100% book - Year 10 Mainstream
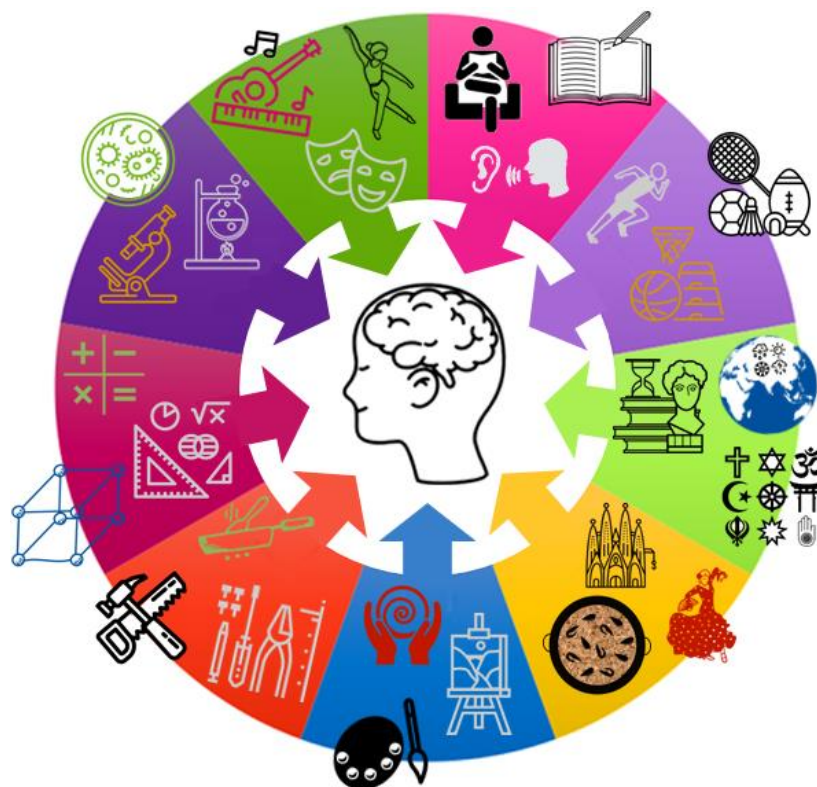
Aim to memorise 100% of the knowledge on these Knowledge Organisers.

Term 2

Swindon Academy 2024-25	
Name:	
Tutor Group:	
Tutor & Room:	

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

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

Knowledge Organisers	Quizzable 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. | 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. |

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.

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!

How do I complete Knowledge Organiser Prep?

Step 1	Step 2	Step 3
Check Epraise and identify what words /definitions/facts you have been asked to learn. Find the Knowledge Organiser you need to use.	Write today's date and the title from your Knowledge Organiser in your Prep Book.	Write out the keywords/definitions/facts from your Knowledge Organiser in FULL.

Step 4	Step 5	Step 6
Read the keywords/definitions/facts out loud to yourself again and again and write the keywords/definitions/facts at least 3 times.	Open your quizzable Knowledge Organiser. Write the missing words from your quizzable Knowledge organiser in your prep book.	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. 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 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:	Biography of Dickens
Dates:	•
Genre:	•
Era:	
Set:	•
Structure:	
	•

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	

B2 – Organisation

Levels of Organisation

Cells = basic building blocks of all living organisms.
A tissue = group of cells with a similar structure and function.
Organs = aggregations of tissues performing specific functions.
Organs systems = organs organised to form organisms.

specialised cell → tissue → organ → system → organism

muscle cell → muscle tissue → heart → circulatory system → circulatory system makes up part of the human body
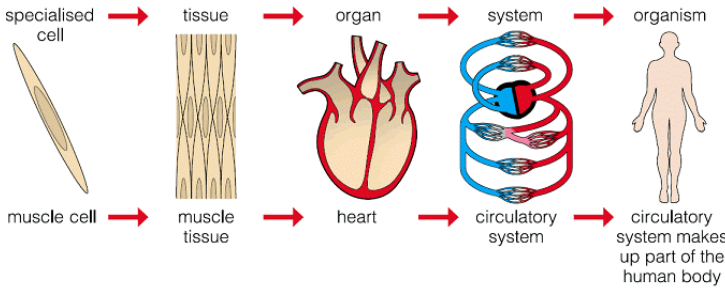
Enzymes

- Biological catalysts
- Digestive enzymes speed up the break down of insoluble food molecules
- Specific shape active site that matches substrate

Substrate   Products
Active site

Enzymes work best at certain temperatures or pH depending on their role.

Bile

The liver makes an **alkaline** solution called bile. Stored by the gall bladder.
Has two jobs:
- Emulsifies fats
- Neutralises stomach acid.

Digestive Enzymes

Starch $\xrightarrow{\text{amylase}}$ Glucose

Protein $\xrightarrow{\text{protease}}$ Amino Acids

Fats $\xrightarrow{\text{lipase}}$ Fatty acids + Glycerol

Digestive System

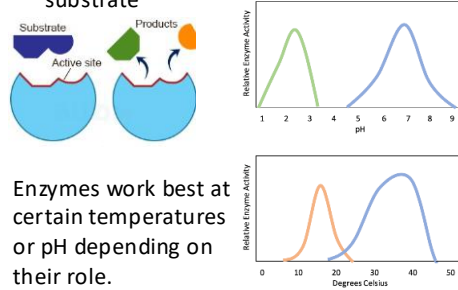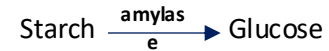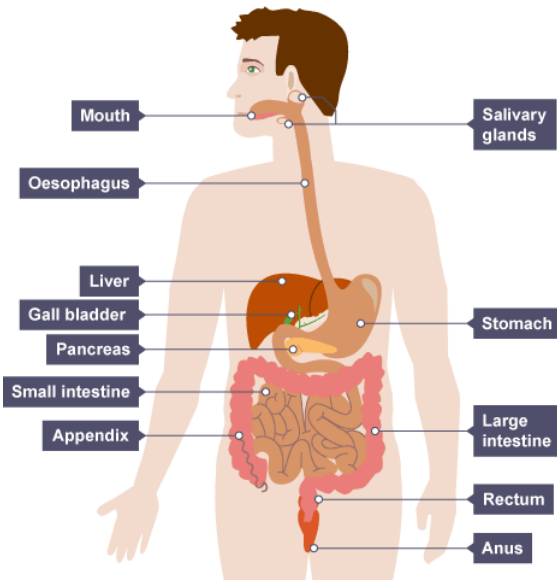| Organ	Function
Mouth	Teeth and tongue to chew food.
Salivary Glands	Releases saliva containing enzymes.
Oesophagus	Muscle tube to squeeze food along.
Stomach	Contains enzymes and hydrochloric acid. Is made of muscle to churn food. Hydrochloric acid kills bacteria in food
Small Intestine	Where digestion is completed and soluble food particles (glucose, amino acids, fatty acids, glycerol). are absorbed
Large Intestine	Absorbs water.
Liver	Produces bile.
Gall Bladder	Stores bile.
Pancreas	Releases enzymes.

Mouth
Oesophagus
Liver
Gall bladder
Pancreas
Small intestine
Appendix
Salivary glands
Stomach
Large intestine
Rectum
Anus

Where are the enzymes?

Enzyme	Salivary glands	Stomach	Pancreas	Small intestine
Amylase	x		x	x
Protease		x	x	x
Lipase			x	x

RP3 – Food Tests

Summaries of the four food tests.

Protein Add Biuret's reagent Positive test; Blue solution turns **Purple**	**Starch** Add Iodine Positive test; solution turns from orange to **Black**
Fats Add Ethanol and water Positive test – solution turns **Cloudy**	**Glucose** Add Benedict's and heat Positive test blue solution turns **Brick red**

Water Bath

B2 – Organisation

1. What is an organ system?

2. What are group of cells with a similar structure and function?

3. Give an example of an organ.

4. Put these into order, starting with the smallest:
   tissue   cell   organ system   organ

---

1. What is an enzyme?

2. What is the name of the part of the enzyme that the substrate fits into?

3. Give two factors that affect how enzymes work

---

1. Where is bile made?

2. Where is bile stored?

3. What are the two jobs of bile?

---

1. Which enzyme breaks down starch?

2. What are the products of fat digestion?

3. What are proteins made of?

---

1. Where are the salivary glands found?

2. What is the job of the oesophagus?

3. What is the job of the pancreas (in digestion)?

4. What is the job of the small intestine?

5. What is the function of the hydrochloric acid in the stomach?

---

1. Where is lipase released from?

2. Which enzyme is released in the stomach?

3. Which enzyme is found in the mouth?

---

1. Which two chemicals are added to test for fats?

2. What is the colour change when Biuret is added to a food containing protein?

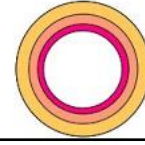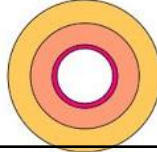3. Which test needs to be placed in a water bath?

B2 – Organisation

The effect of pH on the rate of reaction of amylase

1. Add 2cm^2 amylase solution, 2cm^2 of starch solution and 2cm^2 of pH2 buffer to a water bath (37°) in separate test tubes. Wait 10 minutes.
2. While waiting, add 2 drops of iodine solution to each well on the spotting tile.
3. Once the solutions in the water bath have reached 37° pour the amylase and PH2 buffer into the starch solution.
4. Immediately take a sample with a pipette and add to the first well of the spotting tile.
5. Repeat step 4 every 30 seconds until there is no colour change when testing with iodine solution.
6. Repeat steps 1-5 with pH4, pH6, pH8 and pH10 buffers.

Blood Vessels

Arteries	Capillaries	Veins
• Blood carried away from heart • Thick muscular and elastic walls = withstands high pressure • Small lumen = maintains high pressure	• Walls only one cells thick = shorter diffusion pathway • Lumen just bigger than red blood cell • Blood flows very slowly • Diffusion takes place here	• Blood carried back to heart • Thin walls as blood is low pressure • Large lumen – lower resistance for blood passing through • Valves prevent back flow

Respiratory System

The lungs have two jobs – to get oxygen into the blood and remove carbon dioxide

trachea

bronchi
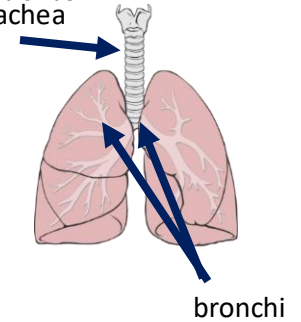
Structures that cannot been seen on this diagram are the **alveoli and capillary network** – see 'unit 1 - diffusion'.

The Human Heart

Double pump because - left side pumps to whole body, right side pumps to the lungs.

R

Pulmonary Artery
(to the lungs)

Aorta
(to the body)

L

Vena Cava
(from the body)

Pulmonary Vein
(from the lungs)

Right Atrium
(contains pacemaker cells that control heart rate)

Left Atrium

Right Ventricle

Left Ventricle
(thicker wall on left)
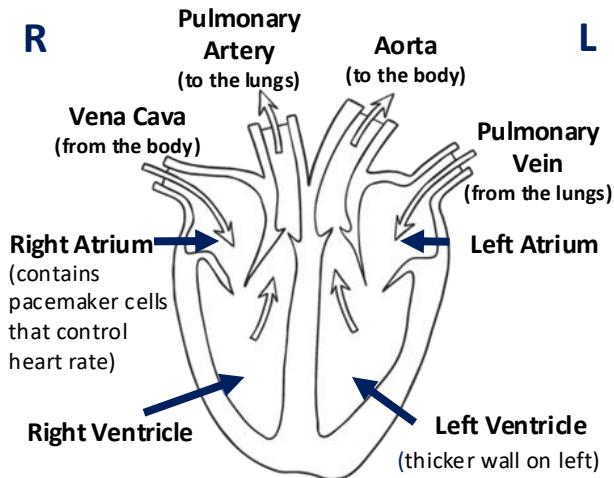
Blood – 4 components

Red blood cells – contain haemoglobin to carry oxygen. More detail…

White blood cells – fight pathogens (see unit 3 – infection and response).

Platelets – cell fragments that clot blood.

Plasma – liquid part that transports cells, cell fragments and dissolved substances (salts, urea, CO_2, hormones…)

Platelets

Red blood cells

White blood cells

Plasma

plasma

WBCs & platelets
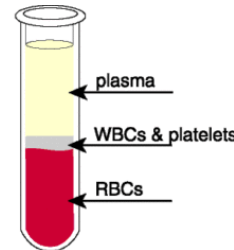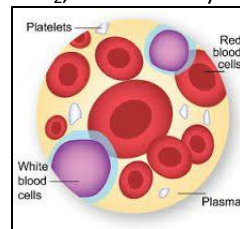
RBCs

Red Blood Cells (RBCs)

- Contain chemical 'haemoglobin'.
- This reacts/ binds with oxygen to be carried around the body.
- RBCs are ~8μm (relative small animal cell) allows them to fit through capillaries
- Bi-concave disc shape for large SA:V

Coronary Heart Disease (CHD)
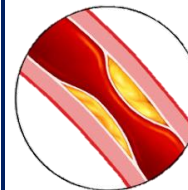
- Coronary arteries supply heart muscle with blood (containing glucose and oxygen for respiration)
- Can become narrowed/blocked by fatty deposits if cholesterol high, reducing blood flow.
- Reduced muscle contraction in heart

B2 – Organisation

The effect of pH on the rate of reaction of amylase

1. What temperature should the water bath be set at for the affect of pH on amylase practical?

2. What is the name of the chemical used to test for the presence of starch?

3. What is the independent variable in the investigation?

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1. Which blood vessels contain valves?

2. Which vessels carry blood under very high pressure?

3. In which blood vessels does diffusion take place?

4. Which blood vessels have thick muscular walls?

5. Which vessels have a wide lumen?

---

1. What is the name of the tube that connects the throat to the lungs?

2. What is the name of the tubes that enter each lung?

3. What are the two jobs of the lungs?

---

1. Which blood vessel returns blood to the heart from the lungs?

2. Which blood vessel carries blood away from the heart towards the body?

3. Which ventricle wall is thicker?

4. Where are pacemaker cells found?

5. Why is the heart knowns as a double pump?

---

1. Name the two types of cells in blood.

2. What are platelets?

3. What do platelets do?

4. Name 3 substances plasma might have dissolved in it?

---

1. What chemical is found inside red blood cells?
2. What is the 3D shape of RBCs called? What is the advantage of this shape?

---

1. What do coronary arteries do?

2. What can block coronary arteries?

3. What will happen to the heart if they become blocked?

B2 – Organisation

Heart Disease Treatment – Statins vs Stents

Statins	Stents
• Medication to be taken everyday • Lowers blood cholesterol • Does not work immediately	• Mesh tube to be inserted into artery to hold it open • Surgery required • Works immediately

Faulty Valves

- Valves in veins and the heart prevent backflow of blood
- Faulty valves = don't open or close fully
- Can be replaced with man-made valves or transplants from donors

faulty

healthy
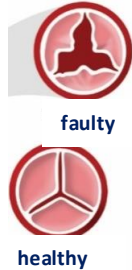
Cancer

Uncontrolled cell growth
Benign tumours = abnormal cells, contained in one area, in a membrane, do not invade other parts of body.
Malignant tumours = cancer cells, not in a capsule, invade neighbouring tissue, and spread into blood and form secondary tumours.

Risk Factors

Lifestyle factors can have be risk factors for certain diseases. E.g. obesity is a risk factor for type 2 diabetes, or drinking and smoking while pregnant affects the development of the foetus.

Leaf Structure
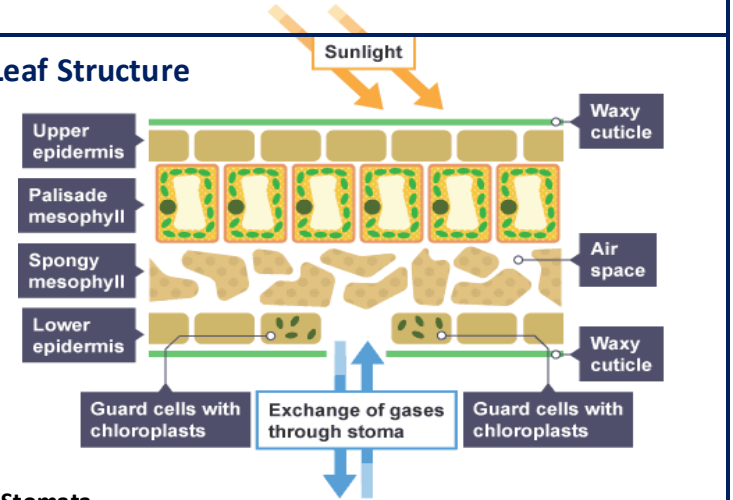
Stomata
Tiny pores on the underside of the leaf.
Allow oxygen and CO_2 to diffuse in and out
Guard cells surround the stomata and can open and close the pore
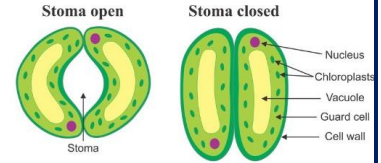
Interaction of Diseases

- Defects in the immune system - individual is more likely to suffer from infectious diseases.
- Viruses can trigger cancers, e.g. HPV can trigger cervical cancer.
- Immune reactions caused by pathogens can trigger allergies such as asthma or rashes
- Severe physical ill health can lead to depression and other mental illness.

Transpiration

Movement of water through plant from roots to leaves, driven by evaporation through the stomata
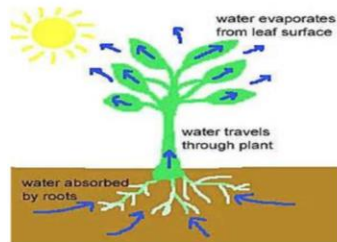
Measuring transpiration
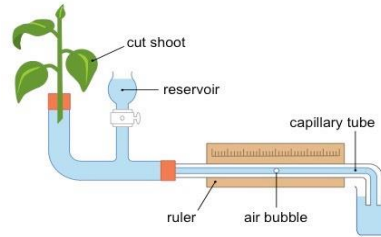
Record the distance the bubble of air moves along the scale during set amount of time to calculate volume of water uptake per minute.

Transpiration	Translocation
Movement of water from roots to leaves	Movement of dissolved sugars from leaves all round the plant
Xylem - hollow tubes strengthened by lignin.	Phloem – tubes of elongated cells.
One way system – roots to leaves.	Two way system – sugars taken to wherever they are needed.

Increasing the rate of transpiration
- Higher temperature
- Lower humidity
- Higher light intensity
- Higher air movement

B2 – Organisation

1. How do stents treat CHD?

2. How do statins treat CHD?

3. Give an advantage of using stents rather than statins to treat CHD

1. What is the job of a valve?

2. How can faulty valves be treated?

---

1. What is a benign tumour?

2. Why do benign tumours not spread?

3. How can malignant tumours spread?

4. Name a disease linked with obesity

---

1. What are the cells called that surround the stomata?

2. What is the job of the stomata?

3. What the top layer of a leaf called?

4. Which tissue in a leaf has air spaces?

5. Which layer in the leaf contains cells with lots of chloroplasts?

---

1. Give and example of when cancer can be triggered by a virus.

2. Give an example of an immune reaction that can be triggered by a pathogen

---

1. What is transpiration?

2. What is translocation?

3. Which tissue carries out translocation?

4. Name 2 conditions that affect the rate of transpiration.

5. Describe how to investigate the rate of transpiration.

P2 Mainstream Electricity   Vocabulary: Potential difference,   Thermister

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)
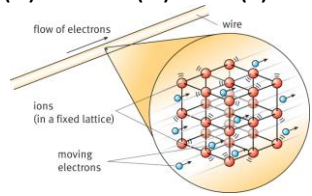
Ohms Law

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)

Resistance wire

1 metre ruler
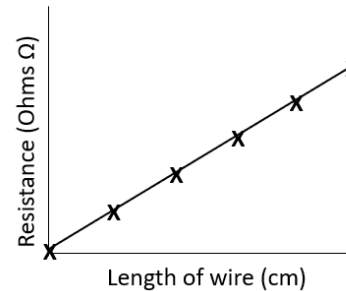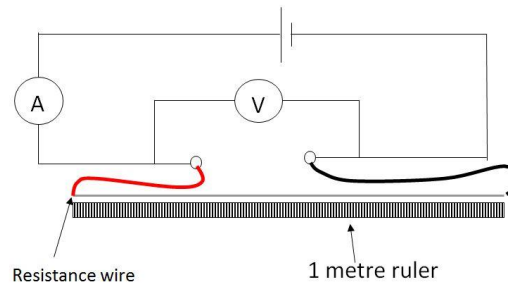
The relationship is directly proportional

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.
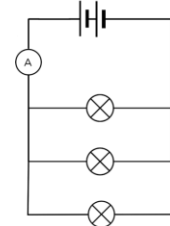
In a parallel circuit:

- 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 Mainstream 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 Mainstream Electricity

Components

switch (open)

switch (closed)

cell

battery

diode

variable resistor

LED

lamp

fuse

voltmeter

ammeter

thermistor

LDR
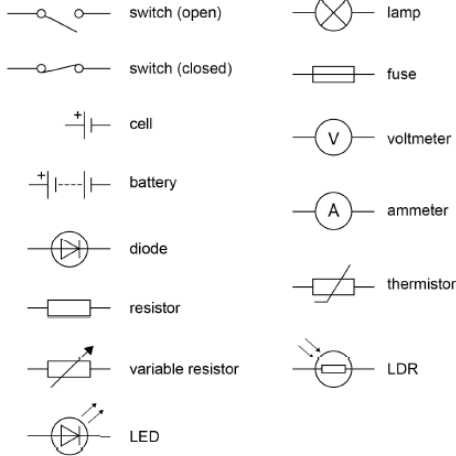
- A **diode** only allows current to flow one way in a circuit
- A **resistor** is a component that provides a fixed resistance in the circuit – e.g a 5 Ω resistor
- A **variable resistor** is a component whose resistance can be changed (e.g a dimmer switch)
- A **thermistor** is a resistor whose resistance 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

LDR
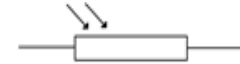
A light dependent resistor has varying resistance.
As the light intensity increases, the resistance decreases
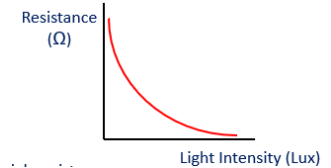
LDRs can be used to switch on lights at night time.
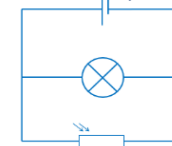
In this circuit, when it is day time, the resistance in the LDR is low, so all current flows through the LDR.

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.

Current, potential difference and resistance for different components
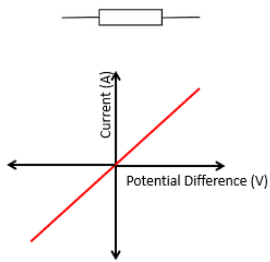
A fixed (ohmic) resistor has fixed resistance
current is directly proportional to potential difference
Resistance remains constant (at constant temp)
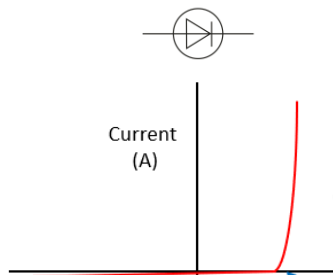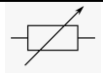
A diode very high resistance in one direction.
Only when the potential difference is positive does current flow
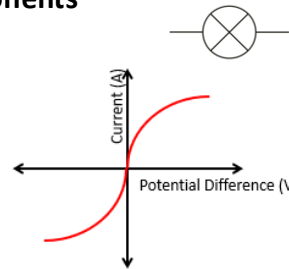
A filament bulb contains a thin wire that glows as current flows.
As the pd increases, the current initially increases.
However, at higher pd, the wire gets hot
The ions in the wire move faster and collide with the moving charges
Resistance increases, so current stops increasing

P2 Mainstream Electricity

Components

Symbol	Name
	Cell
	fuse
A	
	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?

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)
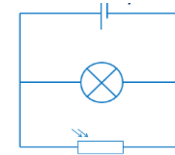
4. Why does the light switch on when it goes dark?

5. Draw the symbol for a thermistor

6. Describe the relationship between temperature and resistance in a thermistor

Current, potential difference and resistance for different components

1. What readings would you need to take from a circuit to calculate resistance?
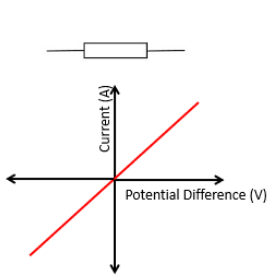
2. Describe the relationship shown
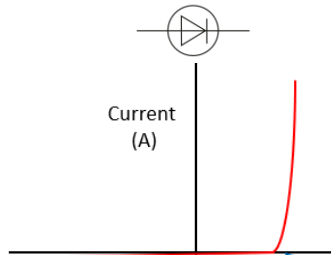
3. Why is there no current on one side of the graph?
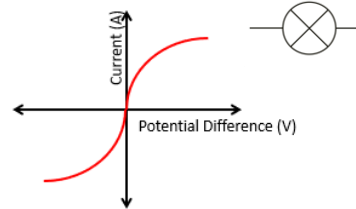
4. What happens to current when the pd rises at first ?

5. What happens to the current as the pd gets higher?

6. Why does the resistance increase at higher pd?

P2 Mainstream 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**
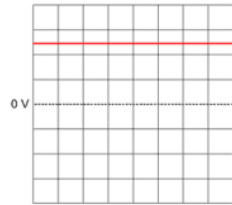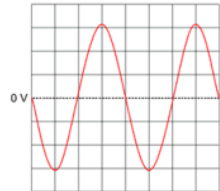
DC
A direct pd produces current that flows in one direction
Batteries supply DC

Earth wire — Live wire
Neutral wire — Fuse
Outer insulation — Cable grip
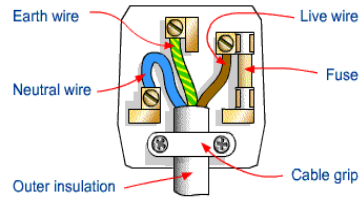
Electrical appliances are connected using 3 core cable
- Brown – live wire, with pd of 230V
- Blue – neutral, 0V, completes the circuit
- Yellow and green – Earth wire, is at 0V unless there is a fault, when it will become live

The National Grid

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

132 kV or more
25 kV
230 V
Power station — Step-up transformer — Step-down transformer — Underground mains cable
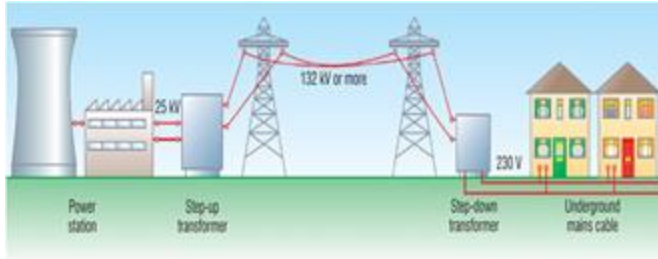
The National Grid uses very high pd and low current.
High current causes heating in the wires and would result in large energy losses.
Step up transformers increase the pd from the power station (to around 400000V) so that low current can be used to transmit power.
This means the wires don't get hot, 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 Mainstream 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?

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.

1. Global pattern of urban change

The world's population is growing rapidly; currently 50% of us live in urban areas.

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	

12. An example of an urban regeneration project

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Temple Quarter, Bristol			

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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 18th and 19th Century Britain

What we are learning this term:

3.1 Ideas about the cause of disease and illness
3.2 Approaches to treatment and prevention
3.3 Key Individuals and fighting cholera in London, 1854

A.	Can you define these key words?
microbes	Any living organism that is too small to see without a microscope. Microbes include bacteria.
vaccination	Treatment with a vaccine to produce immunity against a disease
spontaneous generation	Claimed rotting matter created microbes.
bacteriology	The study of bacteria.
inoculate	Deliberately infecting yourself with a disease to avoid a more severe case later on.

C.	Fighting cholera in London , 1854 (3.3)
What is Cholera?	Cholera was a terrible water borne disease that spread quickly across England from 1831. There were lots of cases in slum dwellings.
Attempts to prevent it	Some steps were taken to clean up the filthiest areas of the city. Idea that it was caused by miasma was widespread, so local councils focused on cleaning up the mess in which they were living
John Snow	John Snow was surgeon who investigated the 1854 epidemic. He created a spot map to show the deaths and noticed they were concentrated around a water pump in Broad Street, SoHo. Clear the water pump was the source of the outbreak
Impact of Snows work	In the short-term Snow removed the handle from the Broad Street pump and the deaths in that area went away. Long-term Snow presented his work to the government arguing clean water needed to be supplied. Many rejected his work and clung to the idea of miasma causing cholera

B. Change and continuity in ideas about disease and illness in the 18th and 19th Century. (3.1-3.2)

Causes	Prevention	Treatments
Religion – People no longer believed that God was responsible for illnesses and world events	Vaccinations – the work of Edward Jenner in the 18th century led to the first vaccination being created for smallpox. This led the way to other vaccinations being produced	Continuance – despite the new ideas about the cause of disease and illness in the 18th century, treatments to remove germs took longer to find
Miasma – people still believed in the theory that disease and illness was caused by harmful fumes in the air. BUT it was becoming less popular	Public Health Act 1875 – in the 18th Century the government did not care much about public health.

This changed when more men could vote. The government realised changes were needed and passed the Public Health Act.

This Act stated that clean water, sewage system, public parks and street lighting had to be provided | Hospitals – Florence Nightingale helped to change hospitals and nursing.

Nightingale changed the way that hospitals were designed to having separate wards and more ventilation.

Also set up a training school for nurses to give better care |
| Spontaneous Generation – this theory stated that rotting matter caused bacteria to form, causing people to get ill | Role of the government – Took a more active role in preventing disease, making smallpox vaccinations compulsory | Anaesthetics – one of the big problems in the 18th and 19th centuries was pain during surgery.

Ether and laughing gas had been used but they were not good enough.

John Simpson discovered that chloroform could be used as a pain relief – this led to more complex surgeries being performed |
| Germ Theory – this correct theory put forward by Louis Pastuer was that germs caused matter to rot. He linked this to disease and illness, stating that germs caused people to get ill | | Antiseptics – another big problem with surgery was infections.

Joseph Lister built on Pasteur's work and discovered that carbolic acid could be used to prevent infections.

Used on wounds and Sterlised equipment, but some surgeons did not like the change |

D. Key People (3.3)

Edward Jenner	John Snow	Edwin Chadwick
Country doctor who realised that milkmaids who got cowpox did not catch smallpox – decided they must be connected. Tested his theory by infecting a local boy with cowpox and then tried to infect him with smallpox but he did not get ill.

Had successfully developed the first vaccine, which was supported by the government. | Used scientific methods to prove that cholera was a water borne disease in the 1850's.

Snow presented his findings to the government, recommending that the sewer systems were improved, which they were eventually. | Published his *Report on the Sanitary Conditions of the Labouring Classes* in 1842.

He spent time researching the poor in cities and discovered that people living in cities had a lower life expectancy than people living in the countryside. Asked for boards of health to be set up to make cities cleaner. |

GCSE History : Medicine in 18th and 19th Century Britain

What we are learning this term:

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3.2 Approaches to treatment and prevention
3.3 Key Individuals and fighting cholera in London, 1854

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C.	Fighting cholera in London , 1854 (3.3)
What is Cholera ?	Cholera was a terrible _____ disease that spread quickly across England from _____. There were lots of cases in _____ dwellings.
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John Snow	John Snow was _____ who investigated the 1854 epidemic. He created a _____ to show the deaths and noticed they were concentrated around a water pump in _____, SoHo. Clear the water pump was the source of the outbreak
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B. Change and continuity in ideas about disease and illness in the 18th and 19th Century. (3.1-3.2)

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Miasma – people still believed in the theory that _____ was caused by harmful fumes in the air. BUT it was becoming _____	Public Health Act 1875 – in the 18th Century the government did not care much about _____. This changed when more men could vote. The government realised changes were needed and passed the _____. This Act stated that clean _____, _____, public parks and street lighting had to be provided	Hospitals – _____ helped to change hospitals and nursing. Nightingale changed the way that hospitals were _____ to having separate wards and more _____. Also set up a _____ for nurses to give better care
Spontaneous Generation – this theory stated that _____ _____, causing people to get ill	Role of the government – Took a more _____ in preventing disease, making smallpox vaccinations _____	Anaesthetics – one of the big problems in the 18th and 19th centuries was _____ during surgery. Ether and laughing gas had been used but they were _____ John _____ discovered that chloroform could be used as a _____ – this led to more complex surgeries being performed
Germ Theory – this correct theory put forward by _____ was that germs caused matter to rot. He linked this to _____ and illness, stating that germs _____		Antiseptics – another big problem with surgery was _____ Joseph _____ built on Pasteur's work and discovered that _____ could be used to prevent infections. Used on wounds and Sterlised _____, but some surgeons did not like the change

D. Key People (3.3)

Edward Jenner	John Snow	Edwin Chadwick
Country doctor who realised that _____ who _____ did not catch smallpox – decided they must be connected. Tested his _____ by infecting a local boy with cowpox and then tried to infect him with smallpox but he _____. Had successfully developed the first _____, which was supported by the government.	Used _____ to prove that cholera was a _____ disease in the 1850's. Snow presented his findings to the _____, recommending that the sewer systems were _____, which they were eventually.	Published his Report on the Sanitary Conditions of the Labouring Classes in _____. He spent time researching the _____ and discovered that people living in cities had a _____ expectancy than people living in the countryside. Asked for boards of health to be set up to make cities _____.

Keywords

Keyword	Definition
Tawalla	Showing love for God and for those who follow Him
Tabarra	Disassociation with God's enemies
Khums	The obligation to pay one-fifth of acquired wealth
Lesser jihad	The physical struggle or holy war in defence of Islam
Greater jihad	The **daily** struggle and inner spiritual striving to live as a Muslim
Sunni	Muslims who believe in the successorship of Abu Bakr, Umar, Uthman and Ali as leaders after the Prophet Muhammad
Shi'a	Muslims who believe in the Imamah, leadership of Ali and his descendants
Niyyah	Intention during prayer - having the right intention to worship God
Du'a	A personal prayer that is done in addition to Salah e.g. asking Allah for help

What we are learning in this unit

A. The 5 Pillars and 10 Obligatory Acts
B. Salah
C. Sawm
D. Zakah
E. Hajj
F. Jihad
G. Id-ul-Adha
H. Id-ul-Fitr

A.	5 Pillars of Islam and 10 obligatory acts
What are the 5 pillars	• 5 key practices or duties for Muslims • Both Sunni and Shi'a keep these (Shi'a have them as part of the 10 obligations) • They are seen as pillars "holding up the religion" and are all of equal importance
What are the 10 obligatory acts	• There are 10 obligations for a Muslim according to the Shi'a branch of Islam. • These include prayer, fasting, almsgiving, pilgrimage, jihad, khums, directing others towards good, forbidding evil, tawalla and tabarra
Shahadah	• Shahadah is the first of the 5 pillars • It is the Muslim declaration of faith • *"there is no God but Allah, and Muhammad is His messenger"* • This is a statement that Muslims reject anything but Allah as their focus of belief • It also recognises that Muhammad has an important role and his life is an example to follow

	Jihad

Lesser Jihad	• Originated when Prophet Muhammad and early Muslims were being attacked and oppressed by the Meccans and had no choice but to engage
	• *"Fight in the way of God those who fight against you but do not transgress"*
	• Conditions for declaration
	  • self-defense
	  • proportionate
	  • legitimate authority
	  • no harm to civilians

Greater Jihad	• A struggle within oneself to follow the teachings of Islam and be a better person • e.g. perform the Five Pillars, follow Sunnah and avoid temptation • *"encourage what is right and forbid what is wrong"*

B.	The 5 Pillars - Salah
What is it?	• *"Salah is a prescribed duty that has to be performed at the given time by the Qur'an"* • *Muslims pray 5 times per day and this allows them to communicate with Allah.* • The prayers are done at dawn (fajr), afternoon • (zuhr), late afternoon (asr), dusk (maghrib) and night (isha) • Muslims face the holy city of Makkah when paying.
Wuzu	• The washing process to purify the mind and body for prayer • Muhammad said the key to Salah is cleanliness • Hands, arms, nose, mouth, head, neck and ears are cleaned as well as both feet up to the ankle.
Rak'ahs and recitations	• These are the movements that Muslims make during prayer • Takbir – raise hands to ears and say 'Allahu Akbar' • Qiyam – Standing, Muslims recite Surah • Then bow to the waist saying *"Glory be to my Great Lord and praise be to Him"* • Then sink to their knees saying *"Glory be to my Lord, The Most Supreme…".*
Salah at home	• Salah is a big part of family life • Meals and other activities are usually scheduled to fit around prayer times • Families pray all together and might have a room set aside for prayer
Salah in the mosque	• All mosques have a qiblah wall which is to show where to face Makkah • Men and women pray in separate rooms at the Mosque
Jummah	• Jummah is congregational prayer held on a Friday at the mosque where the imam leads the prayer • Praying together as a community develops the feeling of unity amongst Muslims • Men are obliged to attend unless they are sick or too old • Women do not have to go – they may pray at home instead
Differences between Sunni and Shi'a	• Shi;a Muslims combine some prayers so they may only pray 3x a day • Shi'a use natural elements e.g. clay where their head rests

Keywords

Tawalla	
Tabarra	
Khums	
Lesser jihad	
Greater jihad	
Sunni	
Shi'a	
Niyyah	
Du'a	

What we are learning in this unit

A. The 5 Pillars and 10 Obligatory Acts
B. Salah
C. Sawm
D. Zakah
E. Hajj
F. Jihad
G. Id-ul-Adha
H. Id-ul-Fitr

A.	5 Pillars of Islam and 10 obligatory acts
What are the 5 pillars	
What are the 10 obligatory acts	
Shahadah	

	Jihad
Lesser Jihad	
Greater Jihad	

B.	The 5 Pillars - Salah
What is it?	
Wuzu	
Rak'ahs and recitations	
Salah at home	
Salah in the mosque	
Jummah	
Differences between Sunni and Shi'a	

The 5 Pillars - Zakah

The role of giving alms	• **_Muslims believe it is their duty to ensure Allah's wealth has been distributed equally as everyone is the same_** • The Qur'an commands to give to those in need
The significance of giving alms	• Giving 2.5% of savings/wealth to charity • Wealth can cause greed which is evil, so Zakah purifies wealth – wealth is given by God and must be shared • The Prophet Muhammad practiced Zakah as a practice in Medina • Given to the poor, needy and travellers • **_Sadaqah_** is giving from the heart out of generosity and compassion
Khums	• Shi'a Islam – one of the 10 obligatory acts • 20% of any profit earned by Shi'a Muslims paid as a tax • Split between charities that support Islamic education and anyone who is in need • **_"know that whatever of a thing you acquire, a fifth of it is for Allah, for the Messenger, for the near relative, and the orphans, the needy, and the wayfarer"_**

The 5 Pillars - Sawm

The role of fasting	• Fasting during Ramadan (9th month in Muslim calendar) • Muslims give up food, drink, smoking and sexual activity in daylight hours • Pregnant people, children under 12, travellers and elderly people are exempt from fasting.
The significance of fasting	• Ramadan is believed to be the month that Prophet Muhammad began to receive revelations of the Qur'an • Helps Muslims to become spiritually stronger
Reasons for fasting	• Obeying God and exercising self-discipline • Develops empathy for the poor • Appreciation of God's gifts • Giving thanks for the Qur'an • Sharing fellowship and community with other Muslims
Night of power	• The night when the Angel Jibril first appeared to Muhammad and began revealing the Qur'an. • The most important event in history – **_"better than a thousand months" (Surah 97:3)_** • Laylat Al-Qadr is the holiest night of the year. Muslims try to stay awake for the whole night to pray and study for the Qur'an

The 5 Pillars - Hajj

The role of pilgrimage	• A pilgrimage to Makkah which is compulsory for Muslims to take at least once as long as they can afford it and are healthy
The significance of pilgrimage	• God told Ibrahim to take his wife and son on a journey and leave them without food or water • Hajira ran up and down two hills in search of water, could not find any and prayed to God. Then water sprung from the ground. This is the Zamzam well • When Ibrahim returned he was commanded to build the Ka'ba as a shrine dedicated to Allah • Hajj is performed in the month of Dhu'l-Hijja
Actions	• Ihram – dressing in two pieces of white cloth • Circling the Ka'aba 7 times (tawaf) • Drinking water from the Zamzam well like Hajar • walking between Al-Safa and Al-Marwa hills seven times • Throwing stones at 3 pillars (jamarat) to represent casting out the devil and remembering Ibrahim throwing stones at the devil to drive him away • Asking Allah for forgiveness at Mt Arafat • Collecting pebbles at Muzdalifah

Id-ul-Adha, Id-ul-Fitr, Ashura

Id-ul-Adha Not an official holiday in UK	• **_Festival of sacrifice_** • Marks the end of Hajj and is a chance for whole Ummah to celebrate • **_Origins_** – Ibrahim's commitment to God in being willing to sacrifice his son, Ishmael. God was testing Ibrahim • **_Key events_** – new clothes, sacrificing an animal, visiting the Mosque. • People ask a butcher to slaughter a sheep for them and share the meat with the community
Id-ul-Fitr Public holiday in Muslim majority countries, not UK	• **_Festival of fast-breaking_** • Marks the end of Ramadan • **_Key events_** – Decorate homes with colourful light and banners, dress in new clothes, gather in Mosques, give gifts and money, give to the poor • **_Zakah ul-Fitr_** – donation to the poor so that everyone can eat a generous meal at the end of Ramadan.
Ashura	• Sunni celebration – many fast on this day which was established by Prophet Muhammad • Shi'a mourning – Husayn was murdered and beheaded. Muslims remember his death and betrayal • **_Key events_** – public displays of grief, day of sorrow, wear black, re-enactments of martyrdom, not a public holiday in Britain but Muslims may have day off school

The 5 Pillars - Zakah

The role of giving alms	
The significance of giving alms	
Khums	

The 5 Pillars - Sawm

The role of fasting	
The significance of fasting	
Reasons for fasting	
Night of power	

The 5 Pillars - Hajj

The role of pilgrimage	
The significance of pilgrimage	
Actions	

Id-ul-Adha, Id-ul-Fitr, Ashura

Id-ul-Adha Not an official holiday in UK	
Id-ul-Fitr Public holiday in Muslim majority countries, not UK	
Ashura	

My Personal World

This is some of the vocabulary that you will learn / come across in **Term 2**. Use this knowledge organiser to revise / go over vocabulary. These words have been added in by the exam board (Edexcel) so the more you learn, the better your grade!

Techniques for learning vocab:

- Look / cover / write / check – ask your teacher for a sheet and to show you how.
- Mind maps
- Post it notes / flash cards
- Record yourself saying them
- Get a family member to quiz you – they say the English, you say the Spanish
- Write the word in a sentence – put it into context

Spare copies of this kept in class. Just ask your teacher if you need one.

¿A quién sigues? (pages 60–61):

¿A quién sigues en las redes sociales?	Who do you follow on social media?
Sigo ...	I follow ...
a artistas / cantantes latinos	artists / Latin singers
canales de cocina/*videojuegos	cooking/videogames channels
*vlogs de ...	... vlogs
*rutinas / estilo de vida / moda	routines / lifestyle / fashion
¿Desde hace cuánto tiempo?	For how long?
Desde hace ...	For ...
un mes/año	a month/year
meses / (mucho) tiempo	months / a long time
¿Por qué te gusta?	Why do you like it?
Me gusta porque ...	I like it because ...
aprendo mucho	I learn a lot
quiero aprender más	I want to learn more
la música es mi vida	music is my life
los vídeos son divertidos/útiles/*virales	the videos are fun/useful/viral
soy aficionado/a	I am a fan ...
al deporte	of sport
a la música latina	of Latin music

¿A quién admiras?	Who do you admire?
*Admiro a ...	I admire ...
Lo/La sigo / *admiro porque ...	I follow / admire him/her because ...
apoya a otras personas	he/she supports other people
es un buen modelo de conducta	he/she is a good role model
es una *inspiración para otros	he/she is an inspiration to others
Lucha / Luchó por ...	He/She fights/fought for ...
los derechos de las personas transgénero	transgender rights
la igualdad de **oportunidades**	equal opportunities
Fue ...	He/She was ...
la primera persona en ... participar / ganar ...	the first person to ... participate / win ...
El año pasado / Hace dos años ...	Last year / Two years ago ...
participó en / ganó ...	he/she participated in / won ...

¡Amigos para siempre! (pages 62–63):

¿Cómo es tu relación con tus amigos?	What is your relationship with your friends like?
¿Te llevas bien con tus amigos?	Do you get on well with your friends?
(No) Me llevo bien con ...	I (don't) get on well with ...
Me divierto mucho con ...	I have lots of fun with ...
Mi mejor amigo/a y yo ...	My best friend and I ...
Mis amigos/as y yo ...	My friends and I ...
nos llevamos *genial	get on really well/great
nos divertimos mucho juntos/as porque ...	have lots of fun together because ...
hacemos muchas cosas juntos/as	we do lots of things together
me hace(n) reír	he/she/they make(s) me laugh
me conoce(n) bien	he/she/they know(s) me well
puedo **confiar** en él/ella totalmente	I can trust him/her totally
siempre estamos juntos	we are always together
casi nunca **nos peleamos**	we hardly ever fight
puedo **contar** con él/ella/ellos/ellas (para todo)	I can count on him/her/them (for everything)
tenemos los mismos **intereses**	we have the same interests

¿Cómo es un buen amigo?	What is a good friend like?
¿Cómo te ayuda tu mejor amigo/a?	How does your best friend help you?
Mi mejor amigo/a ...	My best friend ...
Un buen amigo / Una buena amiga ...	A good friend ...
te comprende	understands you
te conoce bien	knows you well
te hace reír	makes you laugh
te respeta	respects you
me acepta como soy	accepts me as I am
te acepta como eres	accepts you as you are
te ayuda cuando tienes problemas	helps you when you have problems
te apoya en **lo** bueno y en **lo** malo	supports you in the good and the bad
te da buenos **consejos**	gives you good advice
no **te critica**	does not criticise you
es **fiel**	is loyal
puede **guardar** un *secreto	can keep a secret

Así soy yo (pages 64–65):

¿Cómo eres? — *What are you like?*

¿Qué es **lo** más importante para ti? — *What is the most import thing to you?*

Para mí, **lo** más importante es / son ... — *For me, the most important thing is ...*
- mi familia / mi educación — *my family / my education*
- mi cultura / mis derechos — *my culture / my rights*
- mis amigos / **la amistad** — *my friends / friendship*
- mi religión / mi **fe** — *my religión / my faith*

¿Qué cosas te interesan/ **preocupan**? — *What things interest/worry you?*

Las cosas que me interesan/ **preocupan** son ... — *The things that interest/worry me are ...*
- el amor / la **paz** / el planeta — *love / peace / the planet*
- la **justicia** / el futuro del mundo — *justice / the future of the world*

¿Cuáles son tus sueños? — *What are your dreams?*

Mi **objetivo**/sueño es ... — *My objective/dream is to ...*

En el futuro voy a ... — *In the future I am going to ...*
- ser jefe/a (de una compañía) — *be a/the boss (of a company)*
- ser rico/a / tener éxito — *be wealthy / be successful*
- luchar por un mundo mejor — *fight for a better world*

¿Qué piensas de las redes sociales? — *What do you think about social media?*

¿Qué es **lo** bueno/**lo** malo de las redes sociales? — *What is the good/bad thing about social media?*

Lo bueno/malo es que ... — *The good/bad thing is that ...*
- causan *adicción/**presión**/ *acoso — *it (social media) causes addiction/pressure/bullying*
- causan problemas para dormir — *it (social media) causes sleeping problems*
- son una gran *distracción — *it (social media) is a big distraction*

son buenas/útiles para ... — *it (social media) is good/ useful for...*
- compartir fotos/vídeos/ideas — *sharing photos/videos/ideas*
- buscar información sobre ... — *searching for information about ...*
- estar en contacto con tus amigos — *being in touch with your friends*
- participar en la comunidad — *participating in the community*
- **expresarse** — *expressing yourself*
- chatear con ... — *chatting with ..*
- escuchar / ver ... — *listening to / watching ...*

Necesito ayuda, ¿qué puedo hacer? (pages 66–67):

¿Qué puedo hacer? — *What can I do?*

Mi problema es que ... — *My problem is that ...*
- **me siento /** estoy ... — *I feel / I am ...*
  - diferente / triste — *different / sad*
  - solo/a / muy mal — *alone/ very bad*
- no **me relaciono** con nadie — *I don't interact with anyone*
- **ignora** todos mis mensajes — *he/she ignores all my messages*
- es muy negativo/a — *he/she is very negative*
- **me peleo** mucho con él/ella — *I fight with him/her a lot*
- se ríen de mí — *they laugh at me*
- siempre me **critica** — *he/she is always criticising me*

Deberías ... — *You should ...*

Podrías ... — *You could ...*

Es importante/necesario ... — *It is important/necessary to ...*
- **limitar** el tiempo en línea — *limit your time online*
- organizar actividades — *organise activities*
- **apoyar** a tu familia — *support your family*
- buscar ayuda **profesional** — *seek professional help*
- **explicarles** cómo **te sientes** — *explain to them how you feel*
- **expresar** tus **sentimientos** — *express your feelings*
- hablar con él/ella/ellos/ ellas cara a cara — *speak to him/her/them face to face*
- **crear** nuevas *rutinas — *create new routines*

Tienes que ser fuerte. — *You have to be strong.*

Some verbs for describing relationships are **reflexive** in Spanish. Watch out for those that are also stem-changing in the present tense, such as **sentirse**.

Present tense	pelearse (*to argue/fight*)	sentirse → ie (*to feel*)
(yo)	**me** peleo	**me** si**e**nto
(tú)	**te** peleas	**te** si**e**ntes
(él/ella/usted)	**se** pelea	**se** si**e**nte
(nosotros/as)	**nos** peleamos	**nos** sentimos
(vosotros/as)	**os** peleáis	**os** sentís
(ellos/ellas/ustedes)	**se** pelean	**se** si**e**nten

Other reflexive verbs include:
relajarse (to relax)
llevarse (to get on)
relacionarse (con) (to relate to / interact with)
casarse (con) (to get married to)
separarse (to split up)
reírse → **i** (to laugh)
divertirse → **ie** (to have fun)

Escribir
1

Translate these sentences into Spanish.

Example: 1 *Mi padrastro y yo no nos ...*

1 My stepdad and I don't get on well and we argue a lot.

2 I get on very well with my best friend. We never argue.

3 I relax with my family when I go on holiday.

4 I feel good when I'm with my friends because we have a lot of fun.

5 Friendship is important for me and I relate well to all my friends.

6 I have a lot of fun with my friends because we laugh a lot when we are together.

Term	Definition
Abstraction	The process of removing all unnecessary details from a problem.
Algorithm	The sequence of steps required to carry out a specific task.
Assignment	Setting the value of a variable in a computer program.
Data	Units of information which is acted upon by instructions.
Decomposition	Breaking down a problem into smaller steps that are easier to work with and solve.
Flowchart	A diagram which shows the step by step flow of an algorithm.
Input	Data which is inserted into a system to be processed or stored.
Output	Data which is sent out of a system.
Process	An action taken by the program without input from the user.
Pseudocode	A method of writing an algorithm using plain English.
Variable	A memory location within a computer where values are stored

Data Type	Explanation	Example
Boolean	TRUE/FALSE or 1/0	TRUE or 1
Character	A single, alphanumeric character.	1 or A or !
Integer	Whole numbers	15
String	One or more alphanumeric characters.	1A!
Real - Float	Decimal numbers	15.5

Flowchart Symbol	Name	Usage
.-. Start/Stop	Terminator	The start or end of the algorithm.
Process	Process	An action which occurs during the algorithm.
w Input/ M * Output	Input/ Output	Data is either inputted to or outputted from the algorithm.
	Decision	A Yes/No, True/False decision.

Common Algorithms	Explained
Binary Search	Compares the search object to the middle point of a sorted list. If they are not equal, the half in which the target cannot lie is eliminated and the search continues on the remaining half, again taking the middle point to compare to the search object, and repeating this until the target value is found or the end is reached.
Bubble Sort	Sorts a list by continuously stepping through a list, swapping items until they appear in the correct order.
Linear Search	Compares the search object with each item in the list in order from the beginning until it is found or the end is reached.
Merge Sort	Sorts a list by repeatedly dividing a list into two until all the elements are separated individually. Pairs of elements are then compared, placed into order and combined. The process is then repeated until the list is recompiled in the correct order as a whole.

Term	Definition
Arithmetic Operator	A mathematical character to perform a calculation. Example: +
Array	A set of values, of the same data type, stored in sequence. A list.
Casting	Setting or changing the data type of a variable.
Concatenation	Connecting strings of characters together.
Condition	A statement which is either true or false. A computation depends on whether a condition is true or false.
Constant	A value which does not change whilst the program is running.
Element	An individual item in an array. A value in a list.
File	Anything you can save. Document, piece of music, data etc.
Identifier	A name, usually for part of the program such as a constant, variable array etc.
IF Statement -Selection	A statement that lets a program select an action depending on whether it is true or false.
Loops -Iteration	Repeating an action, activity or section within a program.
Operator	A character which determines what action is to be considered or determined. Example: =
Relational Operator	An operator which compares two values. Example: <
Subroutine	A section of code written outside of the main program. Covers procedures and functions.

Variable	A memory location within a computer where values are stored.

Input/Output and Calculation

```
userInputName = nput("Enter your name: ") userNum =
int(input("Enter an integer: ")) userDec = float(input("Enter a
decimal number: "))

calculation = userNum + userDec

print("Hello", userInputName, "the result is", calculation)

Enter your name: Mr. Weston Enter an integer: 3 Enter a decimal
number: 15.2 Hello Mr. Weston the result is 18.2
```

IF Statements

```
print("Press 1 for a greeting. Press 2 for a farewell.") userChoice =
int(input("Awaiting Input: "))

if userChoice == 1: print("Hello User!")

elif userChoice == 2: print("Goodbye User!")

else:
    printf"Error - T or '2' not detected.")
```

```
Press 1 for a greeting. Press 2 for a farewell Awaiting Input: 1
Hello User!
>>>
Press 1 for a greeting. Press 2 for a farewell Awaiting Input: 2
Goodbye User!
>>>
Press 1 for a greeting. Press 2 for a farewell
Awaiting Input: 3
Error - '1' or '2' not detected.
```

LOOPS

```
(userChoice = "Yes"

while userChoice == "Yes":
    userChoice = input ("Do you want to repeat this? ")
```

```
userCount = int(input("How many times do you want to use this
    loop? "))
forx in range (1, userCount+1): print("You asked for this many.")
```

```
Do you want to repeat this? Yes Do you want to repeat this? Yes
Do you want to repeat this? No thank you.
How many times do you want to use this loop? 3 You asked for
this many.
You asked for this many.
You asked for this many.
```

Term	Definition
	The process of removing all unnecessary details from a problem.
	The sequence of steps required to carry out a specific task.
	Setting the value of a variable in a computer program.
	Units of information which is acted upon by instructions.
	Breaking down a problem into smaller steps that are easier to work with and solve.
	A diagram which shows the step by step flow of an algorithm.
	Data which is inserted into a system to be processed or stored.
	Data which is sent out of a system.
	An action taken by the program without input from the user.
	A method of writing an algorithm using plain English.
	A memory location within a computer where values are stored

Data Type	Explanation	Example
	TRUE/FALSE or 1/0	
	A single, alphanumeric character.	
	Whole numbers	
	One or more alphanumeric characters.	
	Decimal numbers	

Flowchart Symbol	Name	Usage
.-.	Terminator	
Start/Stop		
Process	Process	
	Input/	
w Input/ *M*	Output	
* Output		
	Decision	

Common Algorithms	Explained
	Compares the search object to the middle point of a sorted list. If they are not equal, the half in which the target cannot lie is eliminated and the search continues on the remaining half, again taking the middle point to compare to the search object, and repeating this until the target value is found or the end is reached.
	Sorts a list by continuously stepping through a list, swapping items until they appear in the correct order.
	Compares the search object with each item in the list in order from the beginning until it is found or the end is reached.
	Sorts a list by repeatedly dividing a list into two until all the elements are separated individually. Pairs of elements are then compared, placed into order and combined. The process is then repeated until the list is recompiled in the correct order as a whole.

Term	Definition
	A mathematical character to perform a calculation. Example: +
	A set of values, of the same data type, stored in sequence. A list.
	Setting or changing the data type of a variable.
	Connecting strings of characters together.
	A statement which is either true or false. A computation depends on whether a condition is true or false.
	A value which does not change whilst the program is running.
	An individual item in an array. A value in a list.
	Anything you can save. Document, piece of music, data etc.
	A name, usually for part of the program such as a constant, variable, array etc.
	A statement that lets a program select an action depending on whether it is true or false.
	Repeating an action, activity or section within a program.
	A character which determines what action is to be considered or determined. Example: =
	An operator which compares two values. Example: <
	A section of code written outside of the main program. Covers procedures and functions.

Variable	A memory location within a computer where values are stored.

Input/Output and Calculation
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print("Hello", userInputName, "the result is", calculation)

Enter your name: Mr. Weston Enter an integer: 3 Enter a decimal
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IF Statements
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print("Press 1 for a greeting. Press 2 for a farewell.") userChoice =
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Hello User!
>>>
Press 1 for a greeting. Press 2 for a farewell Awaiting Input: 2
Goodbye User!
>>>
Press 1 for a greeting. Press 2 for a farewell
Awaiting Input: 3
Error - '1' or '2' not detected.
```

LOOPS
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(userChoice = "Yes"

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```

```
userCount = int(input("How many times do you want to use this
    loop? "))
forx in range (1, userCount+1): print("You asked for this many.")
```

```
Do you want to repeat this? Yes Do you want to repeat this? Yes
Do you want to repeat this? No thank you.
How many times do you want to use this loop? 3 You asked for
this many.
You asked for this many.
You asked for this many.
```

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?

17. Business Aims & Objectives

Businesspeople like to use the term SMART objectives

Which Objective?	Explanation of Objective
Specific	Businesses set very specific targets that are very clear and to the point
Measurable	Businesses set measurable targets that can be measured. For example: Business set themselves specific sales targets over a set period.
Achievable	Businesses set realistic targets that are ambitious yet achievable.
Realistic	Businesses set realistic targets that will motivate employees at the same time they will be achievable
Time- Bound	Businesses set their targets over a period of time as this creates a sense of excitement and urgency.

18. Aims and Objectives in Business

Businesses have both financial and non-financial aims

Type of Objectives	Explanation
Financial Objectives	Profit. Sales. Market Share. Reduce costs.
Non-Financial Objectives	Social objectives. Independence. Control.

19. Business Revenue, Costs & Profits

Term	Definition
Fixed Costs	Costs that don't vary just because output varies for example 'rent'.
Profit (gross/net)	The difference between revenue and total costs; if the figure is negative the business is making a loss
Revenue	The total value of the sales made within a set period, such as a month.
Total Costs	All the costs for a set period, such as a month
Variable Costs	Costs that vary as output varies such as raw materials

20. Business Revenue, Costs & Profits

Term	Formulae
Sales Revenue	**Price x Quantity Sold**
Total Costs	**Variable costs + Fixed Costs**
(Gross) Profit	**Total Revenue – Total Costs**

21. Breaking Even

Term	Definition
Break - Even	The level of sales at which total costs are equal to total revenue. At this point the business is making neither a profit nor a loss.
Break-even Chart	A graph showing a company's revenue and total costs at all possible levels of output
Margin of Safety	The amount by which demand can fall before the business starts making losses

17. Business Aims & Objectives

Businesspeople like to use the term SMART objectives

Which Objective?	Explanation of Objective
Specific	
Measurable	
Achievable	
Realistic	
Time- Bound	

18. Aims and Objectives in Business

Businesses have both financial and non-financial aims

Type of Objectives	Explanation
Financial Objectives	
Non-Financial Objectives	

19. Business Revenue, Costs & Profits

Term	Definition
Fixed Costs	
Profit (gross/net)	
Revenue	
Total Costs	
Variable Costs	

20. Business Revenue, Costs & Profits

Term	Formulae
Sales Revenue	
Total Costs	
(Gross) Profit	

21. Breaking Even

Term	Definition
Break - Even	
Break-even Chart	
Margin of Safety	

22. The Importance of Cash

Question	Answer
Why does Cash matter to a Business?	Cash matters because, without it, bills go unpaid and a business can fail. If you have no cash, you can't pay suppliers or employees.
Why is cash important to a business?	Cash is required to pay suppliers, employees or other costs. Typical overheads include: **Salaries/ Rent and Rates/ Utilities and Bills**
What is the difference between cash and profit?	Cash flow shows the immediate impact of a transaction on a company's bank account; profit shows the longer-term impact after costs have been taken into account.

23. The Importance of Cash (definitions)

Term	Definition
Cash	The money the firm holds in notes and coins, and in its bank accounts
Cash Flows	The movement of money into and out of the firm's bank account.
Insolvency	When a business lacks the ability to pay its debts
Overdraft	A short-term form of credit. A bank will allow a business to spend more money than it actually has.
Overdraft Facility	An agreed maximum level of overdraft

25. Short Term Sources of Finance

Term	Definition
Bank Overdraft	If a company requires some short term finance they can negotiate to extend their overdraft facility with the bank
Trade Credit	When a supplier provides goods without immediate payment – This gives the business time to sell products in order to pay off the debt.

24. Cash Flow Forecasts

Cash flow forecasting means predicting the future flows of cash into and out of a Business.

Successful cash flow forecasts require:
- **Accurate prediction of monthly sales**
- **Accurate predictions of when customers will pay for the goods they have bought**
- **Careful allowance of operating costs and the timing of payments**
- **Careful allowance for in flows and outflows of cash**

Key Term	Definition
Opening Balance	The amount of cash in the bank at the start of the month
Net Cash Flow	Cash inflow minus cash outflow over the course of a month
Negative Cash Flow	When cash outflows are greater than cash inflows
Closing Balance	The amount of cash left in the bank at the end of the month

26. Long Term Sources of FInance

Term	Definition
Crowdfunding	Raising Capital online from many small investors (but not through the stock market.
Share Capital	Raising finance by selling a share of the business, Shareholders have the right to question the directors and take profit out the firm.
Venture Capital	A combination of share capital and loan capital, provided by an investor.
Retained Profit	Profit kept within the Business that is used for business growth.

22. The Importance of Cash

Question	Answer
Why does Cash matter to a Business?	
Why is cash important to a business?	
What is the difference between cash and profit?	

23. The Importance of Cash (definitions)

Term	Definition
Cash	
Cash Flows	
Insolvency	
Overdraft	
Overdraft Facility	

25. Short Term Sources of Finance

Bank Overdraft	
Trade Credit	

24. Cash Flow Forecasts

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Key Term	Definition
Opening Balance	
Net Cash Flow	
Negative Cash Flow	
Closing Balance	

26. Long Term Sources of FInance

Term	Definition
Crowdfunding	
Share Capital	
Venture Capital	
Retained Profit	

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.

1 meat portion = size of palm   1 veg portion = size of fist

Use scoops, dividers & cutters to portion meals

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:

s.
Carbohydrates 50% (max 5% from free sugars)
Protein 15%
Fat 35% or less

Year 10 Food & Nutrition Term 2

A. Healthy Eating Guidelines

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

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Year 10 PRODUCT DESIGN Term 2

What we are learning this term:

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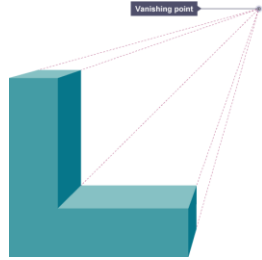
Commonly used by interior designers to a show a view into a room.

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.
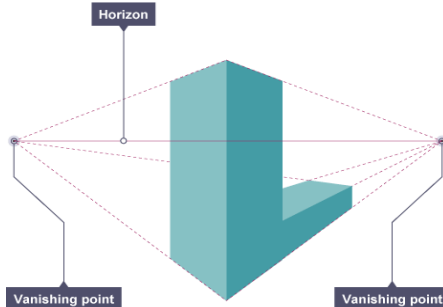
Commonly used by architects to show realistic building ideas.

C.   Isometric Technical Drawing

Made up of a series of parallel **vertical lines** and parallel **30-degree lines**. But no **horizontal lines.**
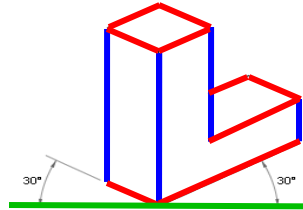
Used by architects and engineers to communicate their ideas to the client and manufacturer.

D.   Exploded Technical Drawing

Exploded technical drawing is an Isometric drawing of all the parts and components of an object.
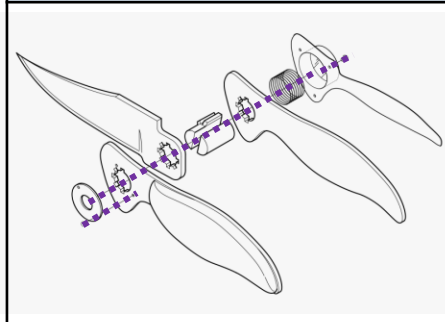
All parts are shown separately so you can see all aspects. **Dashed lines** indicate where everything goes and in what order.

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.
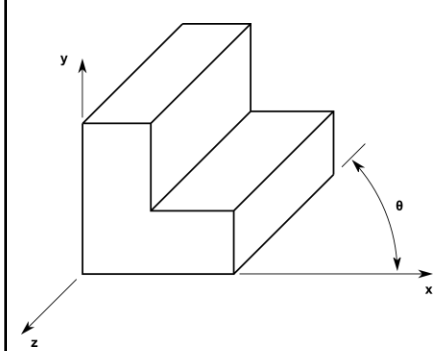
Commonly used by engineers for drafting ideas.

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.

Object Line
Hidden Line
Center Line
Dimension Line
Construction Line

Commonly used in industry to help the manufacturer understand the design.
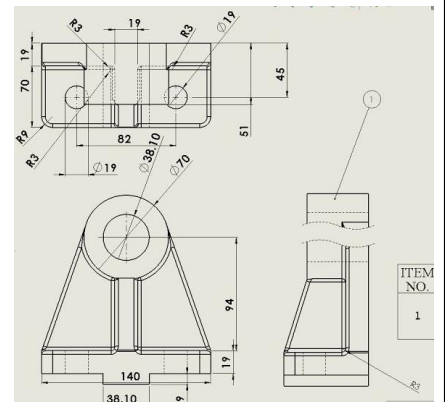
F.   CAD (Computer Aided Design)

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.

Year 10 PRODUCT DESIGN Term 2

What we are learning this term:

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

.

Vanishing point

B.	Two-point Perspective Drawing

.

Horizon

Vanishing point   Vanishing point

C.	Isometric Technical Drawing

30°   30°

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!

————— Object Line
- - - - - - - - Hidden Line
—— — —— Center Line
•——————→ Dimension Line
·················· Construction Line

ITEM NO.

1

What we are learning this term:

A. *How media can increase exposure of minority sports*
B. *How it provides an increase in promotional opportunities*
C. *How it educates its audience*
D. *How media increases income for sports*
E. *How the media inspires people to participate*
F. *How it provides competition between sports*

Main assessment objectives

Learning outcome: Understand the positive effects that media can have on sport

A.	Key question from Assessment objectives?
Key word	**Key definition**
Minority sport	A sport that is not very popular
Promotional opportunities	The opportunity to promote a brand or business
Income	Money generated
Participation	Taking part in sport
Exposure	Greater publicity from the media
Media rights	The rights to share media
Investment	Money invested into projects/equipment
Role models	A person looked to by others as an example

A.	What sports are minority sports in the UK but maybe not in other parts in the world?

American football- USA
Table tennis- China
Badminton- Asia
Ice Hockey- Canada

C. How might a club get more spectators?

1. Cheap tickets for children or older people
2. Alternative formats of the game

How may the media increase participation?	How might the media educate people?
1. Success in Olympics 2. When certain sports are on- Wimbledon 3. Creation of positive role models	1. Develop a better understanding about rules and tactics

A.	Give 5 examples of minority sports in the UK

1. Archery
2. Squash
3. Ultimate frisbee
4. Lacrosse
5. Water polo

A.	How can clubs promote themselves through the media?

1. Many cubs now have social media accounts
2. Some football clubs have their own TV channels
3. Increased interaction with fans.

MUTV

G.	*How can an increased income improve a sport or club*
Sport(3)	1. Bigger prize money for tournaments 2. More teams in tournaments 3. Higher participation levels
Club *(4)*	1. Build new facilities 2. Invest in new equipment 3. Buy better players 4. Employ more coaches/experts

Key information

Sky sports channels	Skysports Golf Skysorts Cricket Skysports F1
Social media accounts	Real Madrid FC have 200+million followers on Twitter
Educating the audience	Through analysis in highlights
Increase income	Through media rights
Rises in participation	Cycling participation rises around the time of the Olympics
Positive role models	Usain Bolt Nicola Adams Mo Farah
Exposure of minority sports	Increased TV time. Highlights on BBC Sport
MNF	Monday night football provides key analysis to help educate people
Jargon Buster	ITV racing explain specific words related to horseracing
Ashes Zone	Give demonstrations on how to play shots properly and different bowling techniques
Golf swing analysis	Allows you to track your ball and analysis your swing
Serve Analysis	Gives a slow-motion analysis of how to serve effectively

What we are learning this term:

A. *How media can increase exposure of minority sports*
B. *How it provides an increase in promotional opportunities*
C. *How it educates its audience*
D. *How media increases income for sports*
E. *How the media inspires people to participate*
F. *How it provides competition between sports*

Main assessment objectives

Learning outcome: Understand the positive effects that media can have on sport

C.	How might a club get more spectators?
	1. Cheap tickets for children or older people 2. Alternative formats of the game

How may the media increase participation?	How might the media educate people?

Key information

	Skysports Golf Skysorts Cricket Skysports F1
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A.	Key question from Assessment objectives?
	Key definition
	A sport that is not very popular
	The opportunity to promote a brand or business
	Money generated
	Taking part in sport
	Greater publicity from the media
	The rights to share media
	Money invested into projects/equipment
	A person looked to by others as an example

A.	What sports are minority sports in the UK but maybe not in other parts in the world?

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A.	How can clubs promote themselves through the media?

MUTV

G.	*How can an increased income improve a sport or club*
Sport(3)	
Club *(4)*	

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.

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.

A.	Component 1– Key focus

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.

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

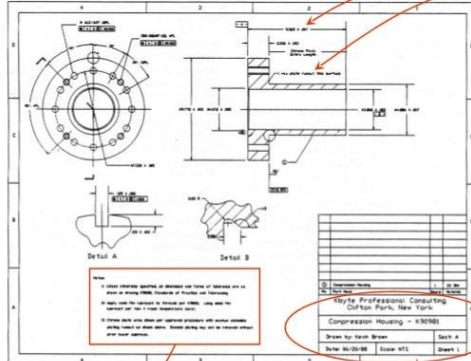**What we are learning this term:**

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. Different performance styles / genres

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

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G.	Key learning aims from Component 1
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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.

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…
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Explore artistic purpose (across all three disciplines/styles) including:

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

What we are learning this term:

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

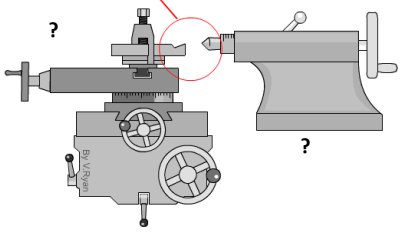### A. Health & Safety

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.

Dead center

Tool post

tailstock
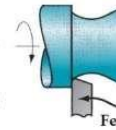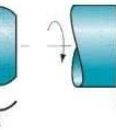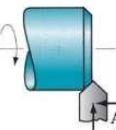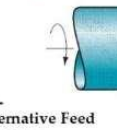
a. Facing
b. Taper Turning
c. Contour Turning
d. Form Turning
e. Chamfering
f. Cutoff
g. Threading
h. Boring
i. Drilling
j. knurling
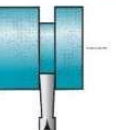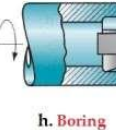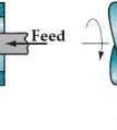
C. Reading technical drawings

Dimension & Notes

Notes

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.

Lec. Bhuiyan Shameem Mahmood

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

TITLE	WHEEL BEARING		
NAME	John Smith	CHECKED	
VERSION	1.1	DATE	16.10.98
NO NEED TO MEASURE -ALL MEASUREMENTS IN MM		SCALE	1:1
ITI ENGINEERING			

The type of orthographic drawing is shown by this symbol.

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

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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 –
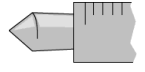
C. Reading technical drawings
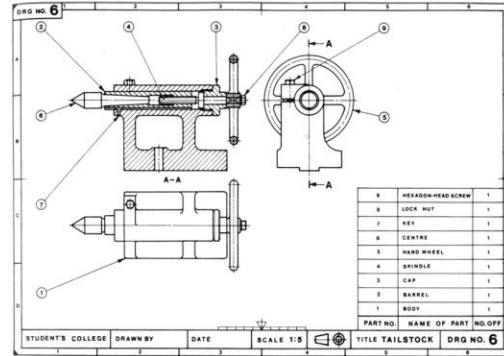
Task -Annotate this technical drawing
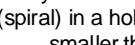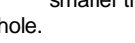
B. Manufacturing processes

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 _____.

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.

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.

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+	

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.

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	

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.

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	
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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-
-
-
-

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: • Feeling good about themselves • Be more likely to stay healthy, • Space to take exercise • Feel safe ad secure • Warmth	Living in a poor housing with cramped and damp conditions: • 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.

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:
- •
- •
- •
- •

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	
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…. • • •

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.

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	

SWINDON ACADEMY READING CANON

Year 7

- The Canterbury Tales
- War Horse
- Adventures of a Young Naturalist
- A Monster Calls
- The Pearl
- Number the Stars
- The Hunger Games
- Chinese Cinderella
- Sir Gawain and the Green Knight

Year 8

- The Dark Lady
- Trash
- The Diary of a Young Girl
- Ghost Boys
- The Amazing Maurice
- The Bone Sparrow
- Salt to the Sea
- The Giver
- Witch Child

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

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