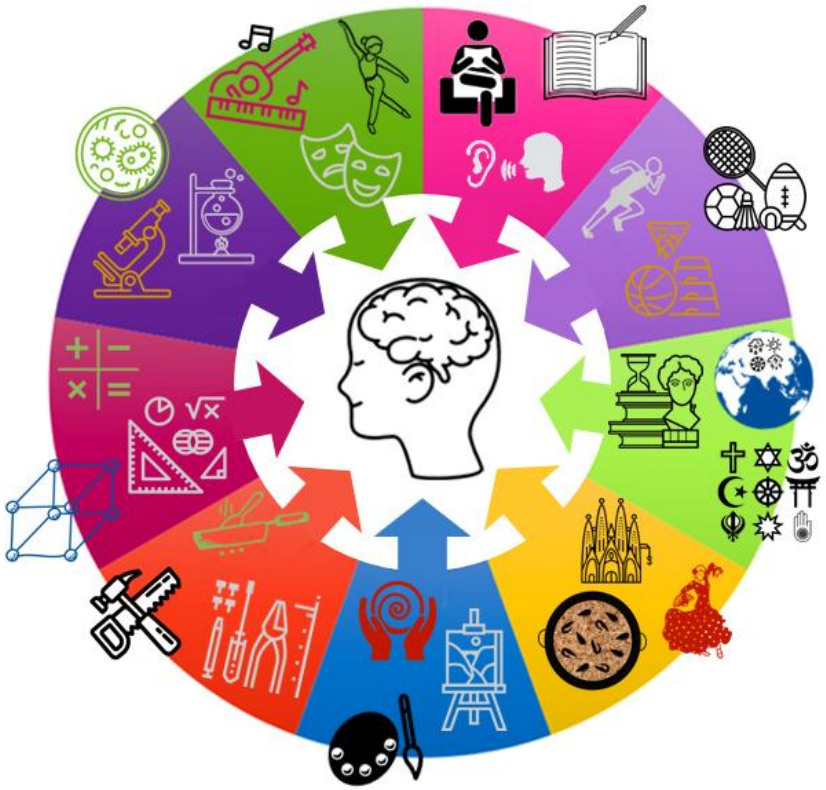
100% book - Year 10 Mainstream

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



Term 2

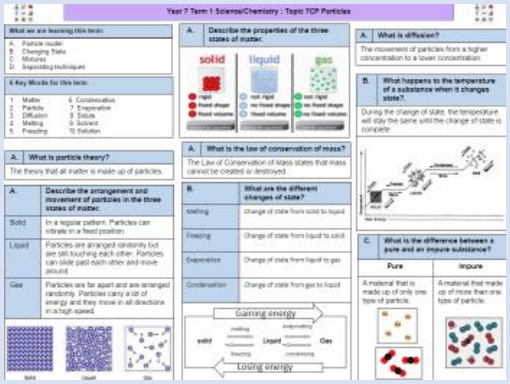
Swindon Academy 2026-27	
Name:	
Tutor Group:	
Tutor & Room:	

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

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

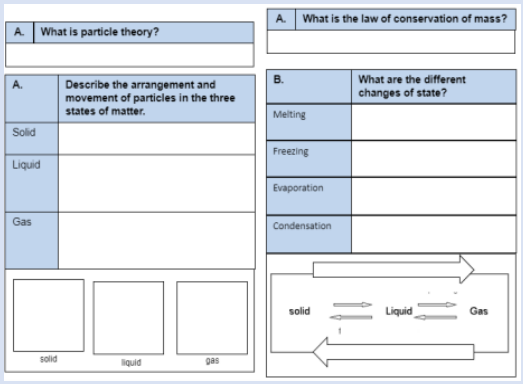
Knowledge Organisers



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!

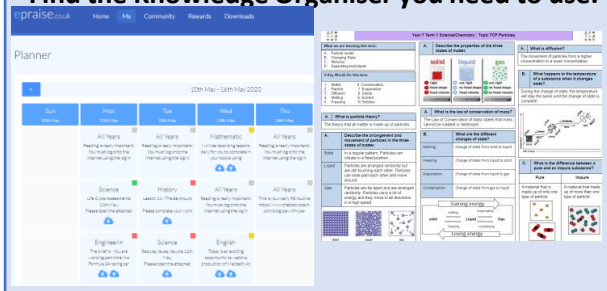
Expectations for Prep and for using your Knowledge Organisers

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?

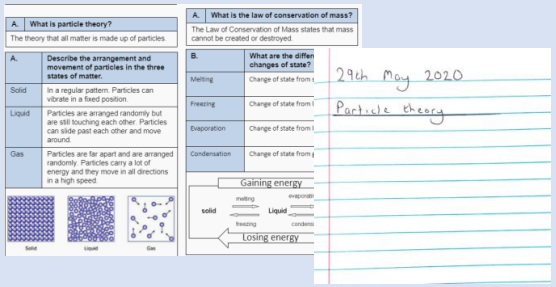
Step 1

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



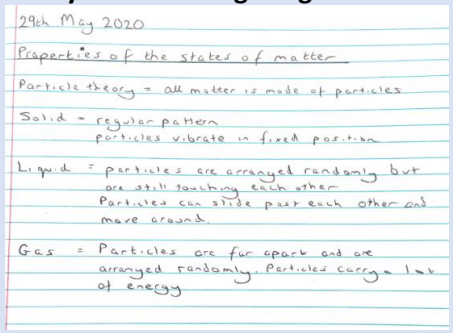
Step 2

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



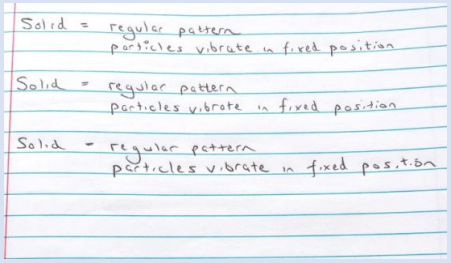
Step 3

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



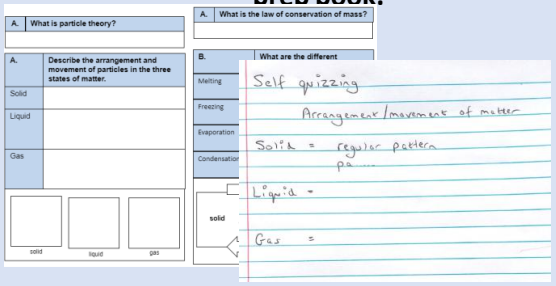
Step 4

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



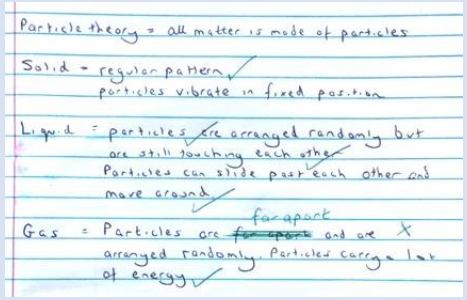
Step 5

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.

ENGLISH –A Christmas Carol- Traditional

1. Context

Writer: Charles Dickens (1812-1870)
Dates: First published in 1843
Genre: Allegorical; a ghost story.
Era: Victorian
Set: Victorian London
Structure: The novella is divided into 5 staves (chapters).

Biography of Dickens

- Born in Portsmouth in 1812
- When Dickens was 12, his father was sent to debtors' prison as he was unable to pay his bills.
- His mother and youngest siblings were sent with him, whilst Dickens stayed with a family friend. In order to help his family, Dickens had to leave school and work in a factory sticking labels on bottles.
- Dickens dedicated his life to writing works that revealed the horrors of life in Victorian London for those living in poverty.

Christmas:
Dickens grew concerned that, due to capitalism, society had lost sight of traditional values (Christian morals, forgiveness, charity). He felt that Christmas was the perfect time to reconnect with these values and used his novella to do this. He also knew that Christmas would be a popular topic so it would sell well – therefore enabling his message to reach a wider audience.

London and inequality:
Dickens juxtaposes scenes of middle-class comfort and poverty to emphasise the close proximity and contrast of the different classes. It highlights the Christian concept of 'love thy neighbour'. The urban setting allows Dickens to exercise his fondness for hyperbole, with the exaggerated extremes of poverty adding to the effect of the 'plight of the poor'.

The Poor Law, 1834
In order to deter poor people from claiming financial help, the government made claimants live in workhouses: essentially, prisons for the poor. Dickens hated this law. He spent 1843 touring factories and mines in England and wished to highlight the situation facing poor people. A Christmas Carol was published soon after – in December 1843.

Malthusian Theory
The reformation of The Poor Law was partially informed by the writings of Thomas Malthus. Malthus argued that if living standards increased, population would increase and eventually the number of people would be too great for the food that could be produced. As a result, Malthus argued it was important not to support the poor or improve their standards of living, but to allow them to die if they couldn't support themselves because charity would only prolong their suffering.

The Supernatural: Victorian society was fascinated by the supernatural, including mediums, ghosts, and spiritualism. However, this belief in the supernatural was also heavily influenced by the church, with the belief that ghosts were souls who were trapped in purgatory (a place of suffering where the souls of sinners were trapped).

2. Key Characters

Ebenezer Scrooge: The protagonist is initially established as an archetypal villain who dismisses the goodwill and generosity associated with Christmas. After being forced to transform, he feels remorse for his avarice and becomes a symbol of Christmas spirit. Scrooge embodies the relentless capitalist spirit of the time, but also demonstrates that everyone has the capacity to reform.

Bob Cratchit: Bob is Scrooge's downtrodden but loyal employee. His family are a symbol of Victorian poverty, cheerfulness in adversity, togetherness and Christmas Spirit. Bob shows pity for Scrooge, and provides a contrast to Scrooge's isolation and meanness. His son, Tiny Tim, is an emblem for noble poverty; he accepts his disability without complaint.

Fred: Fred juxtaposes the character of Scrooge and epitomises the concept of goodwill and forgiveness, refusing to be discouraged by his uncle's misery. People speak highly of Fred and his generosity, in contrast to how they speak of Scrooge. Fred shows that Scrooge has chosen isolation and shows forgiveness to Scrooge, welcoming him in Stave Five.

Marley's Ghost: Marley's ghost is the spiritual representation of Scrooge's potential fate. The chains that drag him down symbolize the guilt caused by his failure to help people in need. Marley's ghost warns Scrooge that he too will experience the same guilt if he continues to deny people help.

The ghosts: The Ghost of Christmas Past is a symbol of childhood, truth and enlightenment.
The Ghost of Christmas Present represents goodwill, plenty and the festival of Christmas.
The Ghost of Christmas Yet to Come symbolises a catastrophic future for mankind.

Belle: The woman that Scrooge was engaged to when he was a young man. Belle's role is crucial in Scrooge's transformation, as the scenes show Scrooge what he might have had in his life if he had not been so avaricious. Through the character of Belle, Dickens sets emotional love directly against Scrooge's love of money and suggests that avarice can lead to a deprivation of kindness, love and empathy.

3. Central Themes

Social injustice	Dickens highlights the unfairness within society through the juxtaposition of the poor and wealthy. Through Scrooge's refusal to give to charity and his exclamation that the poor should be in workhouses or die, Dickens illustrates the selfishness of the higher classes and the injustice of wealth distribution in Victorian society. The children, Ignorance and Want, personify the dangerous consequences of allowing poverty to continue.
Transformation and redemption	By establishing Scrooge as an archetypical villain, Dickens is able to emphasise the idea that everyone is capable of transformation and redemption. From starting as a greedy, avaricious miser, Scrooge is able to reflect upon his actions and to understand that he must live his life helping others to avoid Marley's fate.
Social responsibility	Dickens felt that every individual had a responsibility for those around them. Marley's Ghost conveys the message of the novella when he cries, 'Mankind was my business' demonstrating that the proper 'business' of life is not about seeking financial reward but having concern for others. Dickens highlights the importance of trying to make a difference- whether that be large financial contributions (Scrooge), smaller contributions (Fezziwig) or simply showing compassion and kindness to one another.

4. Key Vocabulary

Avarice	Extreme greed of possessions or money
Salvation	Saving someone from harm or destruction
Miserly	someone who is greedy and does not like spending money
Callous	Mean or cruel
Antithesis	The exact opposite of something
Epiphany	A moment of sudden understanding
Redemption	The act of being saved or freed from sin or error
Benevolence	Kind and helpful towards others
Philanthropic	Showing concern for others by being charitable
Misanthropic	Someone who has a hatred for other people
Penitence	sincere regret for wrong or evil things that you have done
Remorse	a strong feeling of sadness and regret about something wrong that you have done
Deprivation	When someone is unable to have the things they need or want
Despotism	exercising power in a cruel and controlling way
Capitalism	A political system in which property, business, and industry are owned by private individuals and not by the government

5. Key Terminology, Symbols and Devices

Stave	Chapters in the novella, but we normally associate staves with music, as if the **book** is a Christmas carol, and each chapter is part of the song. As Christmas carols are repetitive and easy to remember, it links to how Dicken's wishes his message to be remembered.
Intrusive Narrator	A narrator who interrupts the story to provide a commentary to the reader on some aspect of the story or on a more general topic. In 'A Christmas Carol' the narrator helps to shape our impressions of Scrooge.
Circular structure	Circular narratives cycle through the story one event at a time to end back where the story originated.
Allegory	A story that can be interpreted to reveal a hidden meaning, typically a moral or political one.
Allegorical figures	An **allegorical** figure is a **character** that serves two purposes: first, they are an important person in the story in their own right, and, second, they represent abstract meanings or ideas.
Foreshadowing	Foreshadowing is a literary device in which a writer gives an advance hint of what is to come later in the story.
Didactic	A type of literature that is written to inform or instruct the reader, especially in moral or political lessons.
Semantic Field	A set of words that are related in meaning. Dickens frequently uses semantic fields of warmth and coldness that are associated with the characters.

ENGLISH –A Christmas Carol- Traditional

1. Context

Writer: **Dates:** **Genre:** **Era:** **Set:** **Structure:**	**Biography of Dickens** • • • •
Christmas:	**London and inequality:**
The Poor Law, 1834	**Malthusian Theory**
The Supernatural:	

2. Key Characters

Ebenezer Scrooge:
Bob Cratchit:
Fred:
Marley's Ghost:
The ghosts:
Belle:

3. Central Themes

Social injustice	
Transformation and redemption	
Social responsibility	

4. Key Vocabulary

Avarice	
Salvation	
Miserly	
Callous	
Antithesis	
Epiphany	
Redemption	
Benevolence	
Philanthropic	
Misanthropic	
Penitence	
Remorse	
Deprivation	
Despotism	
Capitalism	

5. Key Terminology, Symbols and Devices

Stave	
Intrusive Narrator	
Circular structure	
Allegory	
Allegorical figures	
Foreshadowing	
Didactic	
Semantic Field	

C3 – Quantitative Chemistry

Conservation of Mass

- Atoms cannot be created or destroyed during reactions.
- **Mass of reactants = mass of products**.

To show mass is conserved in a reaction:
M_r on the left-side must be same as the right side.

$2Mg + O_2 \rightarrow 2MgO$
$(2 \times 24) + (2 \times 16) \rightarrow 2(24 + 16)$
$48 + 32 \rightarrow 2 \times 40$
$80 \rightarrow 80$

Reacting masses

Use conservation of mass to predict masses:

magnesium + oxygen → magnesium oxide
8g ? 10g

Both sides need to be equal:
10g – 8g = 4g of oxygen

Percentage Mass

- Percentage mass of an element in a compound

$$\frac{\text{Mass of the element in compound}}{\text{Total mass of compound}} \times 100$$

Example Question:
Find the percentage mass of oxygen in magnesium oxide (MgO).
A_r of magnesium = 24 A_r of oxygen = **16**

M_r of MgO = 24 + 16 = **40**

$$\% \text{ mass} = \frac{A_r}{M_r} = \frac{16}{40} = 0.4 \times 100 = 40\%$$

X 100 to make a %

40% of the mass of MgO is oxygen

Mass Changes

- Mass is always conserved in a reaction.
- Sometimes it may seem like the mass has increased/decreased.

- If a **reactant** is a gas – mass may **increase**.

magnesium + oxygen → magnesium oxide

Oxygen is in the air before it combines with magnesium – you cannot find the mass of oxygen on the balance.

It will look like the mass has increased when it is re-weighed at the end.



- If a **product** is a gas and the gas is able to escape the system – mass will **decrease**.

sodium carbonate → sodium oxide + carbon dioxide

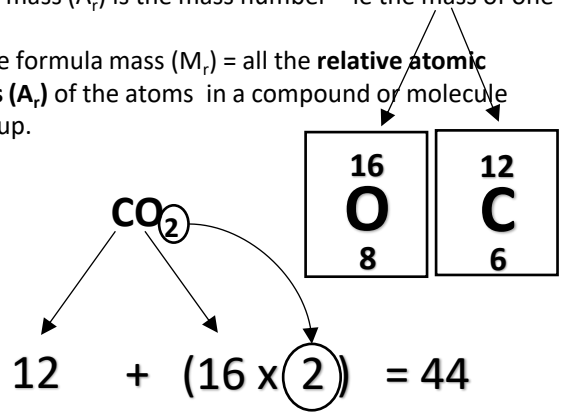


It will look like the mass has decreased as some of the atoms have been given off as gas and have escaped – so cannot be re-weighed.

Atomic mass (A_r) and Relative Formula Mass (M_r)

- Atomic mass (A_r) is the mass number – ie the mass of one atom
- Relative formula mass (M_r) = all the **relative atomic masses (A_r)** of the atoms in a compound or molecule added up.

Example



The Mole (HT only)

- Avogadro constant – 6.02 x 10^{23}

- One mole contains 6.02 x 10^{23} atoms or molecules
- The mass, in g, of one mole is the Ar (if an element) or Mr if a compound or molecular element

Iron has a A_r of 56, so 1 mole of iron is 56 g and contains 6.02 x 10^{23} atoms of iron

Ammonia (NH_3) has an Mr of 17, so 1 mole of ammonia has a mass of 17g. and contains 6.02 x 10^{23} molecules of ammonia

C3 – Quantitative Chemistry

1. What is meant by conservation of mass?
2. Mass of reactants = ?
3. The M_r of the left side of an equation must be the same as..

1. How do you calculate the percentage mass of an element in a compound?
2. What do you do to convert a decimal into a percentage?

1. Should mass change in a reaction?
2. If a reactant is a gas, what will happen to the mass?
3. Why will it appear this has happened?

1. What does M_r stand for?
2. What is the relative formula mass?
3. Where can you find the relative atomic mass (A_r) of an element?

1. How many atoms are in one mole?
2. How do we know what the mass of one mole of an element is?
3. How do we know the mass of one mole of a compound?

4. If a product is a gas, what will happen to the mas?
5. Why will it appear this has happened?

C3 – Quantitative Chemistry

Concentrations of Solutions

- Concentration =mass of dissolved substance in specific volume (eg dm^3)
- More substance dissolved = more concentrated solution

Concentration = mass ÷ volume
(g/dm^3) (g) (dm^3)

Can be rearranged to find mass dissolved:

mass = concentration x volume
(g) (g/dm^3) (dm^3)

$1000cm^3 = 1dm^3$
cm^3 → dm^3 = divide by 1000.

Calculating mass in a given volume

If you have a known volume of a solution of known concentration then you can calculate the mass of dissolved solid.

E.g Calculate the mass of dissolved solid in $25cm^3$ of a $96g/dm^3$ solution

$96g/dm^3$ means 96g in every $1000cm^3$

$25c\ m^3$

How do we get from 1000 to 25? (÷40)

Do the same to the other side (÷40)

2.4g

Moles and Equations (HT only)

- You can use moles to help you write balanced symbol equations.

Example Question
18.4g of Sodium reacted with 6.4g of oxygen to give 24.8g sodium oxide. Use the masses to write the balanced equation.

Step	Example
Write the equation for the reaction (unbalanced)	$Na + O_2 \rightarrow Na_2O$
write down the mass or % <u>given in the question</u>	18.4 + 6.4 → 24.8
Write the mass of one mole of each element or compound	23 32 62 (e.g 18.4 ÷ 23)
Divide the mass given in question by the mass of one mole	0.8 0.2 0.4
Turn the answers into whole number simple ratio	8 2 4 (cancel down) 4 1 2
Put the numbers into the equation	$4Na + O_2 \rightarrow 2Na_2O$

Calculating reacting masses (HT)

Example Question
Calculate the mass of calcium needed to make 11.2g Calcium oxide

Step	Calculation
Write the balanced equation	$2Ca + O_2 \rightarrow 2CaO$
Write the masses of each substance	80 + 32 → 112
Write down the given mass in the question.	11.2
Work out the 'scale' factor (ie what did you have to do to the original number to get to the desired mass	÷ 10
Do the same to the other side	8g

Limiting Reactants (HT only)

- If one reactant runs out before the other, then the reaction will stop.
- The reactant that runs out first in a reaction is known as the limiting reactant.

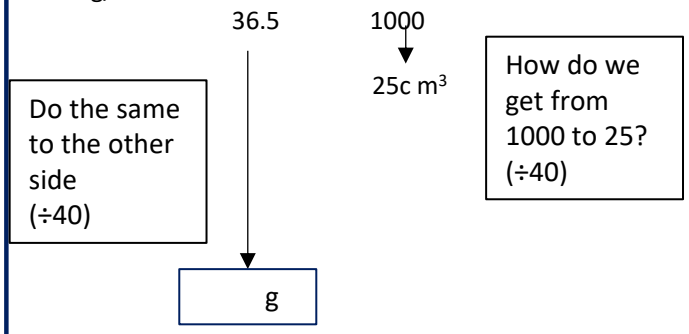
C3 – Quantitative Chemistry

1. What does concentration mean?
2. How can you make a solution more concentrated?
3. State the equation to calculate concentration in g/dm^3.
4. What is the unit for volume?
5. How many cm^3 are in a dm^3?

Calculating mass in a given volume

1. What does 36.5g/dm^3 mean?

2. Calculate the mass of dissolved solid in 25 cm^3 of a 36.5g/dm^3 solution



Moles and Equations (HT only)

12g of magnesium (Mg) reacted with 8g of oxygen (O_2) to produce 20g magnesium oxide (MgO). Use the masses to write a balanced equation

Step	Example
Write the equation for the reaction (unbalanced)	
write down the mass or % given in the question	
Write the mass of one mole of each element or compound	
Divide the mass given in question by the mass of one mole	
Turn the answers into whole number simple ratio	
Put the numbers into the equation	

1. What is a limiting reactant?

2. Complete the calculation: Calculate the mass of calcium needed to make 224g of calcium oxide

Step	**Calculation**
Write the balanced equation	$2Ca + O_2 \rightarrow 2CaO$
Write the masses of each substance	
Write down the given mass in the question.	
Work out the 'scale' factor (ie what did you have to do to the original number to get to the desired mass	
Do the same to the other side	

B3 – Infection and Response

Communicable Diseases – diseases caused by a pathogen

Disease	Pathogen	Symptoms	Spread by	Prevent spread	Treatment
Salmonella	Bacteria	Fever, cramps, vomiting, diarrhoea	Contaminated food	Vaccinating poultry, cooking food thoroughly	Antibiotics or management of symptoms
Gonorrhoea	Bacteria	Yellow/green discharge, pain when urinating	Sexual Contact	Using barrier protection, e.g. condoms	Antibiotics
Measles	Virus	Red rash and fever	Breathing in droplets from coughs/sneezes	Vaccination	No cure – only management of symptoms
HIV	Virus	Flu-like symptoms, develops into AIDS	Sexual contact	Using barrier protection, e.g. condoms	Antiretroviral drugs
Tobacco Mosaic Virus (plants)	Virus	'Mosaic' pattern of discolouration on the leaves	Soil	Destroy infected plants	No treatment
Rose Black Spot (plants)	Fungus	Black spots on leaves	Wind or water	Remove and destroy infected leaves	Fungicides
Malaria	Protist	Recurrent episodes of fever	Insect bites (mosquitoes)	Mosquito nets, insect repellent	Antimalarial drugs

Antibiotics & Painkillers

Antibiotics = kill bacteria (specific antibiotic for specific bacteria) **THEY DO NOT KILL VIRUSES** e.g. penicillin

Antibiotics cannot kill viruses because viruses live inside cells

Painkillers = stop pain (don't kill microbes, just help with symptoms) e.g. paracetamol

Development of Drugs

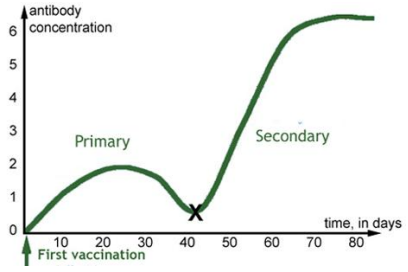
Testing for:

- Safety
- Efficacy (does it work)
- Dosage (how much is needed)

Stage		Description
1	pre-clinical	Tested on cells and tissues. Side effects? Efficacy?
2	pre-clinical	Tested on animals. Side effects?
3	clinical	Clinical trials = tested on humans. 1st health volunteers, 2nd patients with the illness. Dosage gradually increased to optimum.

Vaccination

- Introducing small quantities of dead or inactive forms of pathogen into the body.
- Stimulates WBCs to produce antibodies.

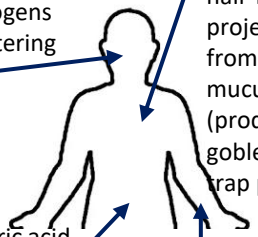


- If same pathogen returns (X), WBCs remember how to make the right antibodies.
- They make MORE antibodies, MORE QUICKLY, and they stay in body for LONGER.

Non-specific Defence Systems

Nose
Hairs and mucus trap pathogens before entering lungs.

Trachea & Bronchi
Cilia cells (small hair-like projections from cells) and mucus (produced by goblet cells) trap pathogens.

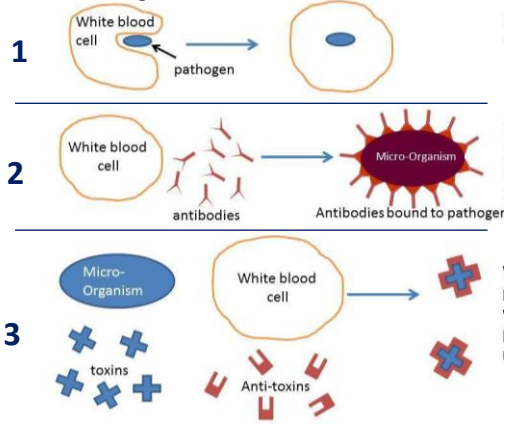


Stomach
Contains hydrochloric acid to kill pathogens that have been eaten.

Skin
If damaged, repairs itself (scabs)

White Blood Cells (WBCs)

1. Phagocytosis – engulfing the pathogen
2. Producing antibodies – specific to the antigen
3. Producing antitoxins – to neutralise toxins



B3 – Infection and Response

1. What is a communicable disease?
2. What are the symptoms of gonorrhoea?
3. Which type of pathogen causes rose black spot?
4. How is measles spread?
5. How can we prevent the spread of malaria?
6. What is the **treatment** for salmonella?
7. How is salmonella spread?
8. How can HIV be treated?

1. What is the only type of pathogen antibiotics can kill?
2. What do painkillers do?
3. Why can antibiotics NOT kill viruses?

1. What are clinical trials?
2. What are the three things we test for before a drug can be used by the public?
3. What is the first stage of drug testing?
4. What are drugs tested on in preclinical trials?

1. What is in a vaccination?
2. Why do the white blood cells respond more quickly the second time they come into contact with a pathogen?
3. How does vaccination prevent us from becoming infected with the same pathogen in the future?

1. How are the trachea and bronchi help prevent infection?
2. What does the stomach contain to prevent infections?

1. What is phagocytosis?
2. What do antibodies attach to?
3. How to antitoxins make us feel better?

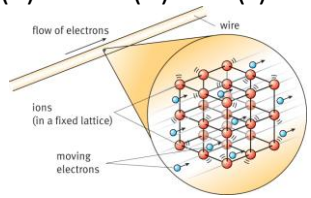
P2 – Electricity

Current, resistance and potential difference

Electrical current is the flow of electrical charge.
Current is measured in amps (A), charge is measured in Coulombs (C).
The size of the current depends on the rate of the flow of charge – ie how many coulombs of charge per second.

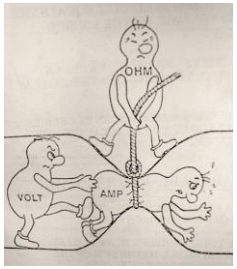
Q = I t

Charge = Current x time
(C) (A) (s)



Ohms Law

The current through a component depends on the potential difference and the resistance of the component.
If a component has high resistance, the current will be smaller for a given potential difference



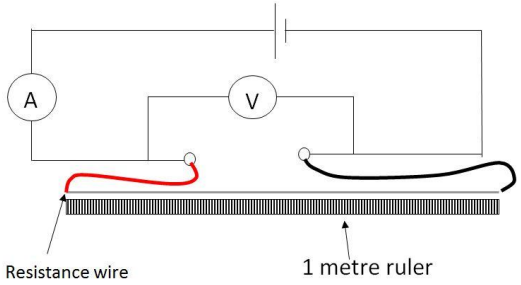
potential difference = current x resistance

V = I R

pd is measured in volts (V), resistance in Ohms (Ω)

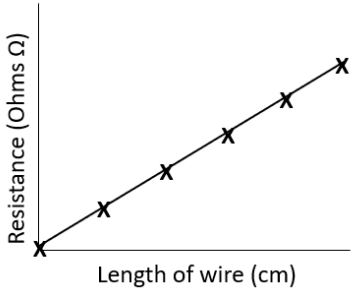
Hypothesis 'the length of the wire affects resistance'

Independent variable – length of wire
Dependent variable – resistance
Control variables – type of wire, temperature of the wire, diameter of the wire



1. Set up the circuit as shown, with an ammeter in the circuit and a voltmeter connected across the wire
2. Use crocodile clips to change the length of the wire in the circuit
3. Make the wire 10cm long and read the current and pd. Switch off the current between readings or the wire will got hot, increasing the resistance.
4. Repeat for 20, 30, 40, 50 cm. (5 minimum)
5. Calculate resistance using Ohms Law R = V/I

Plot length of wire (IV) against resistance (DV)

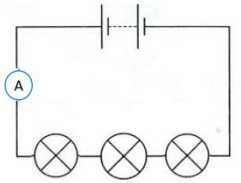


The relationship is directly proportional

Series and parallel circuits

Series circuits:

A series circuit is one single loop

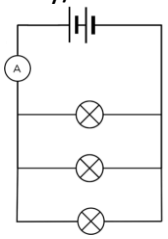


In a series circuit:

- the current is the same at all points in the circuit.
- potential difference is shared between components (equally if components are identical resistance)
- total resistance = sum of all resistors

Parallel circuits

A parallel circuit consists of more than one loop from the battery/cell.



In a parallel circuit:

- The current is shared amongst the branches
- The potential difference is the same across all components
- Resistance in the whole circuit is LESS than that of the smallest resistor

P2 – Electricity

Current, resistance and potential difference

1. What is current?
2. What is the unit for charge?
3. What is the unit for current?
4. What is the equation linking charge, current and time?
5. What is the equation linking current, potential difference and voltage?
6. If a component's resistance increases, what happens to current through that component?
7. What is the unit for resistance?

Hypothesis 'the length of the wire affects resistance'

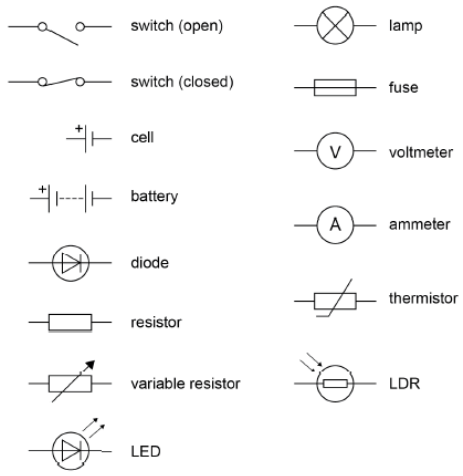
1. What is the independent variable in this investigation?
2. What is the dependent variable?
3. What is the minimum number of readings needed for a line graph?
4. What two readings are taken?
5. How is resistance calculated?
6. What sort of relationship is seen?
7. Why is it important to turn off the power in between readings?

Series and parallel circuits

1. What is a series circuit?
2. In a series circuit, the current is……
3. How do you find total resistance in a series circuit?
4. The potential difference is shared equally among components as long as……
5. What is a parallel circuit?
6. What is true about potential difference across all of the components in a parallel circuit?
7. How is total current calculated in parallel?
8. What is true for total resistance in a parallel circuit?

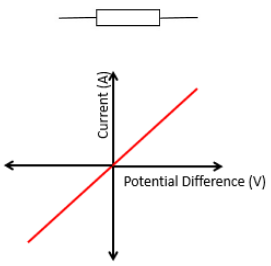
P2 – Electricity

Components

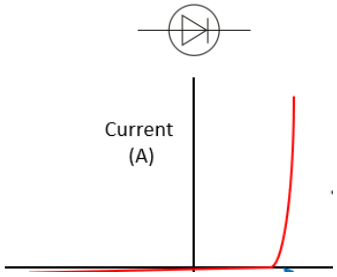


- A **diode** only allows current to flow one way in a circuit
- A **resistor** is a component that provides a fixed resistance in the circuit – e.g a 5 Ω resistor
- A **variable resistor** is a component whose resistance can be changed (e.g a dimmer switch)
- A **thermistor** is a resistor whose resistance changes with temperature – the higher the temperature the lower the resistance
- An **LDR** (light dependent resistor) has resistance that changes
- An LED (light emitting diode) is a light that only allows the flow of current one way

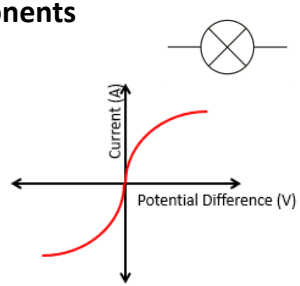
Current, potential difference and resistance for different components



A fixed (ohmic) resistor has fixed resistance
current is directly proportional to potential difference
Resistance remains constant (at constant temp)

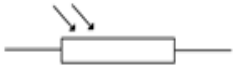


A diode very high resistance in one direction.
Only when the potential difference is positive does current flow

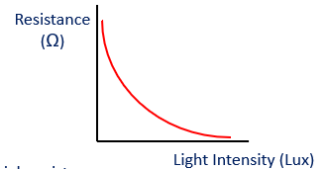


A filament bulb contains a thin wire that glows as current flows.
As the pd increases, the current initially increases.
However, at higher pd, the wire gets hot
The ions in the wire move faster and collide with the moving charges
Resistance increases, so current stops increasing

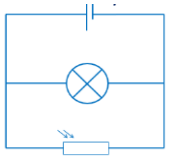
LDR



A light dependent resistor has varying resistance.
As the light intensity increases, the resistance decreases



LDRs can be used to switch on lights at night time.



In this circuit, when it is day time, the resistance in the LDR is low, so all current flows through the LDR.

As light levels fall, resistance increases, until eventually there is less resistance in the bulb than the LDR, so current flows through the bulb – switching it on.

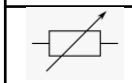
Thermistor



As the temperature increases, the resistance in a thermistor decreases.

P2 – Electricity

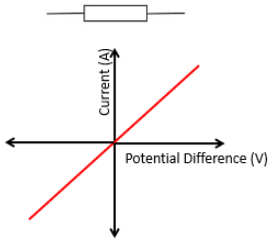
Components

Symbol	Name
	Cell
	
	fuse
	
	Voltmeter

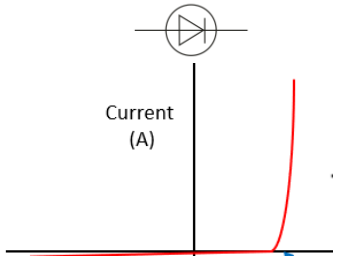
1. Complete the table opposite
2. Which component has a resistance that decreases as light intensity increases?
3. Which component only allows current to flow one way?
4. What is a fixed resistor?

Current, potential difference and resistance for different components

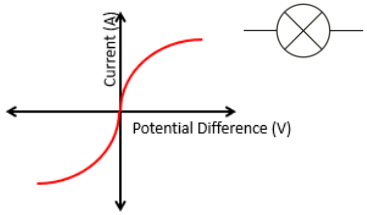
1. What readings would you need to take from a circuit to calculate resistance?



2. Describe the relationship shown



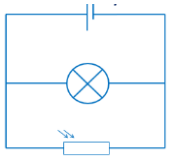
3. Why is there no current on one side of the graph?



4. What happens to current when the pd rises at first ?
5. What happens to the current as the pd gets higher?
6. Why does the resistance increase at higher pd?

LDR

1. Draw the symbol for an LDR
2. Draw the pattern you would expect for resistance as the light intensity increases.
3. The circuit below is for a night light. What is resistance in the LDR like during the day time? (high light levels)



4. Why does the light switch on when it goes dark?
5. Draw the symbol for a thermistor
6. Describe the relationship between temperature and resistance in a thermistor

P2 – Electricity

Domestic use of electricity

There are two types of electrical supply – direct (DC) and alternating current (AC)

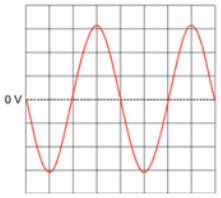
AC

The pd changes direction and magnitude, giving alternating current

The number of times the change of direction happens per second is the frequency.

UK mains is AC - **230V**

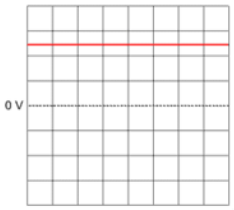
Frequency of **50 Hz**

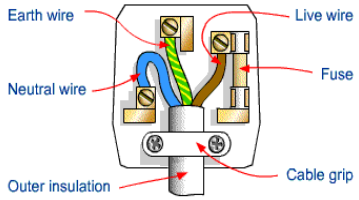


DC

A direct pd produces current that flows in one direction

Batteries supply DC



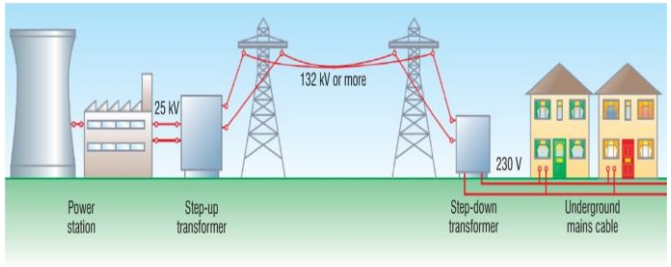


Electrical appliances are connected using 3 core cable

- Brown – live wire, with pd of 230V
- Blue – neutral, 0V, completes the circuit
- Yellow and green – Earth wire, is at 0V unless there is a fault, when it will become live

The National Grid

The National Grid is a system of cables and transformers connecting power stations to homes and businesses



The National Grid uses very high pd and low current.

High current causes heating in the wires and would result in large energy losses.

Step up transformers increase the pd from the power station (to around 400000V) so that low current can be used to transmit power.

This means the wires don't get hot, so less energy is lost.

Near homes and businesses, step down transformers reduce the pd to 230V for safety.

Appliances in the home and power

Power is measured in Watts (W) or kW

Power can be calculated by using:

Power = Voltage x current

$P = IV$

Power = current^2 x resistance

$P = I^2 R$

Appliances transfer energy.

Energy is measured in Joules (J) or kJ

The energy transferred can be calculated by using:

Energy = charge flow x potential difference

$E = Q V$

Energy = power x time

$E = p t$

For example

A kettle transfers energy from the thermal store of the filament in the kettle to the thermal store of the water inside.

Some energy is transferred to the thermal store of the surroundings.

P2 – Electricity

Domestic use of electricity

1. What are the two types of current?
2. What type of power supply produces DC current?
3. What are the two differences between AC and DC current?
4. What is the pd of the UK mains supply?
5. What is the frequency of UK mains supply?
6. What colour is the live wire in UK plugs?
7. What is the purpose of the blue wire in UK plugs?
8. When does the yellow and green wire carry a current?

The National Grid

1. What is the National Grid?
2. What sort of pd does the National Grid use to transmit electrical power?
3. What is used to increase the pd from the power station?
4. What is used to reduce the pd near homes and businesses?
5. Why is such a high pd used?

Appliances in the home and power

1. What is the equation linking current, potential difference and power?
2. What is the equation linking current, resistance and power?
3. What two factors affect how much energy an appliance transfers?
4. What is the equation linking energy, power and time?
5. What are the units for power?
6. What is the equation linking charge, energy and potential difference?
7. What are the units for energy?

GCSE Geography. Paper 2 : 1. Urban issues and challenges

1. Global pattern of urban change

The world's population is growing rapidly; currently 50% of us live in urban areas.	
Urbanisation	An increasing percentage of a country's population living in towns and cities.
HICs	Very slow rate of urbanisation. Already have high urban populations. Urbanisation happened earlier (during the industrial revolution).
NEEs	Fast rate of urbanisation due to industrialisation. Urban population is increasing rapidly.
LICs	Fast rate of urbanisation. Urban population is low as many still work in farming.

2. Factors affecting urbanisation

Rural-Urban migration	The movement of people from a rural area (countryside) to an urban area (towns and cities).
Push factors	Negative factors that make people leave an area *e.g.* drought, famine, war, few services.
Pull factors	Positive factors that attract people to an area *e.g.* better access to services, better paid jobs, access to electricity.
Natural Increase	When the birth rate is higher than death rate; the population grows. High in NEE cities as migrants are often young and health care is improving.

3. Megacities

Megacity	A city of more than 10 million people living there.
How many?	There are now 34. Rapidly increasing.
Where?	Most are in Africa and Asia.

4. Key terms

Social deprivation	The extent an individual or an area lacks services, decent housing, adequate income and employment.
Dereliction	Abandoned buildings and wasteland.
Urban Greening	Process of increasing and preserving open space in urban areas *i.e.* parks.
Urban sprawl	Unplanned growth of urban areas into surrounding rural areas.
Integrated Transport System	Different forms of transport are linked together to make it easy to transfer from one to another.
Brownfield	Land that has been used, abandoned and now awaits reuse; they are often found in urban areas.
Greenfield	A plot of land, often in rural areas or on the edges of urban areas that has not been built on before.
Commuter settlements	A place where people live but travel elsewhere for work *e.g.* Yate → Bristol.

5. Sustainable urban living

Sustainable urban living	Where people living, now, have the things they need, without reducing the ability of people in future to meet their needs.
Water conservation	Recycling grey water. ½ flush toilets. Rainwater harvesting on roofs. Permeable pavements- filters pollutants.
Energy conservation	Energy efficient appliances. Energy saving (south facing windows). Use of renewable energy sources.
Waste recycling	Recycling boxes in houses. Recycling facilities nearby. Encourage websites like 'Freecycle'.
Creating green space	Maintain green spaces around towns-Cools area, encourage exercise, happy.

6. Urban transport strategies used to reduce traffic congestion

Problems with congestion	↗ air pollution (global warming). Late for work, deliveries delayed. ↗ accidents, stress, asthma. In Bristol, 200 people die as a result of air pollution each year.
Beryl Bikes	Shared bikes in Bournemouth + Poole.
Oyster Cards	Quick and easy to pay for more than one type of public transport (London).
Park and ride	Car parks on the outskirts of a town, with buses into the city centre.
Congestion charge	Charge for entering the city centre at peak times.
Bus lanes	Stop buses being held in traffic.

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Urbanisation	
HICs	
NEEs	
LICs	

2. Factors affecting urbanisation

Rural-Urban migration	
Push factors	
Pull factors	
Natural Increase	

3. Megacities

Megacity	
How many?	
Where?	

4. Key terms

Social deprivation	
Dereliction	
Urban Greening	
Urban sprawl	
Integrated Transport System	
Brownfield	
Greenfield	
Commuter settlements	

5. Sustainable urban living

Sustainable urban living	
Water conservation	
Energy conservation	
Waste recycling	
Creating green space	

6. Urban transport strategies used to reduce traffic congestion

Problems with congestion	
Beryl Bikes	
Oyster Cards	
Park and ride	
Congestion charge	
Bus lanes	

7. Distribution of population and major cities in the UK

Population	66 million. Distribution is very uneven. 82% live in urban areas. Upland areas are sparsely populated.
Cities	Most in lowland areas and on coasts. London is the biggest city and the capital. It has 10% of the population. Cities reflect our industrial past (near raw materials *e.g.* Leeds near coal). Counter-urbanisation is a recent trend.

8. Location and importance of Bristol

Location	South west of the UK, on Bristol Channel. Near to junction of M4 & M5.
Importance within the UK	Largest city in the southwest. 8th most popular city for foreign tourists. 2 universities and 2 cathedrals.
Importance to wider world	Largest concentration of silicon chip manufacturing outside of California. International airport (links to Europe). Many TNCs located there (AirBus, BMW)

9. Impacts of migration on the growth and character of the city

National migration	1851 - 1891 population doubled as people arrived looking for work.
International migration	Now,international migration accounts for half of its growth. 50 countries. Many from Europe (Poland, Spain).
Impact on	Many cultural opportunities. Afro-Caribbean- strong community

10. Urban change in Bristol

- Population is growing rapidly.
- Population is more ethnically diverse.
- More under 16-year olds than of pensionable age.
- Electrification of railway to London (<70 minutes).
- Become more accessible (road, rail, air).

11. Opportunities created by urban change

Cultural mix	50 countries represented (food, art). St Paul's Carnival (attracts 40,000).
Recreation and entertainment	Underground music scene -Colston Hall. Entertainment (The Bristol Old Vic). 2 football teams (City, Rovers). Shopping Cribbs Causeway, Cabot Circus.
Employment	Highly tech. industries = jobs. 50 silicon businesses. Many TNCs. £100 million improved broadband.
Integrated transport system	Links different types of public transport Reduces congestion in the city. ↗ % people walking and cycling (57%).
Urban greening	> 90% live within 350m of park/water. 300 parks. 1/3 Bristol is open space. 2015 European Green Capital status.

12. An example of an urban regeneration project

Example	Why did it need regeneration?	What are the main features?	Successful?
Temple Quarter, Bristol	• Bristol surrounded by a green belt. • Brownfield site- rundown, ugly. • By Bristol Temple Meads Station- poor impression for new visitors. • Previously an industrial area.	• Enterprise Zone *e.g.* low rents. • Improve access *e.g.* ITS. • New bridge across River Avon (access to planned Bristol Arena). • Maintain historical features, cobbled streets- gives character • Brunel's Engine Shed £1.7mill.	✓ 4,000 new jobs by 2020 (17,000 by 2037) ✓ Attracts tourists. ✓ Redeveloped brownfield site ✗ Arena still not built

13. Challenges created by urban change

Urban deprivation	Some areas face social deprivation. 1/3 of people in Filwood are in very-low income households. Problems of crime, drug use, low quality housing, lack of transport.
Inequality in housing	Filwood- 50% in council housing. Stoke Bishop- millionaires (large villas)
Inequality in education	Filwood- 36% get top GCSE grades. Stoke Bishop- 94%.
Inequality in health	Filwood- Life expectancy 78 years. Stoke Bishop- 83 years.
Employment	Filwood- 1/3 16-24-year olds. Stoke Bishop- Just 3%.
Dereliction	Industrial buildings derelict (inner-city). Stokes Croft (many squatters).
Building on brown and greenfield	2006-13 94% housing on brownfield. Plan for 30,000 homes on brownfield. Temple Meads built on brownfield.
Waste disposal	>1/2 million tonnes of waste/year. (23% lower per head than UK average) ↗ recycling by 50%. Teach it in schools.
Urban sprawl	Greenbelt to prevent merge with Bath City extended to NW (Bradley Stoke). Led to destruction of greenfield sites. Yate- Commuter settlement.

7. Distribution of population and major cities in the UK

Population	
Cities	

8. Location and importance of Bristol

Location	
Importance within the UK	
Importance to wider world	

9. Impacts of migration on the growth and character of the city

National migration	
International migration	
Impact on character	

10. Urban change in Bristol

11. Opportunities created by urban change

Cultural mix	
Recreation and entertainment	
Employment	
Integrated transport system	
Urban greening	

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Example	Why did it need regeneration?	What are the main features?	Successful?
Temple Quarter, Bristol			

13. Challenges created by urban change

Urban deprivation	
Inequality in housing	
Inequality in education	
Inequality in health	
Employment	
Dereliction	
Building on brown and greenfield	
Waste disposal	
Urban sprawl	

GCSE History : Medicine in modern Britain c1900-present

What we are learning this term:

1.1 Ideas about the cause of disease and illness
1.2 Approaches to prevention and treatment
1.3 Case studies: Fleming, Florey, Chain and the fight against lung cancer in the 21st century

A.	*Can you define these key words?*
DNA	Short for deoxyribonucleic, DNA carries genetic information from one living thing to another
Genome	The complete set of DNA containing all information needed to build a particular organism
Haemophilia	A genetic disease passed from parent to child that stops blood clotting
Mastectomy	Surgery during which a person has one or both breasts removed.
Magic bullet	A chemical cure that will attack microbes in the body without damaging the body
Antibiotic	A Drug made from bacteria that kill other bacteria and so cure and infection or illness
Penicillin	The first antibiotic drug produced from the mould of penicillin to treat infections

C.	Lung Cancer (1.3)
What is lung cancer?	Lung cancer is the second most common cancer in the UK. It mainly affects people over the age of 40, it is an infection of the lungs.
Causes	Lung cancer became a much more common disease after 1900. Most lung cancers are caused by external factors such as smoking and chemicals in the air such as radon gas. In 1950, scientists proved that smoking was linked to lung cancer.
Treatments	There are three key treatments for lung cancer in the 21st century. People can be treated using a transplant, radiotherapy and chemotherapy. There is also research into genetic treatments, however it is not yet possible to treat lung cancer with genetics meaning its impact is limited.
Prevention	The British taking action through encouraging current smokers to quit, preventing people from becoming smokers and from protecting non-smokers from the dangers of second-hand smoke through varies pieces of legislation being produced.

B. Change and continuity in ideas about disease and illness in modern Britain. (1.1-1.2)

Causes	Prevention	Treatments
Germ theory – By 1900, the germ theory had been around for 40 years and microbes had been linked with outbreaks of disease.	Doctors now understood that the body produced antibodies to fight diseases that had previously infected it and that is how vaccines worked.	Mass production of penicillin – Florey and Chain proved that penicillin was effective in treating infections. The US government, observing the benefits funded the mass production.
Lifestyle factors – drinking too much alcohol leads to liver and kidney problems, intravenous drug taking and unprotected sex can spread diseases and the fashion of tanning led toa rise in skin cancer.	Antibiotics – Inspired by the discovery of penicillin, other scientists investigated molds and fungi in the search for more antibiotics. In the short term antibiotics have been a miracle cure for a variety of diseases, however their long-term impact has yet to be measured.	Science of technology in lung cancer treatment; the use of transplants, radiotherapy and chemotherapy. Genetic research is not yet used as a possible treatment for lung cancer.
Fundamental laws of inheritance: By 1900, a German scientist Mendel had theorized that genes come in pairs and one is inherited from each parent	New approaches to prevention through mass vaccinations – for example the national vaccination campaign against diphtheria was launched in 1942, the first of its kind.	Improved access to care – There was rapid improvement in the availability of care outside the home from 1948 onwards. The NHS made medical services free at point of service. This gave everybody access to medical care.
The human genome project –this was launched in 1990 and was originally led by James Watson. For a decade, 18 teams of scientists all over the world worked together to decode and map the human genome, this would make it possible for scientists to identify mistakes of mismatches in DNA	Government legislation - the government has passed laws to provide a healthy environment for the population. Examples of these were Clean Air Acts of 1956 and 1968. These two pieces of legislation were triggered by bad episodes of smog in London in 1952.	Specific, effective medicines matched with the diseases that they treat. In 1900 25% of deaths were caused by infectious diseases, by 1990 that number had fallen to less than 1%.
	Government lifestyle campaigns were also used to help people prevent disease themselves by promoting healthier lifestyles.	

D. Key People (1.3)

Fleming	Florey	Chain
Fleming was a British doctor working at ST. Mary's hospital in London. He had a keen interest in bacteriology and had been one of the first doctors to use the first 'magic bullet' to treat syphilis. Fleming identified the mould in his dirty petri dish as penicillin. The bacteria appeared to kill off the harmful staphylococcus bacteria. Fleming published his findings and at this time scientists were actively searching for chemical treatments.	Florey was an Australian pathologist working at Oxford medical school. Florey (with Chain) was conducting investigations into neglected research. Following the testing on mice, further tests of penicillin needed to be done on a larger scale, however Florey and Chain struggled to produce penicillin on a large scale. Florey refused to patent the drug, saying it should be available for everybody, meaning the development of the drug didn't cost much money.	Chain had escaped Nazi Germany where he had been a biochemist. Chain along with Florey was conducting investigations into previously neglected research. In 1940 he tested the extracted penicillin on infected mice. It appeared to be promising and the penicillin was working. Chain and Florey

GCSE History : Medicine in modern Britain c1900-present

What we are learning this term:

1.1 Ideas about the cause of disease and illness
1.2 Approaches to prevention and treatment
1.3 Case studies: Fleming, Florey, Chain and the fight against lung cancer in the 21st century

A.	*Can you define these key words?*
DNA	
Genome	
Haemophilia	
Mastectomy	
Magic bullet	
Antibiotic	
Penicillin	

C.	Lung Cancer (1.3)
What is lung cancer?	
Causes	
Treatments	
Prevention	

B. Change and continuity in ideas about disease and illness in modern Britain. (1.1-1.2)

Causes	Prevention	Treatments

D. Key People (1.3)

Fleming	Florey	Chain

Year 10 GCSE Religious Education KO - Islam Beliefs

Keywords	
Tawhid	The belief in Islam that there is only one God who created everything
Omnipotent	God is all powerful and "has power over everything"
Immanent	God is active in the world and involved in its' creation.
Transcendent	God is outside of time and space. God cannot age or die or be located in one place.
Beneficent	Allah is compassionate, caring and good
Sunnah	The traditions and practices of the Prophet Muhammad
Qur'an	The Islamic sacred book
Hadith	A collection of traditions and sayings of the Prophet Muhammad
6 Articles of Faith	6 basic beliefs that shape the Islamic way of life
5 Roots of Usul Ad-Din	5 rules which explain how Muslims should act in daily life
Akhirah	Belief in the afterlife
Al Qadr	Supremacy of God's will and The belief in predestination which is slightly different for Sunni and Shi'a Muslims

What we are learning in this unit

A. 6 Articles of Faith
B. 5 Roots of Usul Ad-Din
C. Sunnah and Hadith
D. Risalah
E. Torah, Psalms and Gospels
F. Nature of Allah
G. Qu'ran
H. Torah, Psalms and Gospels
I. Angels
J. Al Qadir
K. Day of Judgement, Paradise and Hell

B. *5 Roots of Usul Ad-Din*

The 5 roots of Usul ad-Din are central to the Shi'a Muslim faith.

Root	What is it?	Quote
1: Tawhid	The belief in the oneness of Allah	"He is God the One, God the eternal" Surah 112
2: Risalah	Belief in prophethood: the chain of messengers from Adam to Muhammad	"We sent messengers to every community" Surah 16
3: Adalat	Allah is just (fair) and will bring Divine Justice	"I advise you to being just towards both friend and foe" Imam Ali
4: Imamah	A term for God-given leadership	"obey God and the Messenger, and those in authority among you"
5: Mi'ad	The day of judgement and resurrection	"His is the judgement; and to Hjm you shall be returned"

A. *6 Articles of Faith*

Article of faith	What is it?
1: Belief in one God	Allah is the creator and sustainer of life. There is no God but Allah
2: Belief in Angels	Angels do the work of Allah and do not have free will like humans. They obey Allah
3: Belief in God's revealed books	The Torah, the Psalms, the Gospels, the Scrolls of Abraham and the Qur'an.
4: Belief in the messengers of God	Prophets and messengers are chosen by Allah to deliver His message to humankind
5: Belief in the Day of Judgement	There will be a day when all people stand in front of Allah and are sent to Heaven or Hell
6: Belief in pre-destination	Allah knows everything. Everything is ordered by Allah – nothing is random or by chance

C. *Sunnah and Hadith*

Sunnah	• The practices, customs and traditions of Prophet Muhammad • They give an example for Muslims to follow • The Sunnah and Hadith are sources of Wisdom and authority alongside the Qur'an
Hadith	• Reading the Hadith helps a Muslim to learn how Muhammad explained the teachings from the Qur'an • The Hadith makes the Qur'an easier to understand
What does the Sunnah tell Muslims?	• The Sunnah covers many areas of life • It provides a guideline for Muslim life • There is a Sunnah for everything

Year 10 GCSE Religious Education KO - Islam Beliefs

Keywords	
Tawhid	
Omnipotent	
Immanent	
Transcendent	
Beneficient	
Sunnah	
Qur'an	
Hadith	
6 Articles of Faith	
5 Roots of Usul Ad-Din	
Akhirah	
Al Qadr	

What we are learning in this unit

A. 6 Articles of Faith
B. 5 Roots of Usul Ad-Din
C. Sunnah and Hadith
D. Risalah
E. Muhammad
F. Nature of Allah
G. Qu'ran
H. Torah, Psalms and Gospels
I. Angels
J. Al Qadir
K. Day of Judgement, Paradise and Hell

B. *5 Roots of Usul Ad-Din*

.

Root	What is it?	Quote
1:		
2:		
3:		
4:		
5:		

A. *6 Articles of Faith*

Article of faith	What is it?
1:	
2:	
3:	
4:	
5:	
6:	

C.	*Sunnah and Hadith*

Year 10 GCSE Religious Education KO - Islam Beliefs

D.	*Risalah (Prophethood)*
What is it	• Muslims believe there has been 124,000 prophets • Every Islamic prophet preached Islam and key beliefs • The first was **Adam,** the last was Muhammad (Box E)
Why are prophets important?	• Prophets are guided by Allah • Their love of Allah stops them from sinning • Some prophets are messengers who have been given revelation of news
Adam	• The first prophet • The father of all humankind • He taught about the work of Iblis and how to protect themselves • He taught life on Earth was temporary, eternal life is in the next life • He built the Ka'aba as the first place of worship
Ibrahim	• Ibrahim was told in a dream to sacrifice Isma'il as a test of faith – remembered at Hajj every year • His son **Isma'il** is the ancestor of the prophet Muhammad

E	*Torah, Psalms and Gospels*
Psalms (Zabur)	• The Psalms of Dawud are a collection of prayers to Allah • They contain lessons of guidance for the people
Gospel (Injil)	• This is the good news about Isa (Jesus) • Muslims highly respect Isa because there are revelations in the Qur'an about him • Muslims believe he was the Masih, he was not the son of Allah, he was not crucified, he did not die to save sins • The gospels contain some mistakes because they were written many years after Isa died
Torah (Tawrat)	• The Tawrat is the Arabic word for the Torah • These are the revelations given to Moses by Allah on Mt Sinai • The Qur'an refers to the Tawrat as "guidance and light"
Scrolls of Ibrahim	• Revelations received by Ibrahim on the first day of Ramadan • Contained stories about worship and reflection • Not a book, individual revelations

F.	*The Nature of Allah*
Tawhid	• There is only one God and this God has no equal. • He created everything. • Only He should be worshipped: worshipping other Gods is a sin called **shirk.** • ***"There is no God but Allah, and Muhammad is his messenger".*** • ***"Allah witnesses that there is no deity except Him"*** • ***"Do they not see that Allah, who created the heavens and the Earth and was not wearied by their creation, has the power to raise the dead to life?"***
2: Omnipotent	Allah is all powerful and has power over everything
3: Immanence	Allah is active in the world and able to control events
4: Transcendent	• Allah is outside of the universe • Not limited by time or space
5: Beneficience	God has love and good will
6: Mercy	• ***"In the name of Allah, the most compassionate, the most merciful"*** • God is forgiving and caring
7: Fairness and justice	• Allah is fair to all people • ***Allah has sent the same message to all prophets to allow humans numerous opportunities to submit to the will of Allah*** • Allah will ensure that judgement is fair and punishments are suitable

Year 10 GCSE Religious Education KO - Islam Beliefs

D.	*Risalah (Prophethood)*
What is it	
Why are prophets important?	
Adam	
Ibrahim	

E	*Torah, Psalms and Gospels*
Psalms (Zabur)	
Gospel (Injil)	
Torah (Tawrat)	
Scrolls of Ibrahim	

F.	*The Nature of Allah*
Tawhid	
2: Omnipotent	
3: Immanence	
4: Transcendent	
5: Beneficience	
6: Mercy	
7: Fairness and justice	

Year 10 GCSE Religious Education KO - Islam Beliefs

G.	*Qur'an*
Revelation	• Chapters of the Qur'an were revealed to Prophet Muhammad over 13 years in Makkah • While Muhammad received the revelations, he was not able to change them because it was the will of Allah • After Muhammad received them, he recited them, and somebody wrote them down.
Authority	• It is the direct word of Allah so it has His authrotiy • It is without error and remains in its' original form • A written book was needed to formalise the religion
What does it contain?	• It covered every aspect of life • It influences a person throughout their lives • The basics of worship which Muhammad developed • Shari'ah law and social systems • It explains creations and other ultimate questions
Supreme authority	• The Qur'an is believed to have supreme authority • It is a timeless book – it is only the word of Allah if it is not translated from Arabic

I.	*Angels*
What are they?	• Angels are made from light and have wings which can move at the speed of light • They have no gender and are in the unseen world • They always complete what Allah asks and they always obey Allah as they have no free will
What do they do?	• Watch over humans • Bring peace to believers and instill fear in non-believers • Angel of Death takes the soul at death • Greet people entering paradise or throw people into the pits of hell • Signify the end of the world by blowing a horn
Jibril	• Most important angel in Islam • Always brings good news • Helped Ibrahim when he was thrown in to a fire, opened up the Zamzam well for Hajar • Told Maryam she would have a son (Isa) • Dictated the Qur'an directly from Allah
Mika'il	• Assisted Muhammad with his spiritual mission • Giver of rain and sustenance – in charge of plants and rain • Helped Muhammad to fight for Makkah • Will help to weigh peoples' actions on Judgement Day • Mika'il prepared Muhammad by providing Jibril with purifying water

K.	*Day of Judgement, paradise and Hell*
What will happen?	• Muslims believe Judgement day will come on a Friday (Adam was created on a Friday) • It will be announced by Israfils' trumpet • Allah will refer us to the book of deeds to justify damnation or salvation • Humans will go to paradise or Hell
Jannah	• Paradise • No growing ill, old or dying – it is a reward and gift from Allah • A person must live religiously and ask Allah for forgiveness • Good beliefs and actions • It is beyond human imagination
Entry to Jannah	• ***"enter among my servants! Enter my paradise!"*** • People will arrive over the As-Sirat bridge • There are 8 gates and you go through the one which represents your best action • Two angels welcome people saying ***"peace be upon you"***
Jahannam	• Hell • People wail in misery, 70x hotter than any flame on earth, boiling water poured on their heads, pain, dragged in chains • Punishment for a life full of evil or rejecting the teachings of the Qur'an

J.	*Al Qadir*
• Everything happens as a result of Allah's will and nothing is ever random or without reason • Allah is in charge of everything • Everything is a part of Allah's plan • ***"never will we be struck except by what Allah has decreed for us"***	

E.	*Muhammad*
Why was he chosen?	• Muhammad had characteristics such as responsibility, determination, patience, courage and honesty • He was highly respected in his community • He was extremely devoted to Allah – he prayed and fasted for long periods of time
What did he do as a prophet?	• He became the ruler of Madinah and set up the first Islamic community • He converted the people of Makkah to Islam
Why is Muhammad important?	• He is seen as the perfect role model as he is trustworthy and obedient to Allah • His influence can still be seen in the Hadith and Sunnah • The night of power in Ramadan is to remember Muhammad's first revelation from the angel Jibril

Year 10 GCSE Religious Education KO - Islam Beliefs

G.	*Qur'an*
Revelation	
Authority	
What does it contain?	
Supreme authority	

I.	*Angels*
What are they?	
What do they do?	
Jibril	
Mika'il	

K.	*Day of Judgement, paradise and Hell*
What will happen?	
Jannah	
Entry to Jannah	
Jahannam	

J.	*Al Qadir*

E.	*Muhammad*
Why was he chosen?	
What did he do as a prophet?	
Why is Muhammad important?	

Year 10 Spanish Knowledge Organiser Term 2
Módulo 3: Mi gente, mi mundo

My Personal World

Módulo 3 Mi gente, mi mundo — Thematic contexts: Media and technology; My personal world

Zona de cultura: ¡No hay dos familias iguales! 56
- Reading about different families
- Using possessive adjectives

Unit 1: Esta es mi gente 58
- Describing people
- Using the present continuous to describe a picture
- Using *ser* for physical descriptions and *estar* for location

Unit 2: ¿A quién sigues? 60
- Talking about who you admire
- Saying how long you have been doing something
- Using the personal *a*

Unit 3: ¡Amigos para siempre! 62
- Talking about friendships and relationships
- Using reflexive verbs
- Using the pronouns *me* and *te* before a verb

Unit 4: Así soy yo
- Talking about your identity and what matters to you
- Using *para* + infinitive
- Listening for gist

Unit 5: Necesito ayuda, ¿qué puedo hacer?
- Talking about problems and giving advice
- Using *estar* to express moods
- Using *podrías* and *deberías* + infinitive

Gramática 1
Gramática 2
Leer y escuchar
Prueba oral
Prueba escrita
Palabras

¡Mi identidad es única!



¿Cómo eres? ¿Cómo te identificas?

a mi personalidad

b mi género / mi sexualidad

c mis intereses

¿Qué es lo más importante para ti?

d mi familia

e mi educación

f mis amigos

g mi religión / mi fe

¿Qué cosas te preocupan?

h las cosas que me importan o me preocupan:

el amor — la justicia — la paz

el planeta — mis derechos — mi cultura / mis raíces

¿Cuáles son tus sueños?

i mis sueños

¡Todos somos diferentes!

los Juegos Olímpicos *the Olympic Games*

G

Some verbs for describing relationships are **reflexive** in Spanish.

	llevarse (*to get on*)
(yo)	**me** llevo
(tú)	**te** llevas
(él/ella/usted)	**se** lleva
(nosotros/as)	**nos** llevamos
(vosotros/as)	**os** lleváis
(ellos/ellas/ustedes)	**se** llevan

Verbs like this include:

pelearse
divertirse (ie)
sentirse (ie)
reírse (i) (the last three are stem changing)

Describe un buen amigo

Para mí, En mi opinión, Creo que	un buen amigo una buena amiga	me/te escucha y me/te comprende. me/te ayuda cuando tengo/tienes problemas. me/te apoya en todo / en lo bueno y en lo malo. me/te conoce bien y me/te respeta. me/te da buenos consejos. me acepta como soy / te acepta como eres. me/te hace reír. no me/te critica.
Mi mejor amigo/a		
La semana pasada	fuimos	al cine / al polideportivo / al centro comercial / a una fiesta.
	vimos	una película.
	jugamos	a los videojuegos.
	montamos	en bici.

- *¿Cómo es tu relación con tus amigos?*
- *¿Qué hiciste con tus amigos el fin de semana pasado?*
- *¿Qué vas a hacer con tus amigos el próximo fin de semana?*

Me llevo bien/genial con	mi mejor amigo/a mis amigos
... porque	es divertido/a. son divertidos/as. puedo contar con él/ella/ellos/ellas para todo. me conoce(n) bien. tengo confianza en él/ella/ellos/ellas.
Me divierto con mis amigos/as porque	hacemos muchas cosas juntos/as. me hacen reír.
Mi mejor amigo/a y yo Mis amigos/as y yo	nos llevamos bien/genial/superbién
... porque	tenemos los mismos intereses. tenemos mucho en común. hacemos muchas cosas juntos/as. nos divertimos mucho. siempre estamos juntos/as.
A veces / (Casi) Nunca / Siempre	discutimos / nos peleamos.

- Who you admire/follow on social media
- Why you admire them
- Details of their life and achievements.

Admiro a / Sigo (a) ...	desde hace ...meses / un año / (mucho) tiempo.
Lo/**La** admiro porque **Lo**/**La** sigo porque Pienso/Creo que	es una inspiración para otros. es un buen modelo de conducta. apoya a otras personas.
Lucha por	la igualdad [de oportunidades]. los derechos de las personas transgénero.
Luchó por	
Nació en	Estados Unidos/Europa/España.
Fue la primera persona / la persona más ... en	ganar / participar en ...
El año pasado / Hace dos años / En ...	ganó / participó en ...

In pairs, talk about what you look like.

- *¿Cómo eres?*
- *Soy ...*
- *¿De qué color tienes los ojos?*
- *Tengo los ojos ...*
- *¿Cómo tienes el pelo?*
- *Tengo el pelo ...*
- *¿A quién te pareces de tu familia? ¿Por qué?*
- *Me parezco a... porque los dos/ las dos tenemos ...*

Soy/Es [muy/bastante]	alt**o**/**a**. baj**o**/**a**. moren**o**/**a**. rubi**o**/**a**.	
Tengo/Tiene el pelo	largo. corto. castaño. rubio. negro. pelirrojo. rizado. liso.	
Llevo/Lleva	gafas. trenzas.	
Tengo/Tiene los ojos	marron**es**. azul**es**. verd**es**.	
Mi hermano/a es más/menos	alt**o**/**a** baj**o**/**a**	que yo.
Me parezco a Se parece a	mi [padre]	porque ... **los**/**las** dos somos/son ... **los**/**las** dos tenemos/tienen [los mismos ojos].
No me parezco a	nadie de mi familia	porque soy adoptad**o**/**a**.

In pairs, talk about what you look like.

- *¿Cómo eres?*
- *Soy ...*
- *¿De qué color tienes los ojos?*
- *Tengo los ojos ...*
- *¿Cómo tienes el pelo?*
- *Tengo el pelo ...*
- *¿A quién te pareces de tu familia? ¿Por qué?*
- *Me parezco a... porque los dos/ las dos tenemos ...*

Soy/Es [muy/bastante]	alt**o/a**. baj**o/a**. moren**o/a**. rubi**o/a**.	
Tengo/Tiene el pelo	largo. corto. castaño. rubio. negro. pelirrojo. rizado. liso.	
Llevo/Lleva	gafas. trenzas.	
Tengo/Tiene los ojos	marron**es**. azul**es**. verd**es**.	
Mi hermano/a es más/menos	alt**o/a** baj**o/a**	que yo.
Me parezco a Se parece a	mi [padre]	porque ... **los/las** dos somos/son ... **los/las** dos tenemos/tienen [los mismos ojos].
No me parezco a	nadie de mi familia	porque soy adoptad**o/a**.

- *¿Cómo es tu relación con tus amigos?*
- *¿Qué hiciste con tus amigos el fin de semana pasado?*
- *¿Qué vas a hacer con tus amigos el próximo fin de semana?*

Me llevo bien/genial con	mi mejor amig**o/a** mis amigos
... porque	es divertid**o/a**. son divertid**os/as**. puedo contar con él/ella/ell**os**/ell**as** para todo. me conoce(n) bien. tengo confianza en él/ella/ell**os**/ell**as**.
Me divierto con mis amig**os/as** porque	hacemos muchas cosas junt**os/as**. me hacen reír.
Mi mejor amig**o/a** y yo Mis amig**os/as** y yo	nos llevamos bien/genial/superbién
... porque	tenemos los mismos intereses. tenemos mucho en común. hacemos muchas cosas junt**os/as**. nos divertimos mucho. siempre estamos junt**os/as**.
A veces / (Casi) Nunca / Siempre	discutimos / nos peleamos.

Watch out for negatives like ***nunca***, ***nada***, ***nadie*** and ***tampoco***. Sometimes the negative comes after the verb as a 'sandwich' with ***no*** before the verb. Other times it comes at the beginning of the whole sentence.

No *me relaciono con* ***nadie***.	I **don't** interact with **anyone**.
No *sale* ***nada***.	He/She **doesn't** go out **at all**.
Nunca *se relaciona conmigo.*	He/She **never** interacts with me.
Tampoco *me apoya.*	**Nor** does he/she support me.

G

Use ***deberías*** (you should) and ***podrías*** (you could) followed by the infinitive to give advice or suggestions.

Deberías *buscar ayuda profesional.*
You should seek professional help.
Podrías *explicarle cómo te sientes.*
You could explain to him/her how you feel.

¿Qué piensas de las redes sociales?	Creo que Pienso que	son útiles/ importantes para	estar en contacto con ... buscar información sobre ... compartir vídeos ...
	Me interesa(n)	mi futuro. la música. mis derechos. las noticias.	
¿Para qué usaste las redes sociales la semana pasada?	Las usé para Usé [TikTok] para	escuchar/ver / chatear con / jugar a ...	
¿Qué es lo bueno/ malo de las redes sociales?	Lo bueno es que puedes	divertirte/expresarte / comunicarte con ...	
	Lo malo es que causan	problemas para dormir. acoso/adicción/presión.	

The verbs ***ser*** and ***estar*** mean 'to be' but are used to express different things in Spanish. ***Ser*** has an irregular pattern in the present tense. Remember that the first person of ***estar*** is also irregular.

Use ***ser*** + adjective for descriptions.

Mi tía ***es*** *alta y simpática.* My aunt **is** tall and nice.

Mis primos ***son*** *bajos.* My cousins **are** short.

Use ***estar*** when talking about location.

El perro ***está*** *en el jardín.* The dog **is** in the garden.

You also use ***estar*** to talk about feelings, emotions and your mood.

Estoy *contento/a.* **I'm** happy.

Está *triste.* **He/She is** sad.

Can you complete the missing verbs in this table?

	ser (*to be*)	**estar** (*to be*)	**tener** (*to have*)
(yo)	**soy**	**4**	**7**
(tú)	**1**	est**ás**	**8**
(él/ella/usted)	**2**	est**á**	t**iene**
(nosotros/as)	**somos**	**5**	**9**
(vosotros/as)	**sois**	**6**	t**enéis**
(ellos/ellas/ustedes)	**3**	est**án**	t**ienen**

9. Customer Needs

For a business to be successful, it must understand what customers need. There are six main areas to consider.

Area of Consideration	Why?
Price	For most consumers, most of the time, price is a crucial factor when considering purchasing a product. Pricing a product too high will put consumers off, pricing a product too low may lead the consumers to question the quality of the product and look to competitors.
Quality	Consumers will always consider the quality of a product when purchasing it. Products that lack quality and durability may be rejected by consumers for more reliable products
Choice	Consumers love choice, even though it can sometimes be hard to make decisions in the face of 'too much' choice.
Convenience	Consumers want easy access and to not travel to far. Businesses will need a full range of stock, short ques at checkouts and a clearly laid out store/website to give the customers a convenient experience.
Being efficient and reliable	Customers expect consistently good value for their own time and good customer service. Consumers expect high standards to meet every time they use the goods/services provided.
Providing great design	Many customers value design and style above price. They want clothes that make them look and feel great, cosmetics that make them look older – or younger – and cars that make them feel successful. Product design can be one way that businesses meet the needs of their customers.

10. Customer Needs

Term	Definition
Choice	Giving customers options and increasing the chance that the product will be perfect for the tastes/habits of one type of customer.
Convenience	Making life easier for customers, perhaps by a great location or a product that saves time in preparation or consumption.
Identifying Customers	Finding out who they are: their age, gender, incomes, where they live and what they want
Quality	to a customer quality means getting what they want at a good standard of manufacture or perhaps better than expected; some companies use the term 'customer delight'.
Understanding Customers	Learning why customers do what they do, making it easier to see how to make a product that better suits them.

11. Market Research

There are four main areas where market research can prove useful:

Area	Why?
To identify and understand customer needs	For any Business, understanding the needs of customers is important. Employing market research to finds is well worth the time of a business
To identify gaps in the market	Market research along with market maps show which customer requirements are covered and which are not.
To reduce risks	Market research reduces risk in two ways: • **Market research clarifies whether there is demand for a product** • **Whether the market needs new products**

9. Customer Needs

For a business to be successful, it must understand what customers need. There are six main areas to consider.

Area of Consideration	Why?
Price	
Quality	
Choice	
Convenience	
Being efficient and reliable	
Providing great design	

10. Customer Needs

Term	Definition
Choice	
Convenience	
Identifying Customers	
Quality	
Understanding Customers	

11. Market Research

There are four main areas where market research can prove useful:

Area	Why?
To identify and understand customer needs	
To identify gaps in the market	
To reduce risks	

12. Market Research – Methods of Research

Term	Definition
Focus Group	A group discussion among people selected from the target market; it draws on psychology to provide qualitative insights into consumer attitudes
Primary Research	Research conducted first-hand; it is tailored to a company's specific need, for example a quantitative sales estimate for a brand-new chocolate bar.
Qualitative Data	In depth research into the opinions and views of a small group of potential or actual customers; it is non-numerical and can provide useful insight into why consumers buy what they buy.
Quantitative Data	Factual and numerical research to provide statistically reliable results, for example a survey of 500 people aged 15-24 years.
Secondary Research	When a company uses research that has already been carried out by another organisation.

13. Market Segmentation – How is the market segmented

Ways the market is segmented	Explanation
Location	Customers located in the same area will share tastes and habits. **The menu for McDonalds is different in every country considering national tastes**
Income	Customers with different incomes will have different tastes and desires. Customers with high incomes are more likely to purchase more luxury items
Lifestyle	Whether rich or poor, young or old some people are simply different. Different lifestyles manifest different needs.
Age	People of different ages have different preferences and different desires.
Demographic Factors	Demographics are the characteristics of a population – different parts of a population have different needs **e.g. gender, race and religion etc.**

14. Market Mapping (Key Terms)

Term	Definition
Competition	Rival businesses operating in your market or market sector.
Gap in the market	An area on a market map where few or no existing brands operate, implying a business opportunity to fill an unmet consumer need
Market Map	Measuring where existing brands sit on a two-factor grid, for example young/old compared with high price/low price.

15. Why Map a Market?

Why?	Explanation
Helps you find a gap in the market	A market map can help a potential entrepreneur find an area within a market to exploit
Helps you find where you competitors are placed with a market	A market map can help a potential entrepreneur see where competitors are positioned within a market and furthermore ensure their own product is sufficiently unique.

16. The Competitive Environment

Why is competition good for markets?
Firms will need to provide good products and good services
Keeps prices competitive.
The market will provide more innovative products or services to break away from fierce competition from other firms

12. Market Research – Methods of Research

Term	Definition
Focus Group	
Primary Research	
Qualitative Data	
Quantitative Data	
Secondary Research	

13. Market Segmentation – How is the market segmented

Ways the market is segmented	Explanation
Location	
Income	
Lifestyle	
Age	
Demographic Factors	

14. Market Mapping (Key Terms)

Term	Definition
Competition	
Gap in the market	
Market Map	

15. Why Map a Market?

Why?	Explanation
Helps you find a gap in the market	
Helps you find where you competitors are placed with a market	

16. The Competitive Environment

Why is competition good for markets?

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
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.



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 longing offering what customers want or new technology has made the product obsolete.

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Product strategy	Explanation
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Function	
Aesthetics	

2. Product (Key Terms)

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Product Life Cycle	

3. Stages of the Product Life Cycle

Term:	Explanation:
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Decline	

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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	



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.

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Introduction	
Growth	
Maturity	
Decline	

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 become common place in the 1980s
Traditional Distribution	This method, in the first instance involves a wholesaler buying goods directly from the consumers. From their 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 it's customers through the 4p's, which helps in decision making

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Type of Distribution	Explanation:
Direct Distribution	
Modern Distribution	
Traditional Distribution	

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Retailer	

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Term	Definition
Budget	
Informed Decisions	

Year 10 Food & Nutrition Term 2

What we are learning this term:

A. Healthy Eating Guidelines B. Nutritional Needs of Different Age Groups C. Energy Needs and Portion Sizes D. Diet-Related Health Problems

A. Healthy Eating Guidelines

	**5 portions** of **fruit** and **vegetables** a day – making up **1/3** of daily food intake
	Using **unsaturated oils** and **spreads,** and **not often**
	**Protein: lean** cuts and **unprocessed** meat best, plus **2 portions** of **fish** per week **(1 oily)**
	Having some **dairy** or **alternatives** and trying **lower fat** options
	**1/3** of daily food intake being **starchy carbs**. Go for **higher fibre/wholegrain** options
	**6-8 glasses** of **fluids** a day (but **no more than 1** being **fruit juice**)
	Eat **less sugary, salty** and **fatty** foods.

B. Nutritional Needs of Different Age Groups

Children & Teens 	• Still **growing** so need a lot of **energy** • **Young** children need **small** and **frequent** meals • Lots of **calcium** • **Stress** during **teenage** years can affect **eating habits**
Adults 	• **Stop** growing and nutritional needs **don't vary** much • Should focus on maintaining a **balanced** and **healthy** diet
Elderly Adults 	• Muscle **decreases** and exercising is **harder** – diet may **change** • **Taste** and **smell** changing can affect the **enjoyment** of food
Other Factors	• Males usually **bigger/taller** = more daily kcal needed • **Iron** is lost during **menstruation** = **higher iron** requirements • **Bone density** can be lost after the **menopause** = important to get lots of **calcium** and **Vitamin D** • Towards the end of **pregnancy**, the body needs **200 more kcal** per day to support **baby's growth** • **Active** humans will need **more kcal** and **protein**

C. Energy Needs & Portion Sizes

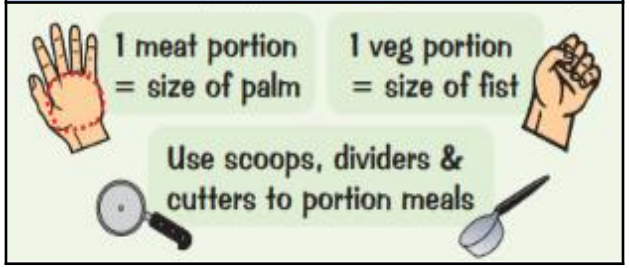
BMR	**Basel Metabolic Rate** is the amount of energy needed to **live e.g. breathing**. It's affected by many factors; **age, sex, weight, exercise**
PAL	**Physical Activity Level** measures how **active** you are. A **higher PAL** means **more active**.

Daily energy requirement (kcal) = BMR x PAL

To maintain a healthy weight, energy intake must be balanced:

Energy in > energy out = weight gain
Energy in < energy out = weight loss

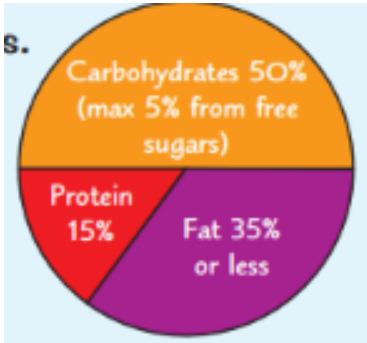
Portion size: prepare the right amount e.g.



D. Diet-Related Health Problems

	Example of cause	Health Problems
Obesity	Eating lots of sugary and fatty foods	High blood pressure and cholesterol
Coronary Heart Disease	Eating lots of saturated fats	Blood clots and heart attacks
Anaemia	Not eating enough iron-rich food	Tiredness, heart palpitations
Type 2 Diabetes	Being overweight or obese / too much sugar	Kidney failure, poor eyesight
Rickets (children)	Not enough Vitamin D or Calcium	Soft bones may lead to lowed legs
Osteoporosis (old age)	Malnutrition and not enough Calcium	Loss of bone density, brittle bones break easily
Tooth Decay	Plaque build-up from eating too many sugary foods	Fillers, loss of teeth

Recommended ratio for energy sources:

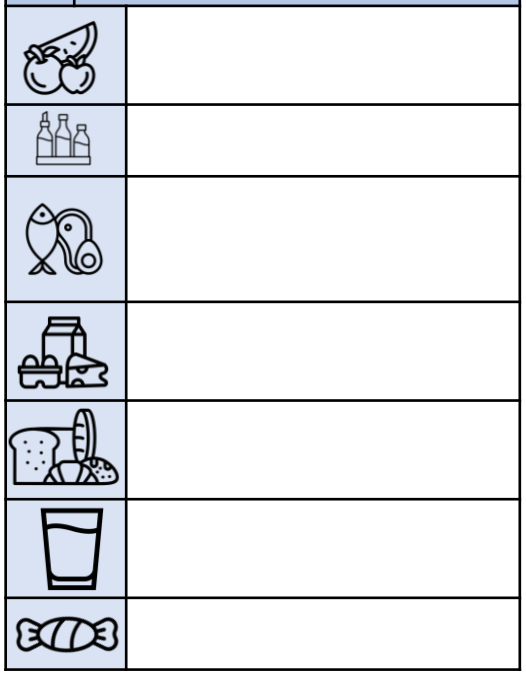


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A.



B. Nutritional Needs of Different Age Groups

Children & Teens	
Adults	
Elderly Adults	
Other Factors	

C. Energy Needs & Portion Sizes

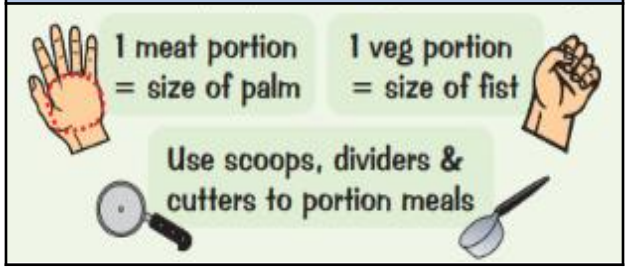
BMR	
PAL	

Daily energy requirement (kcal) = BMR x PAL

To maintain a healthy weight, energy intake must be balanced:

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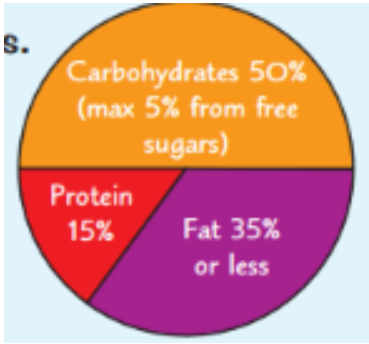
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Recommended ratio for energy sources:



Year 10 PRODUCT DESIGN Term 2

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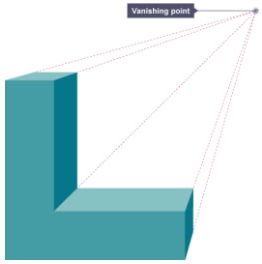
A. One-Point Perspective B. Two-point Perspective C. Isometric Drawing
D. Exploded Drawing E. Oblique Drawing F. CAD G. Orthographic Drawing

Design Strategies Introduction.

Design strategies are used to create technical drawings, to show an object in 3D on a 2D page. Perspective drawings show an object getting smaller in the distance. The rest are done to scale.

A. One-point Perspective Drawing

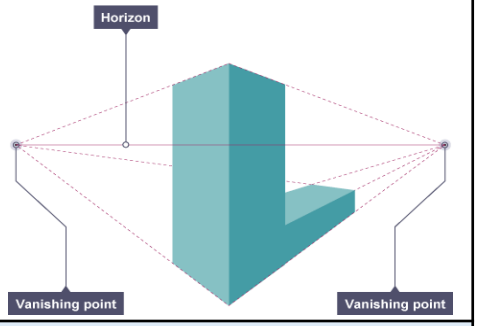
Single-point perspective shows an object from the front in a realistic way. The front view goes back towards a vanishing point on the horizon.



Commonly used by interior designers to a show a view into a room.

B. Two-point Perspective Drawing

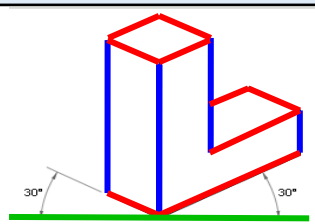
Two-point perspective shows an object from the side with two vanishing points. It gives the most realistic view of a product as it shows the item edge on, as we would see it. It is often used to produce realistic drawings of an object.



Commonly used by architects to show realistic building ideas.

C. Isometric Technical Drawing

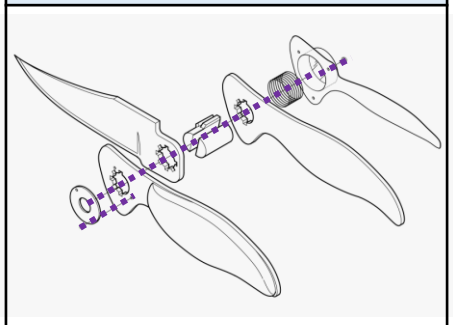
Made up of a series of parallel **vertical lines** and parallel **30-degree lines**. But no **horizontal lines.**



Used by architects and engineers to communicate their ideas to the client and manufacturer.

D. Exploded Technical Drawing

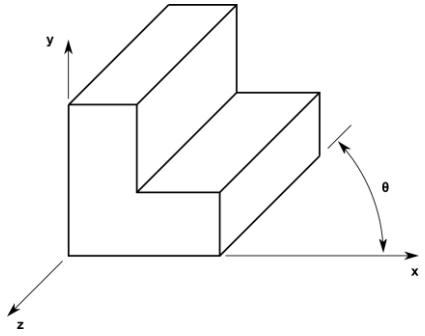
Exploded technical drawing is an Isometric drawing of all the parts and components of an object.



All parts are shown separately so you can see all aspects. **Dashed lines** indicate where everything goes and in what order.

E. Oblique Technical Drawing

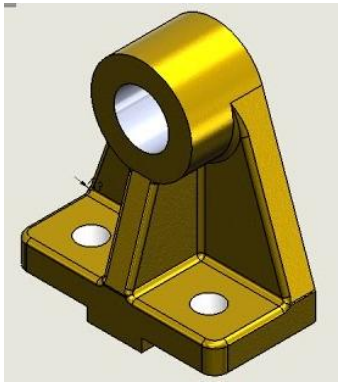
Consists of an object where the front view is drawn flat with height and width of the object draw to the correct lengths. Diagonal lines are drawn at 45-degrees.



Commonly used by engineers for drafting ideas.

F. CAD (Computer Aided Design)

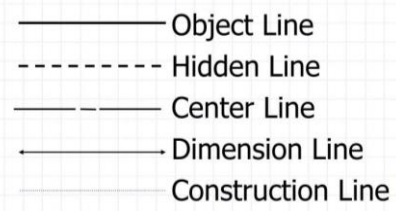
This is designing using a computer using a software such as 2D Design or Solidworks.



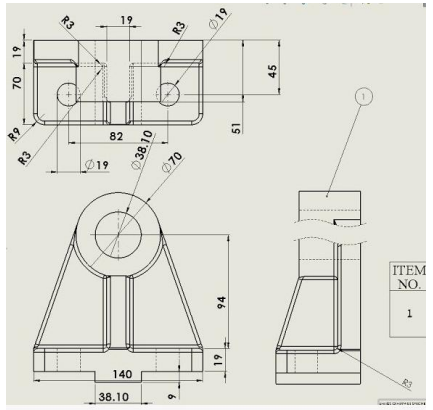
Commonly used to model, test and develop an idea before manufacture.

G. Orthographic Projection – 2D NOT 3D Drawing Strategy!

This shows 2D views of a 3D object from different angles – front, plan and end. Lines are dimensions have specific meaning to avoid confusion.



Commonly used in industry to help the manufacturer understand the design.



Year 10 PRODUCT DESIGN Term 2

What we are learning this term:

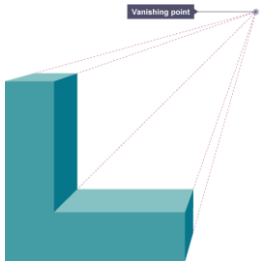
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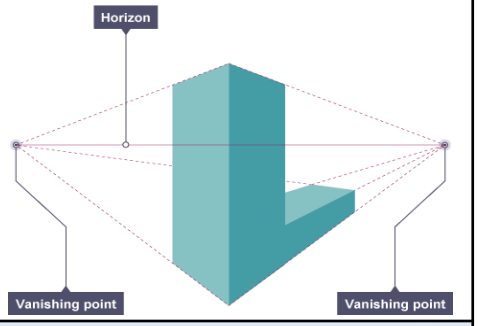
A. One-point Perspective Drawing

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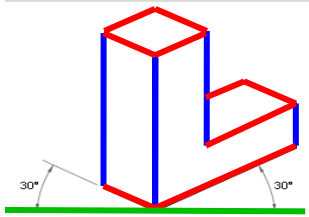


B. Two-point Perspective Drawing

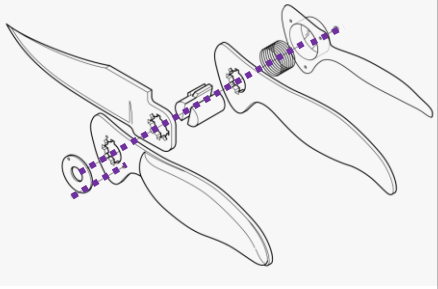
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C. Isometric Technical Drawing

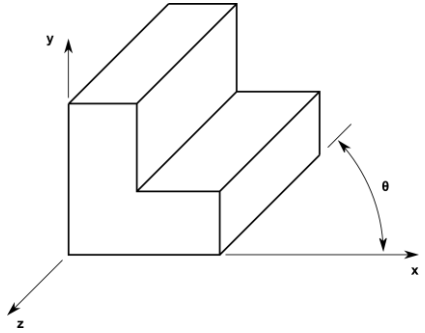


D. Exploded Technical Drawing

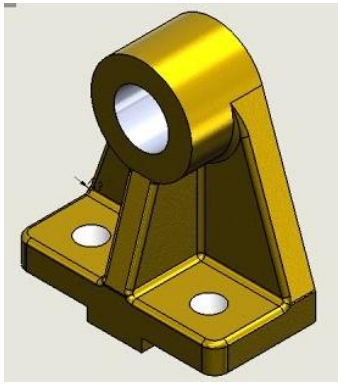


E. Oblique Technical Drawing

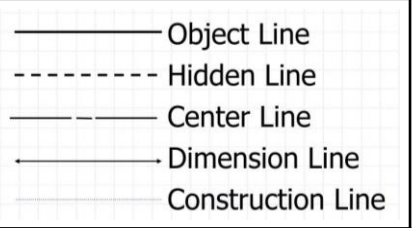
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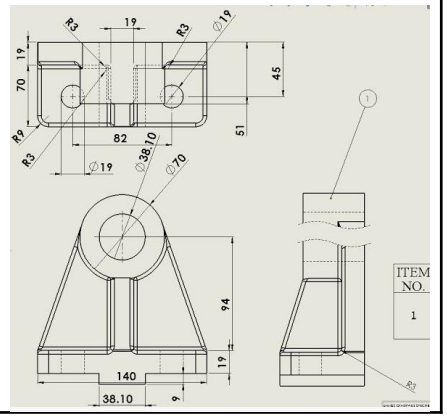


F. CAD (Computer Aided Design)



G. Orthographic Projection – 2D NOT 3D Drawing Strategy!





Year 10 Engineering Term 2 (Unit 1)

What we are learning this term:

A. Health & Safety | B. Manufacturing processes | C. reading technical drawings | D. Tools & Equipment

A. Health & Safety

Risk Assessment	A risk assessment is the analysis of the risks involved when using equipment or performing a process.

Hazard – something that may harm someone.
Risk – how likely a hazard is to happen.
Control measure – actions taken to reduce the risk of harm

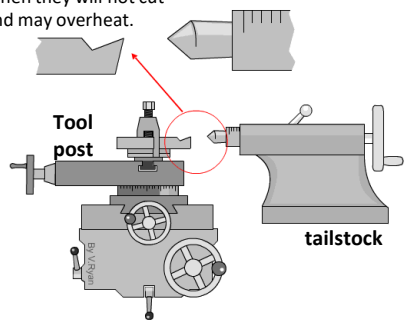
Ejection hazard – material being thrown out of the machine toward the user	**Entrapment hazard –** the user being caught and pulled into the moving parts of the machine
Inhalation hazard – people in the vicinity of the hazard breathe in harmful dust or chemicals	**Sharp force hazard –** the user is cut, stabbed or scraped by the sharp material.
Slip, trip and fall hazards – common hazards caused by unclean or cluttered workspaces.	**Blunt force hazard –** a victim is crushed, hit or bruised by the blunt object. Major blunt trauma can cause fractures or internal bleeding.

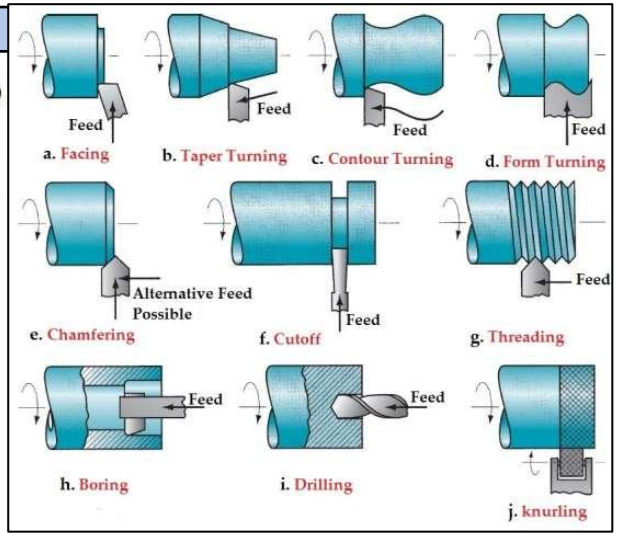
B. Manufacturing processes

The **dead center tool** is used to align the tools in the **tool post**.

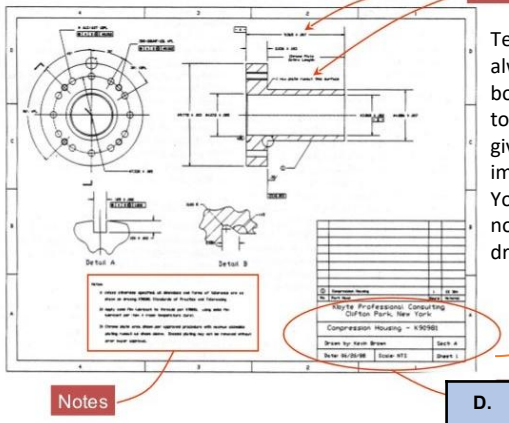
The dead center is placed in the **tailstock**. If the cutting tools are not in line with it, then they will not cut efficiently and may overheat.





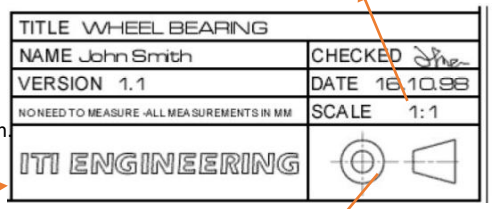


C. Reading technical drawings



Technical drawings always include a border and title block to identify them and give the reader important information. You may also write notes on a technical drawing, if relevant.

The scale factor shows how big the real product is compared to the drawing.



The type of orthographic drawing is shown by this symbol.

Lec. Bhuiyan Shameem Mahmood

D. Tools & Equipment



External calliper – used for measuring the external dimensions of a workpiece



Lathe tools – cutting tools for a range of functions.
From left to right; Parting tool, right-hand cutting tool, threading tool, left-hand cutting tool



Knurling tool - an attachment for the lathe that allows you to impress a diamond pattern into the material. Example shown here.





Tap and die set – these tools are attached to wrenches and allow you to cut an internal or external thread (spiral) in a hole. The hole must be pre-drilled 0.5mm smaller than the intended size of the final hole.

Year 10 Engineering Term 2 (Unit 1)

What we are learning this term:

A. Health & Safety | B. Manufacturing processes | C. reading technical drawings | D. Tools & Equipment

A. Health & Safety

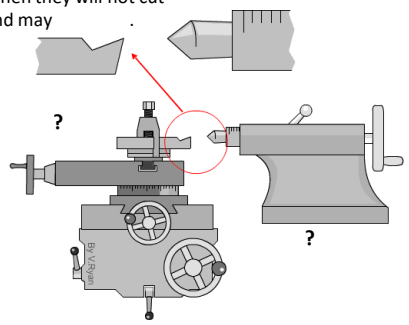
Risk Assessment	A risk assessment is the analysis of the risks involved when?
Hazard –. **Risk –** **Control measure –**	
Give an example of an Ejection hazard –	**Give an example of an Entrapment hazard –**
Give an example of an Inhalation hazard –	**Give an example of a Sharp force hazard –**
Give an example of Slip, trip and fall hazards –	**Give an example of a Blunt force hazard –**

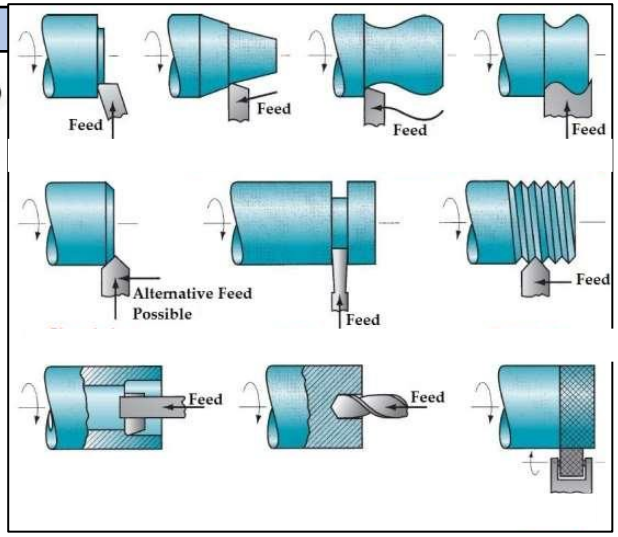
B. Manufacturing processes

The **l** is used to the tools in the .

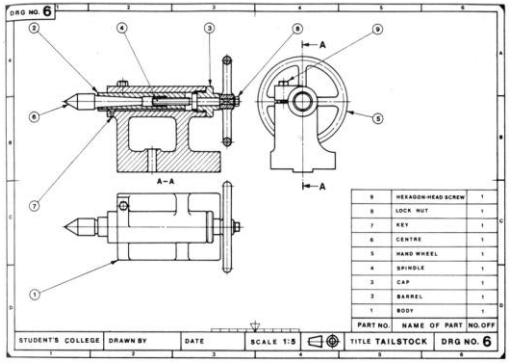
The dead center is placed in the . If the cutting tools are not then they will not cut efficiently and may .







C. Reading technical drawings



Task -Annotate this technical drawing

D. Tools & Equipment



– used for measuring the external dimensions of a workpiece



– cutting tools for a range of functions.
From left to right; tool, cutting tool, tool, cutting tool



- an attachment for the lathe that allows you to impress a pattern into the material. Example shown here.





– these tools are attached to wrenches and allow you to cut an internal or external (spiral) in a hole. The hole must be pre-drilled smaller than the intended size of the final hole.

Year 10 BTEC Health and Social Care- Component 1: Human Lifespan Development. LAA

What we are learning this term:

A. Key words
B. What are the main life stages
C. What are the 4 areas of growth and development (PIES)?
D. How do Humans develop physically (P)?

A.	Key words for this Unit
Characteristics	Something that is typical of people at a particular life stage.
Life stages	Distinct phases of life that each person passes through.
Growth	Increased body size such as height, weight.
Development	Involves gaining new skills and abilities such as riding a bike.
Gross motor development (**G**)	Refers to the development of large muscles in the body e.g. Legs
Fine motor development (**F**)	Refers to the development of small muscles in the body e.g. Fingers
Language development	Think through and express ideas
Contentment	An emotional state when people feel happy in their environment, are cared for and well loved
Self-image	How individuals see themselves or how they think others see them
Self-esteem	How good or bad an individual feels about themselves and how much they values their abilities.
Informal relationships	Relationships formed between family members
Friendships	Relationships formed with people we meet in the home or in situations such as schools, work or clubs
Formal relationships	relationships formed with non-family/friends – such as teachers and doctors.
Intimate relationships	romantic relationships.

B	What are the main life stages?	
Age Group	**Life Stage**	**Developmental Characteristics and Progress**
0-2 years	Infancy	Sill dependent on parents but growing quickly and developing physical skills.
3-8 years	Early Childhood	Becoming increasingly independent, improving thought processes and learning how to develop friendships.
9-18 years	Adolescence	Experiencing puberty, which bring physical and emotional changes.
19-45 years	Early Adulthood	Leaving home, making own choices about a career and may start a family.
46-65 years	Middle Adulthood	Having more time to travel and take up hobbies as children may be leaving home; beginning of the aging process.
65+ years	Later Adulthood	The aging process continues, which may affect memory and mobility.

C	What are the 4 areas of growth and development (PIES)?
Physical Development (P) 	P = growth patterns and changes in the mobility of the large and small muscles in the body that happen throughout life.
Intellectual Development (I) 	I = how people develop their thinking skills, memory and language.
Emotional Development (E) 	E = how people develop their identity and cope with feelings.
Social Development (S) 	S = describes how people develop friendships and relationships.

D.	How do humans develop physically (P)?
0-2	• Gross Motor Development (G) = life head, roll over, sit unaided, walk holding onto something, walk unaided, climb stairs, kick and throw, walk upstairs, jump. • Fine Motor Development (F) = hold a rattle for short time, reach for an item, pass item from one hand to other, hold between finger and thumb, scribble, build a tower, use a spoon, draw lines and circles, turn page of a book.
3-8	• G = ride a tricycle, catch a ball with two hands, walk backwards and step to the side, bounce a ball, run on tiptoes, ride a bike, catch a ball with one hand, balance along a thin line. • F = hold a crayon to make circles and lines, thread small beads, copy letters and shapes with a pencil, make detailed models with construction bricks, joined up writing, use a needle to sew.
9-18	• Girls = puberty starts at 10-13 years, breasts grow, hips widen, menstruation begins, uterus and vagina grow. • Boys = voice deepens, muscles and strength increase, erections, facial hair, produce sperm. • Both = pubic and underarm hair, growth spurts.
19-45	• Physically mature, sexual characteristics are fully formed, peak of physical fitness, full height, women at most fertile. • Later in the life stage people may put on weight, hair turn grey and men may lose hair, women's menstrual cycle was slow down
46-65	• People may put on weight, hair turn grey and men may lose hair, women's menstrual cycle was slow down. • Women go through the menopause – when menstruation ends and they can no longer become pregnant. • Men may continue to be fertile throughout life but decrease in sperm production in this life stage.
65+	• Women's hair becomes thinner, men may lose most of their hair, skin loses elasticity and wrinkles appear, nails hard and brittle, bones weaken, higher risk of contracting infections disease and illness. • Stamina, reaction time, muscle and senses (hearing, sight, taste) all reduce.

Year 10 BTEC Health and Social Care- Component 1: Human Lifespan Development. LAA

What we are learning this term:

A. Key words
B. What are the main life stages
C. What are the 4 areas of growth and development (PIES)?
D. How do Humans develop physically (P)?

A.	**Key words for this Unit**
Characteristics	
Life stages	
Growth	
Development	
Gross motor development (**G**)	
Fine motor development (**F**)	
Language development	
Contentment	
Self-image	
Self-esteem	
Informal relationships	
Friendships	
Formal relationships	
Intimate relationships	

B	**What are the main life stages?**	
Age Group	**Life Stage**	**Developmental Characteristics and Progress**
0-2 years		
3-8 years		
9-18 years		
19-45 years		
46-65 years		
65+ years		

C	**What are the 4 areas of growth and development (PIES)? Explain them.**
Physical Development (P) 	
Intellectual Development (I) 	
Emotional Development (E) 	
Social Development (S) 	

D.	**How do humans develop physically (P)?**
0-2	
3-8	
9-18	
19-45	
46-65	
65+	

Year 10 BTEC Health and Social Care- Component 1: Human Lifespan Development. LAA

What we are learning this term:

E. How do humans develop intellectually (I)?
F. How do humans develop emotionally (E)?
G. How do humans develop socially (S)?

E. *How do humans develop intellectually (I)?*

Infancy 	At birth brains are already well developed. Infants use all of their senses to learn about the world around them. Infancy is a time of rapid intellectual development. At 3 months infants can remember routines. At 9-12 months infants are developing their memory. At 12 months to 2 years infants understand processes and how things work. Language begins to develop during this stage.
Early childhood 	At 3-4 years of age children become more inquisitive and enjoy exploring objects and materials. They ask lots of questions and enjoy solving simple problems. At 5-6 years old children's memory is becoming well developed. This helps them to talk about the past and anticipate the future.
Adolescence 	During this time abstract thought is developed – thinking logically and solving complex problems are possible by the end of this life stage. Adolescents may find it difficult to understand the consequences of their actions but they are developing empathy – seeing things from another's point of view.
Early and Middle Adulthood 	By these life stages most adults have a good range of general knowledge. They use this knowledge and experience to solve problems that they come across in their personal and work lives.
Later adulthood 	During this life stage people continue to learn and develop intellectually, however, their speed of thinking and memory may decline. This may affect their ability to think through problems and make logical decisions.

F. How do humans develop emotionally (E)?

Infancy and Early Childhood	Adolescence and adulthood
Bonding and Attachment Bonding and attachment describe the emotional ties an individual forms with others. It starts in the first year of life between infants and their main carer because that person fulfils the infants needs which makes them feel safe and secure.	**Self-image and Self-esteem** Self-image is heightened during adolescence because of the physical changes we experience. Our self-esteem can change from day to day based on a variety of factors including employment and health status.
Security For infants and young children, security is mainly the feeling of being cared for, being safe and loved – it is closely linked with attachment.	**Security** Adolescence may feel insecure because of puberty. Adults may feel insecure about relationships, job security of income. Later in life adults may feel insecure about staying in their own home or going into a care home. Feeling secure helps us cope better with everyday situations.
Contentment Infants and young children are content if they have had enough food, love, are clean and dry and all other needs are met.	**Contentment** When people feel discontented with aspects of their life – for example, relationships or work – their emotions can be negatively affected.
Independence Independence is to care for yourself and make your own decisions. Infants are completely dependent on their carer. As children enter early childhood they develop more independence – feed self and get dressed. However, children still need a lot of help from their carer.	**Independence** Adolescence are dependent on their parents but are beginning to enjoy more independence and freedom to make their own choices. Adults enjoy living independently and controlling their own lifestyle and environment. Later in adulthood people become more dependent on others again.

G. How do humans develop socially (S)?

Life Stage	Types of relationships and social development
Infancy	• Solitary Play - From birth to 2 years, infants tend to play alone although they like to be close to their parent or carer; they may be aware of other children but not play with them.
Early childhood	• Parallel Play - From 2 to 3 years, children enjoy playing next to other children but are absorbed in their own game; they are not socialising or playing with other children. • Cooperative or social play – from 3 years upwards, children start to play with other children; they have developed social skills that help them to share and talk together; they often make up games together, such as being a shopkeeper and customer.
Adolescence	• People become more independent and build more informal and formal relationships. • Social development closely linked to emotions. • Often strongly influenced by peers – 'peer group pressure'.
Early adulthood	• Increased independence means greater control of decisions about informal relationships. • People may be developing emotional and social ties with partners and their own children. • Social life often centred on the family but social skills are required to build and maintain formal relationships.
Middle adulthood	• Children have often left home, but there are likely to still be strong family relationships. • Social circles may expand through travel, spending more time on hobbies or joining new groups.
Later adulthood	• Retired by this stage and so may enjoy more social time with family and friends or join new groups. • However, later in the life stage people may begin to feel isolated if they struggle to get out or if partners and friends pass away.

Year 10 BTEC Health and Social Care- Component 1: Human Lifespan Development. LAA

What we are learning this term:

E. How do humans develop intellectually (I)?
F. How do humans develop emotionally (E)?
G. How do humans develop socially (S)?

E.	***How do humans develop intellectually (I)?***
Infancy 	
Early childhood 	
Adolescence 	
Early and Middle Adulthood 	
Later adulthood 	

F.	**How do humans develop emotionally (E)? Explain each.**
Infancy and Early Childhood	**Adolescence and adulthood**
Bonding and Attachment	**Self-image and Self-esteem**
Security	**Security**
Contentment	**Contentment**
Independence	**Independence**

G.	**How do humans develop socially (S)?**
Life Stage	Types of relationships and social development
Infancy	
Early childhood	
Adolescence	
Early adulthood	
Middle adulthood	
Later adulthood	

Year 10 BTEC Health and Social Care- Component 1: Human Lifespan Development. LAA

What we are learning this term:

H. Key words
I. How do physical factors affect development?
J. How does lifestyle affect development?
K. How do social and cultural factors affect development?
L. How do relationships and isolation affect development?
M. How do economic factors affect development?

H Key words:

Genetic inheritance	Genes the person inherits from their parents
Genetic disorders	Health conditions that are passed on from parent to child through their genes. e.g. cystic fibrosis
Lifestyle Choices	Include the food you eat and how much exercise you do. They also include whether you smoke, drink alcohol or take illegal drugs.
Appearance	The way that someone or something looks
Factor	A circumstance, fact, or influence that contributes to a result
Gender role	The role and responsibilities determined by a person's gender.
Culture	ideas, customs, and social behaviour.
Role models	Someone a person admires and strives to be like.
Social Isolation	Lack of contact with other people
Material possessions	Things that are owned by an individual
Economic	To do with person's wealth and income.

I. How do physical factors affect development?

	Genetic Disorders	Disease and Illness
Physical Development	A person's physical build can affect physical abilities. Inherited diseases may affect strength and stamina needed to take part in exercise.	May affect the rate of growth in infancy and childhood. Could affect the process of puberty. Could cause tiredness and/or mobility problems. Could limit of prevent participation in physical activity.
Intellectual Development	Some genetically inherited diseases may result in missed schooling, or have a direct impact on learning – conditions such as Edward's syndrome impact learning.	School, college, university, work or training could be missed. Memory and concentration could be affected.
Emotional Development	Physical appearance affects how individuals see themselves (self-image), and how others respond to them impacts on their confidence and wellbeing.	May cause worry and/or stress. Individuals may develop negative self-esteem. Could lead to feelings of isolation.
Social Development	Physical characteristics or disease may affect opportunities or confidence in building friendships and becoming independent.	May cause difficulty in having opportunities to socialize with other and build wider relationships.

J. How does lifestyle affect development?

Lifestyle choices include**;** diet, exercise, alcohol, smoking, sexual relationships and illegal drugs, appearance.

Positive lifestyle choices lead to:
- Healthy hair, skin, nails and teeth
- Positive self-image
- Energy and stamina
- Good health
- Emotional security



Negative lifestyle choices lead to:
- Being overweight or underweight
- Lack of energy
- Ill health
- Negative self-image
- Sexually transmitted diseases (STDs)
- Unplanned pregnancy



Our **appearance** includes: body shape, facial features, hair and nails, personal hygiene and our clothing.
Our appearance can affect the way we view ourselves- self-image

Positive self-image:
- Feel good about yourself.
- Healthy hair, skin, nails and teeth
- Big social circle.
- High self-esteem.
- High self-confidence.



Negative self-image
- Low self-esteem
- Low self-confidence
- Can lead to eating disorders e.g. anorexia
- Can lead to anxiety or depression
- Can lead to self-harm
- Negative impact on building relationships- social circle decreases.



Year 10 BTEC Health and Social Care- Component 1: Human Lifespan Development. LAA

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H	Key words:
Genetic inheritance	
Genetic disorders	
Lifestyle Choices	
Appearance	
Factor	
Gender role	
Culture	
Role models	
Social Isolation	
Material possessions	
Economic	

I. How do physical factors affect development?

	Genetic Disorders	Disease and Illness
Physical Development		
Intellectual Development		
Emotional Development		
Social Development		

J. How does lifestyle affect development?

Lifestyle choices include**;** diet, exercise, alcohol, smoking, sexual relationships and illegal drugs, appearance.

Positive lifestyle choices lead to:

-
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-

Negative lifestyle choices lead to:

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Our **appearance** includes: body shape, facial features, hair and nails, personal hygiene and our clothing.
Our appearance can affect the way we view ourselves- self-image

Positive self-image:

-
-
-
-
-
-

Negative self-image

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-

Year 10 BTEC Health and Social Care- Component 1: Human Lifespan Development. LAA

K How do social and cultural factors affect development

Development can be influenced by the persons **culture or religion** because it affected their:
- **Values**: how they behave
- **Lifestyle choices**: diet, appearance

Positive affects of a persons culture/religion:	Negative affects of a persons culture/religion:
• A sense of security and belonging from sharing the same values and beliefs with others. • Good self-esteem through being accepted and valued by others	• Feeing discriminated against by people who do not share their religion/culture which leads to low self-image • Feeing excluded and isolated because their needs like diet, are not catered for.

Community refers to: local area where people live, school, religious group or hobby clubs. They have common values and goals.

Belonging to a community:	Not belonging to a community:
• Brings sense of belonging essential for emotional development. • Building and maintaining relationships- social development • Feeling of security. • Increases self-image and self-confidence	• Minimal contact with others- isolation • Anxiety leading to depression • Making negative lifestyle choices • Feeling less secure • Difficulty in building relationships • Slow self-image and self-confidence

Traditionally, men and women had distinctive responsibilities and expectations which for their gender called **gender roles**. However, nowadays UK equality legislation stops people being discriminated against because of their gender.

What happens when people face discrimination because of gender:
- They might be excluded from a group
- They may be refused promotion at work
- They may be expected to carry out a particular role
- They may be paid less.

What we are learning this term:

K. How do social and cultural factors affect development?
L. How do relationships and isolation affect development?
M. How do economic factors affect development?



L How do relationships and isolation affect development?

1	In adolescence, young people often argue with parents because they want more independence- negative affect on family relationships- can lead to isolation from them.
2	In later life, older people might need to rely on their children for support. This then has a positive affect on their development because all their need are catered for.
3	Relationships are important because they provide emotional security, contentment and positive self- esteem.
4	The breakdown of personal relationships can have a negative effect on persons PIES development: Low self-esteem, loss of confidence, stress.
5	Isolation can happen when individuals do not have the opportunity of regular contact with others. They have no one to share their feelings, thoughts and worries with resulting in feeling insecure and anxious.
6	Isolation can happen because they live alone, are unemployed or retired, are discriminated against or have an illness or a disability.
7	People have role models- infants learn by copying others, and adolescence base their identity on their role models. Role models can influence how people see themselves compared to others and their lifestyle chices0 can be positive or negative.

M How do economic factors affect development

Having enough money gives individuals and their families feeling of content and security →	Not having enough money causes stress and anxiety.
Having enough money means that the whole family is eating healthy. →	Not having enough money can mean that the family is not about to eat well balanced diet, and this has a negative effect on their physical development

Elderly people rely on state pension to live which is not enough and have to cut down on travel, shopping, bills, therefore it speeds their aging process and lead to health decline.

Living in good housing with open spaces:	Living in a poor housing with cramped and damp conditions:
• Feeling good about themselves • Be more likely to stay healthy, • Space to take exercise • Feel safe ad secure • Warmth	• Have low self-esteem and self-image • Be more likely to experience ill health • Be lesson likely to exercise • Anxious and stressed.

Material possession like a new phone or coat has a positive effect on the persons development because they might have more friends as they look nicer, high self-image. →	Not having a phone or the newest trainers can have a negative affect in the persons self-image and self-esteem. They might feel isolated from others.

Year 10 BTEC Health and Social Care- Component 1: Human Lifespan Development. LAA

What we are learning this term:

K. How do social and cultural factors affect development?
L. How do relationships and isolation affect development?
M. How do economic factors affect development?



K How do social and cultural factors affect development

Development can be influenced by the persons **culture or religion** because it affected their:
- **Values**: how they behave
- **Lifestyle choices**: diet, appearance

Positive affects of a persons culture/religion:	Negative affects of a persons culture/religion:
• •	• •

Community refers to:

Belonging to a community:	Not belonging to a community:
• • • • •	• • • • • •

Traditionally, men and women had distinctive responsibilities and expectations which for their gender called **gender roles**. However, nowadays UK equality legislation stops people being discriminated against because of their gender.

What happens when people face discrimination because of gender:
-
-
-
-

L How do relationships and isolation affect development?

1	
2	
3	
4	
5	
6	
7	

M How do economic factors affect development

Having enough money….	Not having enough money ……
• •	• •
Having enough money means that….	**Not having enough money can mean that…**
• •	• •

Elderly people rely on state pension to live which is not enough and have to cut down on travel, shopping, bills, therefore it speeds their aging process and lead to health decline.

Living in good housing with open spaces:	Living in a poor housing with cramped and damp conditions:
• • • • •	• • • • •
Material possession like a new phone or coat has a positive effect on the persons development because….. • • •	Not having a phone or the newest trainers can have a negative affect on…. Because…. • • • •

Year 10 BTEC Health and Social Care- Component 1: Human Lifespan Development. LAB

What we are learning this term:

N. What are life events?
O. How do people deal with life events?
P. How is dealing with life events supported?

N.	What are life events?
Life Events	Life events are expected or unexpected events that can affect development. Examples include starting nursery, getting married or becoming ill.
Expected Life Events	Expected life events are life events that are likely to happen. Examples include starting primary school aged four and secondary school aged 11.
Unexpected Life Events	Unexpected life events are events which are not predictable or likely to happen. Examples could include divorce and bereavement (the death of a loved one).
Physical Events	Physical events are events that make changes to your body, physical health and mobility. Examples include illnesses such as diabetes and injuries and accidents such as car accidents.
Relationship Changes	Relationship changes could be new relationships such as the birth of a sibling, a new friendship or romantic relationship. Relationship changes can also be changes to existing relationships such as divorce.
Life Circumstances	Life circumstances are different situations that arise in our life that we must deal with. Examples include redundancy (losing a job), moving house or retirement (finishing work in later adulthood).

O.	How do people deal with life events?
Individual	• The effects of life events vary from person to person based on how they deal with their new situation. • Some people react to able to react to life events positively, others find it more difficult due to a range of factors.
Factors	• Factors that may affect how people cope with life events: age, other life events happening at the same time, the support they have, their disposition (their mood, attitude and general nature), their self-esteem, their resilience (how quickly they recover).
Adapting	• Adapt – to adjust to new conditions or circumstances. • Expected on unexpected life events can often force people to make changes to their lives. Individuals must find their own way to adapt to the changes that life throws at them.
Resilience	• Resilience – a person's ability to come to terms with, and adapt to, events that happen in life. • Resilience is stronger in people who have a positive outlook on life, accept that change happens, has supportive family and friends and plans for expected life events.
Time	• Sometimes people need a long time to adapt to unexpected life events. • It can take time for people to move on from and accept difficult changes in their life.

P.	How is dealing with life events supported?
Types of Support	**How this helps individuals deal with life events**
Emotional Support	Emotional support is needed to help individuals deal with all life events – expected and unexpected. Having someone to talk to helps people feel secure and adapt to change. Sometimes individuals can find this support in family and friends or professionals to process difficult life events – such as bereavement.
Information and Advice	Life events, particularly unexpected ones, can cause people to feel like they do not know what to do. Information and advice can help people to have a better understanding of their situation, which allows them to deal with it more successfully. Information and advice help them know where to go for help, the choices than are available to them and how to make healthy choices.
Practical Help	• Financial help – an individual may need money to help them adapt to a life change i.e. money to pay for a stair lift if their mobility has been affected. • Childcare – an individual may need support looking after their children i.e. a lone parent after a divorce that needs to go to work. • Transport – an individual may need support with transport if they have mobility problems i.e. a car could be adapted to support a person who has had an accident and can no longer walk.
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.
Professional 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.

Year 10 BTEC Health and Social Care- Component 1: Human Lifespan Development. LAB

What we are learning this term:
N. What are life events?
O. How do people deal with life events?
P. How is dealing with life events supported?

N.	What are life events?
Life Events	
Expected Life Events	
Unexpected Life Events	
Physical Events	
Relationship Changes	
Life Circumstances	

O.	How do people deal with life events?
Individual	
Factors	
Adapting	
Resilience	
Time	

P.	How is dealing with life events supported?
Types of Support	**How this helps individuals deal with life events**
Emotional Support	
Information and Advice	
Practical Help	
Informal Support	
Professional Support	
Voluntary Support	

BUILDING BRICKS: Exploring the Elements of Music and the Functions of a Keyboard

Why? – To excel in listening, analysis, composition & performance

M A D T S H I R T T

A. MELODY

Melody is a succession of pitches in rhythm. The melody is usually the most memorable aspect of a song, the one the listener remembers and is able to perform.

KEYWORD	MEANING
Pitch	How high or low a sound is
Octave	A series of 8 notes e.g., C-C, D-D
Pentatonic	A musical scale with 5 notes
Range	The distance between the lowest and highest pitched note in a melody
Motif	A repeated theme that is memorable
Hook/Riff	A very catchy melodic phrase
Imitation	Repeated melody in a different instrument or voice

B. ARTICULATION

Articulation refers to the way that notes should be performed. There are many types of articulation, with each having a different effect on how the note is played.

KEYWORD	MEANING
Staccato	Short and detached notes
Legato	Smooth and slurred notes
Accent	Emphasis placed on a particular note/beat
Pizzicato	Plucked strings
Arco	Bowed strings
Col Legno	Hitting strings with the wood of the bow
Glissando	Sweeping notes (think of the harp)
Vibrato	Subtly vibrating the sound by alternating the pitch between two notes

C. DYNAMICS

The dynamics of a piece is the variation in loudness between notes or phrases. Musicians use a variety of dynamics to add excitement and emotion to songs.

KEYWORD	MEANING	SYMBOL
Pianissimo	Very quiet	*pp*
Mezzo Piano	Moderately quiet	*mp*
Piano	Quiet	*p*
Mezzo Forte	Moderately loud	*mf*
Forte	Loud	*f*
Fortissimo	Very loud	*ff*
Crescendo	Gradually louder	
Diminuendo	Gradually quieter	

D. TEXTURE

Texture describes how layers of sound within a piece of music interact. Texture is determined by how many instruments are playing and how many different parts there are.

KEYWORD	MEANING
Unison	All playing or singing the same note
Thick/Thin	Number of layers of instruments/voices
Monophonic	A single line of musical notes
Homophonic	Moving together in chordal fashion
Polyphonic	Multiple layers, weaving melodic lines
Tutti	Meaning 'everyone' or 'all together'
Call & Response	Like question and answer – two parts having a musical conversation
Countermelody	A tune that complements the main melody

E. STRUCTURE

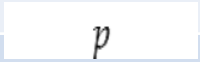
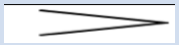
Structure is the order that different parts of the song are played in. The basic structure of a song can include an intro, verse, pre-chorus, chorus, and bridge.

KEYWORD	MEANING
Binary	Two main sections, AB
Ternary	Three distinct sections, ABA
Rondo	Initial section that recurs, ABACADA
Theme & Variations	A melody is stated and is then repeated several times with changes
Verse	Tells the main story of a song
Chorus	A catchy part that is repeated in a song
Bridge	A contrasting section that prepares the listener for the return of the chorus

F. HARMONY

Harmony is the blending of simultaneous sounds of different pitch. A harmony differs from a melody in the way that it stacks multiple notes on top of one another to create a sound.

KEYWORD	MEANING
Chord	Three or more notes played together
Triad	Three notes: root, third, fifth
Arpeggio	Broken chord: notes are sounded individually
Perfect Cadence	Two chords at the end of a passage that sound as though the music has come to an end
Imperfect Cadence	Two chords at the end of a passage that make the music sound unfinished
Modulation	The change from one tonality to another
Dissonance	Two or more clashing notes

Question	Answer	Question	Answer
Identify this musical symbol		What is a **Motif**?	
What does this symbol mean? 		What does **pizzicato** mean?	
What does **Homophonic** mean? 		What does **Fortissimo** mean?	
How many sections are there in a **Binary form** piece of music?	**1 2 3 4**	Draw the symbol for **Fortissimo**	
What sections are in a **Ternary** Form piece of music?	**AB ABA ABACA**	Identify this musical symbol 	
Identify this musical symbol 		What does the above symbol mean?	
What does this symbol mean? 		Put these dynamic markings in order from quietest to loudest: **p ff f mp pp mf**	
What is the definition for a **hook/riff**?		What is an **accent**? The symbol is >	
How many beats is this note worth?		What's the musical term for notes that are played **short and detatched**?	
What is the musical term for notes that are played **smooth and slurred**?		What does **Pentatonic** mean?	
What is an **Octave**?		What **texture** has multiple layers and weaving melodic lines?	

G. INSTRUMENTS

KEYWORD	MEANING
Strings	Violin, Viola, Cello, Double Bass, Harp
Brass	Trumpet, French Horn, Trombone, Tuba
Woodwind	Piccolo, Flute, Clarinet, Oboe, Bassoon
Percussion	Timpani, Xylophone, Glockenspiel, Maracas
Soprano	Highest female singing voice
Alto	A lower female singing voice
Tenor	Standard male singing voice
Bass	Low male singing voice

H. RHYTHM

Rhythm involves time—the duration of musical sounds. Rhythm can exist without melody, as in the drumbeats of music, but melody cannot exist without rhythm.

KEYWORD	MEANING	SYMBOL
Semiquaver	¼ beat	
Quaver	½ beat	
Pair of Quavers	1 beat	
Crotchet	1 beat	
Minim	2 beats	
Dotted Minim	3 beats	
Semibreve	4 beats	
Breve	8 beats	

I. TIMBRE

Timbre refers to the quality of a sound made by a particular voice or musical instrument. It is what makes a musical note sound different from another one.

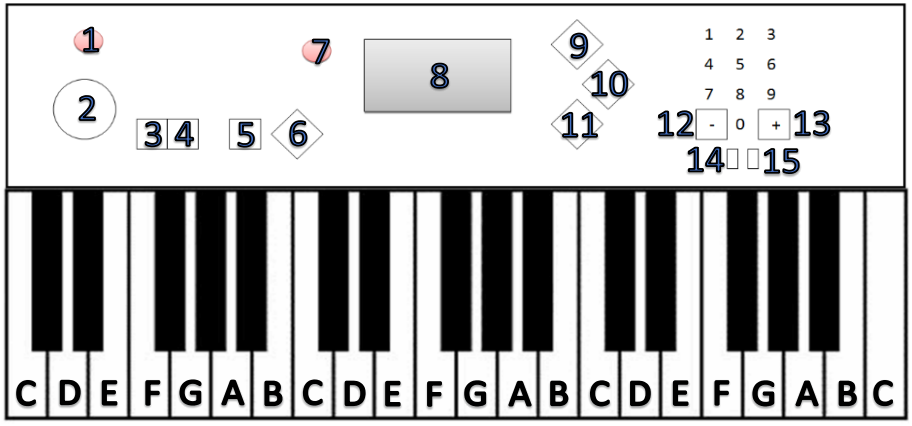
ADJECTIVE	INSTRUMENT	ADJECTIVE	INSTRUMENT
Sweet	Flute	**Hollow**	Xylophone
Nasal	Oboe	**Booming**	Bass Drum
Tinkly	Glockenspiel	**Muted**	French Horn
Pounding	Timpani	**Dull**	Viola
Brassy	Trumpet	**Breathy**	Saxophone
Mellow	Clarinet	**Shrill**	Piccolo
Rich	Cello	**Pure**	Violin
Crashing	Cymbals	**Rattly**	Maracas
Dark	Double Bass	**Reedy**	Bassoon

J. TEMPO

Tempo means the speed at which a piece of music should be played. As with many other musical terms, Italian words are used to describe different tempos of music.

KEYWORD	MEANING	SYMBOL
Presto	Very fast	*168-200bpm*
Allegro	Fast	*120-168bpm*
Moderato	Moderate	*108-120bpm*
Andante	Walking pace	*76-108bpm*
Adagio	Slow	*66-76bpm*
Largo	Very slow	*40-66bpm*
Accelerando	Gradually faster	accel.
Rallentando	Gradually slower	rall.

K. LAYOUT AND FUNCTIONS OF A KEYBOARD



1. **Power Button (on/off)**
2. **Volume**
3. **Accompaniment**
4. **Intro/Ending**
5. **Sync. Start**
6. **Start/Stop Button**
7. **Tempo Button**
8. **Screen**
9. **Song**
10. **Voice**
11. **Style**
12. **Go left on options**
13. **Go right on options**
14. **Dual**

L. DRILL TERMS

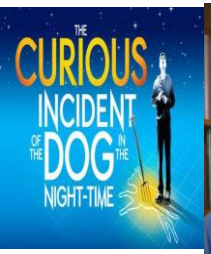
KEYWORD	MEANING
Treble Clef	Also known as the G Clef as it starts on the G line
Bass Clef	Also known as the F Clef as it starts on the F line
Stave	5 lines, 4 spaces that music notes are written on

KEYWORD	MEANING
Quaver	A note that lasts for ½ beat
Crotchet	A note that lasts for 1 beat
Minim	A note that lasts for 2 beats

KEYWORD	MEANING
Dotted Minim	A note that lasts for 3 beats
Semibreve	A note that lasts for 4 beats
Sharp/Flat	Higher/Lower by 1 semitone

Question	Answer	Question	Answer
How many **Semi-quavers** are in a **Crochet**?		What **Instrument** has a **Dark Timbre**?	
What does **Accelerando** mean?		What is the definition of **Allegro?**	
Give the names of **4 Brass instruments**…		How many **Quavers** are in a **Minim**?	
How many **Beats** is this note? 		What does **Alto** mean?	
What is the name the note? 		What **Clef** is also know as the **F Clef**?	
What does the word **Presto** mean?		Identify this musical symbol 	
List **3 instruments** found in the **Brass** section of an orchestra		How many **beats** is this symbol? 	
Solve this problem: 		List **3 instruments** found in the **Woodwind** section of an orchestra	
What **note** lasts for **4 beats**?		What musical term is used for the **highest female singing voice**?	
What does **Sharp**/**Flat** mean?		What **Timbre** does the **Violin** have?	
What does the key word **Andante** mean?		List **3 instruments** that can be found in the string section	

YEAR 10 BTEC DRAMA KNOWELDGE ORAGNISER – COMPONENT ONE







FRANTIC ASSEMBLY

In this component, you will develop your understanding of drama by examining the work of the practitioners: Willy Russel, Frantic Assembly, John Godber and Stephen Haddon. The practitioners cover the genres: Epic Theatre, Comedy and physical visual storytelling. You will explore the processes used to create performance by working through the processes yourselves. At the same time you will research the job roles and responsibilities within the industry that enable shows to happen.

You will experience a range of work across the discipline of drama by viewing recorded and/or live work. We will aim to go to live shows in Bristol, London and the surrounding area in order to absorb as many different styles as possible.
While this is primarily a theoretical study of the performing arts practical investigations, students will be working at developing practical skills through workshops and links with Component 2 Developing Skills and Techniques in the Performing Arts, to engage in primary exploration of specific repertoire.

What we are learning this term:

A. Understanding professional works
B. What is a professional work
C. What is a practitioner
D. How do we analyse a performance
E. What are physical skills
F. What are interpretive skills
G. Three different performance styles / genres

G.	Key learning aims from Component 1
Learning aim A: Examine professional practitioners' performance work	**A1: Professional practitioners' performance material, influences, creative outcomes and purpose** Examine live and recorded performances in order to develop understanding of practitioners' work with reference to influences, outcomes and purpose. Focus on thematic interpretation of particular issues and how artists communicate their ideas to an audience. How do the different roles and responsibilities in theatre collaborate to produce shows?
Learning aim B: Explore the interrelationships between constituent features of existing performance material	Processes used in performance ●Responding to stimuli to generate ideas for performance material. ●Exploring and developing ideas to develop material. ●Discussion with performers. ●Setting tasks for performers. ●Sharing ideas and intentions. ●Providing notes and/or feedback on improvements.

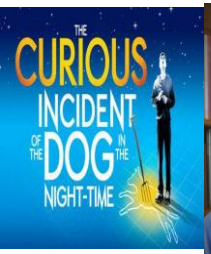
E.	Keywords
Practitioners	A professional theatre maker who creates in a specific style led by a specific theatre ideology.
Performance material	The practical work that a practitioner creates for performance.
Creative Intentions	The ideas behind the choreography, why the choreographer choose to create the work.
Review	Look over your current work and the work of others and be able to review and comment on your own and others practice
Analyse/ Evaluate	Watch and then analyse your own performance and the work of others and giving comments and judgements on what you see
Influences	How the practitioner has been influenced by others, their experiences, their training and how this has affected the work they create.
Physical skills	The physical attributes that an actor uses, stamina, strength, flexibility, control, to dance with technical accuracy.

C.	Key question from Assessment objectives	
	1. What are physical skills 2. What are interpretive skills 3. How do we use these skills practically? 4. How do we IMPROVE on these skills?	1. What is a professional work 2. What is a practitioner 3. How do we analyse a performance 4. What are a practitioner's creative intentions



A.	Key question – What is the artistic purpose of a performance work?
	When watching a professional performance, the key questions you need to think about are the following… How do we Explore artistic purpose? Explore artistic purpose (across all three disciplines/styles) including: to educate to inform to entertain to provoke to challenge viewpoints to raise awareness to celebrate.

YEAR 10 BTEC DRAMA KNOWELDGE ORAGNISER – COMPONENT ONE







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E.	Keywords
Practitioners	
Performance material	
Creative Intentions	
Review	
Analyse/ Evaluate	
Influences	
Physical skills	

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Explore artistic purpose (across all three disciplines/styles) including:
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to inform
to entertain
to provoke
to challenge viewpoints
to raise awareness
to celebrate.

SWINDON ACADEMY READING CANON

Year 7


War Horse


A Monster Calls

Number the Stars


Chinese Cinderella


Sir Gawain and the Green Knight


Adventures of a Young Naturalist


The Pearl


The Hunger Games

The Canterbury Tales

Year 8


The Dark Lady


The Diary of a Young Girl


The Amazing Maurice


Salt to the Sea


Witch Child


Trash


Ghost Boys


The Bone Sparrow


The Giver

Year 9


Skin


I am Malala


Noughts and Crosses


Liccle Bit


Fahrenheit 451


The Black Flamingo


One


Simon vs the Homo Sapiens Agenda


Long Way Down


Northern Lights


The Boy Who Steals Houses


The Woman in Black


The Book Thief

Year 10


The Underground Railroad


The Curious Incident of the Dog in the Night-Time


The Hate U Give


Rani and Sukh


Pigeon English


The Boxer


1984


Orangeboy


The Outsiders

The Art of Being Normal

A Selection of Short Stories

To Kill a Mockingbird

#ReadingisPower