.



Cracking equations

Same number of carbon and hydrogen atoms on both sides of the equation:



Alkenes

- Alkenes are **unsaturated** hydrocarbons.
- Contain carbon-carbon **double bonds**.

Test for Alkenes

Use bromine water to test for alkenes.
If an alkene is present, the bromine water turns from orange/brown to colourless.
Alkanes do not react with bromine water.

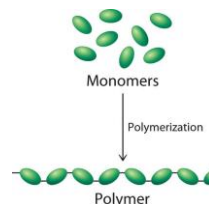


Uses for alkenes:

- Can be used as fuels
- Can be used as a starting material for other chemicals
- Can be used to make polymers (e.g. plastic)

Polymers

- Polymers are large molecules made of many repeating units (monomers)
- Alkenes (small molecules) are joined together to make polymers



Poly(ethene) – plastic bags/drinks bottles

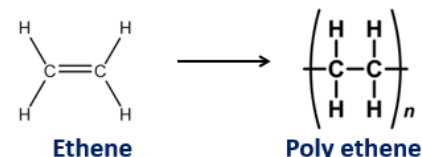
Poly(propene) – strong tough plastics

Drawing and naming polymers

1. Redraw the **monomer given**, but without the double bond. Make sure to copy all other elements exactly.
2. Put brackets around the monomer and extend joining bonds out through the brackets on both sides
3. Add an 'n' at the bottom right of the bracket
4. To name the polymer, you put **poly** in front of the monomer name

E.g.:

Draw and name the polymer made from the monomer ethene:



Combustion of Hydrocarbons

Combustion means burning.

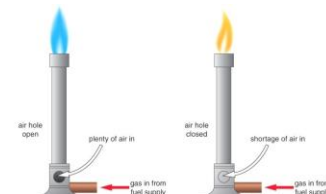
Complete combustion - when there is a good supply of **oxygen** for a fuel to burn.

Fuel + oxygen → carbon dioxide + water

Incomplete combustion - **not enough oxygen**

Products are **carbon monoxide** and water.

Carbon monoxide = poisonous gas



T1 Y11b & c Science/Chemistry C7 – Organic chemistry

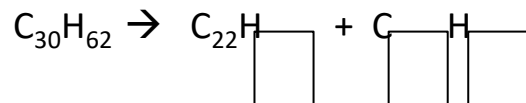
1. What is cracking?

2. Why is cracking done?

3. What are the two types of cracking?

4. What conditions are needed for catalytic cracking?

5. Complete this cracking equation by putting numbers in the boxes:



6. What two types of hydrocarbons are formed during cracking?

1. Why are alkanes called 'unsaturated'?

2. Which chemical is used to test for alkenes?

3. What is the colour change for a positive alkene test?

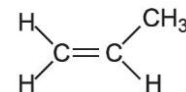
4. Give two uses for alkenes

5. What are polymers?

6. What is the name for the small molecules that make up polymers?

1. What is the name of the polymer formed from the monomer butene?

2. Draw the polymer made from the monomer propene given below:



3. Name the polymer made in question 2

4. What is combustion?

5. When does incomplete combustion happen?

6. What are the waste products of complete combustion?

7. Which toxic gas is formed during incomplete combustion?

T1 Y11b & c Science/Physics P5 – Forces

Scalar and Vector Quantities

Scalar quantities – have **magnitude** only
e.g. temperature, mass and speed.

Vector quantities – have both **magnitude** and **direction**
e.g. velocity, displacement.

Vectors can be shown using **arrows**:

Size of arrow = magnitude of the quantity

Direction of arrow = direction of quantity

Contact and Non-Contact Forces

Force = a push or pull that acts on an object due to interaction with another object.

All forces are either:

- **Contact forces** – objects are physically touching
e.g. friction, air resistance, tension and normal contact force.
- **Non-Contact forces** – objects are physically separated
e.g. gravitational force, electrostatic force and magnetic force.

- Forces are **vectors** – shown by arrows.



Gravity

Weight = the **force** acting on an object due to gravity.

- Gravity close to Earth is due to the gravitational field.

- Weight of an object depends on the gravitational field strength at the point where the object is.

Weight can be calculated using:

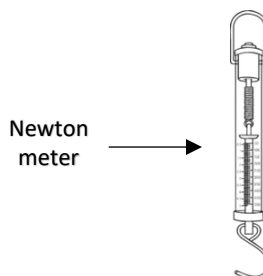
weight = mass x gravitational field strength

$$W = m \times g$$

Diagram showing the units for each term in the equation $W = m \times g$:

- W (Weight) is measured in **Newton (N)**.
- m (mass) is measured in **Kilograms (kg)**.
- g (gravitational field strength) is measured in **Newton per kilogram (N/kg)**.

- Earth's gravitational field strength = 9.8 N/kg
- Weight of an object can be considered to act at a single point = object's '**centre of mass**'
- Weight can be measured using a **newton meter**.



Resultant Forces

Resultant force = The sum of all forces or overall force acting on an object



Bike is being pushed forward with a force of 13N but there are resistive forces of 13N backwards.

Resultant force = 0N

What happens to the motion depends on what the bike was doing before these forces were applied:

- If the bike was stationary, it will stay stationary
- if the bike was moving, it will continue to move at a constant velocity



Car is being pushed to the left by a force of 350N. It is also pushed to the right by 500N.

Resultant force is: 500N – 350N = 150N

What happens to the motion depends on what the car was doing before these forces were applied:

- If the car was stationary, it will **accelerate** to the right
- If the car was already moving to the right, it will move faster (**accelerate**)
- If the car was moving to the left (ie reversing), it will slow down (**decelerate**)

T1 Y11b & c Science/Physics P5 – Forces

1. What is a scalar quantity?
2. Give 2 examples of a scalar quantity.
3. Give 2 examples of a vector quantity.

1. Define weight.
2. What does the weight of an object depend on?

1. What is a resultant force?
2. What happens to a moving object if the forces are balanced?

1. What is a force?
2. Describe what is meant by a 'contact force'
3. Give 2 examples of contact forces.
4. Give 2 examples of non-contact forces.
5. Are forces scalar or vectors?

3. Give the equation which links gravitational field strength, mass and weight?
4. What is 'centre of mass'?
5. How can weight be measured?
6. What is the value for Earth's gravitational field strength?

3. What does 'decelerate' mean?
4. If an object is stationary and there is a 0N resultant force, what happens to the object?
5. What is needed to make an object accelerate?

T1 Y11b & c Science/Physics P5 – Forces

Vector Diagrams (HT only)

- Used to calculate resultant forces that are not acting directly opposite each other, on a straight line.

Rules ('tip to tail'):

- Draw first vector to scale, in the direction stated
- Draw second vector, from the tip of the first one in the direction stated.
- Join the two lines in a triangle and measure the resulting line
- Convert length to force using your scale – this is the resultant force

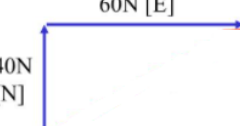
Example:

Two forces act on an toy boat - 40N acting north, 60N acting East. Calculate the resultant force and state the direction.

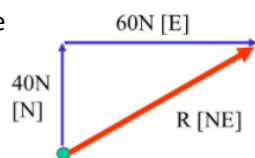
1. Draw the first vector to scale



2. Draw 2nd vector from tip of the first one. Again, to scale.



3. Join the two lines. Measure the resulting line.



Resultant force = 72N NE

Work done and Energy Transfer

- When a force acts on an object and makes it move – **work is done**.

Work done = energy transferred

Work done is calculated by:

$$\text{work done} = \text{force} \times \text{distance}$$

$$W = F \times s$$

Joules (J) Newtons (N) Metres (m)

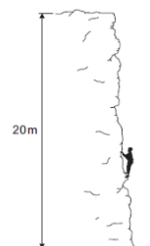
- One joule of work is done when a force of one newton causes a displacement of one metre.
- 1 joule = 1 newton-metre

e.g A climber and his gear weigh 750N Calculate the energy transferred top of the cliff

$$W = F s$$

$$W = 750 \times 20\text{m}$$

$$W = 15000\text{J}$$



- Work done against the frictional forces acting on an object causes a rise in the temperature.



Forces and Elasticity

- When work is done on an elastic object (e.g. stretching or compressing a spring), energy is stored as elastic potential energy.

Elastic deformation:

- When force is applied, object changes shape and stretches.
- When the force is no longer applied, object returns to original shape.

Inelastic deformation = stretched beyond limit – will not return to original shape and size.

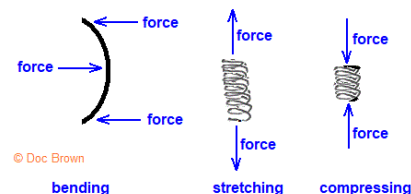
Force = spring constant x extension

$$F = k \times e$$

Newtons (N) Newtons per metre (N/m) Metres (m)

Two forces are needed to stretch or compress

Forces acting on an elastic material (steel strip, spring)



Work done in stretching (or compressing) a spring:

elastic

$$\text{potential} = 0.5 \times \text{spring constant} \times (\text{extension})^2$$

energy

$$E_e = \frac{1}{2} \times k \times e^2$$

T1 Y11b & c Science/Physics P5 – Forces

1. What are vector diagrams used to calculate?

2. Where do you draw the second force from?

3. Two forces act on a boat, pulling it along. The first force is 3N North and the second is 4N East. Follow the rules and draw the forces acting from the point of origin below:



4. What is the resultant force on the boat?

1. When is work done?

2. Give the equation which links distance, force and work done?

3. What is work done the same as?

4. Complete this sentence: One joule of work is done when...

5. What is the relationship between joules and newton-metres?

6. What does work done against the frictional forces acting on an object cause?

1. When an elastic object is stretched or compressed, which energy store is filled?

2. What is 'elastic deformation'?

3. What is 'inelastic deformation'?

4. What happens to a stretched spring when the force is removed?

5. What is the equation linking extension, force and spring constant

6. How many forces are needed to stretch or compress an object?

T1 Y11b & c Science/Physics P5 – Forces

Required Practical

Aim: Investigate the relationship between force and extension for a spring (or any elastic object, eg elastic band)

Method

1. Hang a spring from a clamp and stand
2. Measure original length of the spring and record this.
3. Attach a 100g mass – record the new length of the spring.
4. Continue adding 100g masses recording the length each time, up to a total of 500g.
5. Work out the extension for each mass using:

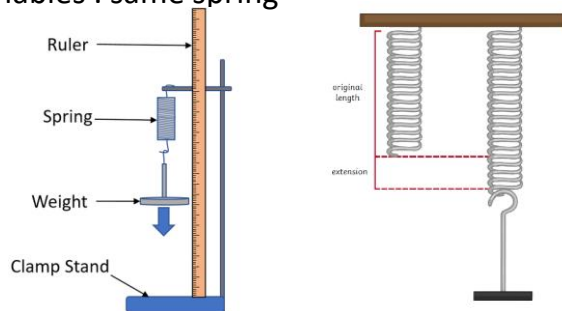
final length – original length

6. Repeat steps 1-5 twice and calculate a mean
7. Plot a line graph with extension (m) on the x-axis and force (N) on the y-axis.

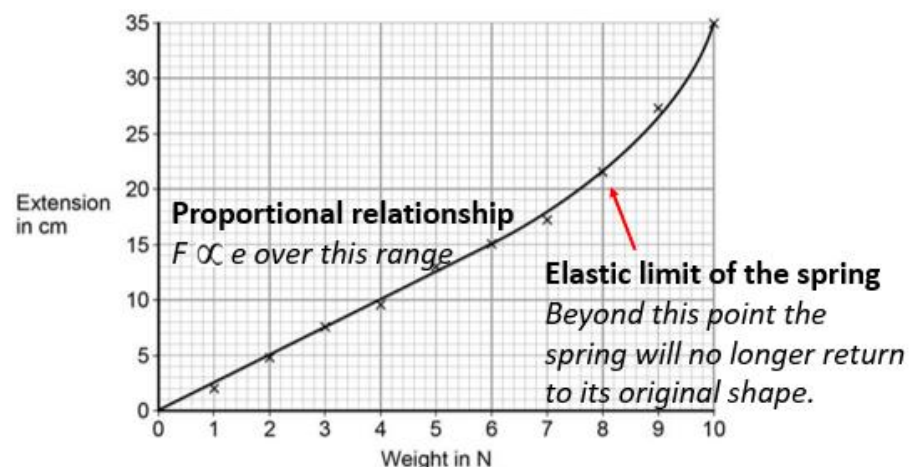
Independent variable : mass on the spring

Dependent variable : extension of the spring

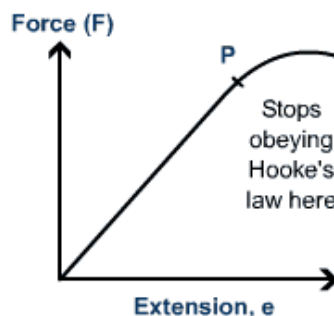
Control variables : same spring



Results :



- There is a proportional relationship (shown by a straight line through the origin) at first.
- This means: **Force $\propto$ Extension** ($F \propto E$)
- However, there comes a point when the 'elastic limit' of the spring is reached. This is also known as the **limit of proportionality**.
- If more force is applied after this, relationship is **no longer proportional**.
- After this point, the spring will not return to its original shape and size when the force is removed.

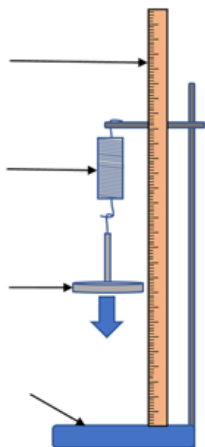


You may see the graphs with the axes switched – with extension on X and force on Y.

gradient of linear part = spring constant, k, for the spring being used.

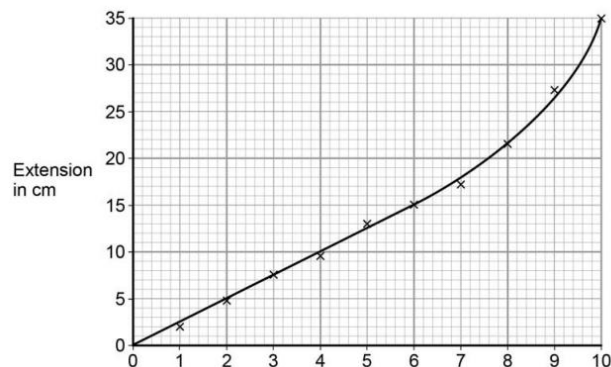
T1 Y11b & c Science/Physics P5 – Forces

1. What is the independent variable in the investigation into the effect of force on extension of a spring?
2. What is the dependent variable?
3. How is the dependent variable measured?
4. What range of masses could be used?
5. Label the equipment used to investigate the stretching of a spring below:

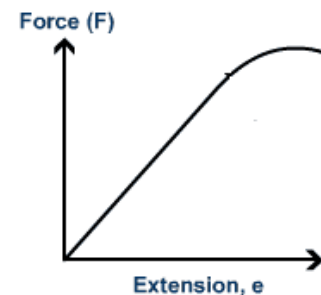


6. Why are repeated readings taken for each mass?

1. Label the X axis for the graph below, including units



2. Label the part of the graph that shows force is directly proportional to extension
3. Label the limit of proportionality for this spring
4. What is the symbol for 'proportional'?
5. How could you use a graph like this to calculate the spring constant of this spring?



T1 Y11b & c Science/Physics P5 – Forces

Distance and Displacement

Distance

- How far an object moves
- Does not involve direction
- Distance = scalar quantity

Displacement

- Includes both the **distance** an object moves, measured in a straight line, from start to finish point and the **direction** of that straight line.
- Displacement = vector quantity

Speed

You should be able to recall the following typical speeds.

Activity	Typical Speed (m/s)
Walking	1.5
Running	3
Cycling	6
A car	25
A train	55
Speed of sound	330

Calculating speed:

$$\text{speed} = \text{distance} \times \text{time}$$

E.g. A car travels 100 metres in 3.8 seconds. What is the average speed?

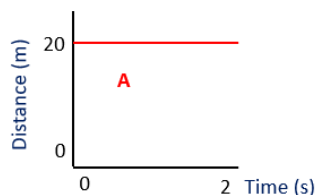
$$v = s/t$$

$$v = 100 \text{ m} / 3.8 \text{ s}$$

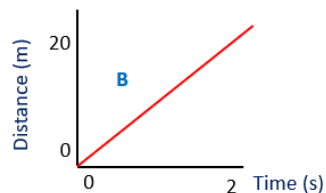
$$v = 26 \text{ m/s}$$

Distance time graphs

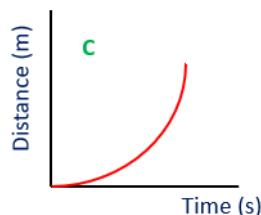
Distance time graphs show the motion of an object
The gradient tells us the speed of the object



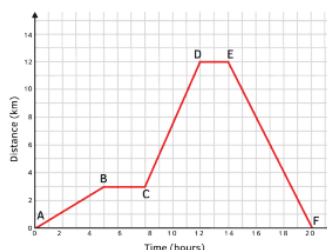
Object is stationary
(distance not changing)



Object is travelling
at constant speed
 $v = 20/2$
 $v = 10 \text{ m/s}$



Object is accelerating
(HT only) Speed can be calculated by:
- Drawing a **tangent**
and finding the **gradient** of the tangent



A journey generally has different speeds.
Average speed can be calculated by using
total distance ÷ time

Velocity and Acceleration

Velocity & acceleration = vector quantities

1. Velocity = **speed** in a given **direction**

- positive velocity = forwards (eg +5 m/s)
- negative velocity = backwards (eg -5 m/s)

2. Acceleration is a **change in velocity**

- positive acceleration = speeding up
- negative acceleration = slowing down

Average acceleration of an object can be calculated using:

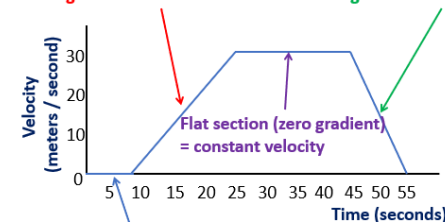
$$\text{acceleration} = \frac{\text{final velocity} - \text{initial velocity}}{\text{time taken}}$$

Units for acceleration are m/s^2

Velocity time graphs

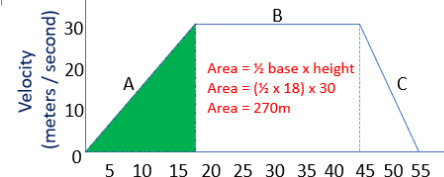
Show how velocity changes during a journey

The gradient shows the acceleration
Constant positive gradient = acceleration
Constant negative gradient = deceleration



Flat section along the x-axis (zero gradient) = constant zero velocity

HT only - area underneath a velocity time graph is the distance travelled by an object



T1 Y11b & c Science/Physics P5 – Forces

1. What type of quantity is distance?
2. What is 'displacement'?
3. Why is displacement a vector quantity?

Speed

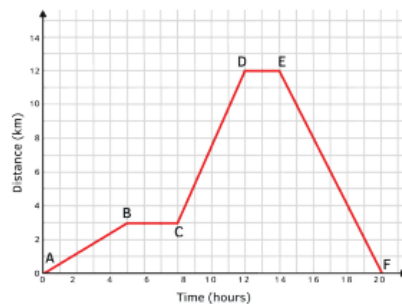
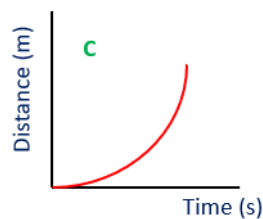
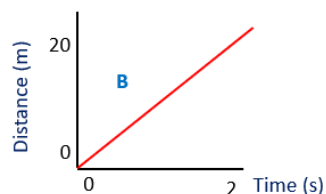
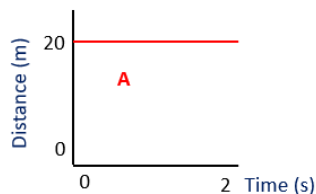
1. Complete the table:

Activity	Typical Speed (m/s)
Walking	
Running	
	6
A car	
	55
Speed of sound	

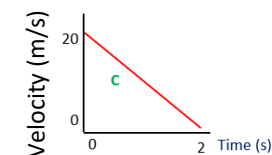
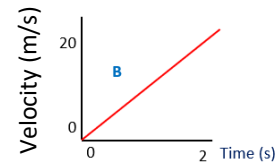
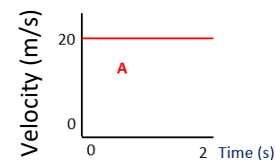
2. What is the equation linking distance, speed and time?

3. What are the units for speed?

1. Describe the motion of the objects:



1. Define velocity and acceleration. Give the units.
2. What does a negative velocity indicate?
3. What does a negative acceleration indicate?
4. What is the equation linking acceleration, final velocity, initial velocity and time?
5. Describe the motion of the objects shown in the graph (include numbers if you can!)



5. How do you calculate acceleration from a velocity time graph?
6. (HT) What does the area under the line on a velocity time graph show?

T1 Y11b & c Science/Physics P5 – Forces

Aim: To investigate the effect of **varying force** on the acceleration of an object of constant mass.

You may be given any of the following apparatus set-ups to conduct these investigations:

Independent variable = force applied

Dependent variable = acceleration

Control variables = mass of toy car and surface car is on.

Method (using toy car)

1) Place the car on a ramp. Incline the ramp until the car just does not move. This is to remove as much of the effect of friction as possible.

2) Set up a light gate at the end of the ramp

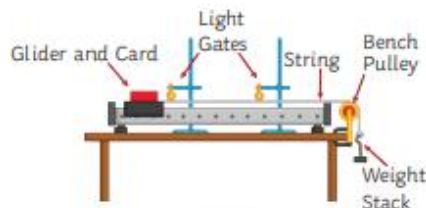
3) Place a 1N weight on the pulley attached to the toy car.

4) Allow the weight to drop and read the acceleration of the car from the light

5) Repeat the experiment several times, decreasing the weight on the pulley each time (e.g. 0.8N, 0.6N, 0.4N etc.) Place the removed mass onto the car to keep the mass of the system constant

Results

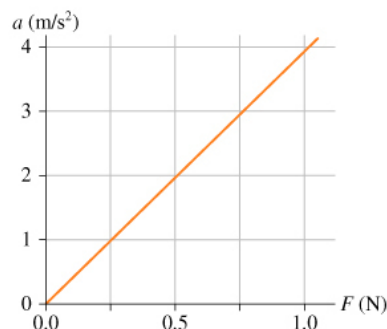
Acceleration is proportional to force applied



or



or



Aim: Investigate the effect of **varying mass** of an object on the acceleration produced by a constant force.

You may be given any of the following apparatus set-ups to conduct these investigations:

Independent variable = mass of glider

Dependent variable = acceleration of glider

Control variables = force applied and surface car is on

Method (using glider)

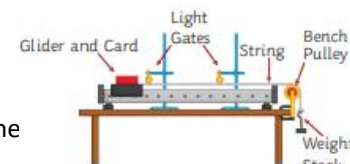
1) Place the glider on the track. Switch on the air blower and adjust until the glider just doesn't move. This is to remove as much of the effect of friction as possible.

2. Set up a light gate at the end of the air track

3) Add a 10g mass onto the glider. Place a 1N weight on the pulley attached to the glider and let go.

4) Record the acceleration from the light gate

5) Repeat the experiment several times, increasing the mass on the glider each time (e.g. 20g, 30g, 40g etc.) whilst keeping the weight (1N) on the pulley constant.



or

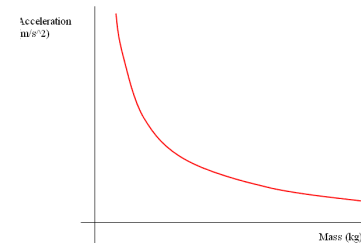


or



Results

Acceleration is inversely proportional to mass



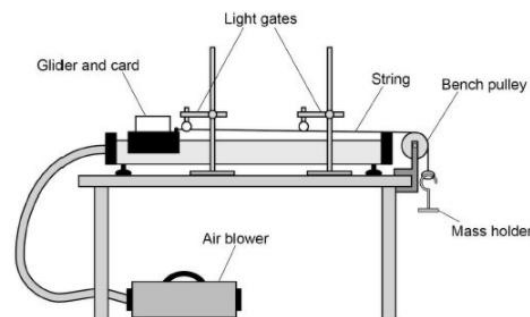
T1 Y11b & c Science/Physics P5 – Forces

A student was investigating the effect of changing the force on the acceleration of a toy car down a ramp, using the equipment shown below:



1. What provides the force for the car to move?
2. Why is the ramp tilted?
3. What is the independent variable in the investigation?
4. What is the dependent variable?
5. How is force changed during the experiment?
6. What is the name of the piece of equipment shown that measures the acceleration?
7. How is mass kept constant throughout the experiment?
8. What relationship do you expect to see between force and acceleration?

A student was investigating the effect of changing the mass of an object on the acceleration, using the equipment shown below



1. What is the independent variable?
2. What is the dependent variable?
2. What variables need to be controlled?
4. Why is the air blower switched on?
5. Describe the relationship you would expect to find between mass and acceleration

T1 Y11b & c Science/Physics P5 – Forces

Stopping Distance

Stopping distance = thinking distance + braking distance

- Greater the speed of vehicle – greater the stopping distance.

Thinking Distance (reaction time)

Thinking distance = distance travelled before driver reacts and presses brakes.

Reaction times are typically 0.2s to 0.9s

Factors that affect a driver's reaction time:

- Tiredness
- Drugs
- Alcohol
- Age
- Distractions (e.g. phone/music)

Momentum (HT only)

- Defined by the equation:

$$\text{momentum} = \text{mass} \times \text{velocity}$$
$$p = m \times v$$

Units:

momentum = kilograms metre per second (kg m/s)

mass = kg

velocity = m/s

- In a closed system, total momentum before an event is equal to the total momentum after the event – this is called **conservation of momentum**.

Braking Distance

Braking distance = the distance travelled by a vehicle once with **brakes are applied** until it reaches a full stop.

It can be affected by:

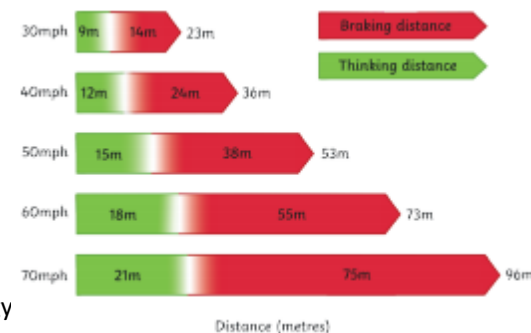
- wet/icy roads
- poor vehicle conditions (brakes/tyres)

When a force is applied to brakes, **work is done** by the friction between the car wheels and the brakes.

Work done – reduces the **kinetic energy store** and energy is transferred to **the thermal store of the brakes**, increasing their temperature.

Increased speed = increased force required to stop the vehicle

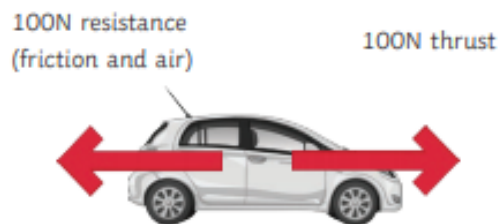
Very large decelerations can lead to brakes overheating and/or loss of control of the car.



Newton's First Law

If resultant force acting on object is zero:

- Stationary object will remain stationary
- Moving object will continue at a steady speed and in the same direction.



(HT only) Inertia = tendency of an object to continue in a state of rest or uniform motion (same speed and direction)

Newton's Second Law

Acceleration of an object is proportional to resultant force acting on it and inversely proportional to the mass of the object

Resultant force = mass x acceleration

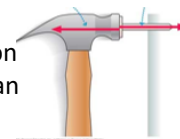
$$F = m \times a$$

(HT only) Inertial mass = how difficult it is to change an object's velocity. Defined as ratio of force over acceleration.

Newton's Third Law

When two objects interact, forces acting on each other are always equal and opposite.

e.g. a hammer hitting a nail
The hammer exerts a force on the nail, and the nail exerts an equal and opposite force on the hammer.



T1 Y11b & c Science/Physics P5 – Forces

1. What is stopping distance?

2. What is the equation linking braking distance, stopping distance and thinking distance?

3. What is the typical reaction time range of a human?

4. What factors may affect a driver's reaction time?

1. What is the equation linking mass, momentum and velocity?

2. What are the units for momentum?

3. What happens to total momentum during a collision or explosion?

1. What is 'braking distance'?

2. What factors affect braking distance?

3. Describe the energy transfers when brakes are applied to stop a moving car

4. Why are large decelerations dangerous?

1. What happens to a stationary object when the resultant force acting on the object is zero?

2. What happens to a moving object when the resultant forces are zero?

3. (HT) What is inertia?

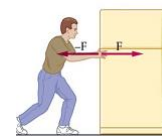
1. State Newton's second law.

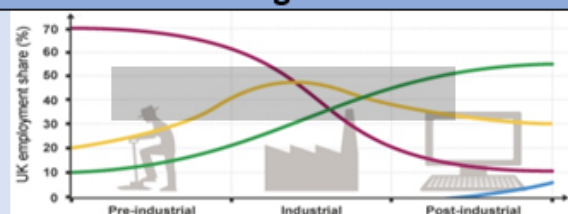
2. What is the equation linking acceleration, force and mass?

3. What is inertial mass? (HT)

1. State Newton's third law.

2. Describe the forces acting in the picture



**1. Economic change in the UK**

Primary	↓ due to mechanisation.
Secondary	↑ due to industrial revolution then ↓ due to de-industrialisation.
Tertiary	↑ due to wealth (↑ disposable income)
Quaternary	High-tech jobs including research and IT. ↑ due to government policies and the increase in technology.

Why has our economy changed?

De-industrialisation	The decline of a country's traditional manufacturing industry due to exhaustion of raw materials, loss of markets and competition from NEEs.
Government policies	A plan decided by a government to manage issues in a country.
Globalisation	The process which has created a more connected world; with increases in the movement of goods/people worldwide

2. Post industrial economy

Tertiary and quaternary sector employed 81% in 2011.	
IT	Employs over 60,000 people.
Services	Retail is the largest sector. Employs 4.4mill
Finance	London is the world's leading centre. HSBC
Research	Government invested £30bill in 2013.
Science parks	Groups of <u>high tech</u> industries and those doing scientific research. Located near universities (for graduates, share facilities).
Business parks	Purpose built areas of offices and warehouses (on edge of cities as less congestion, cheaper, good transport links).

3. Environmental impact of industry

Air and water pollution. Soil degradation.	
Releases CO ₂ increasing the rate of global warming.	
Transport of materials is by road → air pollution.	
Example of modern industry being environmentally sustainable	
Google	London Landscaper started 2018.
686 bikes spaces	Encourages cycling to work.
4 car spaces	< congestion/CO ₂ emissions.
Solar panels.	Reduces fossil fuel consumption and reduces carbon footprint.
19,800 kWh	
Rooftop gardens	Urban greening. < CO ₂ . Collects rainwater. Encourages wildlife.

4. Changes in the rural landscape

Population decline	Outer Hebrides (away from cities, limited opportunities).
Social changes	↓ Declined by >50% since 1901. ↓ ↑ aging population = care issues. ↓ Less children > schools shut.
Economic changes	↓ Services close ie post offices. ↓ ↑ tourists but infrastructure not there. ↓ Government subsidies cost of ferries.
Population growth	South Cambridgeshire (near large cities, people can commute).
Social changes	↓ Migrants from Cambridge, some now from Eastern Europe too. ↓ Proportion of elderly increasing (>65). ↓ 80% car ownership = > congestion. ↓ Young people are costed out.
Economic changes	↓ ↑ house prices. Less affordable housing ↓ Petrol prices ↑.

5. Improvements in infrastructure

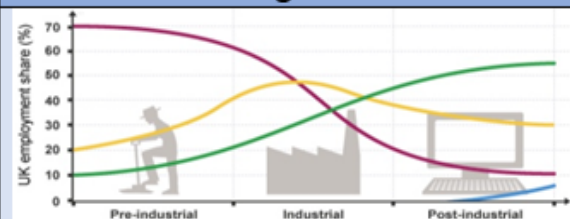
Road	Upgrading 'Smart motorways' M4. Variable speeds, reducing accidents, extra lanes. 2014 Road investment strategy £15 bill. New construction jobs, boost economy.
Rail	Crossrail in London. Puts extra 1.5 million within 45 mins commute of capital city. HS2 to reduce journey times. London to Manchester in 1 hr 8 minutes.
Port	Liverpool 2. Doubles capacity to over 1.5 million containers a year. 96% of UK imports/exports through ports.
Airports	Heathrow expansion. 3 rd runway £18.6bill

6.. North-South divide

Causes	Decline of heavy industry in North (coal) Investment in finance and service industry in the South Investment in infrastructure in South
Impacts in north	Higher unemployment / lower wages (40%) Poor health, lower life expectancy (10 yrs) Poor education. There are SOME exceptions

Strategies attempting to resolve regional differences

Devolving more powers	Give more power to local councils and Welsh and Scottish governments. Plan best how to use their money.
Northern Powerhouse	A plan to attract investment to north. Improve transport links to northern cities. e.g. HS2, Liverpool2. BUT just a CONCEPT not a plan.
Enterprise Zones	55 EZs to encourage businesses to set up in areas of high unemployment. Reduce taxes, simple planning rules, superfast broadband to the area. Created more than 15,000 jobs.

**1. Economic change in the UK**

Primary	
Secondary	
Tertiary	
Quaternary	

Why has our economy changed?

De-industrialisation	
Government policies	
Globalisation	

2. Post industrial economy

Tertiary and quaternary sector employed 81% in 2011.

IT	
Services	
Finance	
Research	
Science parks	
Business parks	

3. Environmental impact of industry**Example of modern industry being environmentally sustainable**

Google	
686 bikes spaces 4 car spaces	
Solar panels. 19,800 kWh	
Rooftop gardens	

4. Changes in the rural landscape

Population decline	
Social changes	
Economic changes	
Population growth	
Social changes	
Economic changes	

5. Improvements in infrastructure

Road	
Rail	
Port	
Airports	

6.. North-South divide

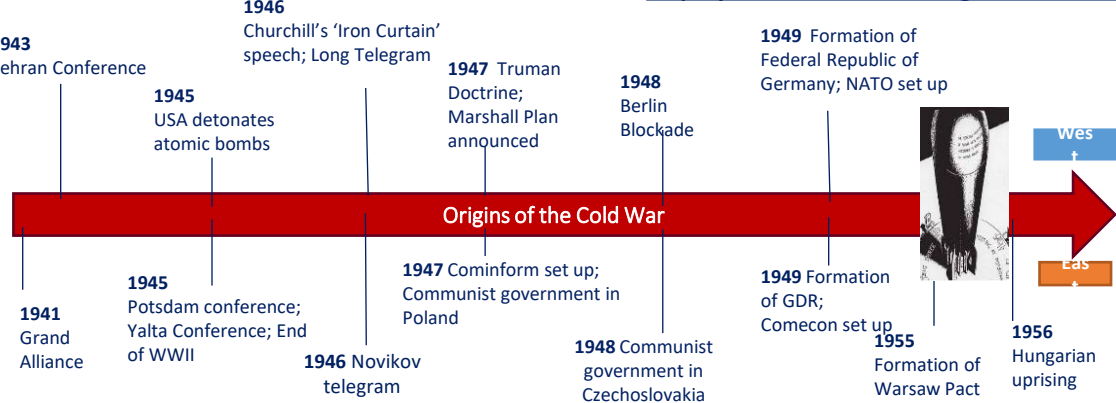
Causes	
Impacts in north	

Strategies attempting to resolve regional differences

Devolving more powers	
Northern Powerhouse	
Enterprise Zones	

Knowledge Organiser Paper 2, Section A: Superpower Relations and the Cold War, 1941-91

Enquiry 1: What were the origins of the Cold War?

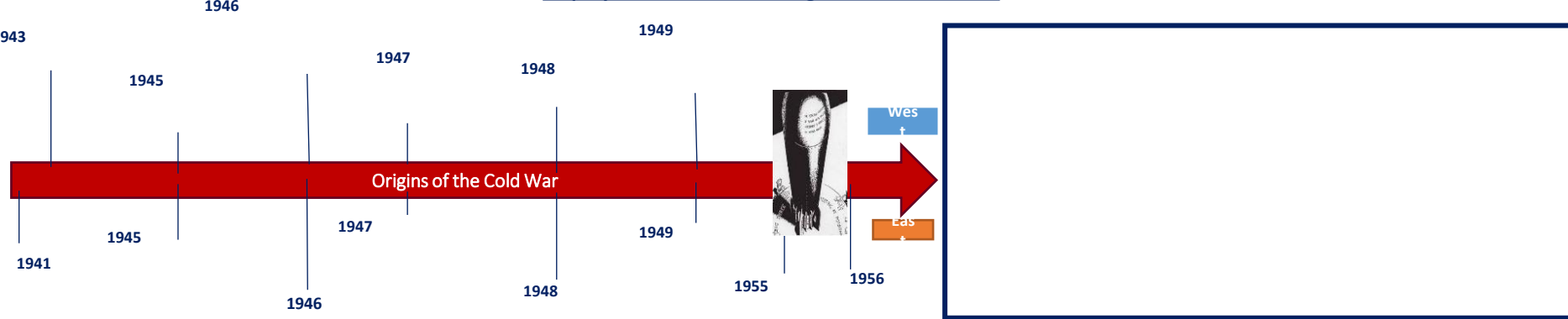


During World War II the alliance between the USA, Britain and the Soviet Union was very much one of necessity. But as it became clear that the Nazi threat had been defeated, the alliance became an uneasy one. Wartime conferences saw distrust between the western leaders and the communist dictator, Stalin, who wanted security against future invasion by controlling eastern Europe. The West feared the spread of Soviet Communism and the Cold War would begin as the West began to attempt to contain its spread. A rivalry between East and West developed between 1947 and 1949 that intensified the Cold War. President Truman set out his doctrine to contain Communism and introduced the Marshall Plan to provide economic aid. Stalin's retaliation to Truman ultimately led to the first crisis of the Cold war – the Berlin Blockade. This led to an increase in tensions going forward as it brought about the formation of rival military alliances - NATO and the Warsaw Pact. Tensions increased further when the Soviet response to an uprising in Hungary led to a brutal military response that shocked the West.

Enquiry 1 Keywords:			
Alliance When two or more countries agree to work together	Containment The US policy of stopping Communism from spreading	ICBM Inter-continental ballistic missile	Superpower An unusually strong country
Arms Race When countries compete against each other to make more powerful weapons	De-Stalinisation The policy of eradicating the influence of Stalin's dictatorship	Marshall Plan Loans from the USA to Europe for reconstruction after WWII	Trizonia The name for the joined German zones of the western allies
Capitalism Where trade and industry are run by private individuals for profit	Deterrent Something that prevents one country from attacking another	NATO A military alliance in the west	Truman Doctrine The idea that it was the USA's duty to contain communism
Comecon Council for Mutual Economic Assistance	Federal Republic of Germany Under western control, known as West Germany	Satellite States Countries that came under direct control of the Soviet Union after WWII	United Nations An international organisation set up in 1945 to maintain peace around the world
Cominform Communist Information Bureau	German Democratic Republic Under Soviet control, known as East Germany	Soviet Union A group of Communist countries controlled by Russia	Uprising When the people in a country become so unhappy that they rebel against the government
Communism Where the state owns trade and industry and profits are shared among citizens according to need	H-Bomb To Hydrogen bomb	Sphere of Influence Region of the world in which one Superpower is dominant	Warsaw Pact A military alliance in the east

Key people:	
Churchill	Prime Minister of Britain. Distrusted Stalin and saw his role as preventing the Soviet Union taking control of eastern Europe.
Roosevelt	President of the USA. Believed strongly in democracy. Wasn't as tough on Stalin in peace negotiations as he believed long-term peace would only come with acceptance of the Soviet Union as a superpower.
Stalin	Authoritarian leader of the Soviet Union Believed the West wanted to destroy Communism, so the Soviet Union had to stand firm in negotiations.
Truman	Took over from Roosevelt as President of the USA in 1945. Differed from Roosevelt in that he totally distrusted Stalin and was determined to stand up to him.

Enquiry 1: What were the origins of the Cold War?



Enquiry 1 Keywords:			
Alliance	Containment	ICBM	Superpower
Arms Race	De-Stalinisation	Marshall Plan	Trizonia
Capitalism	Deterrent	NATO	Truman Doctrine
Comecon	Federal Republic of Germany	Satellite States	United Nations
Cominform	German Democratic Republic	Soviet Union	Uprising
Communism	H-Bomb	Sphere of Influence	Warsaw Pact

Key people:	
Churchill	
Roosevelt	
Stalin	
Truman	

1. Methods of growth

When a market is growing, it is important for a business to grow in order to retain market share.

Method of growth	Explanation
Internal/organic growth	A business can grow by creating new products, entering new markets, increasing their advertising and opening new premises.
External/inorganic growth	A business can grow by merging with another company or by winning a takeover of another company.

2. Finance for growth

A business must find sources of capital to pay for growth.

Term:	Definition:
Internal sources of financing.	A business can use 'retained profit' (capital they have saved from profit) or they could 'sell assets' (selling old or unused machinery/equipment). Internal sources of funding are from an internal sources such as an existing business owner or the business itself rather than from someone or an organisation outside of the business.
External Sources of financing.	A business could take out a loan (loan capital), or sell shares (share capital). External sources of funding are from an external sources such as a bank or an investor rather than from the business owners or the business itself.

3. Why do aims & objectives change?

As businesses evolve, they need to adapt their aims and objectives to changing circumstances.

Changing market conditions	Controlled by customer behaviour, what do customers want?
Changing technology	As technology changes, business needs to adapt to how customers use technology.
Changes in performance	If costs increase, the chances are the profit margin of the business will decrease. A business needs to be clear on whether they are aiming for quality or price.
Changes in legislation	If the law changes, this can bring uncertainty as the business may have to stop manufacturing/selling a certain product or be unable to predict future trends.
Internal Reasons	Changes in management or changes to the culture of the company.

1. Methods of growth

When a market is growing, it is important for a business to grow in order to retain market share.

Method of growth	Explanation
Internal/organic growth	
External/inorganic growth	

2. Finance for growth

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Internal sources of financing.	
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3. Why do aims & objectives change?

As businesses evolve, they need to adapt their aims and objectives to changing circumstances.

Changing market conditions	
Changing technology	
Changes in performance	
Changes in legislation	
Internal Reasons	

4. Globalisation

The increasing tendency for countries to trade with each other and to buy global goods such as Coca-Cola or services such as Costa Coffee.

Imports	Goods brought into one country from another.
Exports	Goods sold to one country from another

4. Globalisation

Barriers to trade	Definition: Measures put in place by a government to control the numbers of goods imported into a country.
Tariffs	Import taxes – taxes on imported goods.
Trade blocs	An agreement between some countries to trade freely without any tariffs, but countries not within the agreement will be charged tariffs.

5. Ethics & business

How the behaviour of a business is judged against human morals.

Term	Definition
Fair Trade	A global scheme that states that farmers or producers are paid a fair price for their goods. Business costs are higher, but customers will pay more for Fair Trade products.
Environmental	Businesses are constantly monitored for their environmental impact. Behaving in an environmentally ethically manner means to not pollute or damage the local/national/global environment – sea, land or sky.
Labour	Human morals dictate that a business should pay its workers fairly and that working conditions should be safe and clean. If a business sub-contracts work to international manufacturers in Asia, human morals dictate that those workers of the contractor are paid fairly and work in safe, clean conditions also.

6. Ways to extend the Product Life Cycle of a Product

Idea:	Explanation
Find new uses for the product	If a product can be used for multiple purposes, ensure that your target audience is aware of this
Change the appearance, format or packaging	Changing the appearance of a product can give it a new lease of life and allow the customer is perceive it as new again.
Encourage use of the product on more occasions	If a product can be used for multiples different occasions make sure the customer base is aware of this
Adapt the Product	Continue to make small adaptations to products to improve the quality of the product on offer.

4. Globalisation

The increasing tendency for countries to trade with each other and to buy global goods such as Coca-Cola or services such as Costa Coffee.

Imports

Exports

4. Globalisation

Barriers to trade

Tariffs

Trade blocs

5. Ethics & business

How the behaviour of a business is judged against human morals.

Term

Fair Trade

Environmental

Labour

6. Ways to extend the Product Life Cycle of a Product

Idea:

Explanation

Find new uses for the product

Change the appearance, format or packaging

Encourage use of the product on more occasions

Adapt the Product

1. Product (Part of the Marketing Mix)

When designing a new product, the key is to design a product that matches the needs or wants of your chosen target market.

Every product needs the right balance between:

Product strategy	Explanation
Economic Manufacture	Making sure that the design of the product to be made cost effectively. A complex or expensive design can lead to increased costs.
Function	The design of the product is crucial. The product must work/function effectively
Aesthetics	How much does the design of the product appeal to the senses. When designing a product it is crucial to consider the way it looks

2. Product (Key Terms)

At the heart of the marketing mix is the product

Term:	Definition:
Product Differentiation	The extent to which consumers see your product as being different from its rivals
Product Life Cycle	The theory that every product goes through the same four stages of introduction, growth, maturity and design

4. Ways to extend the Product Life Cycle of a Product

Idea:	Explanation
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**3. Stages of the Product Life Cycle**

Term:	Explanation:
Introduction	First a company needs to spend time researching the product and the marketplace. The product will be developed, tested, and launched.
Growth	At this stage the product becomes known in the market. At this stage customer awareness increases, prices will still be high.
Maturity	At this point the market may become saturated as 'me too' products are launched into the market. Advertising is increasing to remind consumers about the quality of the product. Brand image needs reinforcing with its customers. The market is highly competitive, and prices are lower as a result
Decline	The product's sales and profit's start to fall. The product is no longer offering what customers want or new technology has made the product obsolete.

5. Promotional Strategy (Part of the marketing mix)

Promotional strategy is the plan for how to communicate effectively with customers in order to meet sales revenue targets.

Promotional Strategy:	Explanation:
Advertising	Advertising is how a business promotes its products and communicates with its customers.
Sponsorship	Sponsorship is where a business pays to have a brand or company name attached to an activity that has credibility with its customers.
Branding	Branding is a way that businesses can give their products an identity that appeals to its target audience.
Product Trials	A product trial means giving potential customers a free taste of a new product. This may entice new customers.
Special Offers	Businesses can use special offers such as 'buy one get one free' to entice customers to purchase their products.
Using Technology	In recent years, online advertising through social media and other platform such as websites and e-newsletters has become commonplace for firms.

6. Pricing Strategy

Pricing strategy is vital for any business – pricing your products can be the difference between business success and business failure.

Market Segment:	Pricing Strategy
Mass Market	In mass markets where both competition and customer consumption are high. These markets are generally characterised by low prices and very similar products.
Niche Markets	A niche market is based on a type of customer needs or wants something different to the majority. Generally these markets have few competitors but high prices.

Pricing at each stage of the Product Life Cycle

Introduction	Pricing at the introduction phase of the product life cycle in some cases will be low to entice new customers to sample the product.
Growth	Once a product is established within a market and has a customer base, businesses will sometimes increase prices to increase revenue.
Maturity	When product growth is at an end, new pricing decisions may be needed. Business will ensure that pricing is competitive to ensure continuous revenue, other firms may decide that the brand may be in irreversible decline and will keep prices high to make a short-term profit.
Decline	When sales have made a decisive step downwards, firms tend to lower prices to ensure a steady stream of revenue. However some firms with a loyal customer base may decide to increase prices in an attempt to gain short term profits.

GCSE Business. Paper 2.

7. Placing Strategy

This element of the marketing mix is about how to get the product from the producer to the customer. There are three main distribution channels – traditional, modern and direct.

Type of Distribution	Explanation:
Direct Distribution	This is where a product is distributed directly from the producer to the consumers. An example of this is buying things directly from firms on the internet.
Modern Distribution	This method is common in the grocery sector, where producers will deliver to distribution depots and then the products will be taken to stores to be sold. This method became popular when supermarkets became common place in the 1980s
Traditional Distribution	This method, in the first instance involves a wholesaler buying goods directly from the producers. From there the wholesaler will sell the products directly to firms who will then sell onto the consumers.

8. Placing Strategy – Key Terms

Term	Definition
Distribution	How ownership changes as a product goes from producer to customer
E-Tailer	An electronic retailer; in other words selling products electronically, either by e-commerce or, more likely these days, mobile commerce.
Retailer	A shop or chain of shops, usually selling from a building in a high street or shopping centre

9. Marketing mix and Business Decisions – Key Terms

Business decisions are always about the future. So, when the marketing mix is being used to inform and carry out business decisions.

Term	Definition
Budget	A ceiling on the amount of money that can be spent; a marketing budget of £1 million means the marketing manager can spend up to that figure, but no more.
Informed Decisions	Evidence that can be used to make a better decision; a company can gain a better understanding of its customers through the 4p's, which helps in decision making



Year 11 PRODUCT DESIGN Term 1



A. New and emerging technologies

Companies are trying to **save money**, **improve products**, **develop new materials** and become more **efficient**. New technologies are developed to positively **impact** the **manufacturing industry** and **society**.

Crowdfunding Uses websites to advertise products as investment opportunities, where people can choose to back a project with a financial donation

Virtual marketing and retail Promotion of products online and sharing experiences, reviews and recommendations

Cooperatives Cooperatives are organisations with lots of people working together towards common goals.

Fair trade Fair trade is a trading partnership that ensures workers in developing countries are given suitable working conditions and are paid a fair wage.



B. Sustainability

If materials are not reused or recycled, the planet will run out of them. If trees are not replanted as quickly as they are felled, we will run out of timber. A material is said to be sustainable if it can be replaced continuously or if it can be recycled or reused indefinitely.

What we are learning this term:

A. New and emerging technologies B. Sustainability
C. Impact on environment D. Impact on People E. Informing design decision

C. Impact on the environment

Modern companies are encouraged to be less wasteful and more considerate of how they affect the natural environment.

Continuous improvement

Continuous improvement is the practice of continually making small adjustments to production techniques to improve speed and quality and save resources.

Efficient working

It is important to ensure that companies work in an efficient manner. This includes increasing the speed of production, reducing errors and reducing waste, which can be done by utilising **automation** or **computer aided manufacture (CAM)**.

Pollution

Pollution is caused when harmful substances are released into the natural environment. Pollution can occur in the air, water or natural land. Legislation has been brought in to help with this issue.

Global warming

- Manufacturing processes in factories or the use of day-to-day products like cars can cause harmful chemicals, such as carbon monoxide and nitrogen oxides.
- These chemicals pollute the air and natural land.

D. Impact on people

People influence how technology is developed to suit their own wants and needs; however, technological developments can change people's lifestyle and behaviours.

Technology push

- Research and development in science and industry can lead to new discoveries
- This is known as technology push, and it happens before there is consumer demand for a product.
- SMART phones are a good example of technology push

Market Pull

- Market pull is when product ideas are produced in response to market forces or customer needs.

Changes in culture

- Fashion trends continue to be influenced by changing technology.
- Wearable items embrace new technology, such as high-tech watches, while textile technology utilises electrically-conductive material or 3D-printing technology.

E. Informing design decision

Physical Disability

Products aimed at users with physical disabilities will ensure they can use the product with ease.

- User needs are met by understanding the nature of the physical disability, eg visual impairment, mobility restrictions or motor control.

Elderly

When designing products aimed at elderly users, it is important to understand –

- The difficulties this user group may experience, such as mobility issues, visual impairment and hearing loss.

Religious Groups

Religious groups have a variety of preferences that can be addressed through design. The use of certain symbols, dietary restrictions and clothing requirements all need to be considered so that beliefs are upheld.

User centred design

User-centered design (UCD) is a design process in which designers **focus on the users** and **their needs** in each **phase of the design process**. In UCD, design teams **involve users** throughout the design process via a **variety of research and design techniques**, to create highly **usable and accessible** products for them.

Universal Design

Universal Design: focuses on serving the broadest range of users as possible (90%), rather than trying to address individual accessibility or inclusion objectives.



Year 11 PRODUCT DESIGN Term 1



A. New and emerging technologies

Companies are trying to _____
improve products, _____
 _____ and become more _____. New
 technologies are developed to positively
impact the _____ and **society**.

Crowdfunding

Virtual
marketing and
retail

Cooperatives

Fair trade



B. Sustainability

What we are learning this term:

A. New and emerging technologies B. Sustainability
 C. Impact on environment D. Impact on People E. Informing design decision

C. Impact on the environment

Modern companies are encouraged to be
 _____ and more considerate of how
 they affect the _____.

Continuous improvement

Efficient working

Pollution

Global warming

D. Impact on people

People influence how technology is
 developed to suit their own _____ and
 _____; however, technological
 developments can change people's
 _____ and _____.

Technology push

Market Pull

Changes in culture

E. Informing design decision

Physical Disability

Elderly

Religious Groups

User centred design

Universal Design

Universal Design:



Year 11 Food & Nutrition Term 1



What we are learning this term:

A. Proteins B. Carbohydrates C. Fibre & Water D. Fats E. Minerals F. Vitamins

A. Proteins – contain amino acids		B. Carbohydrates – used for energy		D. Fats		F. Vitamins	
	Used for growth, repair and maintenance of the body.		Sugars – digested quickly & energy released quickly. Monosaccharides or Disaccharides		Needed for energy, vitamins, insulation (warmth) and protecting your bones & organs, making cholesterol.		Micronutrients which help the body to function.
Source 	Seeds, meat, fish, dairy, nuts and beans. Alternative: soya, mycoprotein, TVP & tofu.	Source 	Fruit or added to food.	Saturated Fats	Unsaturated Fats	Fat Soluble Vitamins	
Excess 	Strain on liver and kidneys. These organs process the proteins consumed.		Starch – digested slowly & slow released of energy. Polysaccharides.	Usually come from animal sources	Mostly from vegetable sources.	Found in fatty food. Stored in fat tissue if not used up.	
Deficiency 	Slows growth, weak immune system, oedema, kwashiorkor, poor hair /skin / nails.	Source 	Potatoes, cereals. Have a lot of nutrients & fibre.	Excess 	Obesity, Type 2 Diabetes, higher Cholesterol (increased risk Coronary Heart Disease).	A	For good eyesight, healthy immune system / skin
High Biological Value Proteins 	These contain ALL the essential amino acids. These come from mainly animals sources (as well as soya and quinoa).	Excess 	Gets converted into fat (may lead to obesity), tooth decay, type 2 diabetes.	Deficiency 	Vitamin deficiency, weight loss, less insulation / bone & organ protection.	D	Helps absorb minerals (especially calcium)
Low Biological Value Proteins 	These are missing <u>one or more</u> of the essential amino acids. These come from plant sources.	Deficiency 	Low blood sugar (hunger, dizziness, tiredness), body starts to use up fat & protein (weight & muscle loss).	E. Minerals		E	For healthy skin, eyes & immune system
Protein Completion: when you combine LBV proteins to get all the essential amino acids.		Glycaemic Index (GI): show how quickly carbohydrates affect blood sugar levels.		Calcium	Strong bones & teeth, healthy nerves & muscles, blood clotting	K	Helps heal wounds, keeps immune system / bones healthy
C. Fibre & Water				Iron	Forms part of haemoglobin in red blood cells	Water Soluble Vitamins	
				Sodium	Controls body's water content, helps nerves / muscle function	Vitamins that dissolve in water & lost through urine – need to take daily! They are also lost when fruit and vegetables are exposed to air.	
Fibre		Water		Phosphorus	Healthy bones & teeth	B	Keep the nervous system healthy
- Helps with digestion - Prevents constipation - Found in fruit, pulses, nuts, veg, wholegrain foods		- Helps get rid of waste & digest food - Controls body temperature 6-8 glasses of water a day - More during a hot day or exercising		Fluoride	Helps strengthen teeth & prevent tooth decay	B1, B2 & B3	Help with energy release
				Iodine	Helps make some hormones	B9 & B12	Help make red bloody cells.
						C	Protects body from infection, heals wounds
						Antioxidants	
						Vitamins A, C & E are antioxidants which may protect cells from free radicals - chemicals you encounter every day.	



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A. Proteins – contain amino acids	

Source	_____
Excess	_____
Deficiency	_____
High Biological Value Proteins	These _____ essential amino acids. These come from mainly _____ sources (as well as _____ and _____).
Low Biological Value Proteins	These _____ essential amino acids. These come from _____ sources.
Protein Completion: _____	

B. Carbohydrates – _____	
	Sugars – digested _____ & energy released _____ _____ saccharides or _____ saccharides
Source	_____
	Starch – digested _____ & energy released _____ _____ saccharides.
Source	_____
Excess	_____
Deficiency	_____
Glycaemic Index (GI): _____	

D. Fats are needed for:	
	1. _____ 2. _____ 3. _____
Saturated Fats	Unsaturated Fats
Usually come from _____ sources	Mostly from _____ sources.
Excess	_____
Deficiency	_____

E. Minerals	
Calcium	_____
Iron	_____
Sodium	_____
Phosphorus	_____
Fluoride	_____
Iodine	_____

F. Vitamins	

Fat Soluble Vitamins	

A	_____
D	_____
E	_____
K	_____
Water Soluble Vitamins	

B	_____
B1, B2 & B3	_____
B9 & B12	_____
C	_____
Antioxidants	

C. Fibre & Water	
Fibre	Water
_____ _____ _____	_____ _____ _____



Year 11 Engineering Term 1 (Unit 2)



What we are learning this term:

- Client briefs and building specifications
- Product analysis
- Design generation and analysis
- Planning production

A. Client briefs and building specifications

As an engineer you may be given a **brief** of what the customer wants from their product. The steps to analyze this are:

- Highlight the **key information**, what are they actually asking for?
- Consolidate the information into a **bullet point list**
- Rank** the list in terms of importance, most important first. Make those points the focus of your design.

Specifications: Documents listing the specific properties a design should have. These are most useful when given as **quantitative information**, as you can more easily check if you have completed it. **Quantitative information** – can be measured/counted i.e number of wheels on a car, how much it weighs. **Qualitative information** – opinions based/ descriptive i.e how beautiful something is

C. Design generation and analysis

S	C	A	M	P	E	R
Substitute	Combine	Adapt	Modify	Put to another use	Eliminate	Reverse
Replace a part, material, or process with something else.	Join elements, ideas, or functions together in new ways – or find a new element you can merge with.	Modify something to better suit a new purpose, person or context.	Enlarge, reduce, change the shape, or alter attributes. Can a small change have a big effect?	Rather than changing the thing itself, consider changing the context it exists in.	Remove elements, simplify, or pare down to essentials.	Flip the script, re-order your priorities, invert cause and effect, and turn it all upside-down.

Strengths

- key features that match the design brief
- Key features that match the specification
- Things that the target market would like

Weaknesses

- Limitations of the idea
- Things the target market might not like
- Points on the specification it did not meet

SWOT evaluation for new design ideas

Opportunities

- The ways in which the design could be improved
- New ideas or technology that could change the way the product could be used

Threats

- Other products in the market that are similar
- Extra resources needed to make it
- Extra money / time/ skills needed to make it

B. Product analysis

A is for **Aesthetics**



Aesthetics means **what does the product look like?**
What is the: Colour? Shape? Texture? Pattern? Appearance? Feel? Weight? Style?

C is for **Cost**



Cost means **how much does the product cost to buy?**
How much does it: Cost to buy? Cost to make?
How much do the different materials cost? Is it good value?

C is for **Customer**



Customer means **who will buy or use your product?**
Who will buy your product? Who will use your product?
What is their: Age? Gender?
What are their: Likes? Dislikes? Needs? Preferences?

E is for **Environment**



Environment means **will the product affect the environment?**
Is the product: Recyclable? Reusable? Repairable? Sustainable?
Environmentally friendly? Bad for the environment?
6R's of Design: Recycle / Reuse / Repair / Rethink / Reduce / Refuse

S is for **Size**



Size means **how big or small is the product?**
What is the size of the product in millimeters (mm)? Is this the same size as similar products? Is it comfortable to use? Does it fit?
Would it be improved if it was bigger or smaller?

S is for **Safety**



Safety means **how safe is the product when it is used?**
Will it be safe for the customer to use? Could they hurt themselves?
What's the correct and safest way to use the product? What are the risks?

F is for **Function**



Function means **how does the product work?**
What is the product's job and role? What is it needed for? How well does it work? How could it be improved? Why is it used this way?

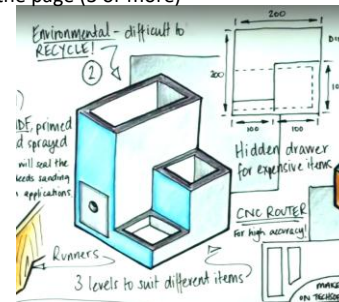
M is for **Material**



Material means **what is the product made out of?**
What materials is the product made from? Why were these materials used? Would a different material be better? How was the product made? What manufacturing techniques were used?

C. Design generation example

Is part of a range of ideas on the page (3 or more)



Notes link designs to the brief and specification

Very clear drawings, use of rendering to show depth

Notes on material/production choices and why

D. Planning production

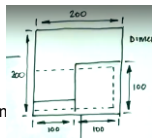
Calculating the cost of a product:

- Calculate area/volume of material used
- Research what **stock** is used and what price a **unit** of stock is
- Calculate how many **whole products** can be made from that unit of stock
- Divide the cost of the unit of stock by the number of **whole products** can be made from it

Worked example

Calculate the cost of the 20x20cm component if it is Made from a sheet of 100x100cm plywood that cost £4.

- Component area = $20 \times 20 = 400 \text{ cm}^2$
- Stock = $\text{£}4 \text{ for } 1000 \text{ cm}^2$
- $1000 / 40 = 25$
- $\text{£}4 / 25 = 400p / 25 = 16p$





A. Client briefs and building specifications

What we are learning this term:

- A. Client briefs and building specifications
- B. Product analysis
- C. Design generation and analysis
- D. Planning production

Analyse this brief. Show you can: Highlight the **key information**, **bullet point list** the info, **Rank** the list.

A company which sells products online is creating a new range of designs. Create a concept for a pendant light. The light must be low cost to manufacture so suitable processes and materials should be considered. To keep transportation costs down, the light must be lightweight. The dimensions of the light must not exceed 45cm in any direction.

Ranked Bullet points:

C. Design generation and analysis

Use the SWOT tool to analyse the design of the existing lampshade.

Strengths

Weaknesses

Opportunities

Threats

Draw below how you would **adapt** the design to be more lightweight or attractive

B. Product analysis

A

C

C

M

E



Analyse this collapsible plywood shade using ACCESSFM

F

S

S

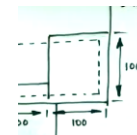
D. Planning production

Calculating the cost of a product:

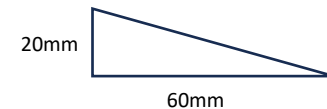
1. Calculate area/volume of material used
2. Research what **stock** is used and what price a **unit** of stock is
3. Calculate how many **whole products** can be made from that unit of stock
4. Divide the cost of the unit of stock by the number of **whole products** can be made from it

Practice questions:

1. What is the cost of the 100x100mm component if it is made from 1000x1000mm plywood that costs £4?



2. What is the cost of this component if it is made from 1000x1000mm plywood that costs £4?



What we are learning:	
A.	Key words
B.	What are the different types of health care services?
C.	What are the different types of social care services?
D.	What barriers are there to accessing care services?

A.	Key words for this Unit
Primary care	First point of contact when seeking health care
NHS	National Health Service – Tax funded health care in the UK.
Secondary care	Specialist health treatment and/or care
Tertiary care	Advanced specialist health treatment and/or care.
Allied health professionals	Professionals who are involved in patient care from diagnosis to recover
Clinical support staff	Support allied health professionals with the treatment and care of patients.
Foster care	A stable family home where care is provided on either a short or long-term basis.
Residential care	Accommodation and care for a number of children, young people or adults living together in one building.
Respite care	Short-term care which provides relief for family member who are carers.
Domiciliary care	Care received in the person's own home.
Sensory impairment	Difficulties with senses, most commonly vision and hearing.
Braille	Raised lettering to help visually impaired.
Occupational therapist	Offers support to develop independence for daily living activities.

B	What are the different types of health care services?
Primary Care	- Primary care is the first point of contact a patient is likely to have with the NHS – you can refer yourself to primary care providers. - Primary care providers include pharmacists, Registered GPs/doctors, walk-in centres, accident and emergency departments (A&E), dentists and Opticians.
Secondary Care	- Secondary care is specialist treatment or care. A primary care provider will refer a patient for secondary care if they feel it is necessary for the patient to receive further advice, tests or treatment. - Secondary care providers include cardiologists (heart), gynaecologists (female reproduction), paediatrics (children), obstetrics (childbirth and midwifery), psychiatry (mental health) and dermatology (skin).
Tertiary Care	- Tertiary Care is advanced specialist treatment or care. A secondary care provider will refer a patient for tertiary care for long-term treatment and/or care. - Tertiary care areas include spinal, cardiac (heart), cancer care, chronic pain, burns and neonatal (premature and ill new born babies).
Allied Health Professionals	- Allied health professionals work in a range of specialities They support patients through all stages of care – from diagnosis to recovery. To work with the public they must register with the Health and Care Professions Council (HCPC). - Allied health professionals include art therapists, dieticians, paramedics, physiotherapists, speech and language therapists and radiographers.
Clinical Support Staff	- Clinical support staff work within a range of departments under the guidance of allied health professionals. They are trained in their roles but are not required to register with the HCPC. - Clinical support staff include theatre support workers, prosthetic technicians, dietetic assistant, phlebotomist (collects blood samples), hearing aid dispensers and maternity support workers.

C.	What are the different types of social care services?
Children and young people	- Children and young people may need support on a temporary or permanent basis because their parent or carer is ill; they have family problems, they have behavioural issues or additional needs. - Types of support for children and young people include foster care, residential care and youth work.
Children or adults with specific needs	- Children and adults may need support with specific needs including learning disabilities, sensory impairments and long-term health issues. - Types of support for children and adults with specific needs include residential care, respite care and domiciliary care.
Older Adults	- Older adults may need support with a range of needs including arthritis, cardiovascular disease, dementia and depression. - Types of support for older adults include residential care, carers and personal assistants.
Informal Social Care	- Not all carers get paid for what they do – they are known as informal carers and social services would really struggle without them. - Informal carers include a spouse or partner, children, friends and neighbours. - Informal carers do practical household duties, shopping, laundry, walk the dog and help with personal care.



What we are learning:	
A.	Key words
B.	What are the different types of health care services?
C.	What are the different types of social care services?
D.	What barriers are there to accessing care services?

A.	Key words for this Unit
Primary care	
NHS	
Secondary care	
Tertiary care	
Allied health professionals	
Clinical support staff	
Foster care	
Residential care	
Respite care	
Domiciliary care	
Sensory impairment	
Braille	
Occupational therapist	

B	What are the different types of health care services?
Primary Care	
Secondary Care	
Tertiary Care	
Allied Health Professionals	
Clinical Support Staff	

C.	What are the different types of social care services?
Children and young people	
Children or adults with specific needs	
Older Adults	
Informal Social Care	



D.	What barriers are there to accessing care services?
Physical Barriers 	• Difficulty accessing care due to mobility and/or disability. • Obstacles include uneven and rough pavements and services, narrow doorways, no lift and transport. • Access could be improved by planning journeys in advance and reporting any problems to the council.
Sensory Barriers 	• Sensory impairments can be a barrier to accessing care. • A person with poor vision may need glasses or documents in large print. Profound sight problems may benefit from Braille. • A person with a hearing impairment may benefit from a hearing aid or sign language interpreter.
Social, Cultural and Psychological Barriers 	• Social, cultural and psychological barriers may leave people feeling nervous about accessing support. • These can include: religion/cultural barriers, negative experience, self-diagnosis, substance misuse, opening hours. • Care services can give individuals opportunities to share their concerns, offer different gender practitioners, facilities to worship and show respect and understanding.
Language Barriers 	• Language can be a barrier to accessing care services because individuals and care providers may struggle to understand each other. • Support for individuals could include translated documents, translators and interpreters and support from family members.
Geographical Barriers 	• Individuals may struggle to reach care services because public transport may not run regularly, specialist treatments may require long distance travel and travel can be expensive. • Support could include being provided with direct travel or having travel costs reimbursed.
Intellectual Barriers 	• If an individual has a learning disability it can cause difficulty in them accessing care services. • Support might include a learning disability nurse, speech and language therapist or occupational therapist.
Resource Barriers 	• As the population ages and more disorders are being successfully treated, there is a huge strain on health and social care resources – at times it might seem that not everyone can access what they need. • There are huge staff shortages which puts strain on people that work in the health and social care sector.
Financial Barriers 	• Seeing a GP or using emergency services are free but some services, such as optical and dental care, often involve some payment. • This can be difficult for people if they are from a low-income household as they may not feel they can afford to access the care they need.

D.	What barriers are there to accessing care services?
Physical Barriers 	
Sensory Barriers 	
Social, Cultural and Psychological Barriers 	
Language Barriers 	
Geographical Barriers 	
Intellectual Barriers 	
Resource Barriers 	
Financial Barriers 	

What we are learning:	
E.	Define the key words
F.	What are the care values and how can they be implemented?

E.	Define the key words
Self-respect	Valuing yourself
Person centred approach	Planning care around the wants and needs of a service user
Empowerment	Supporting people to take control of their lives and futures by involving them decisions on their care and treatment
Confidentiality	Not passing on information or discussing a private conversation to anyone
Dignity	Being respected and treated with care
Safeguarding	Policies to ensure children and vulnerable adults are protected from harm, abuse and neglect
Discrimination	Treating a person or group of people unfairly or less well than others
Compassionate	Feeling or showing sympathy and concern for others
Competence	The ability to do something successfully and efficiently
Consequences	A result or effect, typically one that is unwelcome or unpleasant
Review	Involves assessing or inspecting something with the intention of making change if necessary
Empathy	Being able to understand and share feelings and views of another person.
Insomnia	Difficulties in sleeping

F.	What are the care values and how can they be implemented?
Empowering and promoting independence 	- Empowerment is when an individual feels in control of their own life and have a say in what happens to them. - Some people might need help with empowerment because of their age, circumstances or confidence e.g. elderly people, children, adult with learning disabilities. - You can promote empowerment and independence by involving individuals, where possible, in making choices about their treatment.
Respect for others 	- You can show respect for the individual by respecting their privacy, needs, beliefs and identity. - Show respect by being patient when someone takes longer to perform simple tasks due to their age, disability or injury. - Do not leave personal files around for others to see or discuss your patients' case with friends. - Gain permission before entering a room, provide private place for personal conversations.
Maintaining confidentiality 	- It is a person's right by law to have information about them kept confidential. - Care workers are not allowed to talk about one service user to another, or someone who is not involved in helping them get better. This involves not having those private conversations in public places where other can overhear. - Paper and electronic files are to be kept confidential and only shared with care workers which are involved in the treatment of the patient.
Preserving dignity 	- Preserving the dignity of individuals to help them maintain self-worth, privacy and self-respect. - You do this by involving the person in their own care; helping them go to the bathroom; giving the person time they need, checking what they would like to be called; closing door or curtain when they are changing; making sure their clothes are clean; dealing with embarrassing situations sensitively and professionally.
Effective communication 	- In health and social care it is important to communicate effectively with service users in order to build trusting relationships. These can be lost if the care worker appears not to care or listen. - Recognising different communication needs and trying to overcome them shows that care workers respect the individual e.g. when visually impaired providing a leaflet in braille; if can't speak English well, have a translator organised beforehand. - Show you value the person through showing empathy, asking questions, not judging, smiling, using their name, giving appropriate eye contact, open body language, giving time to process.
Safeguarding and duty of care 	- Health and social care workers have a legal duty to protect service users from harm, neglect or abuse. They must recognise the signs and symptoms of abuse so they can protect people. - Signs of abuse include low self-esteem, STDs, unexplained injuries or bruises, insomnia, change in appetite, change of personality, self-harming, fear of being alone etc. - What to do: report the abuse, never promise to keep the abuse secret, make it clear that you will have to tell someone e.g. your supervisor or the police. DUTY OF CARE - Care workers must work in ways that never put individuals at any risk or harms. They need to know their responsibilities, procedures, deliver care as the care plan states and always report and record any concerns about the service user even if they appear minor.
Promoting anti-discriminatory practice 	- Discrimination can be obvious but sometimes it can be subtle and hidden, and The Equality Act 2010 makes it illegal to discriminate against people because of their e.g. age, gender, race, disability, religion, sexual orientation, marital status etc. - You can promote anti-discriminatory practice by: having patience with someone who doesn't speak English well; communicating in a way that the person will understand; showing tolerance towards people who have different beliefs and values from you; challenging unkind behaviour.

What we are learning:

- E. Define the key words
- F. What are the care values and how can they be implemented?

E. Define the key words

Self-respect	
Person centred approach	
Empowerment	
Confidentiality	
Dignity	
Safeguarding	
Discrimination	
Compassionate	
Competence	
Consequences	
Review	
Empathy	
Insomnia	

F.

What are the care values and how can they be implemented?

Empowering and promoting independence



Respect for others



Maintaining confidentiality



Preserving dignity



Effective communication



Safeguarding and duty of care



Promoting anti-discriminatory practice



What we are learning:	
G.	How to apply care values in a compassionate way.
H.	Identifying own strengths and areas for improvement against the care values

G	How to apply care values in a compassionate way?
Show empathy and care by:	• Being patient • Showing sensitivity • Understanding • Actively listening • Having a positive outlook • Being encouraging • Having genuine concern for other people.
Care workers can check themselves against the ' Six C's of Compassionate Care ' checklist to make sure they are applying care values with compassion.	
Care	Helps to improve an individual's health and wellbeing. Care should be tailored to each person's needs and circumstances
Compassion	Shows the care worker understands what the individual is experiencing. Being empathetic to their situation shows care and value to the individual
Competence	Shows that care workers can safeguard and protect individuals from harm
Communication	How to adapt to individuals and their circumstances to ensure important information is given and shared- keeping the individual at the heart of everything that is done
Courage	Protecting individuals by speaking up if you think something is wrong; being brave enough to own up if you have made a mistake.
Commitment	Carrying out your duties to care for others to the best of your ability.

H	Identifying own strengths and areas for improvement against the care values
Working together	• All care works have the responsibility to uphold care values. If everyone works together, doing their 'bit', service users and colleagues alike will all be able to have positive experiences. • Put any feelings aside, some clients can show anger or aggressions towards you, continues to work in a way that respects each of the care values. Staff training: • Staff training keeps everyone updated. Even if they also ready had care values training it is important to have it again and remind them of their importance.
Making mistakes	• Everyone sometimes make mistakes. It is crucial that staff own up to mistakes that they have made, not matter how small. This is part of the duty of care to safeguard individuals, it demonstrates respect. • You need to be honest about your mistake, do not pretend it never happened and do not blame someone else. • You can: • Tell your supervisor, admit it and apologise • Be honest and accurate about what happened, • Suggest ways to avoid it happening again • Earn back the trust of the person involved • Prove you can do the job • Do no be too hard on yourself; seek help and guidance from others.
Reviewing own applications of care values	• One way to improve skills is to look carefully at the areas you are good at, what you are able to do well and things that you find difficult. • Knowing your strengths will allow you to take on task with ease and make you feel confident that you are doing a good job. • Knowing your weaknesses and what needs improving will help you work on them and develop. It is important to be open with yourself and others in order to progress further and be better at your job. • Regularly review your strengths and weaknesses because they change overtime
Receiving feedback	• The purpose of feedback is to let you know what you are doing well and the areas you need to improve. • This can be formal- like reports and following an observation at work and Informal- like chatting to colleagues at break time. • Both types encourage you to feel pleased with what you have done well and motivate you to improve in weaker areas, perhaps even provide a way forward. • Remember: when giving and receiving feedback, positives must be noted so that you know what you are doing well and continue to do so. Negatives are hard to uncomfortable to hear, but do not take them personally, you need them to get better at your job and feel more confident.
Using feedback	• Create yourself a SMART action plan to set yourself Specific, Measurable, Achievable, Realistic and Time-related targets or goals to help plan for your improvements

What we are learning:	
G.	How to apply care values in a compassionate way.
H.	Identifying own strengths and areas for improvement against the care values

G	How to apply care values in a compassionate way?	
		
Care		
Compassion		
Competence		
Communication		
Courage		
Commitment		

H	Identifying own strengths and areas for improvement against the care values	
Working together		
Making mistakes		
Reviewing own applications of care values		
Receiving feedback		
Using feedback		

What we are learning in LAA:	
A. Key words B. Definitions of health and wellbeing C. Genetic inheritance	
A.	Key words for this Unit
Genetic inheritance	The genes a person inherits from their parents
Predisposition	Someone is more likely to suffer from a particular condition
Chronic	Gradual illness that is long term (longer than 3 months) and generally can be treated but not cured
Acute	A short-term illness that can be cured
Monitor	To check progress over a period of time.
Person-Centred	Planning care around the wants and needs of a service user
Bereavement	The process of coming to terms with the death of someone close.
Circumstances	Events that change your life, over which you have no control
Physiological	Relates to how a person and their bodily parts function normally.
Interpret	understand an action, mood, or way of behaving as having a particular meaning
Collaboratively	Working well together with other people or services
Obstacles	Difficulties a person might face when they implement a plan.
Goal	What you want to achieve in the long term
Norm	Something that is usual, typical or standard
Targets	Challenges to help you reach your goal

B	Definitions of health and well-being	
Positive Definition		Looks at how physically fit and mentally stable a person is. You have a positive attitude towards health and wellbeing if you realise that there is something you can do to improve your health and wellbeing and do it.
Negative definition		Looks at the absence of physical illness, disease, and mental distress. You have a negative attitude towards your health and wellbeing if you: • Base your attitude on not having anything wrong with you. • Continues as you are- Inc. keeping bad habits like smoking. • Assume that because you currently feel fine you will stay healthy in the future.
Holistic definition		It is a combination of physical health and social and emotional wellbeing. It is not just the absence of disease or illness; it looks at all aspects of a person's health and wellbeing. You have a holistic attitude towards health and wellbeing if you look after your: • Physical Health: By meeting the needs we have to keep our bodies working as well as they can, e.g. Food, water, shelter, warmth, clothing, rest, exercise and good personal hygiene. • Intellectual health: By meeting the needs we have to develop and keep our brains working as well as possible; these include mental stimulation to keep us motivated and interested. • Emotional aspects of wellbeing: By meeting the needs we have that make us feel happy and relaxed, e.g. being loved, respected and secure. Knowing how to deal with negative emotions, having positive self-concept and being respected by others. • Social aspects of wellbeing: By meeting the needs we have to help us develop and enjoy good relationships with others, including mixing with others in appropriate environments and having access to leisure facilities/ activities.

C.	Genetic inheritance		
Inherited physical Characteristics		Genes and environment	
• Children inherit their physical; characteristics from their parents e.g. height, skin and eye colour and hair type and colour. • These characteristics can affect social and emotional wellbeing because they influence a person's self-concept (self-image and esteem).		• Chromosomes carry genes that determine aspects of persons physical makeup. • Gene is a section of DNA that carries a code. Different versions of a gene are called alleles (they can be faulty). • Environmental factors such as diet, also influence physical appearance. For example, a person may not grow to their full, genetically determined height if they do not have enough food.	
Allele type	Dominant: If a gene is dominant a child inheriting it from only one birth parent will have the condition, e.g Huntington's disease.	Effects of inherited disorders	• Physical health: Body systems, growth and mobility • Intellectual wellbeing: learning, thinking, problem solving and decision making. • Emotional wellbeing: how people feel about themselves. • Social wellbeing: the ability to build relationships and maintaining them.
	Recessive: If the gene is recessive a child would only develop the condition if it was inherited from both birth parents, e.g. Cystic fibrosis.		

What we are learning in LAA:

- A. Key words
- B. Definitions of health and wellbeing
- C. Genetic inheritance

A. Key words for this Unit

Genetic inheritance	
Predisposition	
Chronic	
Acute	
Monitor	
Person-Centred	
Bereavement	
Circumstances	
Physiological	
Interpret	
Collaboratively	
Obstacles	
Goal	
Norm	
Targets	

B Definitions of heath and well-being

Positive Definition



Negative definition



Holistic definition


C.
Genetic inheritance
Inherited physical Characteristics
Genes and environment

Allele type

Effects of
inherited
disorders

What we are learning in LAA:

- D. Balanced diet
- E. Chronic and acute illness
- F. What are the effect of exercise?
- G. What are the effect of excessive substance use?



D.	Balanced diet
What is a balanced diet?	- Diet that contains the correct nutrients in the right proportions to keep out bodies and minds healthy. - It is also a lifestyle choice - Choosing to eat too much or too little might make us less able to take all the opportunities that life offers.
Overweight or underweight may:	A person over weight or under weight may: - Be prone to illness and conditions - Have their life expectancy reduced - Be less able to exercise effectively - Miss out on learning experiences - Miss out on some sporting activities - Be less successful in job interviews - Feel embarrassed and self-conscious about their appearance in social situations.
Essential parts of a healthy diet:	- Fats (saturated and unsaturated) - Carbohydrates (sugars and starches) - Minerals - Vitamins - Proteins
Eat well guide says you should eat:	- Eat at least 5 portions of a variety of fruit and vegetables every day. - Base meals on potatoes, bread, rice, pasta or other starchy carbohydrates; choosing wholegrain versions where possible. - Have some dairy or dairy alternatives (such as soya drinks); choosing lower fat and lower sugar options. - Eat some beans, pulses, fish, eggs, meat and other proteins (including 2 portions of fish every week, one of which should be oily). - Choose unsaturated oils and spreads and eat in small amounts. - Drink 6-8 cups/glasses of fluid a day.
If you eat <u>more</u> than you need:	- The body will store food as fat and this can lead to: - Obesity, heart disease, high blood pressure, Strokes, Tooth decay or cancer
If you eat <u>less</u> than you need	- The body does not get enough nutrients to grow and develop properly and this can lead to: - Eating disorders, stunted growth, anaemia, heart failure, depression, tiredness, cancer or rickets.

E	Chronic or Acute Illness
Chronic illness- Illness comes on gradually, is long term (more than 3 months) and generally can be treated but not cured. E.g Asthma, Diabetes, epilepsy, bipolar disease, Alzheimer's disease	Acute illness- Illness comes on quickly, is short term and can be cured. E.g. Cold, flue, broken bones, heartburn, appendicitis or Diarrhoea.
Some chronic conditions are acute but may develop because of chronic conditions. For example: osteoporosis (a chronic condition that weakness bones) making their bones fragile and more likely to break. Broken bones are then an acute condition.	
Possible negative effects of chronic illness	
Physical: - poor rate of growth - Unusual physiological change during puberty - Restricted movement	Emotional: - Negative self-concept - Stress - Decision making
Intellectual: - Disturbed learning because of missing school - Difficulties in thinking and problem solving - Memory problems.	Social - Isolation - Loss of independence - Difficulties developing relationships

F.	What are the effect of exercise?
Positive effects of exercise	Physical: maintain a healthy weight, reduce BMI, boosting energy levels. Improved flexibility, stamina, endurance and stronger bones and muscles. Reduce risk of heart disease and diabetes. Intellectual: improved brain function like mental and thinking skills. Emotional: improves confidence and mood and reduces stress. Aid relaxation and sleep and lead to better self concept. Social: encourages social interaction, reducing isolation and improving social skills.
Negative effects of exercise	Physical: Obesity and associated health problems. Intellectual: Reduced pain performance, hard to concentrate and retain information. Emotional: poor self-concept and reduced ability to cope with stress. Social: Fewer opportunities for social interactions.

G.	What are the effect of excessive substance use?
Negative effects of excessive alcohol consumption	Physical: Alcohol dependence, damage to major organs: liver, heart, kidneys, pancreas. Cancers: mouth, throat, oesophagus, liver, breast. Infertility and impotence, weight gain. Intellectual: difficulty in making decisions, depression and anxiety, chance of stroke and brain damage, impaired brain development of unborn baby. Emotional: poor self-concept, poor judgement leading to a risk of accidents and unsafe sex, can have an impact on relationships, depression. Social: breakdown of relationships, domestic violence, social isolation

What we are learning in LAA:

- D. Balanced diet
- E. Chronic and acute illness
- F. What are the effect of exercise?
- G. What are the effect of excessive substance use?

**D. Balanced diet****What is a balanced diet?****Overweight or underweight may:****Essential parts of a healthy diet:****Eat well guide says you should eat:****If you eat more than you need:****If you eat less than you need****E****Chronic or Acute Illness****Possible negative effects of chronic illness****F.****What are the effect of exercise?**

Positive effects of exercise



Negative effects of exercise

G.**What are the effect of excessive substance use?**

Negative effects of excessive alcohol consumption



What we are learning in LAA:

- H. The effects of social interactions on wellbeing
- I. What are the effects of stress on health and wellbeing
- J. What are the hazards of smoking
- K. What are the effects of personal hygiene

H. The effects of social interactions on wellbeing

Social integration	When people feel they belong to a group and can interact with others. Social interactions can happen between family members and friends, work colleagues, school learners, members of a community or interest groups.
Social isolation	Occurs when people do not have regular contact with others. This may be because they don't go out much because of physical illness, reduced mobility or unemployment. They might have a difficulty in communicating if they have a mental illness, depression or learning difficulties. Lastly, a person might be discriminated against because of culture, religion or disability.

Positive effects of relationships

Physical: physical support and day to day care and practical assistance.
Intellectual: shared experiences, supported learning and thinking
Emotional: unconditional love, security and encouragement, positive self-concept, feeling content, ability to build relationships with people outside the family, independence and confidence.
Social: Companionship, social circle increases.

Negative effects of social isolation

Physical: poor lifestyle choices like smoking and drinking, poor diet that can cause eating disorders.
Intellectual: reduced ability to use thinking skills, missing school/work
Emotional: feelings insecure, depression, anxiety, negative self-concept, feeling of hurt, loneliness and distrust, lack of independence, difficulty in controlling emotions.
Social: difficulties in building relationships as lack skills.

I. What are the effects of stress on health and wellbeing

Physical effects	Intellectual effects	Emotional effects	Social effects
Increased heartbeat Increased breathing rate Tense muscles Sweaty palms Dry mouth High blood pressure Loss of appetite Sleeplessness Digestive problems	Forgetfulness Poor concentration Difficulty in making decisions	Difficulty in controlling emotions Feeling insecure Negative self-concept Feeling anxious and frightened Loss of confidence	Difficulty in making friends and building relationships Breakdown of close relationships Social isolation

J. What are the hazards of Smoking

Heart disease and poor circulation mean:

- increased blood pressure
- increased risk of heart attack
- narrowing of the arteries.

Carbon monoxide causes:

- decreased oxygenation
- poor growth
- extra work for the heart
- increased risk of thrombosis.

Exposure in childhood means that children:

- are prone to chest infections and asthma
- tend to be smaller and weaker
- do less well at school.

Irritant particles cause:

- bronchitis
- emphysema
- asthma
- smoker's cough.

Nicotine causes:

- addiction
- increased blood clotting leading to thrombosis.

Conditions such as:

- stroke
- gum disease.

Tar causes cancers of the nose, throat, tongue, lungs, stomach and bladder.

Smokers':

- breath and clothes smell of smoke
- hands and nails are nicotine stained
- faces often become wrinkled from the effects of smoking.

The hazards of smoking

Exposure in pregnancy causes:

- smaller babies
- more stillbirths
- more miscarriages.

K. What are the effects of Personal Hygiene?

Positive effects of good personal hygiene



- Helps prevent the spread of infection
- Improves self-concept
- Reduces number of bacteria that lives on us.

You must:

- Brush you teeth
- Shower daily or bath
- Wash your hair regularly
- Keep fingernails and toenails clean and trimmed

Negative effects of poor personal hygiene

Physical: catching and spreading disease like food poisoning, sore throat, meningitis and athlete's foot. Bad body odour, bad breath and tooth decay.
Emotional: loss of friendships and social isolation. Might be bullied and poor self-concept.
Social: low social interactions as people don't want to be friends with someone that neglects their hygiene. Social isolation.

When caring for others:

- Bad hygiene can stop effective communication.
- Negative effect on the person being cared for and their health and wellbeing- pass on infection
- Discomfort for the person being cared for because of the odour or visible dirt under fingernails.

What we are learning in LAA:

- H. The effects of social interactions on wellbeing
- I. What are the effects of stress on health and wellbeing
- J. What are the hazards of smoking
- K. What are the effects of personal hygiene

H. The effects of social interactions on wellbeing

Social integration

Social isolation

Positive effects of relationships



Negative effects of social isolation



I. What are the effects of stress on health and wellbeing

Physical effects

Intellectual effects

Emotional effects

Social effects

J. What are the hazards of Smoking

The hazards of smoking

K. What are the effects of Personal Hygiene?

Positive effects of good personal hygiene



Negative effects of poor personal hygiene

When caring for others:

What we are learning in LAA:

- L. What are the barriers to seeking help.
 M. What are the effects of unexpected life events on health and wellbeing
 N. What are the effects of economic factors (e.g, income) on health and wellbeing
 O. What are the effects of expected life events on health and wellbeing

L. What are the barriers to seeking help.

Culture	Accessing HSC services can be influenced by values, traditions, way of life and beliefs of the society or group. - Some may have received discrimination when accessing other services. - Some may not speak English well enough. - Values and traditions not understood e.g. eye contact means respect in some cultures but not others. - Some cultures a woman must be treated only by a female professional. - Alternative therapies are used in some cultures
Gender	Research shows that men are less likely to talk about their health and wellbeing than women. This is because men are: - Often less open about their feelings - Sometimes reluctant to appear vulnerable by asking for help - Not aware of poor health signs as health campaigns target women's health more - Unhappy to be examined by a female health worker.
Education	Research shows that people who are better educated are more likely to seek help. This is because: - They like to research symptoms and know when help is needed - Understand the importance of early diagnosis and treatment - Know how and where to access services.
Stigma	In some cultural groups there is a stigma attached to certain conditions like depression. Stigma is a word used to describe something that people feel embarrassed about. Therefore, they wouldn't seek help.

M. What are the effects of unexpected life events on health and wellbeing

Life event	Negative Effects:	Positive Effects:
Imprisonment	- Depression - Loss of contact with family and friends - Social isolation - Restrictions on physical activity	- Opportunity to study - Improvement in health through balanced diet, lack of alcohol, reduced use of nicotine
Redundancy	- Poor self-concept - Anxiety about finances - Fewer opportunities	- Opportunities to study or train for a new job - More time to spend with family and friends
Exclusion or dropping out of education	- Loss of contact with friends - Social isolation - Poor self-concept - Lack of learning opportunities	- Catalyst for change of behaviour - Opportunities for more suitable study or work situation

N. What are the effects of economic factors (e.g, income) on health and wellbeing

	Positive Effects:	Negative Effects:
Physical	- Better financial resources can result in good housing conditions and healthy diet - Manual jobs may improve muscle tone and stamina.	- Low wages can affect diet and housing, leading to poor health. - Manual jobs can cause muscular and skeletal problems - Desk jobs lead to less activity and weight gain.
Intellectual	- Better financial resources can result in more leisure time for intellectual activities - Work, education or training helps to develop problem solving and thinking skills	- Some people work very long hours to improve their financial position, leading to less leisure time and reduced learning opportunities. - Being unemployed can result in poor mental health.
Emotional	- A well-paid job gives a feeling of security. - Being financially secure promotes positive self-concept	- Financial worries can result in stress and breakdown of relationships. - Unemployment or low-status work can lead to low self-concept
Social	- Better financial resources provide opportunities for socialising. - Work gives opportunities for socialising with colleagues.	- Lack of financial resources reduces opportunities for socialising. - Unemployment reduces opportunities for relationships, leading to social isolation.

O. What are the effects of expected life events on health and wellbeing

Life event	Positive Effects:	Negative Effects:
Starting school, college or uni	- Build new relationships - Extend knowledge and learning - Develop new skills - Improve confidence	- Anxiety about new routines and meeting new people - Insecurity about leaving parents and other families
Start a new job or career	- Develop independence - Improve thought processes - Improve self-concept	- Stress about learning new skills and routines - Anxiety about meeting new people
Moving to a new house or area	- Excitement - Develop new friendships and relationships	- Unhappiness at loss of old life - Stress of moving - Social isolation
Retirement	- Reduced stress - Time to socialise with family and friends - Opportunities for leisure of physical activities	- Loss of relationships with colleagues - Possible loss of fitness and mobility - Loss of intellectual stimulation and status

What we are learning in LAA:	
L. What are the barriers to seeking help. M. What are the effects of unexpected life events on health and wellbeing N. What are the effects of economic factors (e.g, income) on health and wellbeing O. What are the effects of expected life events on health and wellbeing	
L.	What are the barriers to seeking help.
Culture	
Gender	
Education	
Stigma	

M.	What are the effects of unexpected life events on health and wellbeing	
Life event	Negative Effects:	Positive Effects:
Imprisonment		
Redundancy		
Exclusion or dropping out of education		

N.	What are the effects of economic factors (e.g, income) on health and wellbeing	
	Positive Effects:	Negative Effects:
Physical		
Intellectual		
Emotional		
Social		

O.	What are the effects of expected life events on health and wellbeing	
Life event	Positive Effects:	Negative Effects:
Starting school, college or uni		
Start a new job or career		
Moving to a new house or area		
Retirement		

What we are learning in LAB:

- A. Physiological health indicators
- B. What are health indicators?
- C. Interpreting lifestyle data

A.	Physiological health indicators
Pulse	Resting pulse rate is measured when a person has been still for about 5 minutes. Health reading for an adult is 60-100 bpm. Pulse rate during exercise: 220bpm minus the person's age.
Blood pressure	- This is the pressure exerted by blood against the artery walls. - It is measured in millimetres of mercury (mm Hg) and is shown in two numbers: - Systolic pressure: (the top number) is the maximum pressure in the blood vessels as the heart pushes out blood. - Diastolic pressure: (the bottom number) as the minimum pressure in the vessels when the heart relaxes between the beats.
Peak flow	- Measured how quickly you can blow air out of your lungs. - it is measured in litres per min (L/min).
BMI	Measures the amount of fat on your body in relation to your height to tell you if your weight is healthy.

B.	What are health indicators?
Importance of understanding indicators	- Detect health problems at an early stage - Track improvements or deterioration in health - Make recommendations about health and treatments - Give advice about future health risks - Support individuals to make different lifestyle choices.
What are lifestyle indicators?	- These indicators can be used to assess risks to an individual's health and wellbeing now and in the future. - Professionals collect information about lifestyle choices by asking about a person's: - Weekly alcohol consumption - Smoking habits - Levels of physical activity and exercise.
What are physiological indicators?	- They show how well the body's systems are functioning. - Health professionals check a person's health by taking measurements. - They compare the results with published guidance.

C.	Interpreting lifestyle data
Interpreting data on smoking 	- Smoking causes around 96,000 deaths in the UK annually. - Smoker under the age of 40 are 5 times more likely to have a heart attack than non-smoker. - Smoking causes 80% of deaths from lung cancer, 80% of bronchitis and 14% of deaths from heart disease. - More than 25% of all cancer deaths are caused by smoking. - On average a smoker will die 10 years earlier than a non-smoker. - Smokers are more likely to develop facial wrinkles. - Smoking is a cause of impotence and can lead to sperm abnormalities.
Interpreting data on alcohol 	- Strongly linked to at least 7 types of cancer - Alcohol-related liver disease accounts for 37% of liver disease and deaths. 2/3s of cases of chronic pancreatitis are caused by heavy drinking - You are between 2 and 5 times more likely to have an accident or injury - Each drink per day increases the risk of breast cancer in woman between 7-13% - Men and woman should not drink more than 14 units a week and not all in one go.
Interpreting data on inactivity 	- Increased risk of breast cancer by 17.8% and colon cancer by 18.7% - Increased risk of type 2 diabetes by 13%. - Increased risk of coronary heart disease by 10.5% - Leads to obesity and joint pain 16.9% of all premature deaths are caused by inactive lifestyle. - Active people have a lower risk of premature death. - People who are inactive visit their GP more often and they spend 38% more time in hospital.

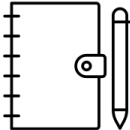
What we are learning in LAB:

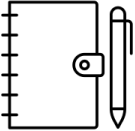
- A. Physiological health indicators
- B. What are health indicators?
- C. Interpreting lifestyle data

A. Physiological health indicators**Pulse****Blood pressure****Peak flow****BMI****B.**

- What are health indicators?

Importance of understanding indicators**What are lifestyle indicators?****What are physiological indicators?****C.****Interpreting lifestyle data****Interpreting data on smoking****Interpreting data on alcohol****Interpreting data on inactivity**

What we are learning in LAC:		C.	Recommended action to meet health and wellbeing improvement goals	
A. What is a person-centred approach B. Health improvement plan C. Recommended action to meet health and wellbeing improvement goals D. SMART targets for health improvement plan E. Sources of support			<u>To lower blood pressure:</u> • Eat five or more portions of fruit and veg a day • Cut out salt • Use relaxation techniques to reduce stress • Join a gym • Drink water alongside alcohol to reduce consumption	<u>To reduce BMI:</u> • Reduce fat and sugar intake • Do not exceed the recommended daily calories intake • Get off the bus a stop early and walk the rest of the way • Drink water instead of sugary drinks.
Person-centred approach	A holistic approach that puts the individual at the heart of health care planning, so that the whole range of physical, intellectual, emotional and social health needs are met.		<u>To increase peak flow reading:</u> • Half the number of cigarettes smoked each day • Use nicotine replacement therapies • Join an exercise or dance class.	<u>To reduce pulse rate and improve recovery time after exercise:</u> • Walk for half an hour at lunchtime • Drink decaffeinated drinks • Take up a physically active hobby • Join a yoga group.
When planning for health improvements include:	• The needs: physical, intellectual, emotional and social. • The wishes: likes, dislikes, choices and desired health goals. • Circumstances: illness or disability, access to facilities, previous experiences, family and relationships, responsibilities.			
Benefits of person-centred approach:	• Will feel involved • Is more likely to trust a health professional who listen to them • Will feel more secure • Is more likely to follow the plan and achieve the targets • Will take responsibility for their own health.			
B.	Health improvement plan			
What is it?	Health and wellbeing improvement plans are often based on an individual's physiological and lifestyle indicators. Plans should be person-centred and include goals, actions and targets and possible sources of support.			
The plan will identify:	• The health issues and goal • The recommended actions to take • A set of targets for health improvement • The supports that are needed • Possible obstacles to progress and way to overcome them.			
Positive effects of a health improvement plan	• Be fitter • Loose weight • Have improved self-concept • Lower blood pressure, healthier heart • Reduced risk of cancer • Taking control of their health outcomes and reaching health goals			
D.		SMART targets for health improvement plan		
Specific		The target must be clearly stated. It should say exactly what you mean, such as to 'lose 2 kg in weight in a week'. The target should be clear and not open to any misunderstanding.		
Measurable		A target of to 'lose weight' is too vague. A specific amount must be stated so you can prove you have met your target.		
Achievable/attainable		If you are following a health and wellbeing improvement plan you must feel it is possible to achieve it. If you do not, you will probably give up before you have even started. An achievable target is to 'lose 1kg this week'. An unachievable target would be to 'lose 20kg this week'.		
Realistic		The target set must be realistic in that you must be able to physically do it. It is not realistic to expect a person who is older and not very fit to run for 30 minutes a day to help weight loss, but it is realistic to ask the same of a fitter, younger person.		
Time-related		The target must have a deadline, so that you know when you need to achieve the target by, and progress can be assessed.		
E.		Sources of support		
Informal support		Informal support is the support an individual receives from partners, family and friends. It is usually the first form of support an individual experiences after and expected or unexpected life event. Informal support can provide reassurance, encouragement, advice, a sense of security, someone to talk through options with and practical help.		
Professions (formal) support		Formal support may be provided by statutory care services (the state), private care services and charitable organizations. Professional support may include counsellors, teachers, careers advisers, occupational therapists, social workers and health specialists. Professional support may be needed to help people with a health condition, regain mobility, deal with life changes and emotions, get advice and information or change their lifestyle.		
Voluntary support		Organizations offering voluntary support are charities, community groups and religious groups. At voluntary support services, many staff are volunteers (they work for free), but they also employ qualified people who are paid by donations. Community groups work at a local level to meet the needs of people living in a specific neighbourhood i.e. foodbanks. Religious groups are formed by people who share the same religious or spiritual beliefs but they help all people in need regardless of their beliefs and background i.e. a church run soup kitchen for the homeless.		

What we are learning in LAC:		C.	Recommended action to meet health and wellbeing improvement goals
A. What is a person-centred approach B. Health improvement plan C. Recommended action to meet health and wellbeing improvement goals D. SMART targets for health improvement plan E. Sources of support			
A.	What is a person-centred approach.		
Person-centred approach			
When planning for health improvements include:			
Benefits of person-centred approach:		D. SMART targets for health improvement plan	
		<u>S</u> pecific	
		<u>M</u> easurable	
		<u>A</u> chievable/ attainable	
		<u>R</u> ealistic	
		<u>T</u> ime-related	
B.	Health improvement plan	E. Sources of support	
What is it?		Informal support	
The plan will identify:		Professions (formal) support	
Positive effects of a health improvement plan		Voluntary support	

F.	What are the potential obstacle to implementing plans?	G.	What are the possible obstacles to accessing services?		
Emotional/ psychological- Lack of motivation	• A conflict between choices such as worrying that giving up smoking could result in weight gain • Other priorities in a person's life- such as getting married or bereavement. • Having negative attitude- believing change will be too difficult • Lack of progress for example losing eight quickly in the first weeks but then slowing down. • Having a blip- thinking there is no point in continuing the plan after briefly returning to an old lifestyle.	Type of obstacle	Possible obstacles	Suggestions to overcome obstacles	
Emotional/ psychological- Low Self- concept	• People with low self-concept don't value themselves, • Feel powerless to change their lifestyle or that there's no point in starting because the task seems too big. • Some thin that because they were unsuccessful in other aspects of their life, they won't achieve their health goals. • They may not feel they have support and approval from family and friends even if they really do.	Geographical	• Service is difficult to get to because of poor bus or train services.	• Arrange hospital transport • Suggest telephone helplines or internet support groups.	
Emotional/ psychological- Acceptance of the current state	• People my accept their present health problems or lifestyle choices, as it Is easier to stay the same than to make changes. • Have no incentive to make a change because they do not understand the health risks. • Have no desire to change, for example, if they are happy with their weight or don't want to give up smoking.	Financial	• Charges to use the services • Time off from work would mean loss of pay	• Check for entitlements, such as medicines and treatments • Direct the person to advice on benefits and employee rights.	
Time constraints	People find that they do not have the time to achieve their health improvements targets because of: • Care of young children, family members that are not well. • Regular and additional work and study commitments • Domestic chores • Medical appointments	Psychological	• Fear of being judged because there is stigma around a health problem (mental health, obesity)	• Talk about concerns and reassure • Direct the person to a charity that supports people with a particular health problem.	
Availability of resources	Financial obstacles: • Gym memberships, entry fee for a swimming pool • Cost of attending exercise classes • Cost of travel to the gym. pool or to attend health appointments • Higher costs of some healthy foods. • Lack of and the cost of exercise equipment	Physical	• Difficulty getting into the buildings where the service is provided (no wheelchair access). • No where to park near the service	• Be aware of services that are adapted for easy access • Ask a friend or family member to drop the person off at the service	
Unachievable targets	• Expectations too high • Targets are not clear • There are too many targets • Timing is wrong/poor • Targets are not suitable for the individual • Fear of not being able to meet targets • Not being in the right frame of mind to commit to the plan, e.g. due to depression.	Personal needs	• Communication difficulties because of pool language skills, sensory or learning disability . • Concern that cultural needs are not understood	• Provide support services that meet the person's needs, such as a BSL signer, interpreter, advocate • Use anti-discriminatory practice and encourage others to do so	
Lack of support	• Diet- find it difficult if a person on a healthy eating plan is surrounded by others that eat junk food or tempted by the chocolate and biscuits in the cupboard, Family and friends go out for meals instead of doing other activities. • Smoking- friends and family smoking and offering them cigarettes. Lacking will power to quit. • Alcohol consumption- someone that is used to drinking with family and friends will find it difficult to stop without their support. It would be hard to quit if the family and friends drink wine with their meals, friends centre a night out around heavy drinking at pubs and clubs.	Resources	• Limits on services, such as support aids and equipment • Staff shortages, leading to long waits for appointments and support.	• Suggest sources of second-hand equipment • Look for alternative strategies, for example an exercise DVD if there are no places at an exercise class.	
Ability, disability and addiction	• Understand what they need to do • Learn how to make the required changes in their lives. • Any places the person uses are wheelchair accessible • Any exercise advised is wheelchair friendly. • If stop smoking, then can put on weight- put people off. • Like the way alcohol makes them feel but cant admit that they have a problem				

F.	What are the potential obstacle to implementing plans?	G.	What are the possible obstacles to accessing services?		
Emotional/ psychological- Lack of motivation		Type of obstacle	Possible obstacles	Suggestions to overcome obstacles	
Emotional/ psychological- Low Self- concept		Geographical			
Emotional/ psychological- Acceptance of the current state		Financial			
Time constraints		Psychological			
Availability of resources		Physical			
Unachievable targets		Personal needs			
Lack of support		Resources			
Ability, disability and addiction					

JS Bach: Badinerie

Form and structure:

The piece is in **Binary** form (**AB**).
Section A is 16 bars long.
Section B is 24 bars long.
Each section is repeated (**AABB**).

Dynamics:

Mostly **forte** throughout, although no markings appear on the score.
On some recordings, **terraced dynamics** (sudden changes) are included.

Background details:

Composed by **Johann Sebastian Bach** (1685 – 1750), one of the main composers of the **Baroque** era in music.

Badinerie is the last of seven movements from a larger piece called **Orchestral Suite No.2**.

The piece was composed between **1738-1739**.

Tonality:

Section A begins in **B minor** (tonic) and ends in **F# minor** (dominant minor).

Section B begins in **F# minor** (dominant minor) and ends in **B minor** (tonic).

Section A modulates from B minor through **A major** before arriving at F# minor.

Section B modulates from F# minor through **E minor**, **D major**, **G major** and **D major** before arriving at B minor.

Harmony:

Diatonic; mixture of root position and inverted chords; uses V7 chords and a Neapolitan sixth chord.
Imperfect and perfect cadences are clearly presented throughout. Both sections end with a **perfect cadence**.

Metre and rhythm:

Simple duple time – 2/4 – with two crotchet beats in every bar.
Uses **ostinato rhythms** which form the basis of two short musical ideas (X and Y), consisting almost totally of **quavers and semi-quavers**.

Instrumentation:

Flute, string orchestra and harpsichord.

The score has five parts (flute, violin 1, violin 2, viola and cello). The harpsichord player reads from the cello line and plays the notes with their left hand whilst filling in the chords with their right hand.

Melody:

The movement is based on **two musical motifs**.



Both motifs begin with an **anacrusis**. Motif X is entirely **disjunct** whilst motif Y **combines disjunct and conjunct** movement.

Typical **ornaments and compositional devices** of the period are used including **trills**, **appoggiaturas** and **sequences**.

Texture:

Homophonic: melody and accompaniment.

The flute and cello provide the main musical material; however, the 1st violin participates occasionally.

The 2nd violin and viola provide harmony with less busy musical lines.

Tempo:

The tempo is **Allegro** (quick, lively, bright), although not marked on the score.

Question	Answer	Question	Answer
This piece is in Binary form . Explain what binary form means.		Which key term best describes the dynamics (even though they aren't written on the score)	Piano Forte
How many bars long is section A ?		How many bars long is section B ?	
Each section in Badinerie is repeated, circle the correct symbol that shows this	  	Define terraced dynamics	
Define simple duple time		Both motifs begin with an anacrusis , what does this mean?	
State the name of the Minor key this piece of music is in		Section A modulates through which key? Underline the correct answer	A minor A major D major G major
Give an appropriate tempo for this piece		What year was this piece composed ?	
Which two note values form the basis of motif X and Y .		From which larger work does this belong to?	
Section A begins in B minor (tonic) and ends in F# Minor , state the relationship between these two keys.		Give the full name of the composer of this piece.	

Sentence Stems: Year 10 to Year 13



Listen and Mark

Pay close attention to others and point out important moments.

- I notice you used the word / phrase ___, which implies ___ .
- When you said ___, it anchored the idea that ___ .
- Did anyone notice what ___ said about ___ ? This seems important because ___ .

Defend and Unpack

Defend your perspective and explain your thought process.

- I understand your perspective on ___, but have you thought about ___ ?
- I actually think this because ___ . (Furthermore, finally).
- Actually, [evidence] suggests that ___ .

Introduce and Invite

Begin your contribution and encourage others to participate.

- I suggest that ___ because ___ .
- ___, what is your perspective on ___, and why?
- We should discuss ___ because ___ .

Build and Support

Add to others' ideas and bolster points by giving evidence.

- Your point about ___ implies ___, and I would like to further this by saying ___ .
- ___ supports the idea that ___ .
- Drawing upon points made by ___ and ___, we can conclude that ___ because ___ .

Challenge and Verify

Disagree and ask others to prove or clarify information.

- You said ___ . How do you know?
- I think you said ___, which implies that you believe ___ . Is that right?
- I disagree with what you said about ___ because ___ .

Summarise and Map

Draw together big themes and track the discussion.

- Our main findings were ___ .
- On the whole, we believe that ___ .
- Initially, we thought ___, but we eventually decided ___ .



SWINDON ACADEMY READING CANON

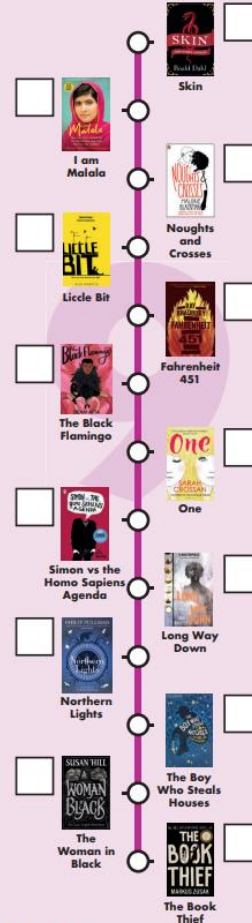
Year 7



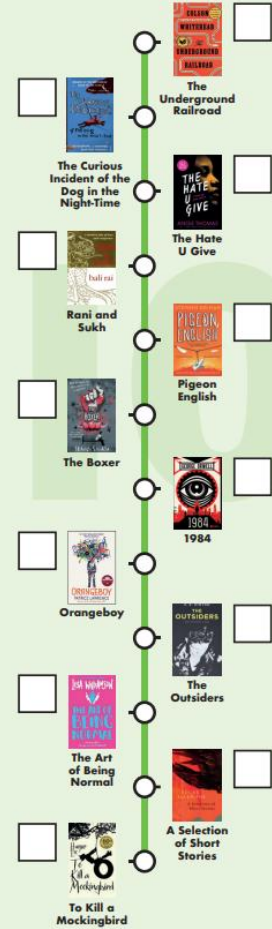
Year 8



Year 9



Year 10



#ReadingisPower