

Year 11 Autumn Term Knowledge Organisers

What is a Knowledge Organiser?

It is a concise summary of all the core facts, key vocabulary and essential concepts you need to know, understand and be able to use within each subject area, it will cover all the information you need to prepare for your BASE assessments and your subject spotlights.

How do Knowledge organisers link to Homework?

In our new homework policy, all homework will link to using your knowledge organisers to help you revise and develop your knowledge and skills in each subject area. Your teacher may set you specific tasks to complete or may for example do a retrieval test at the beginning of the lesson to ensure you are completing homework revision tasks.

How long should I revise for?

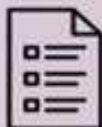
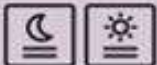
Everyone is different and you need to practice building the study habits that work for you, this includes working out how long to study for at a time and most importantly when to take breaks. Research says that the best habits are to study in short blocks of time with a break in between. The length of your break depends on how long you've been studying and how tired your brain feels. The goal is to rest just long enough to reset your focus without losing momentum.

- *Short breaks* (5–10 minutes): Best after 25–50 minutes of focused work. They keep your energy steady and stop your brain from switching off.
- *Longer breaks* (15–30 minutes): Useful after several study cycles or 1–2 hours of deep work. They help you recharge before starting again.
- *Micro-breaks* (1–2 minutes): A quick stretch, sip of water, or eye rest can refresh your concentration when working on something intense.

Research has shown that even these tiny “micro-breaks” can make a real difference. Taking just a minute or two to move or rest your eyes improves performance and helps prevent fatigue. The quality of your break matters more than the length. Two minutes spent walking, stretching, or breathing deeply can do far more for your concentration than ten minutes scrolling through your phone.

How can I use my Knowledge Organisers?

It takes time to learn what methods you prefer and work best for you. Use these knowledge organisers for each subject to recap on learning from lessons and test your understanding or develop your skills. There are some examples of tasks you could complete here, the important thing is that you are trying out different techniques to learn what works for you. Everyone is different and prefers a different way of working, if you have tried these techniques and they are not working for you, try something else. Always ask for support, your tutors can help as can you subject teachers.

	Look, Cover, Write, Check	Definitions of Key Words	Flash Cards	Self Quizzing	Mind Maps	Paired Retrieval
Step 1	Look at and study a specific area of your KO. 	Write down the key words and definitions. 	Use your KO to condense and write down key facts or information onto flash cards. 	Use your KO to create a mini quiz. Write down your questions using your KO. 	Create a mind map with all the information you can remember from your KO. 	Ask a friend or family member to have the KO or flash cards in their hands. 
Step 2	Cover or flip the KO over and write down everything you can remember. 	Try not to use your KO to help you. 	Add pictures to help support. Then self-quiz using the flash cards. You could write questions on one side, and answers on the other! 	Answer the questions and remember to use full sentences. 	Check your KO to see if there are any mistakes on your mind map. 	They can test you by asking you questions on different sections of your KO. 
Step 3	Check what you have written down. Correct any mistakes in green pen and add anything you have missed. Repeat. 	Use your green pen to check your work. 	Ask a friend or family member to quiz you on the knowledge. 	Ask a friend or family member to quiz you using the questions. 	Try to make connections, linking the information together. 	Write down your answers, 

KNOWLEDGE ORGANISER

MACBETH

BY WILLIAM SHAKESPEARE

“Fair is foul, and foul is fair:
Hover through the fog and filthy air.”

— The Witches

KEY WORDS

	Ambition	A strong desire to achieve power or success.
	Betrayal	The act of being disloyal to someone's trust.
	Corruption	The process of becoming evil or immoral.
	Guilt	A feeling of responsibility or remorse for wrong actions.
	Deception	The act of tricking or misleading others.
	Fate	Events believed to be predetermined.
	Supernatural	Things that cannot be explained by natural laws.
	Order vs Chaos	The conflict between normal society and disorder/disruption.

KEY EVENTS – PLOT SUMMARY

- 1

THE WITCHES' PROPHECIES

Three witches predict that Macbeth will become Thane of Cawdor and one day King. They also predict that Banquo's sons will be kings.
- 2

MACBETH BECOMES THANE OF CAWDOR

Soon after the prophecies, Macbeth is named Thane of Cawdor. This makes Macbeth begin to believe the witches.
- 3

THE MURDER OF DUNCAN

Encouraged by Lady Macbeth, Macbeth murders King Duncan while he is their guest and takes the throne.
- 4

THE CONSEQUENCES

Macbeth becomes king but is wracked with guilt. Banquo suspects Macbeth. Macbeth hires murderers to kill Banquo and his son Fleance.
- 5

MACBETH BECOMES MORE TYRANNICAL

Macbeth fears being overthrown and orders the murders of Macduff's family. Lady Macbeth sleepwalks and spirals into madness.
- 6

THE PROPHECIES TESTED

The witches give Macbeth more prophecies: he will be safe until Birnam Wood moves and until 'none of woman born' can harm him.
- 7

MACBETH'S DOWNFALL

Macduff reveals he was 'from his mother's womb untimely ripped'. The English army uses branches from Birnam Wood to camouflage their approach. Macbeth is killed and order is restored.

KEY CHARACTERS

	Macbeth A brave Scottish general whose ambition leads him to murder and tyranny.
	Lady Macbeth Macbeth's wife. Ruthless and ambitious, she manipulates Macbeth and later suffers mentally.
	Banquo A loyal general and friend of Macbeth. He suspects Macbeth and is murdered.
	Macduff A Scottish noble who seeks revenge for his family's murder and kills Macbeth.
	Duncan The King of Scotland. A good and noble ruler who is murdered by Macbeth.
	The Witches Three supernatural beings who make prophecies and influence the play's events.

KEY THEMES

	Ambition	Macbeth's desire for power drives the play's action and his downfall.
	Guilt & Conscience	Macbeth and Lady Macbeth are haunted by guilt for their actions.
	Power & Corruption	Power corrupts Macbeth, leading him to become a tyrannical ruler.
	Appearance vs Reality	The play explores how things are not always what they seem.
	Fate vs Free Will	The characters are influenced by fate, but also make their own choices.
	Masculinity	The play challenges ideas about strength, courage and manhood.

GCSE AQA ASSESSMENT OBJECTIVES

AO1
READ, UNDERSTAND AND RESPOND

You must show a clear understanding of the text. You should refer to the text in your answer.

How? Use quotations, explain their meaning and explore key ideas.

AO2
ANALYSE LANGUAGE, STRUCTURE AND FORM

You must analyse how Shakespeare uses language, structure and dramatic methods to create meaning.

How? Explore techniques, their effects and how they shape the play.

AO3
CONTEXTUAL UNDERSTANDING

You must show understanding of the context and how it influences the play and your interpretation.

How? Use relevant context to support your ideas and analysis.

HOW TO ANSWER – ESSAY SUCCESS

- ☒ Read the question carefully – What are you being asked about (Theme, character, language, etc.)?
- ☒ Plan your answer – Think WHAT, HOW and WHY.
- ☒ Use quotations – Choose short, relevant quotes.
- ☒ Analyse – How does Shakespeare present this? What techniques are used?
- ☒ Explain the effect – Why does it matter to the audience? What is the impact?
- ☒ Link to context – Where relevant, explain how context influences the play.
- ☒ Check your response – Does it answer the question fully?

CONTEXT: JACOBEAN ENGLAND

- Written around 1606 under King James I, who believed in witchcraft and the divine right of kings.
- James I was fascinated by the supernatural and was author of a book on demonology.
- The play reflects fears about treason, regicide (killing a king) and the natural order being disrupted.
- The Great Chain of Being believed that every person and thing had a place in a strict hierarchy set by God.
- Audiences would have been shocked by the violence, supernatural elements and moral warnings.

REMEMBER:

Macbeth is a tragedy about ambition and its destructive consequences. Shakespeare warns us that evil actions lead to suffering and ruin.

THINK:

How does Shakespeare create fear, tension and a sense of doom throughout the play?

AMBITION WITHOUT MORALITY LEADS TO DESTRUCTION.

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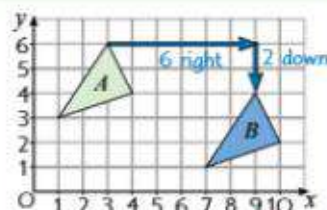
The Four Transformations

Translation

Amount a shape moves is given by $\begin{pmatrix} x \\ y \end{pmatrix}$.

x = horizontal movement (+ right, - left)

y = vertical movement (+ up, - down)

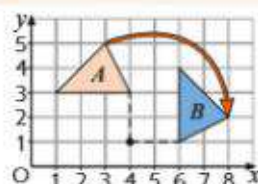


Translation from A to B: $\begin{pmatrix} 6 \\ -2 \end{pmatrix}$

Rotation

To describe a rotation you need:

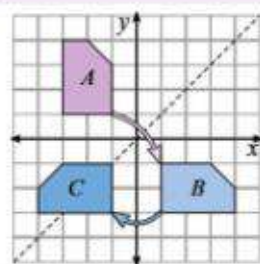
- 1 the angle
- 2 the direction
- 3 the centre of rotation



Rotation from A to B:
90° clockwise about (4, 1)

Reflection

Describe by giving the equation of the mirror line.

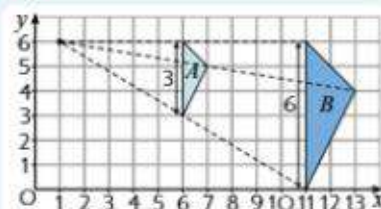


B is a reflection of A in $y = x$
C is a reflection of B in the y-axis

Enlargement

To describe an enlargement you need:

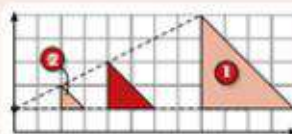
- 1 the scale factor = $\frac{\text{new length}}{\text{old length}}$
- 2 the centre of enlargement



Enlargement from A to B: 1 $\frac{6}{3} = 2$ 2 (1, 6)

Three Facts about Scale Factors

- 1 If **bigger** than 1, shape gets **bigger** (e.g. 2).
- 2 If **between 0 and 1**, shape gets **smaller** (e.g. $\frac{1}{2}$).
- 3 They give the relative distance of the new and old points from the centre of enlargement.



Drawing Straight-Line Graphs

Spotting Straight-Line Equations

Straight-line equations only have an **x-term**, a **y-term** and a **number term**.

If there are any other terms, it's not a straight line.

Straight lines:

$$y = 5x - 2 \quad x + 2y = 1$$

$$3 + 4x - 2y = 0 \quad 8y = 1$$

NOT straight lines:

$$y = 3x^2 + 1 \quad xy = 1$$

$$x^2 + y^2 = 3 \quad 5 = 3y - \frac{2}{x}$$

Three Steps for Drawing

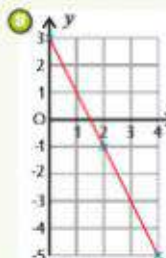
- 1 Draw a table with **three values** of x.
- 2 Put the **x-values** into the equation and work out the **y-values**.
- 3 Plot the points and draw a straight line through them.

EXAMPLE

Draw the graph $y = -2x + 3$ for values of x from 0 to 4.

x	0	2	4
y	3	-1	-5

Eg. when $x = 2$,
 $y = -2(2) + 3$
 $= -4 + 3 = -1$



Finding the Gradient

GRADIENT — steepness of a line.

$$\text{Gradient} = \frac{\text{change in } y}{\text{change in } x}$$

Uphill slope = positive gradient
 Downhill slope = negative gradient

EXAMPLE

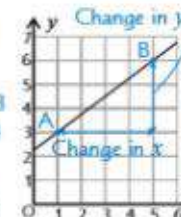
Three steps to find the gradient:

- 1 Find the coordinates of two points on the line.
- 2 Find the change in y and the change in x.
- 3 Substitute into the formula.

1 A: (1, 3) B: (5, 6)

2 Change in y: $6 - 3 = 3$
 Change in x: $5 - 1 = 4$

3 Gradient = $\frac{3}{4} = 0.75$



Subtract the y- and x-coordinates in the same order.

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Ratios

Four Ways to Simplify Ratios

- 1 Divide all numbers by the same thing.

$$18:27 = 2:3$$

(Divide by 9)

- 2 Multiply to get rid of fractions and decimals.

$$\frac{3}{4}:\frac{1}{2} = 3:2$$

(Multiply by LCM of denominators)

$$1.5:3.5 = 15:35 = 3:7$$

(Multiply by 10)

- 3 Convert to the smaller unit.

$$0.75 \text{ kg}:250 \text{ g}$$

$$= 750 \text{ g}:250 \text{ g}$$

$$= 3:1$$

(No units)

- 4 Divide to get in the form 1:n or n:1.

$$2:5 = 1:2.5 \text{ (or } 1:\frac{5}{2}\text{)}$$

(Divide by 2)

The fraction button on your calculator can be used to help simplify ratios.

Writing One Part as a Fraction of Another

Just write one number on top of the other.

EXAMPLE

Cats and dogs are in the ratio 3:2.

There are $\frac{3}{2}$ as many cats as dogs, or there are $\frac{2}{3}$ as many dogs as cats.



Two Steps to Write One Part as a Fraction of the Total

- 1 Add to find the total number of parts.

EXAMPLE

In a car park, the ratio of cars to vans is 8:3.

1 There are $8 + 3 = 11$ parts in total.

2 So $\frac{8}{11}$ are cars and $\frac{3}{11}$ are vans.

- 2 Write the part you want over the total.

More Ratios

Three Steps to Scale Up Ratios

- 1 Work out what one side of the ratio is multiplied by to get its actual value.
- 2 Multiply the other side by this number.
- 3 Add the two sides to find the total (if the question asks you to).

The two sides of a ratio are always in direct proportion.

EXAMPLE

A theatre audience is made up of adults and children in the ratio 3:5. There are 120 adults. How many people are there in the audience in total?

$$3:5 = 120:200$$

(Multiply by 40)

So there are 200 children.

$$120 + 200 = 320 \text{ people}$$

Part:Whole Ratios

PART:WHOLE RATIO — left-hand side of ratio included in right-hand side.

part:part → part:whole

Add the parts to find the whole.

EXAMPLE

Fiction and non-fiction books are in the ratio 3:7.

Total parts = $3 + 7 = 10$

Ratio of fiction to total books is 3:10.

Ratio of non-fiction to total books is 7:10.

part:whole → part:part

Subtract the part you know from the whole to find the other part.

EXAMPLE

Kei has red and grey socks.

The ratio of red socks to all of his socks is 5:8.

$8 - 5 = 3$ parts are grey. So ratio of red socks to grey socks is 5:3.

Three Steps for Proportional Division

- 1 Add up the parts.
- 2 Divide to find one part.
- 3 Multiply to find the amounts.

EXAMPLE

1200 g of flour is used to make cakes, pastry and bread in the ratio 8:7:9. How much flour is used to make pastry?

$$1 \quad 8 + 7 + 9 = 24 \text{ parts}$$

$$2 \quad 1 \text{ part} = 1200 \text{ g} \div 24 = 50 \text{ g}$$

$$3 \quad 7 \text{ parts} = 7 \times 50 \text{ g} = 350 \text{ g}$$

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Real-Life Graphs and Rate of Change

Money Graphs

EXAMPLE

This graph shows the amount a company charges to ship an order.

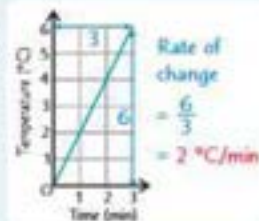


Rate of Change

RATE OF CHANGE — how quickly something is changing.

- Rate of change = gradient.
- Steeper gradient = faster rate of change.
- Units: y-axis unit PER x-axis unit.

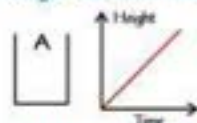
To find the rate of change, work out the gradient of the line, then add the units.



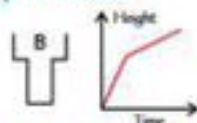
Changes with Time

EXAMPLE

Three jars are filled with sand at a constant rate. These graphs show the height of sand in each jar. Height rises faster when the jar is narrower.



The jar has a constant width, so the height rises at a constant rate.



The jar is narrow then wide, so the height rises quickly then slowly.



The jar is wide then narrow, so the height rises slowly then quickly.

Probability Basics

The Probability Scale

All probabilities are between 0 and 1.



The Probability Formula

$$\text{Probability} = \frac{\text{Number of ways for something to happen}}{\text{Total number of possible outcomes}}$$

You can only use this formula if all the outcomes are equally likely — eg. for a fair coin, dice or spinner.

EXAMPLE

What is the probability of picking a prime number at random from a bag of counters numbered 1-15?

The prime numbers between 1 and 15 are 2, 3, 5, 7, 11 and 13 — 6 in total.

$$\text{Probability} = \frac{\text{number of ways of picking a prime}}{\text{total number of possible outcomes}} = \frac{6}{15} = \frac{2}{5}$$

There are 15 counters so 15 possible outcomes.

Probability of Events

If only **one** possible outcome can happen at a time, the probabilities of all possible outcomes add up to 1. An event either happens or doesn't:

$$P(\text{event happens}) + P(\text{event doesn't happen}) = 1$$

So:

$$P(\text{event doesn't happen}) = 1 - P(\text{event happens})$$

EXAMPLE

The probability of getting a 5 on a spinner is 0.65. What is the probability of not getting a 5?

$$P(\text{not } 5) = 1 - P(5) = 1 - 0.65 = 0.35$$

P(event) means "the probability of the event happening".

Sample Space Diagrams

These show **all** possible outcomes. Can be a **single list** or a **two-way table**. You can use them to find **probabilities**.

×	1	2	3
2	2	4	6
4	4	8	12
6	6	12	18

Eg. All possible outcomes when two fair spinners numbered 1, 2, 3 and 2, 4, 6 are spun and the results multiplied.

There are 9 possible outcomes and 2 of them are 6, so $P(6) = \frac{2}{9}$.

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Direct Proportion

Two Steps for Direct Proportion

DIRECT PROPORTION — two amounts increase or decrease together, at the same rate.

- 1 Divide to find the amount for **one thing**.
- 2 Multiply to find the amount for the number of things you want.

EXAMPLE

3 footballs cost £29.70.
How much do 7 footballs cost?

- 1 1 football costs
 $£29.70 \div 3 = £9.90$
- 2 7 footballs cost
 $£9.90 \times 7 = £69.30$

Two Steps for Scaling Recipes

- 1 Divide to find the amount for **one person**.
- 2 Multiply to find the amount for the number of people you want.

EXAMPLE

A smoothie recipe for 6 people uses 900 ml of apple juice. How much apple juice is needed to make smoothies for 4 people?

- 1 For 1 person you need
 $900 \text{ ml} \div 6 = 150 \text{ ml}$ of apple juice
- 2 For 4 people you need
 $150 \text{ ml} \times 4 = 600 \text{ ml}$ of apple juice

Two Steps to Find the Best Buy

- 1 For each item, divide amount by price in pence to get amount **per penny**.
- 2 Compare amounts per penny to find the best value.

You can also divide the price by the amount (length, mass, etc.) to get the cost per unit. A smaller cost per unit means better value.

EXAMPLE

Some wrapping paper comes in rolls of two lengths, as shown.
Which roll is better value for money?



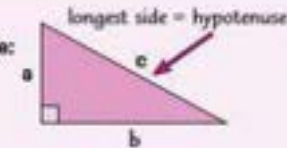
- 1 5 m = 500 cm
£4 = 400p
 $500 \text{ cm} \div 400\text{p} = 1.25 \text{ cm per penny}$
 - 2 2 m = 200 cm
£2.50 = 250p
 $200 \text{ cm} \div 250\text{p} = 0.8 \text{ cm per penny}$
- The 5 m roll is better value as you get more paper per penny.

Pythagoras' Theorem and Trigonometry

Pythagoras' Theorem

Uses two sides to find third side:

$$a^2 + b^2 = c^2$$



Pythagoras' theorem only works for right-angled triangles.

Three Steps to Use It

- 1 Square both numbers.
- 2 To find the longest side, add the two squared numbers.
To find a shorter side, subtract the smaller number from the larger one.
- 3 Take square root.

EXAMPLE

Find the length of AB to 1 d.p.

- 1 $9^2 = 81$, $4^2 = 16$
- 2 $AB^2 = AC^2 - BC^2 = 81 - 16 = 65$
- 3 $AB = \sqrt{65} = 8.062 \dots \text{ m} = 8.1 \text{ m (1 d.p.)}$



Three Trigonometry Formulas

- 1 $\sin x = \frac{\text{Opposite}}{\text{Hypotenuse}}$
SOH
- 2 $\cos x = \frac{\text{Adjacent}}{\text{Hypotenuse}}$
CAH
- 3 $\tan x = \frac{\text{Opposite}}{\text{Adjacent}}$
TOA

Opposite (O) — side opposite angle x
Adjacent (A) — side next to angle x
Hypotenuse (H) — the longest side (opposite right angle)

These formulas only work on right-angled triangles.

Remember **SOH CAH TOA** to learn the formulas.

To use a formula triangle:

- Cover up the thing you want.
- Write down whatever's left.



Covering S gives $\sin x = \frac{\text{opp}}{\text{hyp}}$

Covering O gives $\text{opp} = \sin x \times \text{hyp}$

Covering H gives $\text{hyp} = \frac{\text{opp}}{\sin x}$

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Perimeter and Area

Triangles and Quadrilaterals

Area of rectangle = length $\times$ width



Squares have equal length and width so area = length².

Area of triangle = $\frac{1}{2} \times \text{base} \times \text{vertical height}$



Area of parallelogram = base $\times$ vertical height



Area of trapezium = $\frac{1}{2}(a + b) \times \text{vertical height}$



Split composite shapes into triangles and quadrilaterals. Work out each area and **add together**. Only include **outside edges** when adding up perimeters.



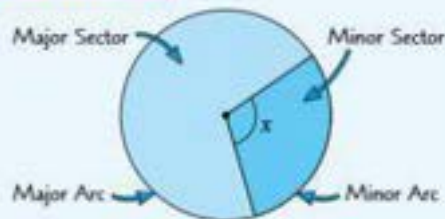
Circles



$$\text{Area} = \pi \times (\text{radius})^2 = \pi r^2$$

$$\text{Circumference} = \pi \times \text{diameter} = 2 \times \pi \times \text{radius} = \pi D = 2\pi r$$

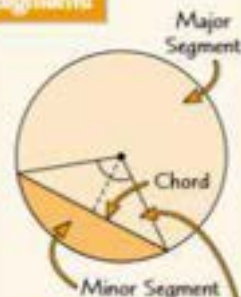
Area and Sectors



$$\text{Area of sector} = \frac{x}{360} \times \text{area of full circle}$$

$$\text{Length of arc} = \frac{x}{360} \times \text{circumference of full circle}$$

Segments



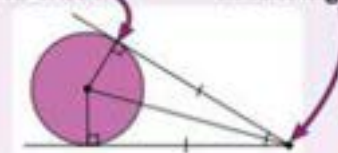
$$\text{Area of minor segment} = \text{area of minor sector} - \text{area of triangle}$$

Circle Geometry

Three Rules with Tangents

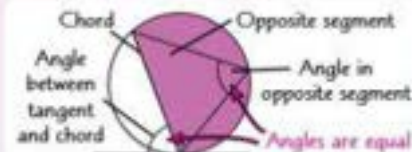
1 A tangent and a radius meet at 90° .

2 Tangents from the same point are the same length.



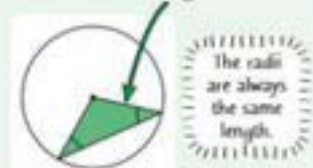
3 ALTERNATE SEGMENT THEOREM

The angle between a tangent and a chord is equal to the angle in the opposite segment.



Two Rules with Polygons

1 Two radii form an isosceles triangle.

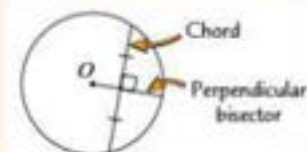


2 Opposite angles in a cyclic quadrilateral add up to 180° .



Four More Rules

1 The perpendicular bisector of a chord passes through the centre.



2 Angle made at the centre is twice the angle made at the circumference.



3 Angle in a semicircle is 90° .



4 Angles in the same segment are equal.

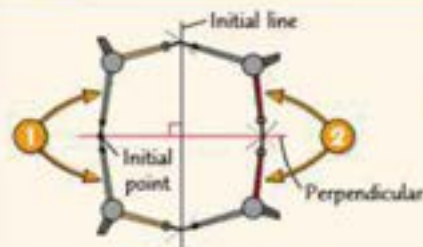
Two angles in opposite segments add up to 180° .



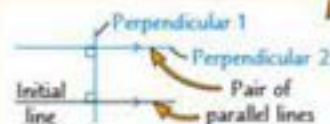
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Construction and Bearings

Drawing the Perpendicular From a Point to a Line



Constructing a line that is perpendicular to the one you've just drawn gives a line that is parallel to the initial line.



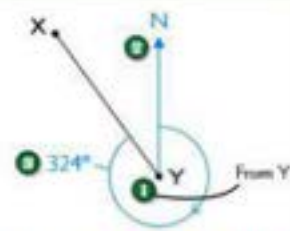
Three Steps to Find Bearings

- 1 Put your pencil at the point you're going **from**.
- 2 Draw a **north line** at that point.
- 3 Measure the angle **clockwise** from the north line to the line joining the two points.

Bearings must be given as 3 figures
— e.g. 090° rather than 90°.

EXAMPLE

Find the bearing of X from Y.



So the bearing of X from Y is 324°.

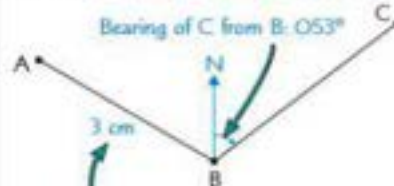
Scale Drawings

Scale drawings and maps show the **positions** of objects and the **distances** between them.

Real-life distance
= map distance $\times$ scale factor

Be wary of units. They're not usually the same for real life and the map.

Scale: 5 cm = 1 km. So 1 cm = 0.2 km.



A to B in real life: $3 \times 0.2 = 0.6$ km

Solving Quadratics

The Quadratic Formula

$$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$$

Use the quadratic formula when:

- the quadratic **won't** factorise.
- the question mentions **d.p.** or **s.f.**
- you need **exact** answers or **surd**.

- 1 Rearrange equation into the form $ax^2 + bx + c = 0$.
- 2 Identify a, b and c.
- 3 Substitute into formula.
- 4 Evaluate both solutions.

EXAMPLE

Find the solutions to $4x^2 + 3x = 5$ to 2 d.p.

$$4x^2 + 3x - 5 = 0$$

$$a = 4, b = 3, c = -5$$

$$x = \frac{-3 \pm \sqrt{3^2 - 4 \times 4 \times -5}}{2 \times 4} = \frac{-3 \pm \sqrt{89}}{8}$$

$$x = -1.55 \text{ (2 d.p.) or } 0.80 \text{ (2 d.p.)}$$

The $\pm$ sign means you get two solutions.

Completing the Square

- 1 Multiply out **initial bracket** $(x + \frac{b}{2})^2$.
- 2 Add/subtract **adjusting number** to match original equation.
- 3 Set equal to 0 and solve.

EXAMPLE

Solve $x^2 + 4x - 3 = 0$.

Check this is in the standard format first.

$$1 \quad (x + 2)^2 = x^2 + 4x + 4$$

$$2 \quad (x + 2)^2 - 7 = x^2 + 4x + 4 - 7 = x^2 + 4x - 3$$

$$3 \quad (x + 2)^2 - 7 = 0$$

$$(x + 2)^2 = 7$$

$$x + 2 = \pm \sqrt{7}, \text{ so } x = -2 \pm \sqrt{7}$$

Add/subtract to get -3.

... when a is not 1

- 1 Take out a factor of 'a' from the first two terms.
- 2 Multiply out **initial bracket** $a(x + \frac{b}{2a})^2$.
- 3 Add/subtract **adjusting number** to match original equation.

EXAMPLE

Write $2x^2 - 8x + 3$ in the form $a(x + m)^2 + n$.

Check this is in the standard format first.

$$1 \quad 2(x^2 - 4x) + 3$$

$$2 \quad 2(x - 2)^2 = 2x^2 - 8x + 8$$

$$3 \quad 2(x - 2)^2 - 5 = 2x^2 - 8x + 8 - 5 = 2x^2 - 8x + 3$$

Add/subtract to make this 3.

When a is positive, the adjusting number tells you the minimum y-value of the graph. This occurs when the brackets = 0, i.e. when $x = -m$. This also gives you the coordinates of the turning point of the graph.

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Simultaneous Equations

Six Steps for Easy Ones

When both equations are **linear**:

- 1 Rearrange into the form $ax + by = c$.
- 2 Match up the **coefficients** for one of the variables.
- 3 Add or subtract to get rid of a variable.
- 4 Solve the equation.
- 5 Substitute the value back into the original equation.
- 6 Check your answer works.

EXAMPLE

Solve the simultaneous equations
 $5 - 2x = 3y$ and $5x + 4 = -2y$

- 1 $2x + 3y = 5$ (1) Label your equations.
- 2 $5x + 2y = -4$ (2)
- 3 $(1) \times 5: 10x + 15y = 25$ (3)
- 4 $(2) \times 2: 10x + 4y = -8$ (4)
- 5 $(3) - (4): 0x + 11y = 33$
- 6 $11y = 33 \Rightarrow y = 3$
- 7 Sub $y = 3$ into (1): $2x + (3 \times 3) = 5$
 $\Rightarrow 2x = 5 - 9 \Rightarrow 2x = -4 \Rightarrow x = -2$
- 8 Sub x and y into (2):
 $(5 \times -2) + (2 \times 3) = -4$
 $-10 + 6 = -4$
 $-4 = -4$
 So the solution is $x = -2, y = 3$.

Seven Steps for Tricky Ones

When one equation is **quadratic**:

- 1 Rearrange one equation so a **non-quadratic** unknown is by itself.
- 2 Substitute the rearranged equation into the other equation.
- 3 Rearrange and solve.
- 4 Substitute first value into one of the equations.
- 5 Substitute second value into the same equation.
- 6 Check **both** pairs of solutions work.
- 7 Write out both pairs of solutions clearly.

EXAMPLE

Solve the simultaneous equations
 $3x - y = 5$ and $3x^2 - y = 11$

- 1 $3x - y = 5$ (1)
- 2 $y = 3x^2 - 11$ (2)
- 3 $3x - (3x^2 - 11) = 5$ (3)
- 4 $3x^2 - 3x - 6 = 0$
 $3(x - 2)(x + 1) = 0$
 So $x - 2 = 0 \Rightarrow x = 2$
 or $x + 1 = 0 \Rightarrow x = -1$
- 5 Sub $x = 2$ into (1):
 $6 - y = 5$, so $y = 1$
- 6 Sub $x = -1$ into (1):
 $-3 - y = 5$, so $y = -8$
- 7 Sub both x -values into (2):
 $x = 2: y = (3 \times 2^2) - 11 = 1$
 $x = -1: y = (3 \times (-1)^2) - 11 = -8$
- 8 $x = 2, y = 1$ and $x = -1, y = -8$

You'll get two values for x .

Inequalities

Solving Inequalities

$>$ means **GREATER THAN**

$\geq$ means **GREATER THAN OR EQUAL TO**

$<$ means **LESS THAN**

$\leq$ means **LESS THAN OR EQUAL TO**

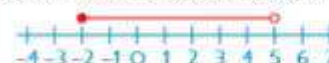
Solve inequalities like equations — but if you multiply/divide by a negative number, **flip** the inequality sign.

$$\begin{aligned} 2x - 9 &\geq 6x + 3 \\ 2x - 6x &\geq 3 + 9 \\ -4x &\geq 12 \\ x &\leq -3 \end{aligned}$$

Divided by a negative number, so flip the sign.

EXAMPLE

Show $-2 \leq x < 5$ on the number line.



Use $\bullet$ when the value is included, and $\circ$ when it's not.

Quadratic Inequalities

If $x^2 > a^2$, then $x > a$ or $x < -a$:

$$\begin{aligned} x^2 &> 36 \\ x^2 = 36 &\Rightarrow x = -6 \text{ or } x = 6 \\ \text{So } x &< -6 \text{ or } x > 6 \end{aligned}$$

If $x^2 < a^2$, then $-a < x < a$:

$$\begin{aligned} 2x^2 &\leq 98 \Rightarrow x^2 \leq 49 \\ x^2 = 49 &\Rightarrow x = -7 \text{ or } x = 7 \\ \text{So } -7 &\leq x \leq 7 \end{aligned}$$

Divide both sides by 2.

Graphical Inequalities

- 1 Convert each inequality to an **equation**.

- 2 Draw the graph for each equation.

Use a solid line if the inequality uses $\leq$ or $\geq$. Use a dotted line if the inequality uses $<$ or $>$.

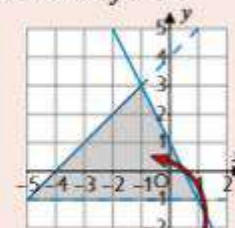
- 3 See if each inequality is true at a specific point, to find **which** side of each line you want.

- 4 Shade the region.

EXAMPLE

Shade the region that satisfies
 $y < x + 4$, $y \leq 1 - 2x$ and $y > -1$.

- 1 $y = x + 4$
 $y = 1 - 2x$
 $y = -1$
- 2 Dotted line:
 $y < x + 4$
 $y > -1$
 Solid line:
 $y \leq 1 - 2x$



- 3 $y < x + 4$: $0 < 4$ is true, so $(0, 0)$ is on correct side of line.
 $y \leq 1 - 2x$: $0 \leq 1$ is true, so $(0, 0)$ is on correct side of line.
 $y > -1$: $0 > -1$ is true, so $(0, 0)$ is on correct side of line.

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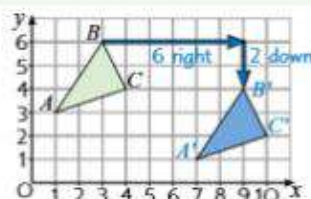
The Four Transformations

Translation

Amount a shape moves is given by $\begin{pmatrix} x \\ y \end{pmatrix}$.

x = horizontal movement

y = vertical movement

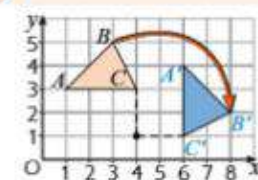


Translation from ABC to $A'B'C'$: $\begin{pmatrix} 6 \\ -2 \end{pmatrix}$

Rotation

To describe a rotation you need:

- 1 the angle
- 2 the direction
- 3 the centre of rotation

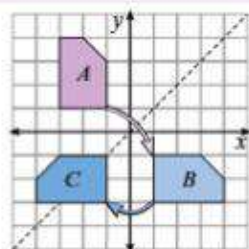


Rotation from ABC to $A'B'C'$: 90° clockwise about $(4, 1)$

- 1
- 2
- 3

Reflection

Describe by giving the equation of the mirror line.

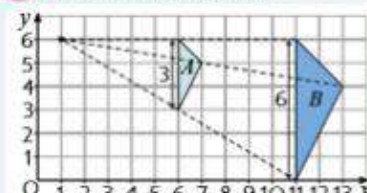


B is a reflection of A in $y = x$
 C is a reflection of B in the y -axis

Enlargement

To describe an enlargement you need:

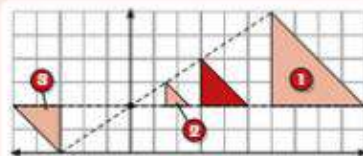
- 1 the scale factor = $\frac{\text{new length}}{\text{old length}}$
- 2 the centre of enlargement



Enlargement from A to B : 1 $\frac{6}{3} = 2$ 2 $(1, 6)$

Four Facts about Scale Factors

- 1 If **bigger** than 1, shape gets **bigger**.
- 2 If **smaller** than 1, shape gets **smaller**.
- 3 If **negative**, shape goes to **other side** of centre of enlargement. Scale factor of -1 = rotation of 180° .
- 4 They give relative distance of new and old points from centre of enlargement.



The AND/OR Rules

The AND Rule for Independent Events

INDEPENDENT EVENTS — where one event happening doesn't affect the probability of another event happening.

If you select a second item after **replacing** the first, the events are independent.

For independent events A and B:

$$P(A \text{ and } B) = P(A) \times P(B)$$

EXAMPLE

A fair dice is rolled and a fair coin is tossed. What is the probability of rolling a 2 and getting heads?

$$P(2) = \frac{1}{6} \text{ and } P(\text{heads}) = \frac{1}{2}$$

Rolling a dice and tossing a coin are independent, so:

$$P(2 \text{ and heads}) = \frac{1}{6} \times \frac{1}{2} = \frac{1}{12}$$

The OR Rule

For any events A and B:

$$P(A \text{ or } B) = P(A) + P(B) - P(A \text{ and } B)$$

If A and B are **mutually exclusive**, $P(A \text{ and } B) = 0$. So the OR rule becomes:

$$P(A \text{ or } B) = P(A) + P(B)$$

Mutually exclusive events can't happen together.

EXAMPLE

A fair dice is rolled and a fair coin is tossed. What is the probability of rolling a 2 or getting heads?

$$\text{From above, } P(2) = \frac{1}{6}, P(\text{heads}) = \frac{1}{2}$$

$$\text{and } P(2 \text{ and heads}) = \frac{1}{12}$$

$$\text{So } P(2 \text{ or heads}) = \frac{1}{6} + \frac{1}{2} - \frac{1}{12} = \frac{7}{12}$$

Conditional Probability

DEPENDENT EVENTS — where one event happening affects the probability of another event happening.

If you select a second item **without replacing** the first, the events are dependent.

CONDITIONAL PROBABILITY OF A GIVEN B — the probability of event A happening given that event B happens.

For **dependent** events A and B, the AND rule is:

$$P(A \text{ and } B) = P(A) \times P(B \text{ given } A)$$

$P(B \text{ given } A)$ can be written $P(B|A)$.

EXAMPLE

The probability that Abi has pasta for tea is 0.6.

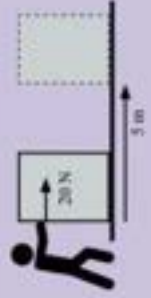
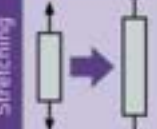
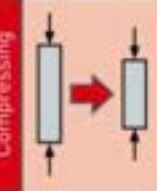
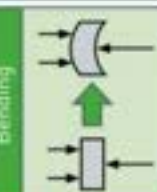
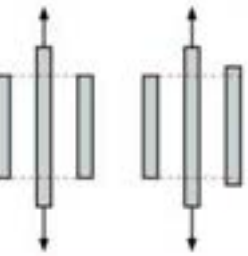
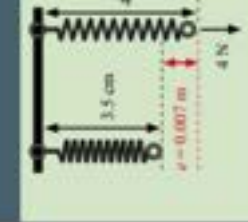
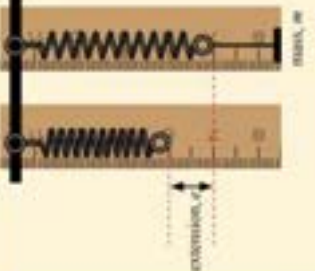
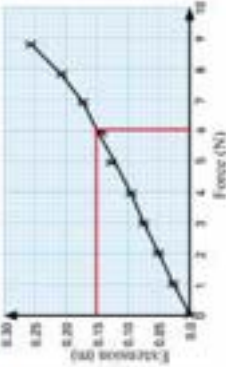
The probability that Abi has yoghurt for pudding given that she has pasta for tea is 0.7. What is the probability that Abi has pasta for tea and yoghurt for pudding?

$$\begin{aligned} P(\text{pasta and yoghurt}) &= P(\text{pasta}) \times P(\text{yoghurt given pasta}) \\ &= 0.6 \times 0.7 = 0.42 \end{aligned}$$

If A and B are independent, then $P(A \text{ given } B) = P(A)$ and $P(B \text{ given } A) = P(B)$.

Basic Concepts		Representing Vector Quantities		Resultant Forces													
Scalar quantities have magnitude only <table border="1"> <tr><td>Energy</td><td>Distance</td></tr> <tr><td>Volume</td><td>Time</td></tr> <tr><td>Mass</td><td>Speed</td></tr> <tr><td>Density</td><td>Temperature</td></tr> </table>		Energy	Distance	Volume	Time	Mass	Speed	Density	Temperature	Arrows are used to represent vector quantities <table border="1"> <tr> <th>Arrow Length</th> <th>Arrow Direction</th> </tr> <tr> <td>Magnitude of quantity</td> <td>Direction of quantity</td> </tr> </table>		Arrow Length	Arrow Direction	Magnitude of quantity	Direction of quantity	Resultant Force = $40 + 15 = 55$ N to right	
Energy	Distance																
Volume	Time																
Mass	Speed																
Density	Temperature																
Arrow Length	Arrow Direction																
Magnitude of quantity	Direction of quantity																
Vector quantities have magnitude and an associated direction <table border="1"> <tr><td>Displacement</td><td>Current</td></tr> <tr><td>Momentum</td><td>Potential Difference</td></tr> <tr><td>Velocity</td><td>Magnetic Field Strength</td></tr> <tr><td>Force</td><td>Acceleration</td></tr> </table>		Displacement	Current	Momentum	Potential Difference	Velocity	Magnetic Field Strength	Force	Acceleration	displacement of 4.0 km South		displacement of 2.5 km East displacement of 3.5 km West					
Displacement	Current																
Momentum	Potential Difference																
Velocity	Magnetic Field Strength																
Force	Acceleration																
A force is a push or pull that acts on an object due to the interaction with another object A force acting on an object is either a contact force or a non-contact force																	
Contact Forces Objects are physically touching <table border="1"> <tr> <td>Friction</td> <td>Motion</td> </tr> <tr> <td>Air Resistance</td> <td>Motion</td> </tr> <tr> <td>Tension</td> <td>Motion</td> </tr> <tr> <td>Normal Reaction Force</td> <td>Motion</td> </tr> </table>		Friction	Motion	Air Resistance	Motion	Tension	Motion	Normal Reaction Force	Motion	Non-Contact Forces Objects are physically separated <table border="1"> <tr> <td>Gravitational Force</td> <td>Electrostatic Force</td> </tr> <tr> <td>Magnetic Force</td> <td></td> </tr> </table>		Gravitational Force	Electrostatic Force	Magnetic Force		Gravity is the force of attraction between objects because of their masses The weight of an object is the gravitational force acting between the object and the Earth weight = mass $\times$ gravitational field strength $W = m g$ weight, W, in newtons, N mass, m, in kilograms, kg gravitational field strength, g, in newtons per kilogram, N/kg On Earth $g = 9.8$ N/kg EXAMPLES mass = 20 kg weight = $20 \times 9.8 = 196$ N mass = 0.025 kg weight = $0.025 \times 9.8 = 0.245$ N	
Friction	Motion																
Air Resistance	Motion																
Tension	Motion																
Normal Reaction Force	Motion																
Gravitational Force	Electrostatic Force																
Magnetic Force																	
The resultant of a number of forces is the single force that can replace them and have the same effect as all the original forces together		A single force can be resolved into two components acting at 90° to each other		Weight can be resolved into components parallel and at 90° to the slope													
Normal Contact Force Friction Weight = 50 N		30 N 40 N		3.4 N 4.7 N													
Two forces acting on an object can be represented by the adjacent sides of a parallelogram in a scale drawing		The resultant is then given by the diagonal between the two adjacent sides drawn		If the box is in equilibrium The resultant force acting on the box = 0 friction = component of weight parallel to slope = $3.4 \times 5 = 17$ N normal force = component of weight at 90° to slope = $9.4 \times 5 = 47$ N													
Situation 20 N 15 N 135° Scale 1 cm = 2 N		Representing Forces 10 cm 7.5 cm 135° Scale 1 cm = 5 N		Finding Resultant 2.1 cm 2.1 cm 135° Resultant $2.1 \times 2 = 4.2$ N at 45° to the vertical													
Constructing a Parallelogram arc of radius 7.5 cm arc of radius 10.0 cm Resultant 10.0 N		Finding Resultant 2.1 cm 2.1 cm 135° Resultant $2.1 \times 2 = 4.2$ N at 45° to the vertical		Finding Resultant 2.1 cm 2.1 cm 135° Resultant $2.1 \times 2 = 4.2$ N at 45° to the vertical													

Science – Autumn Year 11

When a force causes a displacement of an object work is done			
EQUATION	work = force $\times$ distance [moved along the line of action of the force]		$W = Fs$
UNITS	work, W , in joules, J	force, F , in newtons, N	distance, s , in metres, m
	1 joule = 1 newton-metre		
EXAMPLES			
			
Work is done against friction $W = Fs = 20 \times 5 = 100 \text{ J}$	Work is done against gravity $W = Fs = 980 \times 1.8 = 1,764 \text{ J}$	Work is done by gravity $W = Fs = 12 \times 0.6 = 7.2 \text{ J}$	
Chemical Energy $\rightarrow$ Thermal Energy	Chemical Energy $\rightarrow$ Gravitational Potential Energy	Gravitational Potential Energy $\rightarrow$ Kinetic Energy	
A number of forces can be used to change the size and shape of an object			
			
Elastic deformation of object	Inelastic deformation of object		
Returns to original size and shape when forces removed	Does not return to original size and shape when forces removed		
			
EQUIPMENT			
VARIABLES			
Independent Variable	Force (m in kg = 9.8)	Dependent Variable	Extension
Control Variables	Type of spring		
PROCEDURE			
Step 1	Suspend spring from fixed point	Step 2	Place vertical ruler behind spring
Step 3	Note position of lower end of spring on ruler	Step 4	Suspend 100 g mass (0.98 N weight) from spring
Step 5	Note new position of lower end of spring on ruler and calculate extension	Step 6	Continue to add masses and measure corresponding extensions until spring deforms permanently
ANALYSING THE RESULTS			
			
CONCLUSIONS			
The extension is directly proportional to the applied force up to a force of about 7 N			
$e \propto F$	Limit of proportionality = 7 N	$F = k e$	
		$6 = k \times 0.15$	
		$k = \frac{6}{0.15} = 40 \text{ N/m}$	

Science – Autumn Year 11

Distance and Displacement Distance is how far an object moves Distance is a scalar quantity Displacement is how far an object moves in a particular direction Displacement is a vector quantity	Speed and Velocity distance = speed $\times$ time $s = vt$ Speed is a scalar quantity Velocity is speed in a given direction Velocity is a vector quantity	Acceleration acceleration = $\frac{\text{change in velocity}}{\text{time}}$ $a = \frac{\Delta v}{t}$
distance (s) in metres, m	speed (v) in metres per second, m/s	UNITS acceleration, a, in metres per second squared, m/s ² change in velocity, Δv , in metres per second, m/s time, t, in seconds, s
EXAMPLE: John walks from A to B and then from B to C in 5 minutes 	distance = AB + BC = 300 + 400 = 700 m speed = $\frac{\text{distance}}{\text{time}} = \frac{700}{300} = 2.3 \text{ m/s}$ displacement = 500 m, 53° East of North velocity = $\frac{\text{displacement}}{\text{time}} = \frac{500}{300} = 1.7 \text{ m/s}$, 53° East of North	EXAMPLES A car accelerates in a straight line from 10 m/s to 30 m/s in 5s $a = \frac{\Delta v}{t} = \frac{30 - 10}{5} = \frac{20}{5} = 4.0 \text{ m/s}^2$ A car accelerates in a straight line from rest at 7.5 m/s ² for 12s $a = \frac{\Delta v}{t} \Rightarrow 7.5 = \frac{\Delta v}{12}$ $\Delta v = 7.5 \times 12 = 90 \text{ m/s}$
Distance-Time Graphs speed = gradient of graph 	Velocity-Time Graphs acceleration = gradient of graph 	Velocity-Time Graphs and Distance distance travelled = enclosed area $\text{distance travelled} = \frac{1}{2} \times 4 \times 8 + 2 \times 8 + \frac{1}{2} \times 8 \times 8 = 72 \text{ m}$
One Journey, Two Graphs v = gradient = $\frac{4-0}{2-0} = 2 \text{ m/s}$ gradient decreases to 0 – decelerating v = gradient = $\frac{8.5-3.5}{6-1} = 1 \text{ m/s}$ speed = gradient = 0 gradient increases – accelerating v = gradient = $\frac{4.5-0}{10-6} = 1.125 \text{ m/s}^2$	Distance and Non-Uniform Acceleration - full square = 4 m/s $\times$ 2 s = 8 m 0.5 square = 2 m/s $\times$ 2 s = 4 m 1 square = 4 m/s $\times$ 2 s = 8 m - distance = 7 $\times$ 8 + 3 $\times$ 4 = 68 m	Distance and Non-Uniform Acceleration - full square = 4 m/s $\times$ 2 s = 8 m 0.5 square = 2 m/s $\times$ 2 s = 4 m 1 square = 4 m/s $\times$ 2 s = 8 m - distance = 7 $\times$ 8 + 3 $\times$ 4 = 68 m
EQUATION (final velocity) ² – (initial velocity) ² = 2 $\times$ acceleration $\times$ distance $v^2 - u^2 = 2as$	final velocity (v) in metres per second, m/s	initial velocity (u) in metres per second, m/s
EXAMPLE $a = ?$ $v^2 - u^2 = 2as$ $8^2 - 5^2 = 2 \times a \times 200$ $64 - 25 = 400 = a$ $39 = 400 \times a$ $a = \frac{39}{400} = 0.0975 \text{ m/s}^2$	EXAMPLE $a = 0.50 \text{ m/s}^2$ $v = ?$ $v^2 - u^2 = 2as$ $v^2 - 4^2 = 2 \times 0.50 \times 50$ $v^2 - 16 = 50$ $v^2 = 66$ $v = \sqrt{66} = 8.1 \text{ m/s}$	EXAMPLE $a = -1.2 \text{ m/s}^2$ $v^2 - u^2 = 2as$ $0 - 20.0^2 = 2 \times -1.2 \times s$ $-400 = -2.4 \times s$ $s = \frac{400}{-2.4} = 167 \text{ m}$

Science – Autumn Year 11

The acceleration of an object depends on the resultant force and the mass of the object							
EQUIPMENT 	PROCEDURE Step 1 Measure the mass of the trolley Step 2 Suspend the falling weight from the string connected to the trolley. Step 3 Release the trolley and take measurements to find its acceleration. Step 4 Add a 100 g mass to the trolley and find the new acceleration. Step 5 Repeat until the mass of the trolley has been doubled.						
VARIABLES <table border="1"> <tr> <td>Independent Variable</td><td>Mass of trolley</td></tr> <tr> <td>Dependent Variable</td><td>Acceleration</td></tr> <tr> <td>Control Variables</td><td>Falling weight, Slope of runway</td></tr> </table>	Independent Variable	Mass of trolley	Dependent Variable	Acceleration	Control Variables	Falling weight, Slope of runway	ANALYSING THE RESULTS Doubling mass from 0.55 kg to 1.10 kg halves acceleration from 3.5 m/s² to 1.75 m/s². When $m = 0.8$ kg, $a = 2.4$ m/s² and $F = ma = 1.92$ N. When $m = 1.0$ kg, $a = 1.9$ m/s² and $F = ma = 1.90$ N. CONCLUSION $a \propto \frac{1}{m}$
Independent Variable	Mass of trolley						
Dependent Variable	Acceleration						
Control Variables	Falling weight, Slope of runway						
stopping distance = thinking distance + braking distance							
Thinking distance is the distance travelled during the driver's reaction time Typical reaction times: 0.2 – 0.9 s Affected by tiredness, drugs, alcohol and distractions	Braking distance is the distance travelled under the braking force Affected by wet and icy conditions Affected by worn brakes and tyres						
EXAMPLES Alert driver with good conditions Tired driver with icy road							
Momentum is a property of moving objects							
EQUATION $p = m \times v$	UNITS momentum, p , in kg m/s mass, m , in kg velocity, v , in m/s						
Momentum is a vector quantity 	Momentum is conserved In a closed system total momentum before an event is equal to the total momentum after the event. 						

Chemistry 6

Science – Autumn Year 11

Calculating the Mean Rate of a Reaction

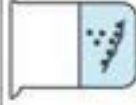
This can be calculated by measuring the quantity of reactant used or product formed over a **period of time**

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

EXAMPLES



If 22 cm³ hydrogen is collected in 1 minute in gas syringe

$$\text{mean rate of reaction} = \frac{22}{60} = 0.37 \text{ cm}^3/\text{s}$$


If the length of magnesium ribbon disappears in 40 s

$$\text{mean rate of reaction} = \frac{1}{40} = 0.025/\text{s}$$

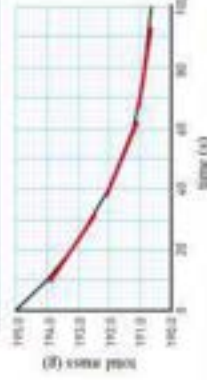
Following a chemical reaction

The amount of reactant used or product formed can be measured at regular intervals

EXAMPLE



As carbon dioxide is produced total mass decreases
Measure mass at regular intervals



Decreasing gradient shows rate of reaction is decreasing with time

Chemical reactions can occur only when reacting particles collide with each other with sufficient energy

The minimum amount of energy that particles must have to react is called the activation energy

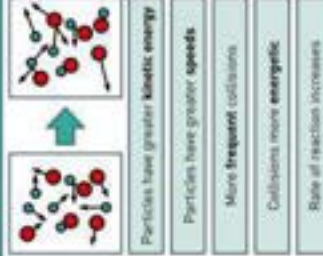
Increasing the concentration of reactants in solution OR the pressure of gaseous reactants



Increasing the surface area of a solid reactant



Increasing the temperature of the reactants



Catalysts change the rate of chemical reactions but are not used up during the reaction

Different reactions need different catalysts

Enzymes are biological catalysts

EXAMPLES



Catalysts lower activation energy



Hypothesis

Increasing the concentration of a reactant increases the rate of the reaction which increases the frequency of collisions between particles of the reactants

Measuring the Rate of Production of a Gas



Equipment



Variables

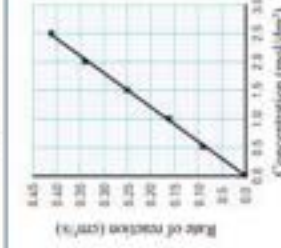
Independent	Concentration of acid
Dependent	Volume of gas collected in one minute
Control variables	Mass of calcium carbonate
	Size of calcium carbonate chips
	Volume of acid
	Starting temperature of acid

Procedure

- Put 1 g calcium carbonate into a clean conical flask
- Pour 20 cm³ hydrochloric acid of concentration 1 mol/dm³ into the conical flask, place the bung in the flask and start the stopwatch
- Remove the bung from the flask after one minute and note the volume of gas collected
- Calculate the mean rate of reaction using

$$\text{mean rate} = \frac{\text{volume of CO}_2}{60}$$
- Repeat steps 1 – 4 with other concentrations of hydrochloric acid

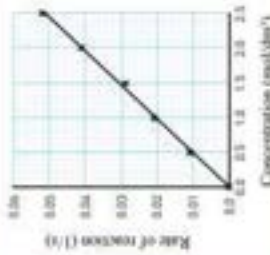
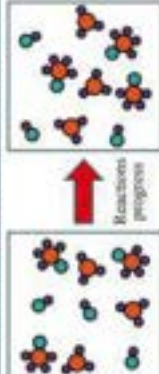
Analysing Results



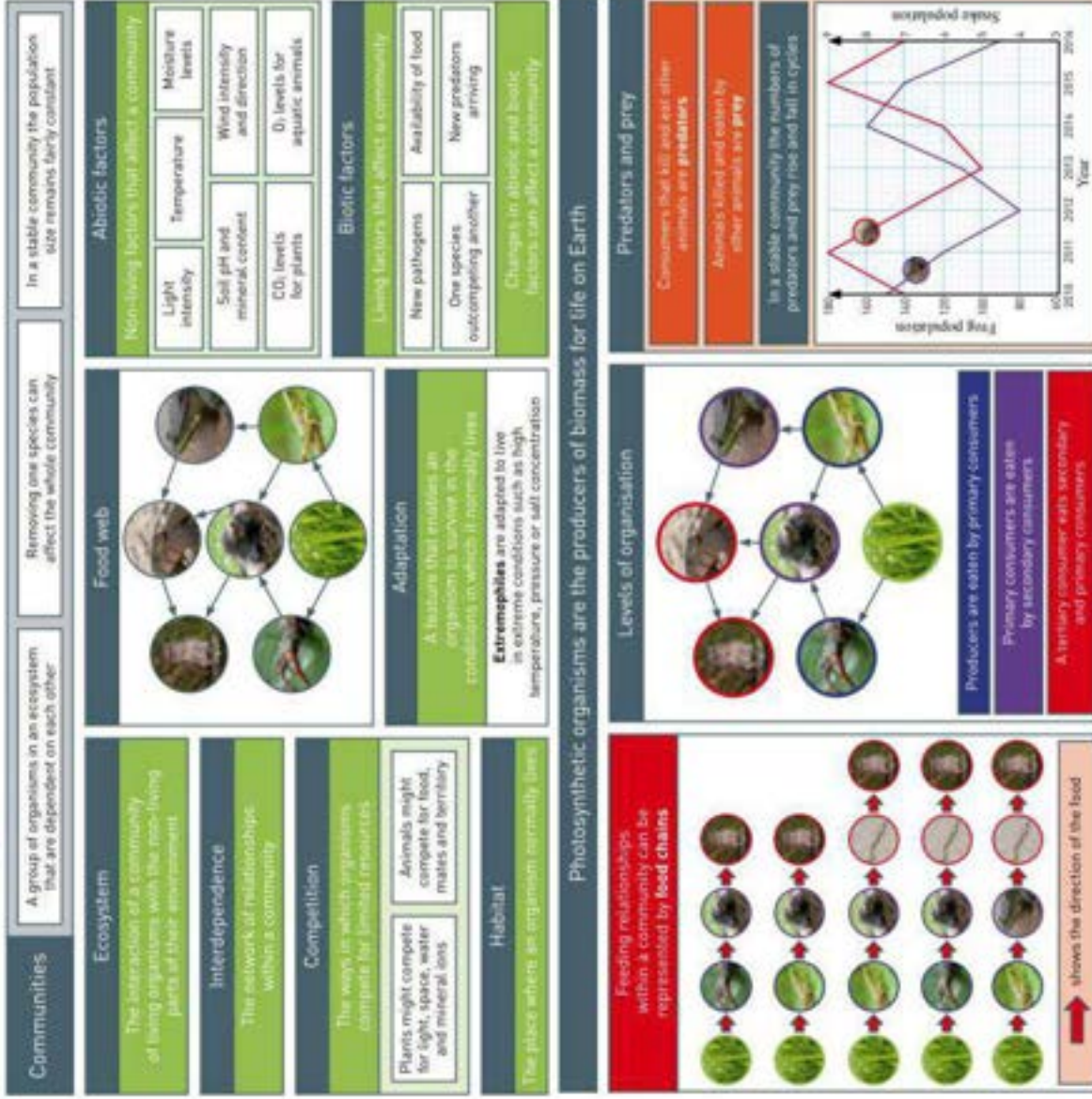
Conclusion

The rate of reaction is proportional to the concentration of the acid

Science – Autumn Year 11

Hypothesis	The rate of a reaction is proportional to the concentration of one of the reactants Doubling the concentration doubles the number of particles per unit volume, which doubles the frequency of collisions between particles of the reactants		
Measuring the Rate of Production of a Precipitate		$\text{Na}_2\text{S}_2\text{O}_3(\text{aq}) + 2\text{HCl}(\text{aq}) \rightarrow 2\text{NaCl}(\text{aq}) + \text{S}(\text{s}) + \text{SO}_2(\text{g}) + \text{H}_2\text{O}(\text{l})$	
Equipment		Procedure	Analysing Results
Variables			
Independent	Concentration of acid	Step 1 Pour 30 cm ³ sodium thiosulfate of concentration 0.20 mol/dm ³ into a clean conical flask	
Dependent	Time for precipitate to form	Step 2 Place the flask on top of a cross drawn on a card	
Control variables	Volume of hydrochloric acid	Step 3 Add 5 cm ³ hydrochloric acid of concentration 0.5 mol/dm ³ in the flask and start the stopwatch	
	Volume of sodium thiosulfate	Step 4 Observe the cross from above and stop the stopwatch when the cross is no longer visible	
	Concentration of sodium thiosulfate	Step 5 Calculate the mean rate of reaction using mean rate = $\frac{1}{\text{time}}$	
	Starting temperature of acid and sodium thiosulfate	Step 6 Repeat steps 1 – 5 with other concentrations of hydrochloric acid	
		Conclusion The rate of reaction is proportional to the concentration of the acid	
Le Chatelier's Principle A system of reactants and products changes to counteract any changes made to the conditions			
Changing Concentration	Increasing concentration of reactants	Forward reaction speeds up	Equilibrium is reached again
Changing Temperature	Increasing temperature of reactants and products	Endothermic reaction speeds up	Equilibrium is reached again
Changing Pressure	Increasing pressure of reactants and products	Reaction resulting in a smaller number of molecules speeds up	Equilibrium is reached again
In some chemical reactions the products can react to produce the original reactants $\text{A} + \text{B} \rightleftharpoons \text{C} + \text{D}$ If a reversible reaction is exothermic in one direction it is endothermic in the opposite direction EXAMPLE heat ammonium chloride + hydrogen chloride $\text{NH}_4\text{Cl}(\text{s}) \rightleftharpoons \text{NH}_3(\text{g}) + \text{HCl}(\text{g})$ endothermic (forward) / exothermic (reverse) At equilibrium the forward and reverse reactions occur at exactly the same rate		 The relative amounts of reactants and products remain constant	

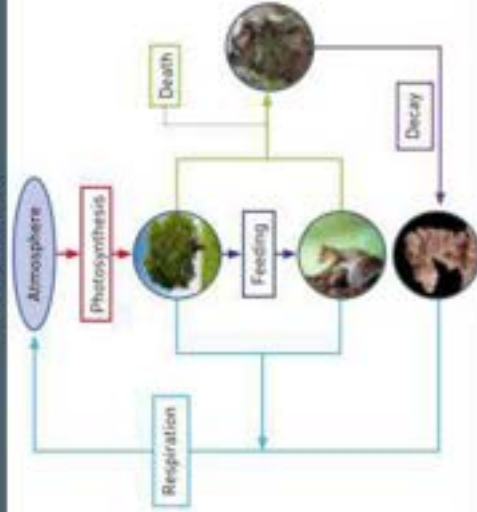
Biology 3



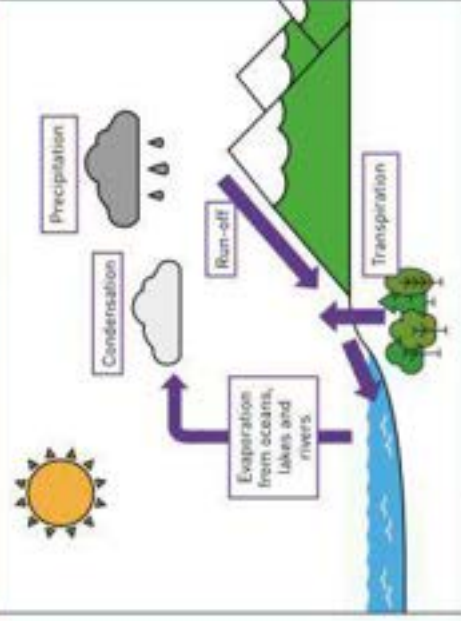
Science – Autumn Year 11

Many different materials **cycle** through the abiotic and biotic components of an ecosystem
All materials in the living world are recycled to provide the building blocks for future organisms

The carbon cycle

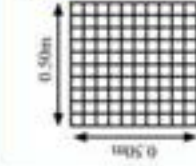


The water cycle



A quadrat can be used to estimate the population of a given plant in a given area

Procedure



- Step 1** Place the quadrat randomly in the area being investigated
- Step 2** Count the number of the plant in the quadrat
- Step 3** Repeat steps 1 and 2 nine more times and calculate the average number of plants per quadrat
- Step 4** $\frac{\text{number of plants in given area}}{\text{given area}} = \text{average number per quadrat}$

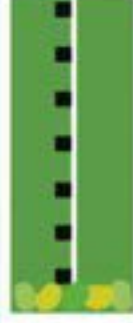
Results

Trials	Number of daisies
1	9
2	11
3	24
4	17
5	2
6	22
7	19
8	4
9	23
10	15
Average	14.6

$$\text{Number of daisies} = \frac{5 \times 4}{0.50} \times 14.6 = 1178$$

Belt transects

Hypothesis The density of daisies in a field decreases closer to the trees.



Procedure

- Step 1** Lay out measuring tape at 90° to the line of trees
 - Step 2** Place the quadrat next to the tape at regular intervals and count the number of daisies in the quadrat at each point
- | | | | | | | |
|------------------------------|---|---|----|----|----|----|
| Distance from trees (m) | 0 | 5 | 10 | 15 | 20 | 25 |
| Number of daisies in quadrat | 0 | 4 | 22 | 23 | 20 | 22 |

Hypothesis supported **Not supported**

Human impacts on biodiversity

Many human activities have had significant effects on the environment – they reduce biodiversity



Overfishing of fish stocks can deplete them faster than they can recover – decreasing biodiversity

Intensive trawling led to Atlantic cod levels falling by ~90% in under thirty years



Fish farming aims to produce more fish and reduce overfishing of wild stock – preserving biodiversity



Fish kept in high concentrations Parasites Usual food and faeces falls to the bottom and disease spread easily



Introducing new species to ecosystems can affect the indigenous species



Ring-necked parakeets in the UK Cane toads in Australia



Eutrophication is the addition of more nutrients to an ecosystem than it normally has. The overgrowth of algae kills off aquatic life in bodies of water, reducing biodiversity

Maintaining biodiversity

Scientists and concerned citizens have put in place programmes to reduce the negative effects

These programmes try to maintain existing biodiversity or reintroduce biodiversity to areas



Many habitats with unique biodiversity are being destroyed and need to be protected

Preventing deforestation or burning. Hunting can help to preserve habitats and stop or slow the decline in biodiversity



Many forests have been cut down for farming and wood

The forests can be regrown by planting new trees – reforestation. Farmers can be incentivised to regrow hedgerows



Breeding programmes can restore endangered species

If successful, the species can be released back into the wild. Many species do not reproduce easily in captivity



Many forms of pollution are harmful to the environment and damage species

By reducing pollution and recycling waste, we can limit its harmful effects

Chemistry 8

Science – Autumn Year 11

In chemistry , a pure substance is a single element or compound, not mixed with any other substances		
In everyday language , a pure substance can be a substance that is unadulterated and in its natural state		
Pure elements and compounds melt and boil at specific temperatures	Pure Substance	Mixture
Procedure 		
A formulation is a mixture that has been designed as a useful product Formulations are made by mixing components in carefully measured quantities		
EXAMPLES Buret solution is used to test for protein in food 1 litre Buret solution contains: 1.5 g copper(II) sulfate pentahydrate 6 g sodium potassium tartrate 1 g potassium iodide 300 ml 10% sodium hydroxide solution 700 ml water Cartridge brass is an alloy of copper and zinc that is easy to work with when cold 1 kg cartridge brass contains 0.70 kg brass and 0.30 kg zinc		
Chromatography involves dissolving the test substance in a solvent and then allowing the solvent to move along a material		
The material is the stationary phase	The solvent is the mobile phase Components of the test substance with a greater attraction to the mobile phase move further along the stationary phase	
The retention factor of a compound in a solvent is the ratio of the distance moved by a compound to the distance moved by the solvent Paper chromatography can be used to separate out the pigments in a sample of ink	Equipment Procedure Step 1 Draw a pencil across a strip of filter paper close to the bottom Step 2 Place a dot of the ink on the pencil line Step 3 Hold the paper strip vertically so that the lower end is just in the water with the pencil line above the water Step 4 After a given time, measure the distances moved by the solvent and the different pigments Results R_f for purple pigment $R_f = \frac{\text{distance moved by substance}}{\text{distance moved by solvent}} = \frac{1.8}{6.2} = 0.29$ R_f for blue pigment $R_f = \frac{6.2}{8.0} = 0.78$	
Testing for Hydrogen Hold a burning splint at the open end of a test tube of the test gas 	Testing for Oxygen Insert a glowing splint into a test tube of the test gas 	
Hydrogen explodes with a 'squeaky pop' sound 	Testing for Carbon Dioxide Shake test gas with lime water or bubble it through lime water 	
Testing for Chlorine Put damp litmus paper in the test gas 		
Chlorine bleaches the litmus paper so that it turns white		
EXAMPLE Two chromatograms for the same black ink are made with the same paper at the same temperature but different solvents A pure compound will produce a single spot in all solvents		

Art – Autumn Year 11

Year 10 & 11 Fine Art

Project Overview

Component 1

In Year 11 Component 2 will be your exam project

Component 1 (coursework) in Fine Art is worth 60% of the GCSE. Your coursework comprises of 1 sustained project titled 'Fragments.' You will explore what the title means and as an Artist begin to create artwork that responds to that theme.

You will research and be introduced to artists that relate to the theme of Fragments. You will explore the many avenues that a broad theme like this could take you and you will explore what fragments could mean to you personally. You will work in a variety of Fine Art media ranging from; pencil, coloured pencil, charcoal and chalk, pen and ink, oil pastel, acrylic, watercolour and mixed media. You will be expected to produce a project that shows a journey as an artist, with research, experiments in different media and personal responses to the theme throughout

Visual Reference



Fragments

Assessment Objectives



Key Terminology:

Selecting appropriate media, refinement, primary sources, contextual references, personal response, idea development, transcription

Graphics – Autumn Year 11

Year 10/11 GCSE Graphic Design

Knowledge Organiser Year 10/11 GCSE Graphics Design Component 1 and Component 2 will be your exam

Project Focus: Identity Magazine Cover

You will design a magazine cover inspired by I-D, Roo Abbrook, Luke Dixon, and Dains. They explore how identity can be communicated through portraiture, typography, layout, and visual style.

Key Artists & Designers:

Dains – Contemporary Digital Portraiture. Clean vector shapes, bold colour blocking. Modern, youthful, stylised portraiture digital skills using Adobe Express; flat colour, shape-based identity

Roo Abbrook – Mixed Media Portraiture. Uses collage, vintage textures, layered imagery. Themes: femininity, nostalgia, personal identity. You will learn how to utilise texture, layering, mixed media composition.

Luke Dixon – Geometric Human and Animal Portraits. Bold line work, geometric shapes, limited colour palettes. Themes: strength, symbolism, identity through facial portraits. You will learn about line, pattern, and symbolism.

I-D Magazine – Iconic Wink Covers - Known for the wink/smile motif. Minimalist, bold typography. Strong portrait photography. You will learn layout, branding, and editorial design.

Magazine Cover Components: Masthead — main title/logo - Main Image — usually a portrait -

Cover Lines — article teasers - Sub-headings — extra detail - Barcode + Price — issue info - Colour Scheme — 2-4 colours - Typography — font choices - Composition — layout + hierarchy -

Identity Theme –

How to Show It: Symbolism (portraits, objects, colours); Expression (pose, emotion, wink); Colour (warm/cool, bold/subtle); Typography (fonts that match personality); Mixed Media (collage, texture, layering); Digital Style (vector, geometric, flat colour)

Digital Skills Students Must Use: Cut-outs (clean selection tools), colour grading, layering + blending, typography control, layout grids, using Adobe Express

How to Analyse a Magazine Cover (PEEL) Point — Identify the design feature.

Evidence — Describe what you see. **Explain** — Why the designer used it. **Link** — Connect to identity/theme.

Example: **Point:** The model uses a wink pose. **Evidence:** One eye is closed, referencing I-D magazine's iconic style. **Explain:** This creates a playful, recognisable identity. **Link:** It links directly to the I-D brand identity.

Success Criteria: Clear identity theme; strong portrait photography; artist influence visible; professional layout; consistent colour palette; accurate typography; high-quality editing.



Photography – Autumn Year 11

Year 10 & 11 Photography

Project Overview

Component 1

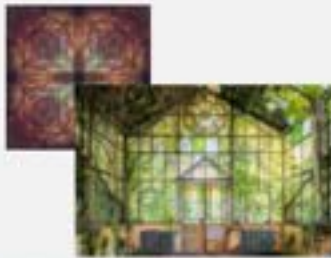
In Year 11 Component 2 will be your exam project

Component 1 (coursework) in photography is worth 60% of the GCSE. Your coursework comprises of 1 sustained project titled 'Manipulating Reality.' You will explore what the title means and as a photographer begin to change and create new visual realities through the digital editing processes that you will learn.

You will research photographers that link to the theme, take photos that link to the research you have done using a range of camera skills and edit those photos in response to the photographers you have researched. You will explore key themes within photography through Architecture, Landscapes/nature and portraiture.

Photographers you may study

Gina Soden



Simon Gardiner



Merve Ozaslan

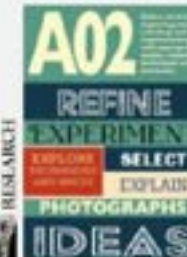


Brandon Kidwell



Manipulating Reality

Assessment Objectives



Camera skills: Manual camera settings, viewpoint, lighting, atmosphere, composition, balance, framing, the rule of thirds, leading lines

Other Key Terminology: Double exposure, selection tools, digital manipulation, opacity, contrast, saturation, atmosphere, narrative, layering, contemporary, traditional, annotation, refinement

Year 10 Food Preparation and Nutrition



Assessment terminology

Planning: Choice, aim, recommendations, predictions, sensory choice, food provenance, seasonality, justification, dovetailing, quality points

Method of Working: personal preparation, following time plan, dovetailing, food safety

Skills and Cooking: techniques, methods, equipment, cooker management

Presentation: styling, finish, sensory testing, portion control

Analyse and Evaluate: sensory analysis, organoleptic properties, range of evidence

Planning: Choice, aim, recommendations, predictions, sensory choice, food provenance, seasonality, justification, dovetailing, quality points

Method of Working: personal preparation, following time plan, dovetailing, food safety

Skills and Cooking: techniques, methods, equipment, cooker management

Presentation: styling, finish, sensory testing, portion control

Analyse and Evaluate: sensory analysis, organoleptic properties, range of evidence

Topics of Study:

Nutrition:

The relationship between diet and health, nutritional dietary needs, energy balance, protein, fats, carbohydrates, vitamins, minerals, water, nutrients in foods

Food:

Food source and supply, food processing and production, food security, technological developments, culinary traditions, factors influencing food choice

Cooking and food preparation:

Food science, sensory properties, food safety

Skills requirements:

Knife skills, preparation and techniques, cooking methods, sauces, set a mixture, raising agents, dough, judge and manipulate sensory properties

Year 11 Food Preparation and Nutrition



Topics-Nutrition, Food production, Food Science, Cooking Methods

- **Non Assessed examination 1 (worth 15%)-**
This is a science based investigation into a theme provided by OCR- the investigation will be concluded with a practical experiment e.g. different rising agents in foods
- **Non Assessed examination 2 (worth 35%)-**
Pupils are provided with a theme e.g. protein in foods. They complete a 20 page research project investigating the theme and planning a 3 course menu based on the research- this menu takes into account nutrients, timings and cost. In a 3 hour controlled assessment pupils are then expected to make their menu
- **Written Examination (worth 50%)-** This exam will be taken at the end of the course and will assess all of the knowledge from the topics listed above

NEA1 Assessment terminology

Planning: Choice, aim, recommendations, predictions, sensory choice, food provenance, seasonality, justification, dovetailing, quality points

Investigation: Scientific investigation, functional and chemical properties, time planning.
Recording

Analyse and Evaluate: Opinions and viewpoints, observations, conclusions

NEA2 Assessment terminology

Planning: Choice, aim, recommendations, predictions, sensory choice, food provenance, seasonality, justification, dovetailing, quality points

Method of Working: personal preparation, following time plan, dovetailing, food safety

Skills and Cooking: techniques, methods, equipment, cooker management

Presentation: styling, finish, sensory testing, portion control

Analyse and Evaluate: sensory analysis, organoleptic properties, range of evidence

Drama – Autumn Year 11 OCR

KNOWLEDGE ORGANISER – LIVE THEATRE - Shrek The Musical – OCR DRAMA Component 4 Section B

Introduction

Shrek The Musical is based on the 2001 Dreamworks animation Shrek. Opening in Broadway in 2008, it was recorded live before it closed in 2010, the film version of Shrek the Musical was released on DVD in 2013. I watched the recorded version in 2023.

The genre of Shrek The Musical is predominantly a musical as the songs not only help to deepen the audience understanding of the characters but help to carry the story forward. The story is also communicated in a comical way using characters we all recognise, not only from the Shrek animation but from traditional fairytale stories. This helps to portray the artistic intention to the audience in a light hearted way. In my opinion the intention of this piece is that we should not judge people before we get to know them, the play helps to break down stereotypical characters and help the audience to understand that we are all different and unique, in our own way we are all 'freaks' and should be accepted for our individuality.



GENRE = Musical, Comedy,
STYLE = Fantasy, Fairytale

Section B Question 9- one essay
question 30 marks, 35 minutes

CUE- The first thing you should do when reading the question

C- Circle the command word

U- Underline the key words

E- Extend words that have more than one element

9* Evaluate how the technical aspects within the live performance impacted you as an audience member

Vocal skills – Pace, Pitch, Tone, Volume, Intonation, Expression.
Physical Skills – Body language, facial expression, proxemics, gesture, levels, gait, tension.



P

Point

Identify the main point and summarize the main idea.

E

Explain

Provide facts and evidence to back up the main idea.

E

Evidence

Use the facts to support the main point.

L

Link

Link back to the main idea to reinforce the point.



Character Name	Actor/Actress
Fiona	Sutton Foster
Shrek	Brian D'Arcy James
Donkey	Daniel Breaker
Lord Farquaad	Christopher Sieber
Pinocchio / Magic Mirror / Dragon Puppeteer	John Tartaglia
Teen Fiona	Marissa O'Donnell
Young Fiona	Leah Greenhaus
Sugar Plum Fairy / Gingy / Dragonette	Haven Paschall

The use of semiotics

How meaning is created and communicated through systems of signs and symbols of drama. All the elements that make up a theatrical performance have meaning and an audience 'reads' or interprets them to understand the events in the performance.

Drama – Autumn Year 11 OCR

KNOWLEDGE ORGANISER – BLOOD BROTHERS – OCR DRAMA COMP.4 SECTION A

CUE- The first thing you should do when reading the question

C- Circle the command word

U-Underline the key words

E- Extend words that have more than one element

Set Costume Lighting and Sound

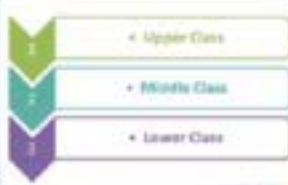
As a designer, describe and justify how would you stage the opening scene to present the social, historical and cultural context?

Social class Late 50's/ early 60's Gender roles

Key characters	
Mrs Johnstone	Mickey, Edward and Sammy's mother. She gives up Edward so he'll have a better life.
Mrs Lyons	A middle-class woman who longs for a child. She manipulates Mrs Johnstone into giving Edward to her.
Mickey Johnstone	The twin Mrs Johnstone keeps. He's a friendly child but ends up unemployed and in trouble with the law.
Edward Lyons	The twin Mrs Lyons takes. He's well- educated and grows up to be a successful local councillor.
Linda	Mickey and Edward's friend. Both boys fall in love with her. She marries Mickey.
Sammy Johnstone	Mickey's older brother. He's always in trouble as a child and ends up as a criminal.
Mr Lyons	A wealthy businessman who spends more time at work than with his family. He makes Mickey redundant.
The Narrator	Helps to tell the story. He also plays several minor characters throughout the play.



THEMES:
SOCIAL CLASS
GROWING UP
EDUCATION
GENDER ROLES
NATURE V NATURE



You could be asked to answer as a :
Performer, Director or Designer.

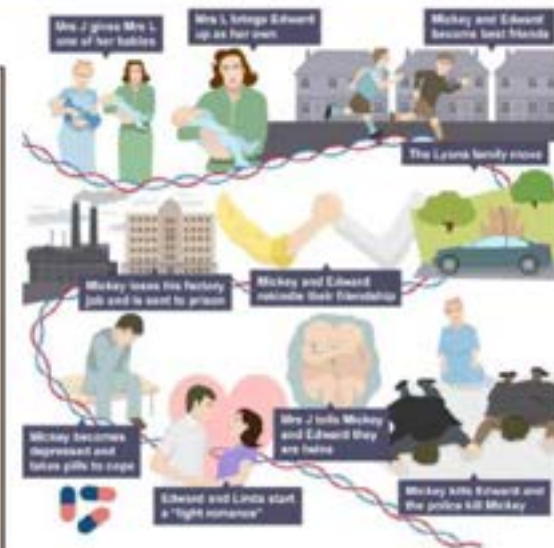
Performer – physicality, vocal skills, interaction.

Director – physicality, vocal skills, interaction and stage configuration and design elements

Designer – design elements
- See live theatre diagram for key areas



Act 1
Late 50's through to the mid 60's - Children aged 7
Act 2
1970's to early 1980s – teenagers and then adults.



Genre = musical theatre.

Style = both naturalistic and non naturalistic elements. Both comic and tragic elements.

Design = naturalistic, composite fixed set.

Structure = bookended or cyclical.

Conventions = Tableaux, Narrator, Multi-Rolling, Montage, Monologue, Split stage

The use of semiotics

How meaning is created and communicated through systems of signs and symbols of drama. All of the elements that make up a theatrical performance have meaning and an audience 'reads' or interprets them to understand the events in the performance.

Drama – Autumn Year 11 Eduqas

EDUQAS GCSE DRAMA – COMPONENT 1: DEVISING THEATRE – MARKING CRITERIA

Component 1 is worth **40%** of the GCSE and is worth **60 marks** in total.

COMPONENT 1: DEVISING THEATRE BREAKDOWN

There are three parts to Component 1.

SECTION	MARKS	WHAT STUDENTS DO
1. DEVISED PERFORMANCE	20	Perform or design an original devised piece.
2. PORTFOLIO OF SUPPORTING EVIDENCE	30	Document the devising process (approximately 750–900 words plus supporting evidence).
3. EVALUATION	10	Evaluate the final performance.
TOTAL MARKS	60	

ASSESSMENT OBJECTIVES (AOs)

AO1 – CREATE AND DEVELOP IDEAS (20%)

- Create original ideas
- Develop material from a stimulus
- Research themes and practitioners
- Shape dramatic intentions

AO2 – APPLY SKILLS IN PERFORMANCE (10%)

- Vocal skills
- Physical skills
- Communication with audience
- Use of dramatic techniques and conventions

AO4 – ANALYSE AND EVALUATE (10%)

- Evaluate the rehearsal process
- Evaluate the final performance
- Consider strengths and weaknesses
- Judge the effectiveness of choices

(AO3 is not assessed in Component 1)

DEVISED PERFORMANCE – 20 MARKS

Students are marked on the quality of their performance or design.

	SKILLS	DESCRIPTION
	VOCAL SKILLS	Clarity, pace, tone, projection, accent and vocal expression.
	PHYSICAL SKILLS	Movement, gesture, posture, facial expression, spatial awareness and use of space.
	CHARACTERISATION	Believable, consistent and sustained portrayal of role/character.
	COMMUNICATION	Engagement with audience and other performers. Clear storytelling and meaning.
	STYLE & GENRE	Clear and effective use of practitioner and/or genre conventions.
	ARTISTIC INTENTION	Clear communication of themes, ideas and meaning to the audience.

PORTFOLIO OF SUPPORTING EVIDENCE – 30 MARKS

The portfolio must show the development process of the devised piece. It should be approximately 750–900 words (not including notes of any kind, diagrams and quotations).

1 RESEARCH AND INITIAL IDEAS

- Response to stimulus
- Research findings
- Brainstorming and exploration
- Initial ideas and dramatic intentions

2 PRACTITIONER OR GENRE

How ideas from a practitioner or genre have influenced your work.

Examples include:

- Brecht
- Stanislevski
- Frantic Assembly
- Physical Theatre
- Verbatim Theatre
- Other practitioners / genres

3 DEVELOPMENT AND REFINEMENT

- How the piece was developed through rehearsal
- Feedback received
- Changes and amendments made
- How these improved the performance

Rehearsal photos

Scripts

Mind maps and notes

Annotations and reflections

Drawings and design ideas

Peer feedback and surveys

⚠ PENALTY: Marks are deducted if the portfolio exceeds the word limit.

EVALUATION – 10 MARKS

Completed under supervised conditions after the final performance (approximately 45 minutes).

Students evaluate:

- The effectiveness of the final performance
- How meaning was communicated to the audience
- Use of practitioner techniques and conventions
- Strengths and weaknesses of the performance
- Audience response and impact
- What they would do differently and why

Must use detailed and specific reference to your own performance and process.

PERFORMANCE LEVELS (BAND DESCRIPTORS)

LEVEL	DESCRIPTOR
LEVEL 4 (17–20 marks)	Sophisticated, assured and convincing. Excellent control and understanding. Consistently communicates meaning.
LEVEL 3 (11–16 marks)	Secure, effective and consistent. Good control and understanding. Communicates meaning clearly.
LEVEL 2 (5–10 marks)	Clear, competent but sometimes inconsistent. Some aspects of meaning communicated.
LEVEL 1 (1–4 marks)	Basic, limited and undeveloped. Limited communication of meaning. Inconsistent.

WHAT EXAMINERS WANT FOR TOP MARKS (GRADES 7–9)

Imaginative and original ideas

Full integration of practitioner techniques

Sustained characterisation

Confident vocal and physical skills

Clear artistic intentions and meaning

Critical, specific and thoughtful evaluation

Use of detailed theatrical terminology

EXAMINERS ALSO REWARD:

- ✓ Originality
- ✓ Commitment
- ✓ Collaboration

- ✓ Rehearsal discipline
- ✓ Refined performance choices
- ✓ Effective use of space and stage

TOP TIPS

- Plan your ideas carefully and keep a clear record of your process.
- Refer to specific moments and examples in your portfolio and evaluation.
- Link everything back to your dramatic intentions and audience.
- Use drama terminology accurately.

KEY INFORMATION

- Component 1 is internally assessed and externally moderated by Eduqas.
- Performance is performed to a visiting examiner.
- Marks from all three sections are combined out of 60.
- This component is 40% of your overall GCSE.

Dance – Autumn Year 11

AQA GCSE DANCE – COMPONENT 1: PERFORMANCE & CHOREOGRAPHY

DUET / TRIO PERFORMANCE – KNOWLEDGE ORGANISER

The duet/trio performance is worth **24 marks** out of 40 performance marks overall.

DUET / TRIO PERFORMANCE REQUIREMENTS

- Perform as part of a duet or trio
- Perform for a minimum of **3 minutes**
- The full dance can be a maximum of **5 minutes**
- Use the two set phrases **NOT** used in the solo
- Clearly communicate a choreographic intent (mood, meaning, idea, theme, style or style fusion)

MARKING CRITERIA – 24 MARKS

The duet/trio is marked in 3 strands:

STRAND	MARKS AVAILABLE
Physical skills	8
Technical skills	8
Expressive skills	8

BAND	DESCRIPTOR
7–8	Exceptional
5–6	Highly developed
3–4	Sound
1–2	Limited

★ High marks are achieved when all three strands are consistently strong throughout the performance.

PHYSICAL SKILLS & ATTRIBUTES

Students are assessed on how safely and effectively they demonstrate:

Posture

Alignment

Balance

Coordination

Control

Flexibility

Mobility

Strength

Stamina

Extension

Isolation

WHAT EXAMINERS ARE LOOKING FOR:

- ✓ Strong core control
- ✓ Secure balance and stability
- ✓ Consistent energy and stamina

- ✓ Clear extension and flexibility
- ✓ Accurate body placement and posture throughout

TECHNICAL SKILLS – WHAT STUDENTS MUST DEMONSTRATE

ACTION CONTENT	DYNAMIC CONTENT	SPATIAL CONTENT	RELATIONSHIP CONTENT (DUET / TRIO ONLY)	TIMING & RHYTHM	STYLISTIC ACCURACY
Examples include: • travelling • turns • elevation • gesture • stillness • floor work • transfer of weight	Examples include: • fast / slow • sudden / sustained • strong / light • flowing / abrupt	Examples include: • pathways • levels • directions • patterns • spatial design	Examples include: • lead and follow • mirroring • action and reaction • accumulation • complement and contrast • counterpoint • contact work • formations	• Stay musically accurate • Maintain timing with others • Demonstrate rhythmic awareness	Movement should reflect the chosen dance style accurately.

★ Examiners look for confident, consistent and controlled application of all technical elements throughout your performance.

EXPRESSIVE SKILLS

STUDENTS ARE ASSESSED ON:

- Projection
- Focus
- Spatial awareness
- Facial expression
- Phrasing

ADDITIONAL DUET / TRIO EXPRESSIVE SKILLS:

- Musicality
- Sensitivity to other dancers
- Communication of choreographic intent

EXAMINERS WANT TO SEE:

- ✓ Believable performance quality
- ✓ Emotional connection
- ✓ Awareness of other dancers
- ✓ Clear communication of the theme / idea / style to the audience

MENTAL SKILLS DURING PERFORMANCE (4 MARKS – ASSESSED ACROSS SOLO AND DUET/TRIO)

Students must demonstrate:

	Movement memory
	Commitment
	Concentration
	Confidence

These marks are awarded in addition to the 24 marks for the duet/trio.

SAFE WORKING PRACTICE

Students should demonstrate:

- ✓ Safe execution of movement
- ✓ Safe contact work / lifts
- ✓ Appropriate rehearsal discipline
- ✓ Correct dancewear
- ✓ Warm up and cool down knowledge

EXTRA THINGS STUDENTS MUST SHOW

MENTAL SKILLS (see above) 4 marks awarded across solo and duet/trio	SAFE WORKING PRACTICE - Safe execution of movement - Safe contact work / lifts - Appropriate rehearsal discipline - Correct dancewear - Warm up and cool down knowledge
--	---

TOP EXAMINER EXPECTATIONS FOR HIGH MARKS

Consistent technical accuracy

Excellent timing and synchronisation

Clear relationships between dancers

Confident projection and focus

Clear communication of choreographic intent

Perform challenging movement safely and confidently

Strong musicality and stylistic accuracy

★ **REMEMBER:** Perform with confidence, show control, connect with your partners and communicate your intent clearly!

Dance – Autumn Year 11

AQA GCSE DANCE – SECTION C
WITHIN HER EYES BY JAMES COUSINS
KNOWLEDGE ORGANISER

KEY FACTS	CHOREOGRAPHER – JAMES COUSINS	STIMULUS	CHOREOGRAPHIC INTENTION & THEMES	NARRATIVE																																
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td>★ Work</td><td>Within Her Eyes</td></tr> <tr><td>👤 Choreographer</td><td>James Cousins</td></tr> <tr><td>🏢 Company</td><td>James Cousins Company</td></tr> <tr><td>📅 First Performed</td><td>February 2016</td></tr> <tr><td>⌚ Duration</td><td>Approximately 17 minutes</td></tr> <tr><td>👥 Number of Dancers</td><td>2 (1 male, 1 female)</td></tr> <tr><td>🕺 Dance Style</td><td>Contemporary Dance with Contact Work</td></tr> <tr><td>📺 Performance Environment</td><td>Site-sensitive / Dance for Camera</td></tr> <tr><td>🎬 Original Stage Work</td><td>There We Have Been (2012)</td></tr> <tr><td>🎵 Composer</td><td>Ezio Bosso</td></tr> </table>	★ Work	Within Her Eyes	👤 Choreographer	James Cousins	🏢 Company	James Cousins Company	📅 First Performed	February 2016	⌚ Duration	Approximately 17 minutes	👥 Number of Dancers	2 (1 male, 1 female)	🕺 Dance Style	Contemporary Dance with Contact Work	📺 Performance Environment	Site-sensitive / Dance for Camera	🎬 Original Stage Work	There We Have Been (2012)	🎵 Composer	Ezio Bosso	CHOREOGRAPHER – JAMES COUSINS - British contemporary choreographer. - Known for emotional storytelling. - Combines contemporary technique, athletic partnering and contact work. - Creates movement that explores human relationships and emotion. - Choreography is physically demanding, fluid and expressive.	STIMULUS A LOVE STORY WITH A TWIST Inspired by: - Personal experiences - Well-known narratives - Love stories - Loss and grief James Cousins wanted to create a love story where the characters ultimately cannot be together.	CHOREOGRAPHIC INTENTION & THEMES Choreographic Intention The work explores emotions that lie beneath the surface. The narrative centres on a woman struggling to move forward after the death of someone she loved. A second man enters her life, but she remains emotionally attached to the past. The story is deliberately left open to interpretation. Themes <table border="0" style="width: 100%;"> <tr> <td>Love</td> <td>Loss</td> <td>Grief</td> <td>Memory</td> </tr> <tr> <td>Loyalty</td> <td>Dependency</td> <td>Longing</td> <td>Isolation</td> </tr> <tr> <td>Hope</td> <td>Acceptance</td> <td></td> <td></td> </tr> </table>	Love	Loss	Grief	Memory	Loyalty	Dependency	Longing	Isolation	Hope	Acceptance			NARRATIVE The female character is grieving and unable to move on. The male character may represent: - A new partner - A memory - A deceased lover - A symbol of support The ambiguity creates emotional depth and allows the audience to interpret the story in their own way.
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DANCE STYLE – CONTEMPORARY DANCE WITH CONTACT WORK	STRUCTURE – EMOTIONAL JOURNEY		MOVEMENT CONTENT	RELATIONSHIPS																																
CONTEMPORARY DANCE - Release technique - Floor work - Fluid transitions - Weighted movement - Off-balance movement	CONTACT WORK A key feature of the piece. Includes: - Counterbalance - Weight sharing - Lifts - Supports - Physical dependency Constant physical connection between the dancers communicates the emotional bond and dependency in their relationship.		STRUCTURE – EMOTIONAL JOURNEY <table border="0" style="width: 100%;"> <tr> <td style="vertical-align: top;"> BEGINNING LONELINESS - Female character is alone. - Establishes isolation and vulnerability. </td> <td style="vertical-align: top;"> MIDDLE RELATIONSHIP DEVELOPS - Connection grows... - Emotional intensity builds. - Moments of conflict and longing. </td> <td style="vertical-align: top;"> END ACCEPTANCE AND RELEASE - Emotional release. - Female character walks away. </td> </tr> </table> The emotional intensity gradually builds throughout the film.	BEGINNING LONELINESS - Female character is alone. - Establishes isolation and vulnerability.	MIDDLE RELATIONSHIP DEVELOPS - Connection grows... - Emotional intensity builds. - Moments of conflict and longing.	END ACCEPTANCE AND RELEASE - Emotional release. - Female character walks away.	MOVEMENT CONTENT <table border="0" style="width: 100%;"> <tr> <td style="vertical-align: top;"> ACTIONS - Reaching - Wrapping - Folding - Pulling - Falling - Walking - Running - Lifting - Counterbalancing </td> <td style="vertical-align: top;"> DYNAMICS - Sustained - Fluid - Graceful - Controlled - Tense - Subtle Changes in dynamics reflect the emotional conflict and intensity. </td> <td style="vertical-align: top;"> SPACE LEVELS - High - Medium - Low PATHWAYS - Circular - Curved - Direct SPATIAL RELATIONSHIPS - Constant proximity - Separation and reunion - Counterbalance shapes </td> </tr> </table>	ACTIONS - Reaching - Wrapping - Folding - Pulling - Falling - Walking - Running - Lifting - Counterbalancing	DYNAMICS - Sustained - Fluid - Graceful - Controlled - Tense - Subtle Changes in dynamics reflect the emotional conflict and intensity.	SPACE LEVELS - High - Medium - Low PATHWAYS - Circular - Curved - Direct SPATIAL RELATIONSHIPS - Constant proximity - Separation and reunion - Counterbalance shapes	RELATIONSHIPS PHYSICAL CONTACT - Continuous connection - Weight sharing - Support EMOTIONAL CONNECTION - Trust - Dependence - Love - Grief SEPARATION Moments apart communicate loneliness, loss and the struggle to move on.																									
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CHOREOGRAPHIC DEVICES	AURAL SETTING – EZIO BOSSO	PERFORMANCE ENVIRONMENT	DANCE FOR CAMERA TECHNIQUES	COSTUME	LIGHTING																															
CHOREOGRAPHIC DEVICES <table border="0" style="width: 100%;"> <tr> <td> 🔄 MOTIF Recurring reaching and wrapping actions. </td> <td> 👤 UNISON Shows connection and unity. </td> </tr> <tr> <td> 🔄 REPETITION Highlights longing, memory and attachment. </td> <td> 📈 CLIMAX Builds emotional intensity. </td> </tr> <tr> <td> 👤 CONTRAST Together and then separation. </td> <td> 👤 MOTIF DEVELOPMENT Movement evolves as the relationship changes. </td> </tr> </table>	🔄 MOTIF Recurring reaching and wrapping actions.	👤 UNISON Shows connection and unity.	🔄 REPETITION Highlights longing, memory and attachment.	📈 CLIMAX Builds emotional intensity.	👤 CONTRAST Together and then separation.	👤 MOTIF DEVELOPMENT Movement evolves as the relationship changes.	AURAL SETTING – EZIO BOSSO - Piano - Strings - Electronic elements - Haunting and atmospheric - Emotional and reflective - Builds sadness, longing and intensity	PERFORMANCE ENVIRONMENT SITE-SENSITIVE LOCATIONS <table border="0" style="width: 100%;"> <tr> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> </tr> </table> Each location contributes to the mood, atmosphere and narrative, emphasizing isolation, vulnerability and reflection.							DANCE FOR CAMERA TECHNIQUES <table border="0" style="width: 100%;"> <tr> <td> 📷 CLOSE-UP SHOTS Some facial expressions, emotions and intimacy. </td> <td rowspan="3"></td> </tr> <tr> <td> 📷 WIDE SHOTS Show isolation, vulnerability and the scale of the environment. </td> </tr> <tr> <td> 📷 TRACKING SHOTS Follow the dancers' movements. </td> </tr> </table> Dance for camera allows the audience to experience emotion more intensely than a stage performance.	📷 CLOSE-UP SHOTS Some facial expressions, emotions and intimacy.		📷 WIDE SHOTS Show isolation, vulnerability and the scale of the environment.	📷 TRACKING SHOTS Follow the dancers' movements.	COSTUME FEMALE DANCER Green/white dress, undershorts, bare legs Represents innocence, vulnerability and purity MALE DANCER Dark trousers, long-sleeved top, earthy colours Represents stability, grounding and protection	LIGHTING Natural lighting used throughout. - Overcast skies - Natural daylight - Shadows - Changes in weather Creates a melancholic, realistic atmosphere and supports the emotional journey.															
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HOW PRODUCTION FEATURES COMMUNICATE MEANING	MOST LIKELY EXAM QUESTIONS (EXAMPLES)		10 MOST IMPORTANT FACTS TO MEMORISE		EXAM TIP!																															
SETTING Isolation, loneliness and emotional journey. COSTUME Character differences, vulnerability and support.	HOW PRODUCTION FEATURES COMMUNICATE MEANING <table border="0" style="width: 100%;"> <tr> <td> 📷 CAMERA WORK Intimacy, emotional detail and scale of the environment. </td> <td> 🎵 MUSIC Love, grief, longing and acceptance. </td> </tr> </table>		📷 CAMERA WORK Intimacy, emotional detail and scale of the environment.	🎵 MUSIC Love, grief, longing and acceptance.	MOST LIKELY EXAM QUESTIONS (EXAMPLES) ✓ How does dance for camera contribute to the meaning of Within Her Eyes? (3 marks) ✓ How does the site-sensitive environment support the narrative? (3 marks) ✓ How does contact work communicate the relationship between the two dancers? (3 marks) ✓ How does costume communicate character and emotion? (3 marks) ✓ How does the aural setting support the mood of the work? (3 marks) ✓ How does movement communicate love, loss and longing? (3 marks) ✓ How do production features contribute to the emotional impact of the work? (12 marks)		10 MOST IMPORTANT FACTS TO MEMORISE <table border="0" style="width: 100%;"> <tr> <td>1. Choreographer – James Cousins</td> <td>6. Stimulus – a love story with a twist</td> </tr> <tr> <td>2. First performed – February 2016</td> <td>7. Themes – love, loss, memory, grief, dependency</td> </tr> <tr> <td>3. Based on There We Have Been (2012)</td> <td>8. Site-sensitive performance environment</td> </tr> <tr> <td>4. Two dancers (male and female)</td> <td>9. Dance for camera is a major feature</td> </tr> <tr> <td>5. Contemporary dance with contact work</td> <td>10. Female character struggles to move on from a lost relationship</td> </tr> </table>		1. Choreographer – James Cousins	6. Stimulus – a love story with a twist	2. First performed – February 2016	7. Themes – love, loss, memory, grief, dependency	3. Based on There We Have Been (2012)	8. Site-sensitive performance environment	4. Two dancers (male and female)	9. Dance for camera is a major feature	5. Contemporary dance with contact work	10. Female character struggles to move on from a lost relationship	EXAM TIP! In Section C, you will be asked to analyse how the choreographer's intention is communicated through movement, choreography and production features. Always use the terminology you have learnt and link your ideas to the intention of the dance. Think: Describe → Analyse → Explain → Link to Intention																	
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Music – Autumn Year 11

BTEC LEVEL 1/LEVEL 2 TECH AWARD IN MUSIC PRACTICE

COMPONENT 2: MUSIC SKILLS DEVELOPMENT – KNOWLEDGE ORGANISER

BASED ON THE MOST RECENT SPECIFICATION
Pearson BTEC Level 1/Level 2 Tech Award in Music Practice (2022)
Component 2 is worth 30% of the qualification

In Component 2 you will develop your skills in TWO of the following disciplines: **PERFORMANCE** • **COMPOSITION** • **MUSIC PRODUCTION**
You will complete a skills audit, develop your techniques through rehearsal and practice, gather evidence of improvement and evaluate your progress.

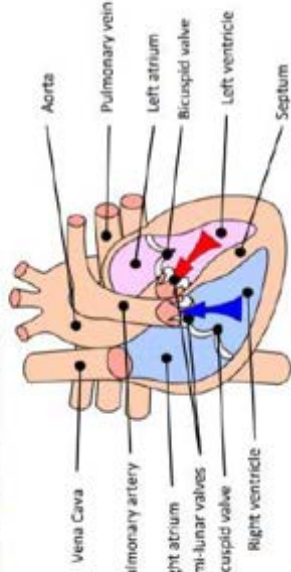
1 MUSICAL ELEMENTS The building blocks of all music. - Pitch - Melody - Harmony - Rhythm - Pulse - Tempo - Dynamics - Texture - Timbre - Structure - Tonality - Articulation - Phrasing - Balance - Blend	2 PERFORMANCE SKILLS Performing confidently and expressively on your instrument or voice. TECHNICAL SKILLS - Accuracy - Fluency - Tuning - Intonation - Tone quality - Breath control (vocal) - Finger technique - Coordination - Tuning - Instrument care EXPRESSIVE SKILLS - Musicality - Dynamics - Phrasing - Expression - Interpretation - Communication - Stage presence - Audience engagement - Confidence ENSEMBLE SKILLS - Listening - Balance - Blend - Following a conductor/director - Cueing - Supporting other musicians - Rehearsing effectively	3 COMPOSITION SKILLS Creating and developing your own music. TECHNICAL SKILLS - Generate ideas - Develop motifs - Sequence ideas - Use repetition - Create contrast - Use variation - Build texture - Layer musical parts EXPRESSIVE SKILLS - Structure compositions - Create introductions - Create endings - Compose for a purpose - Compose for a target audience - Use musical elements effectively	4 MUSIC PRODUCTION SKILLS Creating and developing music using technology. RECORDING - Microphones - Audio interfaces - Signal levels - Recording techniques EDITING - Cutting - Copying - Quantising - Time correction - Flail correction MIXING - Volume balance - EQ - Compression - Reverb - Delay - Panning - Automation DAWS (examples) - Garageband - Logic Pro - Ableton Live - Cubase - BandLab - Soundtrap Create tracks Import audio Record MIDI Edit MIDI Use virtual instruments Export audio
5 REHEARSAL SKILLS Practising effectively to improve. - Goal setting - Practice routines - Warm-ups - Problem solving - Receiving feedback - Giving feedback - Reflection - Repetition - Independent practice - Time management	6 DEVELOPMENT PROCESSES How you improve your skills over time. - Complete a skills audit - Identify strengths - Identify areas for improvement - Set SMART targets - Monitor progress - Refine work - Improve techniques - Evaluate improvements	7 HEALTH & SAFETY Keeping yourself and others safe. - Correct posture - Safe lifting - Instrument care - Cable management - Hearing protection - Vocal health - Warm-up and cool down - Electrical safety	8 PROFESSIONAL SKILLS Developing the skills you need as a musician. Communication Teamwork Reliability Independence Creativity Organisation Resilience Professional behaviour Leadership Problem solving
9 RESPONDING TO FEEDBACK Using feedback to help you improve. - Interpret teacher feedback - Apply peer feedback - Reflect on performances - Refine techniques - Improve musical outcomes	10 EVALUATION SKILLS Reviewing your progress and setting next steps. - Technical strengths - Technical weaknesses - Musical strengths - Musical weaknesses - Progress made - Future targets - Effectiveness of rehearsal - Quality of final outcome	11 MUSICAL STYLES Understand the conventions of different styles. ROCK 'N' ROLL - Uplifted rhythms - Simple structures - Strong backbeat - Electric guitars 1950s origins - Audience excitement REGGAE - Off beat (skank) - Strong bass line - Social & political messages - African origins - Rastafarian groups GRUNGE - Distorted guitars - Heavy, raw sound - Themes of angst & alienation - Early 1990s - Seattle scene DELTA BLUES 10 bar blues - Slide guitar - Call and response - Hardship & emotion - Musical Delta early 1900s MINIMALISM - Repetition of short patterns - Gradual changes over time 1960s origins - Focus on texture and tone	12 ASSESSMENT VOCABULARY Use this vocabulary in your work and evaluations. Accuracy Articulation Blend Dynamics Ensemble Expression Fluency Improvisation Intonation Interpretation Melody Musicality Phrasing Pulse Rhythm Structure Tempo Texture Timbre Tone Technique Refinement Evaluation Rehearsal Development Production Mix EQ Compression Automation
WHAT PEARSON ARE ASSESSING Learning Outcome 1: Demonstrate and review the use of music skills and techniques. Learning Outcome 2: Apply development processes to improve music skills and techniques through rehearsal, practice, reflection and refinement.	★ KEY POINTS TO REMEMBER - Focus on the development process, not just the final outcome. - Provide evidence of improvement over time. - Reflect regularly and refine your techniques. - Use subject-specific vocabulary to explain your progress.	💡 TOP TIPS FOR SUCCESS - Practice regularly and set SMART targets. - Listen critically to your own and others' performances. - Ask for and act on feedback. - Keep organised and manage your time. - Stay motivated and enjoy the process!	REMEMBER Developing your skills makes you a more confident, creative and professional musician.

BE PREPARED ★ BE PROFESSIONAL ★ BE CREATIVE

PE GCSE – Autumn Year 11

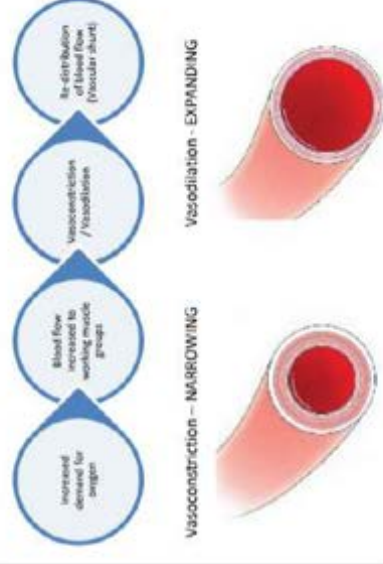
GCSE Physical Education – The structure and functions of the cardiovascular system

Structure of the cardiovascular system



Deoxygenated blood = BLUE (Right side)
Oxygenated = RED (Left side)

Vascular Shunting



Function of the cardiovascular system

- Transport of oxygen, carbon dioxide and nutrients
- Clotting of open wounds
- Regulation of body temperature



Blood vessels

Arteries	Veins
1. Away from the heart 2. Oxygenated blood (except pulmonary artery) 3. Thick/elastic walls 4. High pressure 5. Small lumen	1. Back to the heart 2. Deoxygenated blood (except pulmonary vein) 3. Thin walls + larger lumen 4. Lower pressure 5. Valves

Components of blood - Red blood cells

Carry oxygen from the lungs to the working muscles + removes CO₂.
Haemoglobin binds the oxygen



White blood cells

Are part of the immune system and fight disease and infection.



Platelets & Plasma

Platelets clot blood and form a scab around the site of injury.

Plasma is the liquid/fluid part of blood that allows it to flow.



GCSE Physical Education – Performance-enhancing drugs, injury and prevention

Injury prevention – to prevent injury performers and coaches should recognise and identify risks and reduce them.

Using the right attributes of training to prevent injury	Understanding following the rules of the game and using appropriate clothing	Using appropriate protective clothing	Choosing the appropriate warm-up to get the body ready for the activity	Following a full warm-up and cool-down	Checking the facilities	Ensuring competition is balanced

Performance Enhancing Drugs (PEDs)

The rewards that come with winning are so great that athletes are increasingly tempted to cheat. Fame, money and pressure are commonly cited despite the health risks or even death.

Drug	Reason for athletes taking this	Health risk	Sporting example who might use it
Beta Blockers	Slows heart rate, calms and steadies hands	Lowers blood pressure and oxygen delivery to muscles	Target sports
Anabolic Steroids	Promote muscle growth and promotes a faster recovery time	High blood pressure, aggressive behaviour & develops male features	Power Events - 100m
Narcotic Analgesics	Masks pain and increase pain threshold	Vomiting, addiction and liver/kidney damage	Any athlete wanted to mask pain.
Diuretics	Rapid weight loss from removal of fluids. Masks other PEDs	Dehydration, nausea and headaches. Heart and kidney failure.	Jockey Boxing
Stimulants	Increased alertness and reduce tiredness	Heart rate irregularities & increased aggression.	Boxing 100m sprinter
Peptide Hormones	EPO – Increase Red Blood Cell production Growth Hormone – Increase muscle mass	Increased blood thickness/blood clot Abnormal growth	

Blood doping – a method of artificially increasing red blood cell count – increases endurance.

Injuries

Soft tissue injuries

Strain – Pulled or overstretched muscle.

Sprain – Twisted or wrrenched ligament.

Treatment for strain and sprain = **RICE** (Rest, Ice, Compression, Elevation)



Golfers Elbow/Tennis Elbow – overuse injury caused by inflamed tendons that attach muscles to the elbow joint. Symptoms also include soreness and pain.

Abrasions – minor injuries to the surface of the skin, i.e. a graze. Symptoms are a hot/burning sensation, redness and occasionally some light bleeding. Treatment – clean and cover with a low adhesive dressing.

Torn Cartilage – This can occur when a joint is twisted excessively. This is commonly caused when players change direction quickly. Treatment – ice and surgery

Concussion – An injury to the brain caused by a knock to the head. Common in contact sports. If an athlete is concussed, they may:

- Become unconscious.
- Feel sick, dizzy or drowsy.
- Get confused, stare & suffer memory loss.

Dislocation – a sudden impact on a joint can cause the bones that meet to become disconnected.

Fracture – a broken bone.

Open/compound fracture – bone through the skin

Closed/simple fracture – bone remains in the skin.

Greenstick fracture – bone bends (younger children)

Stress fracture – repeated or prolonged forces against the bone



PE GCSE– Autumn Year 11

GCSE Physical Education – Fitness Testing

Muscular Strength

Test: Hand Grip Dynamometer Test

Protocol: Grip the dynamometer in one hand. Start with your hand up and bring down to side while pulling in handle. No swinging your hand.

Advantages

• Simple and easy to complete

Disadvantages

- Only one size of dynamometer which may affect reading.
- Focused solely on forearm strength.

Muscular Endurance

Test: 1 minute sit up test

Protocol: Complete as many full sit ups/press ups as possible in 1 minute.

Advantages

- Simple test to complete
- Minimal equipment needed.

Disadvantages

- Difficult to assess whether each repetition is performed correctly. Difficult to accurately measure large groups.

Flexibility

Test: Sit and Reach Test

Protocol: Sit with legs straight out in front and soles of feet against box/table. Reach forward without bending knees. No jerking movements.

Advantages

- Quick and easy to perform.
- Data table readily available for comparison

Disadvantages

- Can cause injury if not fully warmed up appropriately.
- Only measures flexibility of lower back and hamstrings.

Cardiovascular Fitness (Aerobic Endurance)

Test: 12 min Cooper Run

Protocol: Continuously run/swim for 12 minutes.

Distance recorded.

Advantages

- Minimal equipment needed
- Test can be self administered.

Disadvantages

- Inaccuracy of heart rate measurements
- Motivation dependent

Test: Harvard Step Test

Protocol: Step continuously for 5 minutes.

Measure heart rate at 1, 2 and 3 minutes after exercise.

Advantages

- Simple test to complete

Disadvantages

- Motivation dependent

Agility

Test: Illinois Agility Test

Protocol: Start lying down at the start line. Complete course as quick as possible (10m x 5m – 4 central cones)

Advantages

• Simple and easy to complete

Disadvantages

- Motivation dependant / Timing errors.

Speed

Test: 30m Sprint Test

Protocol: Start from stationary position. Complete distance in the quickest possible time. Time is stopped when chest crosses the line.

Advantages

- Quick test to complete
- Minimal equipment needed and can be performed anywhere with a flat 50m run.

Disadvantages

- Running surface/weather conditions can affect the results.
- Inaccuracies with stopwatch usage.

Power

Test: Vertical Jump Test

Protocol: Stand next to wall and mark an initial reach while feet are flat on the ground. Standing jump to reach as high as possible. Measure distance from first mark to second.

Advantages

- Quick and easy to perform.
- Easy to complete with large groups.

Disadvantages

- Technique plays a large role in successful completion.

Reliability / Validity

Validity relates to whether the test actually measures what it sets out to measure.

Reliability is a question of whether the test is accurate. It is important to ensure that the procedure is correctly maintained for ALL individuals.

Results can be improved:

- By using experienced testers & calibrating equipment
- Ensuring performers have the same level of motivation to complete each test
- Repeatedly test to avoid human error (x3)

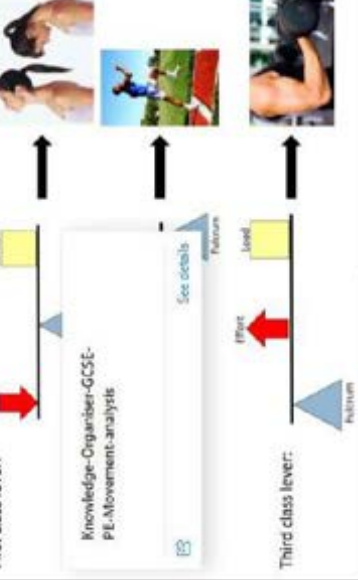
GCSE Physical Education – Movement analysis

Levers – a rigid bar that moves around a pivot point with force applied to it.

Fulcrum (F)	Effort (E)	Load (L)
A fixed pivot point	The source of energy that will be applied	The weight/resistance to be moved

Classes of lever

First class lever:



Third class lever:

Mechanical advantage

This is where a lever's effort arm is greater than its load arm.



Large loads can be moved with limited effort.

Mechanical disadvantage

This is where a lever's load arm is longer than its effort arm.



Planes – Imagery lines that divide the body into two.

Frontal plane	Transverse plane	Sagittal plane
A vertical plane but this divides the body into front and back.	A horizontal plane that divides the body into upper and lower halves.	A vertical plane that divides the body into right and left sides.

Axes – Imagery lines that the whole body turns around.

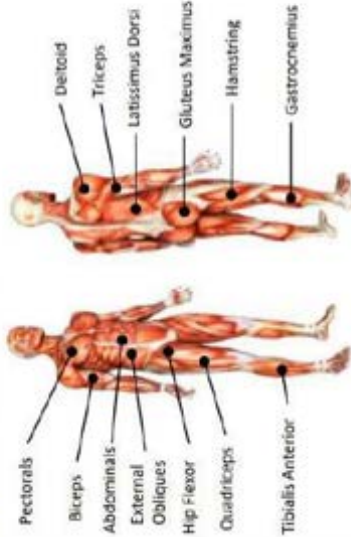
Sagittal axis	Vertical axis	Frontal axis
Runs through the body horizontally from the back to front.	Runs through the body vertically from the top to bottom.	Runs through the body horizontally from the left to right.



PE GCSE – Autumn Year 11

GCSE Physical Education – The structure and functions of the muscular system

Structure of the muscular system



Antagonistic pairs - Muscles are arranged in antagonistic pairs. As one muscle contracts (shortens) its partner relaxes (lengthens) i.e. **Biceps and Triceps**.



Agonist = the muscle that contracts to produce movement.
Antagonist = the muscle that relaxes to allow the movement to occur.

Examples in the body:

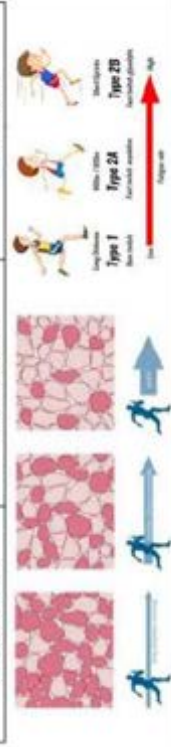
- Biceps & Triceps
- Quadriceps & Hamstring
- Hip Flexor & Gluteus Maximus
- Tibialis Anterior & Gastrocnemius

Types of muscle



Muscle fibre types

Slow twitch muscle fibres (Type I)	Fast twitch muscle fibres (Type IIa)	Fast twitch muscle fibres (Type IIb)
1. Smaller in size. 2. Work aerobically with high fatigue resistance. 3. Have a good oxygen supply = deep red in colour. 4. They contract slowly, but can work for long periods.	1. Larger in size 2. Work anaerobically & linked to high intensity activities. 3. Are paler in colour and have limited oxygen supply. 4. They contract quickly and powerfully, but tire easily.	1. Large in size 2. Work anaerobically & linked to extreme high intensity activities. 3. Very high speed of contraction but low fatigue resistance.



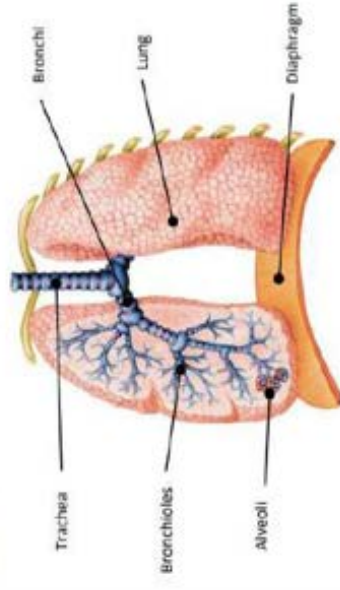
The short term effects of exercise on the muscles:

1. Working muscles produce heat
2. Increased muscle fatigue due to lactate accumulation
3. Blood is re-distributed to working muscles (Shunting)

Link of the muscular and skeletal system – both systems work together to produce movement. i.e. a contracting muscle pulls on a bone which changes the angle at a joint.

GCSE Physical Education – The structure and functions of the respiratory system

Structure of the respiratory system



Composition of inhaled and exhaled air

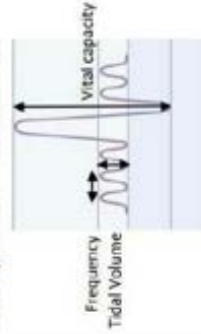
Gas	Inhaled air	Exhaled air
Oxygen	21%	16%
Carbon dioxide	0.04%	4%
Nitrogen	78%	78%



Respiratory values

Knowledge-Organiser-GCSE-PE-Respiratory-System

Minute Ventilation – The amount of air inhaled and exhaled per minute. Measured in litres.
 Formula: Resting value – 12-20 breaths



Gaseous exchange at the alveoli

- Diffusion is the movement of molecules from an area of high concentration to a low one.
 - The alveoli have thin moist walls to allow diffusion to occur.
 - Capillaries are closely wrapped around the alveoli to reduce the distance of diffusion and increase efficiency.
- During inhalation:**
- The concentration of oxygen in the blood is higher than the alveoli.
 - The concentration of carbon dioxide in the blood is higher than that in the air.

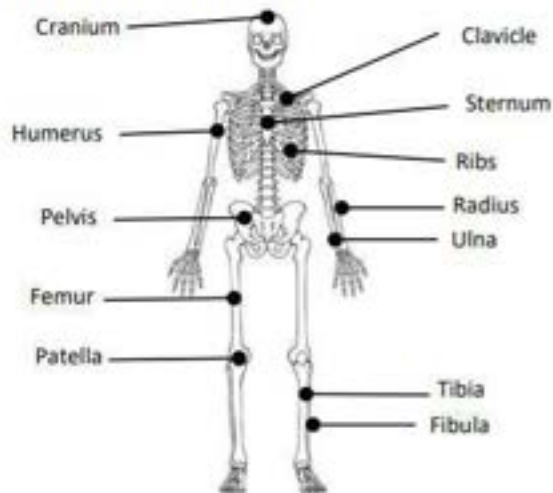
During exercise

- Gaseous exchange increases as the intensity of the activity increases to cope with:
- An increase demand for oxygen at working muscles.
 - An increase in carbon dioxide production and the need to rid this waste product.
- Frequency ↑ + Tidal Volume ↑
- Training increases total lung capacity and vital capacity readings.

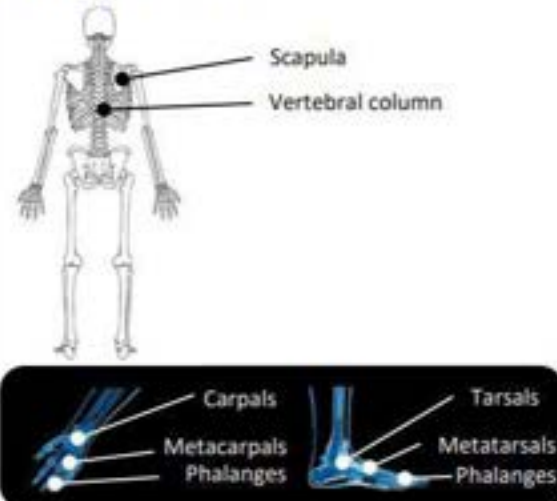
PE GCSE – Autumn Year 11

GCSE Physical Education – The structure and functions of the skeletal system

Structure of the skeletal system



Structure of the skeletal system



Vertebral Column

The vertebral column is divided into 5 sections. It is made up of irregularly shaped bones called vertebrae.

Each vertebra is protected with cartilage to prevent friction.

The vertebrae protects the spinal cord.



Function of the skeleton

- Protection of vital organs
- Muscle attachment
- Joints for movement
- Blood cell production (platelets, red and white)
- Storage of calcium and phosphorus

Classification of joint

- Pivot (neck – atlas and axis)
- Hinge (elbow and knee)
- Ball and socket (hip and shoulder)
- Condyloid (wrist)



Connective tissue

Ligaments – attaches bone to bone to add joint stability.

Tendons – attaches muscles to bone and contributes to joint movement as a result of muscle contraction.

Classification of bones

Long (leverage)	Short (weight bearing)	Flat (protection + muscle attachment)	Irregular (protection and muscle attachment)
Clear shaft region to the bone. <i>i.e. femur, humerus & phalanges</i>	Light, small and very strong. <i>i.e. carpals, tarsals</i>	Broad surface area for muscle attachment. <i>i.e. cranium</i>	Assist the functioning of certain joints. <i>i.e. Patella/vertebrae</i>

Joint movements

Flexion	Adduction	Rotation	Dorsi-Flexion (ankle joint)
Decreasing the angle at a joint (bending)	Limbs moving towards the midline of the body.	A twisting/turning action around a joint.	When the toes are turned up to the body.
Extension	Abduction	Circumduction	Plantar-Flexion (ankle joint)
Increasing the angle at a joint (straightening)	Limbs moving away from the midline of the body.	A combination of flexion, extension, adduction & abduction.	When the toes are pointed away from the body.

Spanish – Autumn Year 11

Year 11 Spanish
Autumn Term

Module 6: My Neighbourhood

Please also login to
LanguageNut.com to further
deepen your revision.

Wow Sentence:

Antes, había más drogas
y delitos en la calle. =

Before, there were more
drugs and pickpockets in
the streets.



Varied and Complex Opinions:

- Me interesa(n) – I'm interested in
- Me importa(n) – ... is important to me
- Me apasiona(n) – I'm passionate about
- Me preocupa(n) – I'm worried about
- No soporto/No aguanto – I can't stand
- Lo/la encuentro – I find it (masc/fem)
- Me hace/pone feliz – It makes me happy
- Me da miedo – (it) scares me

Wow Sentence Starters:

- Si quieres que sea honesto/a...
- A mi modo de ver...
- Desde mi punto de vista...
- Mi madre piensa que/dice que...
- A mi juicio...



VAYA!

Grammar:

present

Normalmente, todos los días, siempre, nunca, a veces, ahora...
Estudio – I study
Estudiamos – we study
Mi hermano/a estudia – my brother/sister studies



	AR	ER	IR
1. Yo (I)	O	O	O
2. Tú (you)	AS	ES	ES
3. Ella (she)	A	E	E
4. Nosotros (we)	AMOS	EMOS	IMOS
5. Vosotros (you)	ÁIS	ÉIS	ÍS
6. Ellos (they)	AN	EN	EN

past

El año pasado, la semana pasada, el verano pasado, antes, recientemente...
Hace 2 años, hace 2 semanas, hace 2 meses...



El pretérito	AR	ER/IR
1. Yo (I)	E	I

Estudié – I studied



Estudiaba (ar) – I used to study
Comía (er) – I used to eat

future

El año que viene, la semana que viene, dentro de 2 años, en el futuro...



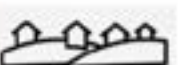
1	2	3
VOY	A	KINGDOM

Voy a estudiar
I am going to study



Estudiaré – I will study

Spanish – Autumn Year 11

Time Expression	'Live'	Location	Conjunction	Justification	Positives ☺	Negatives ☹
Ahora - now	Vivo – I live	en el campo 	porque	hay – there is	más oportunidades de trabajo – more work opportunities	más violencia/drogas/ delitos en las calles – more violence/drugs/ crime on the streets
En general	Prefiero vivir – I prefer living	en la ciudad 	ya que	habrá – there will be	más que hacer para los jóvenes – more for young people to do	más contaminación – more pollution
Actualmente- Currently	Odio vivir – I hate living		puesto que	habría – there would be	más espacios verdes – more green spaces	menos naturaleza – less nature
En el futuro	Viviré- I will live	en un pueblo 	pero	es – it is	histórico	turístico
Cuando sea mayor – When I'm older	Quiero vivir – I want to live	en las montañas 	sin embargo	será – it will be	tranquilo	Industrial
Cuando tenga veinticinco años – When I'm 25	Espero vivir- I hope to live		aunque	sería – it would be	moderno	antiguo
		en la costa 	en cambio	(no) se puede – you can('t)	seguro	peligroso
Si pudiera – If I could	Me gustaría vivir - I'd like to live	en Portsmouth	por otro lado	(no) podré – I will/won't be able to	limpio	sucio
Si tuviera dinero – If I had money	Viviría – I would live	con mi familia 	y	(no) podría – I would(n't) be able to	bonito	feo
En mis sueños – In my dreams			también		ir de compras – go shopping	comprar/alquilar una casa – buy/rent a house
			además		visitar sitios de interés – visit places of interest	tener un sentido de comunidad – have a sense of community
			asimismo		ir de excursión – go for trips/days out	sentirse aislado/a – feel isolated
			donde		ayudar la comunidad – help the community	
					buscar un empleo – find a job	

¿Cómo es tu ciudad?

Actualmente vivo en Portsmouth. Es una ciudad histórica en el sur de Inglaterra pero es sucia y no hay muchos espacios verdes. Si pudiera, viviría en el campo porque habría más naturaleza y también podría tener un sentido de comunidad.

Geography – Autumn Year 11

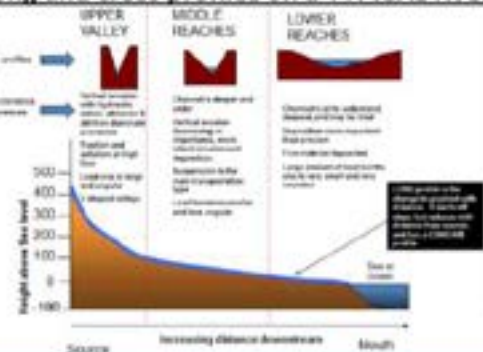
Paper 1

UK Physical Landscapes - Rivers

AQA

Rivers and river valleys

Long and cross profiles on a TYPICAL river



Fluvial Processes

Erosion

Term	Definition
Hydraulic action	Flowing water erodes the bed and banks. Found at waterfalls and meanders
Abrasion	Scraping of rivers bed by particles of rock – like sandpaper
Attrition	Rounding and smoothing of rock as they rub against each other
Solution	Dissolving of soluble chemicals esp. limestone
Vertical erosion	Downwards erosion – common in upper course
Horizontal erosion	Sideways erosion – common in middle and lower course

Transportation

Traction	Rolling of large rocks
Saltation	Bouncing of small rocks
Suspension	Particles suspended in water
Solution	Chemicals dissolved in river

River Landforms

Upper course (erosion)

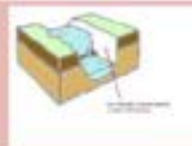
Interlocking spurs water flows around fingers of harder rock. Vertical erosion deepens the valley



Waterfalls – a step in the long profile, usually over a fault. Water flows over hard rock. A plunge pool forms at the bottom due to hydraulic erosion.



Gorges – as a waterfall retreats the cap rock collapses and the process starts again forming a steep sided gorge



Middle Course (erosion and deposition)

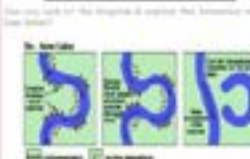
Meanders – bends in the river. Where water flows fastest erosion happens on the outside curve. On the inside curve, water is slower so deposition occurs forming a slip off slope

Meander Formation



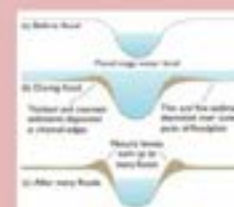
Oxbow Lakes Where the neck of the meander is breached during flood leaving the old meander curve as a lake

Ox Bow Lake Formation

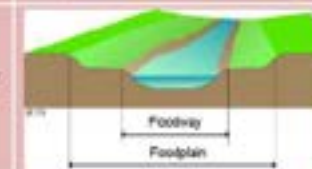


Lower course (deposition)

Levees – Raised banks formed after a river floods



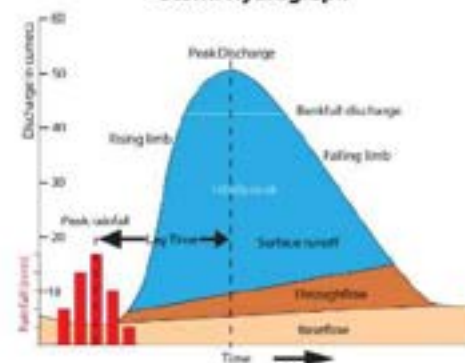
Floodplains – wide areas of flat land – often good for farming



Estuaries – Where the river meets the salt water of the sea. Salt marshes are common.



Storm Hydrograph



Factors affecting flooding

Physical	Human
- Precipitation - Geology - Relief	- Farming - Urbanisation - Deforestation

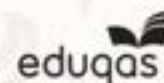
Geography – Autumn Year 11

River Management Strategies			
Hard Engineering			
Strategy		Benefits	Costs
Dams & Reservoirs – Concrete dams control river flow by creating artificial reservoir		- Can be used for HEP or tourism - Creates new wetland habitats - Creates source of drinking water - V effective	- V expensive (Kielder dam cost £167 million) - Social costs of displacement - Reservoirs silt up - Can lead to conflict over water rights eg Nile
Channel Straightening – water flows out of area faster		- Insurance premiums may fall - Effective - Navigation improved	- Lead to flooding downstream - High maintenance - unattractive
Embankments – artificially raised using concrete to deepen channel		- increased capacity for carrying water - Creates walkways (eg London) - New river bank habitats	- Expensive - Looks artificial - More serious flooding if embankment fails (New Orleans)
Flood Relief Channels – new channels to by pass towns		- Opportunities for recreation (fishing and walking) - New aquatic habitats creates - insurance premiums reduced	- V expensive – Jubilee River cost £110 million) - Regular maintenance needed - Habitats disturbed
Soft Engineering			
Flood Warnings – monitoring rivers to allow floods to be predicted		- Sustainable - Low cost - Focus on helping people	- People may not respond - Need for monitoring equipment
Floodplain Zoning – not building in flood areas		- Low cost - Conserves water meadows for recreation and wildlife	- Restricts economic development - Housing shortage - Hard to implement retrospectively
Planting trees – Trees increase interception and slow flooding		- Creates habitats - Natural - Low cost	- Loss of farmland - Loss of economic use of land - Not totally effective
Example of a flood management scheme in the UK - Cockermouth			
Why? To reduce flooding following floods in 2009.			
What is the strategy? Self Raising barrier along Rubby Banks Road, £4.4million, rises to 3m above the existing wall. Transparent panels at other sections, flood windows for properties that have windows below flood line			
Positive		Negative	
- Significantly reduced flooding in 2015 floods - No flooding on Rubby Banks Road which had 4.5ft in 2009 - Automatically rises so no constant monitoring - Rises as fast as needs to as water pressure forces it up - When not flooding normal view of river is possible		- Very expensive - The barrier keeps water in the channel but this can cause increased flooding downstream	

UK River example – River Tees	
	
Key Features	
Source	Cross Fell – 893m above sea level in Pennine Hills
Waterfalls	High Force: Whinstone (hard) and Sandstone (soft)
Meanders	Lower course around Yarm (town built inside a meander bend)
Estuary	Near Middlesborough, mud flats like seal Sands provide habitat for wildlife
Tributaries	R.Greta, R.Skerne



History – Autumn Year 11



KNOWLEDGE ORGANISER: The Elizabethan Age 1558–1603 (Component 1)

Key Question 1: How successful was the government of Elizabeth I?

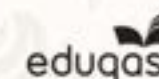
KEY EVENTS/ TIMELINE		KEY GOVERNMENT BODIES	
November 1558	Elizabeth became Queen following the death of her half-sister Mary I.	Royal Court	The centre of political power during Elizabeth's reign. Members of the Royal Court were advisors, government officials, ladies-in-waiting and servants. Their main court residence was Whitehall Palace, in London.
January 1559	Elizabeth's coronation was a lavish affair which cost around £16,000 and lasted for three days, despite the fact that Elizabeth inherited debts of £227,000.	Privy Council	Advisors and ministers appointed by Elizabeth to help her rule. Elizabeth appointed 19 Privy Councillors after her coronation in 1559.

KEY IDEAS		KEY ROLES IN LOCAL GOVERNMENT		KEY PEOPLE	
Patronage	Special favours such as land or positions at court which were given to people in order to retain their support.	Lord Lieutenant	Another wealthy landowner who would inform Elizabeth about law and order in their area.	Sir William Cecil (Lord Burghley)	Secretary of state and closest advisor to Elizabeth for the vast majority of her reign. A moderate Protestant and Privy Councillor who helped Elizabeth control Parliament.
Freedom of Speech	Elizabeth decided which topics could be debated in Parliament. MPs, in theory, could decide which topics to discuss; but, in reality, Elizabeth stopped them from discussing issues such as her marriage, succession, foreign policy and religion.	Deputy Lieutenant	They were responsible for defending the area and supervised the work of JPs.	Robert Dudley (Earl of Leicester)	A trusted advisor and a Privy Councillor, member of the Royal Court and later commander of the military. He was a Puritan who often fell out with Cecil. Was rumoured to be Elizabeth's lover.
Taxation	Any additional money needed by Elizabeth was usually raised by asking Parliament to increase taxes. There was an increase in taxes at a local level to help pay off the 'Marian debt' during Elizabeth's reign.	Justices of the Peace	Wealthy landowning gentry who voluntarily took on the task of organising law and order in their area. There were 30 to 60 JPs per county.	Sir Francis Walsingham	The man in charge of Elizabeth's secret service network of spies who advised on foreign affairs. He uncovered the plot that led to Mary, Queen of Scots' execution.
Factions	Through patronage, Elizabeth naturally generated rivalry between her courtiers. This led to rival factions developing at court. Elizabeth was generally very successful at playing these factions against each other to maintain their loyalty.	Sheriff	They were concerned with legal affairs such as swearing in juries, delivering prisoners to court and helping with the collection of taxes.	Sir Christopher Hatton	Vice Chamberlain of the Queen's household, he was responsible for organising Elizabeth's progresses.
Monopolies	Monopolies gave individual nobles and merchants the sole right to manufacture or sell particular goods. They could then control the supply of that particular product and raise prices to increase their profits. Elizabeth also made money from granting monopoly licenses.	Parish constable/ night watchman	Local men were appointed by the JP to do this unpaid role for one year at a time. They were given a range of duties and supervised by the JPs. Night watchmen patrolled towns at night looking out for criminals.	SUMMARY Elizabeth was a strong monarch for most of her reign. Elizabeth was popular, which helped her ensure loyalty and obedience. She was skilful in her handling of powerful nobles and maintained a firm control over Parliament throughout her reign. Local government worked well for Elizabeth.	
Royal Progresses	Elizabeth toured the countryside for 6–8 weeks in summer, staying at the houses of wealthy nobles (which cost them a fortune). People would try to catch a glimpse of the Queen when she was in the area.	Overseer of the poor	Organised the collection of the poor rate (a local tax) before distributing the money to the people in the area most in need of assistance.		
Parliament	There was no Prime Minister or political parties. MPs were all wealthy, landowning men. Parliament's two main functions were introducing new laws and raising taxes. Parliament was only called thirteen times in 45 years by Elizabeth. (1559, 1563, 1567, 1571, 1572, 1576, 1581, 1584–85, 1586–87, 1589, 1593, 1597–98, 1601)				

History – Autumn Year 11

KNOWLEDGE ORGANISER: The Elizabethan Age 1558–1603 (Component 1)

Key Question 2: How did life differ for the rich and poor in Elizabethan times?



KEY EVENTS/ TIMELINE	THE STRUCTURE OF SOCIETY	KEY PEOPLE
1563 Statute of Artificers Attempted to create employment to reduce vagrancy, also tied men down to one area.	The Monarch (Elizabeth I) Nobles (very rich landowners) Gentry (smaller landowners) Merchants and professionals (businessmen and lawyers, clergy etc.) Yeomen and tenant farmers (owned their own property and farmed/ rented their lands) Craftspeople (men with a trade and those who carried out some industry at home) Unskilled labourers and the poor (seasonal workers and those who did not work, referred to as 'peasants')	The very rich (Nobility) The nobility maintained their wealth by renting out the considerable land they owned. They built a number of very large houses during this period to show off their wealth (such as Hardwick Hall). Many were built in 'E' and 'H' shapes. Landscape gardens became popular with the gentry during this period. The children of nobles would have private tutoring in French, Latin and Greek. Nobles wore expensive clothes and wore jewellery to show off their riches.
1572 Vagabonds Act Poor rate introduced, a local register kept for distribution. Harsh punishments for vagrants who broke rules (whipping, burning through the ear etc.).	TYPES OF VAGRANTS Clapper dudgeon Tied arsenic to their skin to make it bleed and get sympathy. Hooker/ angler Used a long wooden stick to steal clothes and valuables. Doxy A female beggar who hid her thefts by pretending to knit. Abraham man Pretended to be mad to get donations through pity. Rufflers Former soldiers who used threats of violence to get money. Dummerers Pretended to be dumb to get charity. Counterfeit crank Sucked soap so they foamed at the mouth to try to get sympathy – they looked ill.	The rich (Gentry) The gentry owned more land than they could farm, so they rented it out. They built new homes made of stone, which had at least eight rooms and quarters for their servants to live with them. Fashion was used to show their wealth and power. They dressed stylishly but with less gold and silver colours than the nobility. Sons of the gentry attended grammar school. Their hobbies included tennis, fencing, music and dancing.
1576 Act for the Relief of the Poor Help to find work given to able-bodied vagrants. Those who refused were sent to Houses of Correction.		The poorer people Lived in much smaller one roomed houses made of timber frames, wattle and daub, with a thatched roof. Farmers and labourers worked 12 hour days with a main meal at 6pm. They had a low life expectancy as many died from diseases such as smallpox, typhus and sweating fever. They had few changes of clothes and spent their free time in inns or gambling on cards, dice or blood sports.
1598 Act for the Relief of the Poor Four Overseers of the Poor appointed to each parish. All inhabitants had to pay the poor rate. Work found for the able-bodied.		SUMMARY A lot of social change took place in the Elizabethan Age. The nobles and the gentry experienced improvements in their lives but the difficulties experienced by the poor improved very little, despite the Poor Laws. A huge gap between the lifestyles of the rich and the poor still existed.
1598 Act for the Punishment of Rogues Begging was strictly forbidden and anyone caught was whipped and returned to their place of birth or sent to a House of Correction.		
1601 Act for the Relief of the Poor Known as the Poor Law. The government accepted they had a responsibility to help the poor and set up legal frameworks to tackle poverty.		
MAIN REASON FOR VAGRANCY	TYPES OF POOR (as classed by Tudor governments)	
Rising inflation	The impotent/ deserving poor	Those who were genuinely unable to work due to age, hardship or other physical issues. It was recognised that these people were in need of 'poor relief'.
Rising population	The able-bodied poor/ sturdy beggars	Those considered capable of work but were unable or unwilling to find employment. It was thought that these individuals needed to be encouraged or even forced to find work.
Costly foreign wars and unemployed soldiers		
Dissolution of the Monasteries		
Rural depopulation		
Rack-renting		
Changes in farming methods		
Bad harvests		
Decline in the cloth industry		

RE – Autumn Year 11

Christian beliefs keywords.

- **Omnipotent** — The belief that God is all-powerful.
- **Just** — God is fair and treats all people equally.
- **The Oneness of God** — The belief that God is one singular divine being.
- **The Trinity** — One God in three persons: Father, Son, Holy Spirit.
- **The Incarnation**
- **Bible** — The Christian holy book containing the Old and New Testaments.
- **Creation** — The belief that God brought the world into existence.
- **Evil** — The opposite of good; a cause of suffering and against God's will.
- **Christ / Messiah** — Means Anointed One; Christians believe Jesus is the promised Messiah.
- **Crucifixion** — The death of Jesus by being nailed to a cross.
- **Resurrection** — Jesus rising from the dead on Easter Sunday.
- **Ascension** — The event 40 days after the resurrection when Jesus returned to heaven.
- **Salvation** — Being saved from sin and its consequences. (Supported by AQA knowledge organiser.)
- **Grace** — God's unconditional and generous love that humans do not earn.
- **Salvation through Good Works** — Achieved by following God's laws and doing good.
- **Salvation through Grace** — Salvation is a gift from God, not earned.
- **Heaven** — Eternal life with God after death.
- **Hell** — A state of eternal separation from God.
- **Day of Judgement** — When every soul will be judged by Jesus at the end of time.
- **Reconciliation** — Restoring relationships after conflict.

The ascension.

Jesus returned to heaven 40 days after the resurrection. "He was taken up into heaven". This shows Jesus' authority and the promise of the Holy Spirit.

Influences:

- It strengthens belief in Jesus' divinity and authority
- It gives Christians confidence that Jesus is still present and active.
- It inspires Christians to share their faith.

Year 11 knowledge organiser (1).

The nature of God.

Christians believe God is:
Omnipotent (all-powerful) "Nothing is impossible with God"
Omnibenevolent (all-loving) "God so loved the world that he gave his one and only Son"
Just (fair and righteous) "He will judge the world with justice"
Merciful (similar to just) "be merciful as your father is merciful"
 Other key words to be aware of: Eternal, transcendent, the creator/ the father, omnipresent and omniscient.

How does the belief in the nature of God influence Christians?

- Influences Christians to show love, forgiveness, and kindness to others.
- Help the poor and treat everyone equally, acts of charity.
- Influences Christians to behave morally, encourages honesty and responsibility.
- Trust God during difficult times. They may pray for guidance, strength, or forgiveness.
- Influences Christian views on the afterlife.

The problem of suffering.

- Christians believe suffering exists because of free will.
- God doesn't cause suffering humans cause sin because of the original sin.
- Many believe God causes suffering as a test.
- The inconsistency triad teaches Christians that God is loving, God is powerful, but suffering exists.
- Many also believe that suffering exists because the Devil is tempting them to commit sins.

Sin (and atonement).

Humans are born with original sin. Sin separates humans from God. Salvation restores the relationship.
 Atonement means Jesus' death paid the price for sin. "He is the atoning sacrifice for our sins". This allows Christians to be forgiven and reunited with God.

The Holy Trinity.

Father (creator) important as it shows that God is omnipotent and encourages Christians to pray to him/ fulfil his commandments, so they do not disobey their father/ make him angry/ punish them in the afterlife.

Son (Jesus Christ) important as it shows humanity and how God incarnate was willing to experience pain and suffering, as well as commit the ultimate sacrifice (either himself or his son) for humanity.

Holy Spirit (God's presence and power) important as it helps Christians understand God as relational, loving, and active and explains the different ways Christians can experience God (e.g. prayer, Jesus' life & teachings) and Christians can receive guidance, comfort and strength.

"Go and make disciples... baptising them in the name of the Father, the Son and the Holy Spirit" Mentioned in the Nicene Creed- the core document that all Christians agreed on.

The role of Jesus in salvation.

Christians believe that salvation means being saved from sin and its consequences and being brought into a relationship with God.

Because they believe Jesus died on the cross to bring salvation, Christians are encouraged to follow Jesus' teachings and live moral lives.

This belief influences Christians to ask for forgiveness, repent when they sin, and try to improve their behaviour.
 Many believe that faith in Jesus and doing good works will help them receive salvation, so they may attend church, pray regularly, and help others.
 Belief in salvation can also give Christians hope and reassurance, especially during difficult times, as they believe God offers forgiveness and eternal life.

As the Bible teaches, "For God so loved the world that he gave his one and only Son" (John 3:16), reminding Christians that salvation is central to their faith.

The creation story.

Literalists: Genesis is a factual account. Also known as absolutists.

Non-literalists: Genesis is symbolic; science and faith work together. The big bang is real, but God made it happen.

Key belief: God created the world with purpose. "In the beginning God created the heavens and the earth"
 Humans are made in God's image: "So God created mankind in his own image"

The afterlife.

Heaven – eternal presence with God. Hell – separation from God. Judgement – God decides destiny. Resurrection – new spiritual body.

"I am the resurrection and the life. The one who believes in me will live". Some believe in purgatory (mainly Catholics).

This encourages Christians to follow Jesus' teachings, obey God's commands and treat others with love and forgiveness.

Many Christians believe that Jesus' resurrection shows there is life after death, which gives them hope and comfort, especially when facing suffering or death.
 Belief in life after death also encourages Christians to avoid sin, repent when they do wrong, and seek forgiveness, as they believe God's judgement is fair.

Incarnation.

Christians believe Jesus is God in human form.
 "The Word became flesh and made his dwelling among us"

This shows God's love and willingness to enter human life.

Christians believe that in Jesus, God revealed His character in a way humans can understand.

How does the incarnation influence Christians?

- Shows Christians what God is like- helps them understand his nature.
- Gives Christians confidence that God loves them.
- Influences Christians on how to treat others.
- Influences and shapes Christian worship.
- Essential for salvation.
- Christians believe Jesus had to be both fully God and fully human to save humanity.
- As a human, he could represent humanity.
- As God, his sacrifice had the power to defeat sin.
- This belief shapes Christian understanding of forgiveness and eternal life.
- Encourages Christians to value all human life.

The crucifixion.

Jesus' death is central because: It brings atonement (restoring relationship between God and humans). It shows God understands human suffering. It provides forgiveness "Father, forgive them".

How does the crucifixion influence Christians?

- It shows Christians that God understands human suffering
- It teaches Christians about forgiveness
- It gives Christians hope of salvation
- It inspires Christians to live selflessly
- It shapes Christian worship (The Eucharist and Good Friday services).
- It strengthens Christian faith

The resurrection.

Christians believe Jesus rose from the dead on the third day. This proves: Life after death is real, Jesus is divine, Sin and death are defeated. "He is not here; he has risen".

How does the resurrection influence Christians?

- It gives Christians hope in life after death
- It strengthens faith in Jesus as the Son of God
- It inspires Christians to live good, moral lives
- It gives Christians courage in suffering
- It shapes Christian worship (Easter Sunday and Sunday services).

RE – Autumn Year 11

Christian practices keywords.

- **Worship** — Acts of religious praise, honour, or devotion.
- **Liturgical Worship** — A church service that follows a set structure or ritual.
- **Non-liturgical Worship** — Worship that does not follow a set text or ritual.
- **Informal Worship** — Spontaneous or charismatic worship, often without a set structure.
- **Private Worship** — When a believer praises or honours God alone.
- **Prayer** — Communicating with God through words, silence, praise, confession, or requests.
- **Set Prayers** — Prayers written down and used repeatedly, e.g., the Lord's Prayer.
- **Informal Prayer** — Personal, unscripted prayer using one's own words.
- **Sacrament** — A special, holy ritual through which Christians believe they receive God's grace.
- **Baptism** — A ritual of initiation using water; symbolises cleansing from sin and entry into the Christian community.
- **Infant Baptism** — Baptising babies with holy water to welcome them into the church.
- **Believer's Baptism** — Baptism for those old enough to consciously choose the Christian faith.
- **Eucharist (Holy Communion)** — A service where bread and wine are received to remember Jesus' sacrifice.
- **Consecration** — When a priest blesses bread and wine for use in the Eucharist.
- **Transubstantiation** — is the Catholic belief that, during the Eucharist, the bread and wine become the actual body and blood of Jesus Christ, even though their appearance stays the same.
- **Christmas** — Festival celebrating the incarnation (birth) of Jesus Christ.
- **Easter** — Festival celebrating the resurrection of Jesus.
- **Pilgrimage** — A journey to a holy site for religious reasons; an act of worship and devotion.
- **Mission** — The calling to spread the Christian message and evangelise.
- **Evangelism** — Spreading the word of God through speech or action.
- **Church** —
 - The holy people of God (Body of Christ).
 - The building where Christian's worship.
- **Persecution** — Hostility or ill-treatment directed at a group because of their beliefs.

Poverty and responses to poverty.

Supporting charities such as Christian Aid or CAFOD-volunteering, campaigning raising awareness through Church services. Helping the poor follows Jesus' example/ footstep, which provides reward in the afterlife (salvation through works/ actions).

Quote: "Whatever you did for the least of these... you did for me."

Year 11 knowledge organiser (1).

Worship.

Worship is anything which can be understood or interpreted as an act of devotion to God.
Worship means showing respect and love for God. Can be liturgical (set structure, e.g. Church of England) or non-liturgical (informal, e.g. Evangelical churches).

Can be private (personal prayer) or public (church services).
Helps Christians grow closer to God and strengthen faith.

Quote: "God is spirit, and his worshippers must worship in the Spirit and in truth."

Pilgrimage.

Lourdes- A place of healing and miracles. Many visit seeking spiritual or physical healing. Inspired by the Virgin Mary's appearances.

Iona- A place for peace and prayer. Encourages reflection and spiritual growth. Pilgrimage helps Christians strengthen their faith.

Quote: "Faith without action is dead".

Prayer.

Prayer is communication with God.
Types of prayer include; adoration (praise), confession (asking forgiveness), thanksgiving, supplication (asking for help).
Includes formal prayers (e.g. The Lord's Prayer) and informal prayers (Grecs).

Christians pray to build a relationship with God.

Quote: "Ask and it will be given to you." **The Lord's Prayer says, "forgive us our sins" and "our father who art in heaven" and "give us today our daily bread".**

Persecution and Reconciliation.

Supporting persecuted Christians worldwide- Standing up for religious freedom. Quote: "Blessed are those who are persecuted because of righteousness."

Promoting forgiveness and peace. Healing broken relationships. Quote: "Blessed are the peacemakers."

Baptism.

Christians a person into the Christian Church.
Symbolises cleansing from sin and new life.
May be infant baptism or believer's baptism.
Uses water to represent washing away sin

Quote: "Go and make disciples of all nations, baptising them..."

The Eucharist.

Remembers Jesus' Last Supper.
Bread represents Jesus' body, wine represents Jesus' blood.
Catholics believe in transubstantiation.
Strengthens unity with God and other Christians.

Quote: "This is my body given for you."

Easter.

Easter Celebrates Jesus' resurrection.
Central to Christian belief in life after death.
From Good Friday to Easter Sunday.
Many Christians attend services and light Easter candles to represent the resurrection of Jesus.

Quote: "He is not here; he has risen."

Christmas.

Christmas Celebrates the Incarnation (Jesus becoming human)
Christmas reminds Christians of God's love.
At Christmas many Christians attend midnight Mass and will use an advent to trace the week leading up to the coming of the saviour.

Quote: "The Word became flesh and made his dwelling among us."

The Church.

The word 'church' can be used to describe the Christian place of worship, or as the worldwide community of Christians.

The Church within the local community- Provides worship, support, and guidance.
Helps through food banks, youth clubs, street pastors, charity work.
Encourages Christians to love their neighbour.
Quote: "Love your neighbour as yourself."

The Church in the worldwide community-Mission and Evangelism: Spread the Christian message.

Missionary is someone who completes a mission to spread the word of God-poverty; bring more people close to God (guidance, hope).
Quotes: "Go and make disciples of all nations," or "faith without action is dead".
Both the local and worldwide community of Christians have a duty to show Agape to all of God's creation, therefore charity work, campaigning and raising awareness of issues such as injustice or abuse of the environment is of central importance.



1 WHAT IS AN ALGORITHM?

An algorithm is a sequence of steps that can be followed to complete a task.

Instructions → Followed in order → Achieves a solution

A computer program is an implementation of an algorithm. An algorithm is not a computer program.

2a DECOMPOSITION

Decomposition means breaking a problem into a number of sub-problems, so that each sub-problem accomplishes an identifiable task, which might itself be further subdivided.

```

graph TD
    MP[Main Problem] --> SP1[Sub-problem 1]
    MP --> SP2[Sub-problem 2]
    MP --> SP3[Sub-problem 3]
    SP2 --> SP21[Sub-problem 2.1]
    SP2 --> SP22[Sub-problem 2.2]
    
```

2b ABSTRACTION

Abstraction is the process of removing unnecessary detail from a problem.

Real-world problem → Abstracted problem

Focus on the important information needed to solve the problem.

3 DESIGNING ALGORITHMS

Use a systematic approach to problem solving and algorithm creation.

- Understand the problem (What is the task? What are the inputs and expected outputs?)
- Decompose the problem (Break it into smaller, manageable sub-problems.)
- Abstract the problem (Remove unnecessary detail and focus on what is needed.)
- Design the algorithm (Represent the steps using pseudocode, program code or a flowchart.)
- Test and refine (Check the algorithm works, then improve it if needed.)

Exam questions will state the form of response expected: pseudocode, program code or flowchart.

4 THREE WAYS TO REPRESENT ALGORITHMS

FLOWCHART

Uses standard symbols to show the sequence of steps.

Key

- Terminal (Start/End)
- Input/Output
- Process
- Decision
- Flow line

PSEUDOCODE (AQA STANDARD)

Plain English-like code that uses keywords.

```

INPUT number
SET answer TO number * 2
OUTPUT answer
    
```

AQA PSEUDOCODE KEYWORDS

INPUT	Accepts data
OUTPUT	Displays data
SET	Assigns a value
IF...THEN...ELSE	Makes a decision
FOR...TO...NEXT	Repeats a set of steps
WHILE...ENDWHILE	Repeats while a condition is true

PROGRAM CODE (EXAMPLE: PYTHON)

Actual code written in a programming language.

```

number = int(input("Enter a number: "))
answer = number * 2
print(answer)
    
```

Different languages use different syntax, but the logic (algorithm) stays the same.

5 UNDERSTANDING ALGORITHMS

Every algorithm has:

INPUT – PROCESS – OUTPUT

Input: Data goes in
Processing: Calculations or operations
Output: Result comes out

TRACE TABLES

Use a trace table to work out what happens at each step.

Step	n (Input)	n * 2 (Output)
1	2	4
2	5	10
3	10	20

DETERMINE PURPOSE

Use trace tables and visual inspection to determine what the algorithm does.

What pattern do you see?
What is the algorithm achieving?

6 COMMON MISTAKES

- Skipping steps**
Every step must be present and in the correct order.
- Not using correct symbols / syntax**
Use the correct flowchart symbols or AQA pseudocode keywords.
- Confusing input and output**
Check carefully: Is data going in (input) or coming out (output)?
- Logic errors**
The steps may be in the right order but the logic may be wrong.
- Not testing**
Always test with different inputs to check the algorithm works.

7 EXAM TIPS

- Read the question carefully. It will tell you exactly what representation is required.
- Plan your answer first. Design the algorithm before you write it down.
- Use trace tables to help you understand and check algorithms.
- Check your final answer. Does it match the required output?
- Show all your working. Partial marks can still be earned.

KEY TAKEAWAY

Good algorithms are clear, logical and can be represented in different ways. Designing, representing and analysing algorithms are essential skills in Computer Science.



MEMORY AID:

D.A.R.E. Decompose – break it down

| Abstract – remove detail

| Represent – choose the best form

| Evaluate – test and improve

1 THE BIG IDEA

More than one algorithm can solve the same problem.

Some algorithms are more **efficient** than others because they take **less time** or use fewer resources.



In GCSE Computer Science, we only compare algorithms by time efficiency.

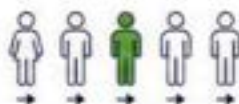
2 MORE THAN ONE WAY

The same problem can be solved in different ways.

Example problem: Find the position of a name in a list.

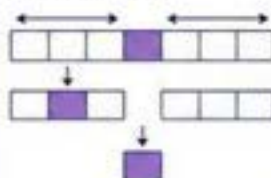
Algorithm A: Linear Search

Check each item one by one from the start until the name is found.



Algorithm B: Binary Search

Repeatedly check the middle item and eliminate half of the list each time.



3 COMPARING EFFICIENCY (TIME)

We compare how many steps (operations) each algorithm needs in the worst case.

Linear Search (worst case)

The item is last in the list or not in the list.



Steps needed = n
(where n = number of items)

Time taken grows linearly as the list gets bigger.

Binary Search (worst case)

The item is not in the list.



Steps needed $\approx \log_2 n$
(where n = number of items)

Time taken grows much more slowly.

★ As the list gets bigger, binary search is much faster than linear search.

4 EXAMPLE COMPARISON

How many steps in the worst case?

Size of list (n)	Linear Search Worst case steps	Binary Search Worst case steps ($\approx \log_2 n$)	Which is faster?
8	8	3	Binary Search
16	16	4	Binary Search
32	32	5	Binary Search
64	64	6	Binary Search
128	128	7	Binary Search
1,024	1,024	10	Binary Search



Linear search time increases in a straight line. Binary search increases very slowly.

5 WHY DOES THIS HAPPEN?

LINEAR SEARCH

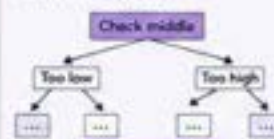
Checks every item one by one.
If the list doubles in size, the number of steps also doubles.



$O(n)$ time

BINARY SEARCH

Cuts the list in half each time.
If the list doubles in size, the number of steps only increases by about 1.



$O(\log_2 n)$ time



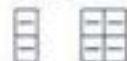
KEY POINT

Binary search is much more efficient for large lists because it reduces the problem size by half each step.

6 COMMON MISCONCEPTIONS

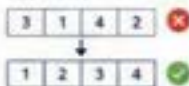
Fastest for small lists?

For very small lists, both algorithms may take a similar time.



Binary search works on any list?

Binary search only works on sorted lists.



Fewer steps always means best algorithm?

Other factors (memory used, ease of writing, etc.) can also matter.



7 EXAM TIPS



Read the question carefully. Look for the input size (given by n).



Identify which algorithm is being used.



Calculate or estimate the number of steps in the worst case.



Use data or simple graphs to compare the algorithms.



State which algorithm is more time efficient and why.



KEY TAKEAWAY

More than one algorithm can solve the same problem, but some are more time efficient than others. Binary search is usually faster than linear search for large datasets.

1 WHAT ARE SEARCHING ALGORITHMS?

Searching algorithms are used to find a particular item (the key) in a list (collection of data).

They return the position (index) if found, or indicate it is not in the list.



Key terms

- **Key:** the value we are searching for
- **List:** an ordered collection of items
- **Index/Position:** the place of an item in the list

💡 Binary search is much faster than linear search, but it only works on sorted lists.

2 LINEAR SEARCH

Checks each item in the list one by one from the start until the key is found or the end is reached.

How it works

- 1 Start at the first item (index 0).
- 2 Compare the key with the current item.
- 3 If it matches, return the index.
- 4 If not, move to the next item.
- 5 Repeat until the item is found or the end of the list is reached.

Example

List (indexes):

	0	1	2	3	4	5
	12	7	25	18	4	9

Key = 18

Step	Index	Item	Match?
1	0	12	No
2	1	7	No
3	2	25	No
4	3	18	Yes ✓

Result: Found at index 3

3 BINARY SEARCH (LIST MUST BE SORTED)

Compares the key with the middle item. If it's not a match, the search continues in the half where the key could be.

How it works

- 1 Find the middle item.
- 2 If match, return the index.
- 3 If key is smaller, search the left half.
- 4 If key is larger, search the right half.
- 5 Repeat until found or no items remain.

Example (sorted list)

List (indexes):

	0	1	2	3	4	5	6
	4	7	9	12	18	25	31

Key = 18

Step	Range (index)	Middle	Item	Match?	Next step
1	0 - 6	3	12	No	Key > 12 → Right half
2	4 - 6	5	25	No	Key < 25 → Left half
3	4 - 4	4	18	Yes ✓	Found!

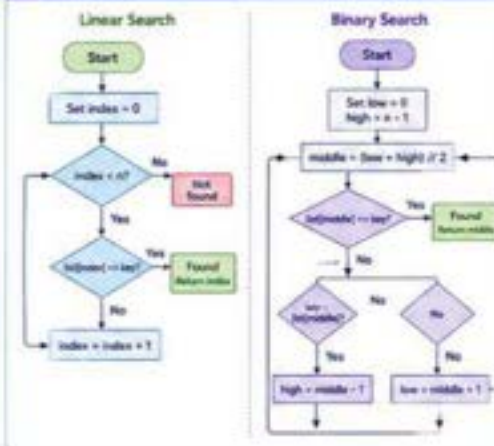
Result: Found at index 4

4 COMPARE AND CONTRAST

Feature	Linear Search	Binary Search	Which is better?
How it works	Checks each item one by one from start to end. 	Checks the middle, then searches in one half. 	Binary (far fewer steps)
List requirement	Works on any list (sorted or unsorted).	List must be sorted in ascending order.	Linear (more flexible)
Best case time	$O(1)$ – first item is the key.	$O(1)$ – middle item is the key.	Equal
Average case time	$O(n/2)$ – checks about half the list.	$O(\log_2 n)$ – very fast.	Binary
Worst case time	$O(n)$ – checks every item.	$O(\log_2 n)$ – very fast.	Binary
Example use	Small lists or unsorted data.	Large, sorted lists.	Binary (for large lists)

★ Binary search is faster but less flexible. Linear search works everywhere but can be slow on large lists.

5 FLOWCHARTS



6 COMMON MISTAKES

- ✗ Using binary search on an unsorted list.
- ✗ Forgetting to update the low/high values in binary search.
- ✗ Off-by-one errors in index calculations.
- ✗ Not checking all items in linear search.

7 EXAM TIPS

- ✓ Know the steps of both algorithms.
- ✓ Understand why binary search is faster.
- ✓ Look for clues in questions: "sorted list" usually means binary search.
- ✓ Be clear when explaining advantages and disadvantages.

8 KEY TAKEAWAY



Linear search is simple but can be slow on large lists.

Binary search is much faster but only works on sorted lists.

Choose the right algorithm for the right situation.



MEMORY AID

LINEAR SEARCH

Look in order, one by one, until it's done.

BINARY SEARCH

Check the middle, then go left or right.

SORTED + SPLIT = SPEED

Sorted list, split in half, that's the key to speed!

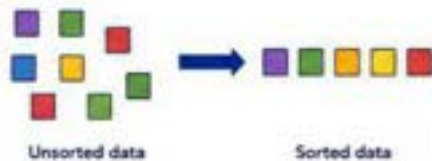


In GCSE exams, you only need to know the mechanics and be able to compare the time efficiency.

1 THE BIG IDEA

Sorting algorithms arrange items in order (usually ascending).

Different algorithms use different methods and take different amounts of time.



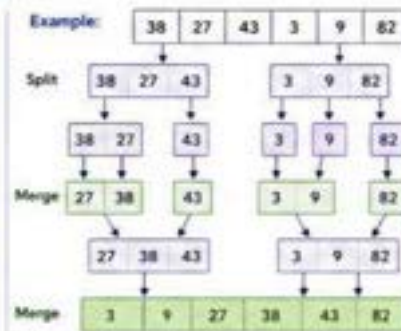
💡 Merge sort is very efficient for large lists.
Bubble sort is simple but slow for large lists.

2 MERGE SORT

Uses a divide and conquer approach. Breaks the list in half repeatedly, sorts each half, then merges the sorted halves.

How it works

- 1 Split the list in half.
- 2 Recursively split each half until lists have 1 item.
- 3 Merge the small lists back together in order.
- 4 Repeat merging until one sorted list remains.



Key point: Efficient for large lists: time complexity $O(n \log_2 n)$.

3 BUBBLE SORT

Repeatedly steps through the list, compares adjacent items and swaps them if they are in the wrong order.

How it works

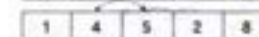
- 1 Compare the first two items. Swap if needed.
- 2 Move to the next pair.
- 3 Continue to the end of the list.
- 4 The largest item 'bubbles' to the end.
- 5 Repeat passes until no swaps are needed.

Example

Start list:

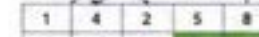


Pass 1:



8 is in the correct position

Pass 2:



8 is in the correct position



Key point: Simple but slow for large lists: time complexity $O(n^2)$.

4 COMPARE AND CONTRAST

Feature	Merge Sort	Bubble Sort	Which is better?
Method	Divide and conquer: split then merge.	Compare adjacent items and swap.	Merge sort (more advanced method)
Time complexity	$O(n \log_2 n)$ (very efficient)	$O(n^2)$ (inefficient for large lists)	Merge sort
Best case time	$O(n \log_2 n)$	$O(n)$ (already sorted)	Bubble sort (for small / sorted lists)
Average case time	$O(n \log_2 n)$	$O(n^2)$	Merge sort
Worst case time	$O(n \log_2 n)$	$O(n^2)$	Merge sort
Extra memory	Needs extra memory	In-place (no extra memory)	Bubble sort
Stability	Stable	Stable	Equal
Best use	Large lists	Small lists or nearly sorted lists	Depends on the situation

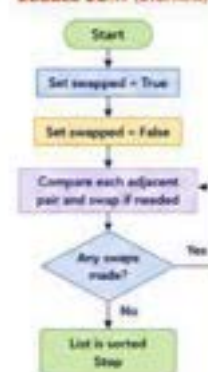
★ Merge sort is faster for large datasets. Bubble sort is easier to understand.

5 FLOWCHARTS

MERGE SORT (overview)



BUBBLE SORT (overview)



6 COMMON MISTAKES

- ✗ Thinking bubble sort is fast for large lists.
- ✗ Forgetting that merge sort needs extra memory.
- ✗ Not splitting lists evenly in merge sort.
- ✗ Off-by-one errors in loops (skipping the last item).
- ✗ Not resetting the 'swapped' flag in bubble sort.

7 EXAM TIPS

- ✓ Learn the steps of both algorithms in order.
- ✓ Know why merge sort is more efficient.
- ✓ Use examples to explain each algorithm.
- ✓ Compare best, average and worst case times.
- ✓ State advantages and disadvantages clearly.



MEMORY AID

MERGE SORT = SPLIT & MERGE

Keep splitting the list, then merge the pieces back together in order.



BUBBLE SORT = BUBBLES UP

The largest items bubble to the end with each pass.



KEY TAKEAWAY

Both algorithms sort data, but they do it in different ways. Merge sort is much faster for large lists ($O(n \log_2 n)$). Bubble sort is simple but slow for large lists ($O(n^2)$). Choose the right algorithm for the right situation.



Travel – Autumn Year 11

Syria: How has war affected tourism?

- Since the beginning of the Syrian Civil War in March 2011, tourism has declined steeply.
- According to official reports, hotel rooms designed for foreign tourists have been occupied by refugees.
- In the first quarter of 2012, tourism revenue was about 12.8 billion Syrian pounds (\$178 million), compared with 52 billion Syrian pounds (\$1 billion) in the first quarter of 2011, and the number of foreign tourists decreased by more than 76 percent in the 2012 quarter.
- Employment in the tourism industry was down by "nearly two-thirds" in that period.

Others risks when travelling abroad

1. personal safety and security in an unfamiliar environment,
2. theft,
3. accidents,
4. getting lost

Environmental Impacts.

Categories of...

- natural disasters (earthquakes, volcanic eruptions, sink holes and tsunamis)
- ... and severe weather events (flooding, drought, fires, landslides, hurricanes, tornadoes, avalanches and snow storms).

Impacts

Short Term

Threat to life
Damage to buildings
Evacuation
No communication
Travel Alert
Airports closed

Long Term

Rebuilding of building and infrastructure
Insurance costs
Cancelled holidays
Reputation of area
Unemployment

Travel and tourism organisations such as Tour operators will need to respond to the various factor that affect the travel and tourism industry – Factors that they might need to respond to are the following:

- Economic factors - Currency fluctuations Boom / Recession
- Political factors – War/Political Unrest/Terrorism
- Natural disasters – Earthquakes/Volcanic eruptions/Hurricanes (Extreme weather)
- Media, publicity and image- Overcrowding/Pollution/Negative Online reviews by customers
- Safety and security concerns- Terrorism/Crime
- Health risks and precautions –Illnesses/Diseases

A2 Responses to factors that influence global travel and tourism

- **Travel and tourism organisations** – an understanding of possible responses, including:
 - / adapting and developing new products and services
 - / adapting operational procedures
 - / reviewing destinations offered
 - / reviewing price structures – adjusting pricing to maintain visitor numbers, attract different types of visitor
 - / managing public relations.

- **Government: local, regional, national** – an understanding of possible responses, including:
 - / providing public with up-to-date information
 - / imposing travel restrictions
 - / promoting a positive image
 - / encouraging employment
 - / improving infrastructure
 - / Introducing or tightening of security measures.

- **Voluntary organisations** – an understanding of possible responses, including:
 - / promoting sustainability, conservation and protection
 - / campaigning for governments to affect change
 - / raising awareness of issues – ethical, environmental / raising funds.

Travel – Autumn Year 11

Symptoms of tetanus

The symptoms of tetanus usually develop 4 to 21 days after infection. On average, they start after around 10 days.

The main symptoms include:

- stiffness in your jaw muscles (lockjaw), which can make opening your mouth difficult
- painful muscle spasms, which can make breathing and swallowing difficult
- a high temperature (fever) of 38C (100.4F) or above
- sweating
- a rapid heartbeat

Left untreated, the symptoms can get worse over the following hours and days.

Tetanus travel jab

Tetanus is found throughout the world, so you should ideally make sure you're fully vaccinated before travelling abroad.

Contact your GP surgery for advice if you're planning on travelling abroad and haven't been fully vaccinated against tetanus, or you're going to an area with limited medical facilities and your last vaccine dose was more than 10 years ago.

If you've never had a tetanus vaccination before, you may be advised to have as many of the three initial doses of the vaccine as possible before you leave (there should be one month gaps between each dose) and complete the full course when you return.

If you've been partly or fully vaccinated, a tetanus shot is usually still recommended as a precaution if you're travelling to an area with limited medical facilities and your last dose of the vaccine was more than 10 years ago.

Malaria

Malaria is a serious tropical disease spread by mosquitoes. If malaria is not diagnosed and treated promptly, it can be fatal. A single mosquito bite is all it takes for someone to become infected. WHO "In 2011 there were 207 million cases of malaria worldwide and 627,000 deaths."

Prevention

Avoid mosquito bites by using insect repellent, covering your arms and legs and using a mosquito net. Check whether you need to take malaria prevention tablets – if you do, make sure you take the right antimalarial tablets at the right dose, and finish the course.

Precautions: Avoid mosquito areas such as swamps, forests and jungles, choose air conditioned accommodation, mesh screening over windows and doors, long sleeves/protective clothing, mosquito repellent, plug ins.

Symptoms of typhoid fever

The main symptoms of typhoid fever are:

- a high temperature that can reach 39 to 40C
- headache
- general aches and pains
- cough
- constipation

As the infection progresses, you may lose your appetite, feel sick, and have a tummy ache and diarrhoea. Some people may develop a rash.

Typhoid fever vaccination

In the UK, 2 vaccines are available that can provide some protection against typhoid fever.

These involve either having a single injection or taking 3 capsules over alternate days.

Vaccination is recommended for anyone planning to travel to parts of the world where typhoid fever is widespread.

It's particularly important if you're planning to live or work closely with local people.

But as neither vaccine offers 100% protection, it's also important to follow some precautions when travelling.

For example, you should only drink bottled or boiled water, and you should avoid foods that could potentially be contaminated.

Some risk areas
large areas of Africa and Asia
♦ Venezuela
♦ Haiti and the Dominican Republic



Preventing norovirus

It's not always possible to avoid getting norovirus, but following the advice below can help stop the virus spreading.

- Stay off work or school until at least 48 hours after the symptoms have passed. You should also avoid visiting anyone in hospital during this time.
- Wash your hands frequently and thoroughly with soap and water, particularly after using the toilet and before preparing food. Don't rely on alcohol hand gels, as they do not kill the virus.
- Disinfect any surfaces or objects that could be contaminated. It's best to use a bleach-based household cleaner.
- Wash any items of clothing or bedding that could have become contaminated separately on a hot wash to ensure the virus is killed.
- Don't share towels and blankets.
- Flush away any infected poo or vomit in the toilet and clean the surrounding area.
- Avoid eating raw, unwashed produce and only eat oysters from a reliable source, as oysters can carry norovirus.

Symptoms of norovirus

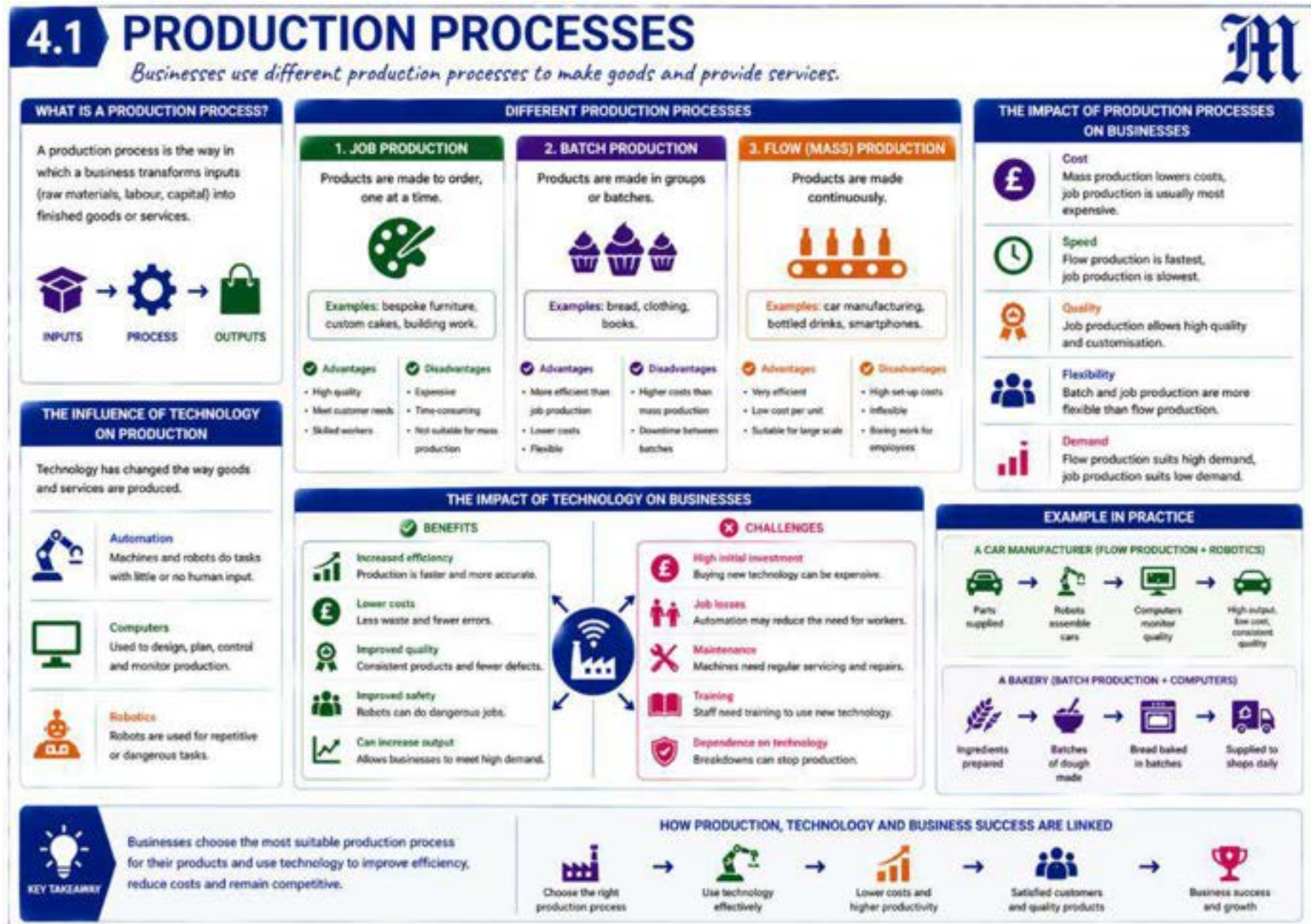
The symptoms of norovirus are very distinctive.

You're likely to have norovirus if you experience:

- suddenly feeling sick
- projectile vomiting
- watery diarrhoea

Some people also have a slight fever, headaches, painful stomach cramps and aching limbs.

The symptoms appear one to two days after you become infected and typically last for up to two or three days.





4.2 QUALITY OF GOODS AND SERVICES

High quality leads to satisfied customers and business success.

1. THE CONCEPT OF QUALITY

Quality is how good a product or service is.
It means meeting or exceeding customer expectations.



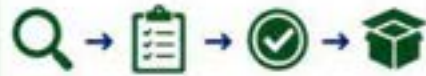
Quality includes:

- ✓ Fit for purpose
- ✓ Reliable and consistent
- ✓ Safe to use
- ✓ Good value for money
- ✓ Attractive design / finish

2. METHODS OF ENSURING QUALITY

QUALITY CONTROL

Checks and tests carried out during production to make sure standards are met.



Inspect materials → Monitor production → Identify and fix defects → Only quality products reach customers

Examples

- Testing products for faults
- Checking measurements and specifications
- Sampling and inspection

QUALITY ASSURANCE

Systems and procedures to prevent problems and improve quality overall.



Set quality standards → Train and support staff → Follow procedures and processes → Consistent quality achieved

Examples

- Staff training and development
- Following set processes (SOPs)
- Regular reviews and improvements

3. THE IMPORTANCE OF QUALITY



Reputation of the business
High quality builds a strong reputation and positive brand image.



Gain and retain customers
Satisfied customers are more likely to buy again and recommend the business.



Reduce product returns and recalls
Fewer faults mean fewer returns, repairs and costly recalls.



Increase profits
High quality can allow higher prices and lower waste costs.



Competitive advantage
Businesses that offer high quality stand out from competitors.

QUALITY IN GOODS AND SERVICES

GOODS (PRODUCTS)



- Must be durable and reliable
- Meet safety standards
- Free from defects
- Attractive and well designed

SERVICES



- Delivered to the right standard
- Friendly and helpful service
- Timely and consistent
- Meet customer expectations

4. HOW QUALITY AFFECTS BUSINESS SUCCESS



High quality goods/services



Satisfied customers



Repeat business and recommendations



More sales and profits



Business success



Quality is not just about avoiding mistakes – it's about doing things right every time and improving continuously.

EXAMPLE IN PRACTICE



A car manufacturer uses quality control to test each car before it leaves the factory. This reduces faults and keeps customers safe.



A hotel uses quality assurance by training staff and checking customer feedback. This improves service and encourages customers to return.



Quality control checks products. Quality assurance prevents problems. Both are essential to produce high quality goods and services that keep customers happy and help businesses succeed.

THE QUALITY CYCLE



Set quality standards



Plan and control



Check and measure



Improve and take action



Achieve high quality



4.3 THE SALES PROCESS AND CUSTOMER SERVICE

Good sales and customer service help businesses gain and retain customers.

1. METHODS OF SELLING

Businesses use different methods to sell their products and services.



FACE TO FACE

Salesperson and customer meet in person.

- Builds trust and rapport
- Easier to explain products
- Immediate customer feedback



TELESALES

Selling over the phone.

- Quick and cost-effective
- Can reach many customers
- Good for existing customers



E-COMMERCE

Selling online via websites or apps.

- Available 24/7
- Global reach
- Lower running costs

2. THE INFLUENCE OF E-COMMERCE ON BUSINESS ACTIVITY



Impact on businesses:

- Increased sales opportunities
- Higher competition
- Need for strong online presence and IT systems
- Data can be used to understand customer needs

3. THE IMPORTANCE OF GOOD CUSTOMER SERVICE

Good customer service helps businesses:



Gain customers
Satisfied customers are more likely to buy.



Retain customers
Happy customers return and buy again.



Build reputation
Good service creates a positive image and word-of-mouth.



Increase profits
Loyal customers spend more and cost less to serve.



Reduce complaints and returns
Customers get the right product and advice first time.

4. CONTRIBUTION OF PRODUCT KNOWLEDGE AND CUSTOMER ENGAGEMENT



PRODUCT KNOWLEDGE

Staff who know the products can:

- Answer customer questions
- Recommend the right product
- Solve problems quickly

→ Leads to trust and confident purchasing decisions.



CUSTOMER ENGAGEMENT

Engaging with customers means:

- Listening to their needs
- Being friendly and helpful
- Offering personalised service

→ Leads to stronger relationships and customer loyalty.

THE SALES PROCESS

A simple process used to turn interest into a sale.



1 Identify need
Find out what the customer needs.



2 Present solution
Explain how the product/service meets their need.



3 Handle objections
Answer questions or concerns.



4 Close the sale
Agree the purchase and take payment.



5 After-sales service
Check customer satisfaction and offer support.

HOW GOOD SERVICE LEADS TO BUSINESS SUCCESS



It costs less to keep an existing customer than to find a new one.
Happy customers are the best form of advertising!

EXAMPLES IN PRACTICE



E-COMMERCE RETAILER

An online store sells worldwide, offers live chat support and easy returns, leading to high customer satisfaction and repeat business.



TECHNOLOGY STORE (FACE TO FACE)

Staff understand the products and give honest advice. They also help customers after purchase, building trust and loyalty.



KEY TAKEAWAY

Using the right methods of selling and providing excellent customer service – before and after the sale – helps businesses gain and retain customers and grow.

THE ROLE OF GOOD CUSTOMER SERVICE



Meets customer needs



Creates positive experiences



Builds loyalty and trust



Encourages positive word-of-mouth



Drives business growth

4.4

CONSUMER LAW

Consumer law protects customers when they buy goods and services.

WHAT IS CONSUMER LAW?

Consumer law is a set of rules that protects people who buy goods and services.

It ensures businesses treat customers fairly and provide safe, good quality products.

KEY CONSUMER RIGHTS (SALE OF GOODS ACT 1979)

GOODS MUST BE:

- As described**
The item must match the description given.
- Of satisfactory quality**
Safe, reliable and fit for normal use.
- Fit for purpose**
Suitable for the purpose the customer needs.
- Installed correctly**
If the business installs the goods, it must be done properly.

IF GOODS ARE FAULTY

Customers have short-term and long-term rights.

Short-term (up to 30 days)
Right to a full refund.

Long-term (up to 6 years)
Right to a repair or replacement.
If this is not possible, a partial or full refund.

SERVICES MUST BE:

- Performed with reasonable care and skill
- Provided within a reasonable time
- Provided at a reasonable price
- As described

If a service is poor, customers can ask for it to be put right or get some or all of their money back.

THE IMPACT OF CONSUMER LAW ON BUSINESSES

- Protects business reputation**
Following the law builds trust and a positive image with customers.
- Improves customer confidence**
Customers feel safe knowing their rights are protected.
- Promotes safety and quality**
Businesses must supply safe and satisfactory quality goods and services.
- Reduces complaints and returns**
Clear rules help businesses avoid disputes and costly mistakes.
- Encourages long-term success**
Happy customers return and recommend the business to others.

EXAMPLES OF CONSUMER PROTECTION

- Faulty Product**
A customer buys a faulty phone. They can get a repair, replacement or refund.
- Poor Service**
A restaurant provides poor service. The customer can ask for improvement or a refund.
- Not as Described**
A customer orders a red jacket but receives a blue one. They can return it for the correct item or a full refund.

HOW CONSUMER LAW BENEFITS THE ECONOMY

Fair treatment for customers

→

More trust in businesses

→

More spending and sales

→

Stronger businesses and economy

★ When businesses follow consumer law, everyone benefits!

EXAMPLE IN PRACTICE

- E-COMMERCE STORE**
An online store must ensure products are as described, safe and of good quality. If not, customers can return items and get a refund.
- RETAIL STORE**
If a customer buys a faulty item in a shop, the store must offer a repair, replacement or refund under consumer law.

KEY TAKEAWAY

Consumer law ensures customers receive safe, satisfactory quality goods and services. This protects customers and helps businesses build a strong reputation, gain and retain customers, and achieve long-term success.

WHAT BUSINESSES SHOULD DO

Know and follow the law

Provide safe, quality products

Train staff on customer rights

Handle complaints fairly

Focus on customer satisfaction



4.5 BUSINESS LOCATION

Choosing the right location helps businesses reduce costs and satisfy customers.

WHAT IS BUSINESS LOCATION?

Business location is the place where a business chooses to operate.



The right location can help a business to be successful and competitive.

FACTORS INFLUENCING BUSINESS LOCATION



1. COSTS

- Cost of rent or purchase of land/buildings
- Business rates
- Utilities (energy, water)
- Transport and distribution costs
- Labour costs

EXAMPLE

A business may choose a location with lower rent to reduce costs.



2. PROXIMITY TO MARKET

- Close to customers
- High footfall areas
- Accessible location
- Visibility and convenience
- Helps increase sales

EXAMPLE

A shop in a busy town centre is close to many potential customers.



3. LABOUR

- Availability of skilled and unskilled workers
- Labour costs
- Reliability of workforce
- Transport for employees
- Local unemployment rate

EXAMPLE

A factory may locate where there is a large supply of skilled workers at the right cost.



4. MATERIALS

- Close to raw materials
- Reduces transport costs
- Reliable supply of materials
- Quality of materials available

EXAMPLE

A bakery may locate near flour suppliers to reduce transport costs and ensure freshness.

OTHER FACTORS TO CONSIDER



TRANSPORT LINKS

Good roads, rail, ports and airports help with getting goods in and products out.



GOVERNMENT AND LEGAL FACTORS

Laws, taxes, grants and planning permission can affect where a business locates.



COMPETITION

Being near competitors can be beneficial (attracts customers) or unfavourable (intense competition).



ENVIRONMENT AND QUALITY OF LIFE

A pleasant environment and good facilities can help attract staff and improve productivity.

POSSIBLE LOCATIONS



URBAN (TOWN/CITY CENTRE)

- Close to customers and transport links
- Expensive rent and higher costs



SUBURBAN

- Lower costs than city centre
- Easier access for customers with parking



RURAL

- Very low costs and space
- Far from customers and transport links

HOW LOCATION AFFECTS BUSINESS SUCCESS



Right location meets business needs



Attracts customers and good staff



Reduces costs and improves efficiency



Increases sales and profits



Business success



A poor location can lead to high costs, low sales and even business failure.

EXAMPLE IN PRACTICE



SUPERMARKET

Located near a large residential area with good parking and transport links so it is convenient for many customers.



FURNITURE MANUFACTURER

Located near timber suppliers (materials) and a skilled workforce (labour) to keep costs down and production efficient.



KEY TAKEAWAY

Businesses must consider many factors when choosing a location. Choosing the right location can help reduce costs, attract customers and staff, and improve business performance.

KEY FACTORS TO REMEMBER



COSTS



PROXIMITY TO MARKET



LABOUR



MATERIALS



TRANSPORT



GOVERNMENT FACTORS



COMPETITION



ENVIRONMENT



4.6 WORKING WITH SUPPLIERS

Good relationships with suppliers help businesses get the right goods, at the right time, at the right price.

WHAT DOES 'WORKING WITH SUPPLIERS' MEAN?

Businesses rely on suppliers to provide the goods and services they need to operate. Working effectively with suppliers helps ensure a smooth and successful business.



Good suppliers =
quality goods, on time,
at the right price.

THE ROLE OF PROCUREMENT

Procurement is the process of buying the goods and services a business needs.



Effective procurement ensures the business has the right resources to operate smoothly and satisfy customers.

THE IMPACT OF LOGISTICAL AND SUPPLY DECISIONS ON BUSINESSES



TIME

Fast deliveries mean businesses can produce and sell on time, keeping customers happy.



LENGTH OF SUPPLY CHAIN

Shorter supply chains are often quicker, cheaper and easier to manage. Longer supply chains may increase risk.



RELIABILITY OF SUPPLY

Reliable suppliers ensure goods are delivered on time and in good condition, reducing disruption.



COSTS

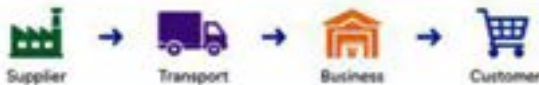
Good procurement and logistics can reduce buying, transport and storage costs, improving profit.



CUSTOMER SERVICE

Efficient supply and delivery help businesses meet customer needs and build a good reputation.

THE SUPPLY CHAIN



The supply chain shows the journey of goods from supplier to customer.

EXAMPLES OF PROCUREMENT DECISIONS

- ✓ Buying in bulk to get a discount
- ✓ Choosing local suppliers to reduce transport time and costs
- ✓ Using more than one supplier to reduce risk
- ✓ Ordering just-in-time to reduce storage costs



EFFECTIVE SUPPLIER RELATIONSHIPS



Build trust and strong relationships



Improve quality and reliability



May lead to better prices and terms



Encourage clear communication

HOW GOOD SUPPLY MANAGEMENT BENEFITS BUSINESSES



EXAMPLE IN PRACTICE



A clothing retailer chooses a reliable supplier who delivers on time. This means new stock arrives when customers want it.



A café sources ingredients locally to reduce delivery time and costs, ensuring fresh products for customers.



KEY TAKEAWAY

Procurement and good supply decisions help businesses get the right goods and services at the right price and time. This reduces costs, improves efficiency, supports customer service and increases success.



Time



Length of supply chain



Reliability of supply



Costs



Customer service

KEY FACTORS TO CONSIDER

Child Development – Autumn Year 11

R057:
Health and
Well-being for
Child Development

CAMBRIDGE NATIONAL LEVEL 1/2 CHILD DEVELOPMENT (J809)

YEAR 11 WRITTEN EXAM

🕒 1 HOUR 15 MINUTES

🏆 40% OF QUALIFICATION

This exam is about how to keep children healthy and safe before birth, during pregnancy, after birth and in early childhood.

EXAM SKILLS – WHAT YOU NEED TO BE ABLE TO DO



AO1: KNOWLEDGE AND RECALL

You need to be able to:

- Remember key words and what they mean
- Recall facts and important information
- Know the stages of development
- Name the professionals who help
- Describe how things work
- Use the right child development words
- Know key health advice and guidance



AO2: APPLICATION

You need to be able to:

- Use your knowledge in case studies
- Give advice to parents in different situations
- Suggest the best actions to take
- Spot risks and possible problems
- Pick out the important information
- Explain why your idea is a good one
- Link what you know to real life



AO3: ANALYSIS AND EVALUATION

You need to be able to:

- Look at information carefully
- Compare good and bad points
- Decide which option is best and explain why
- Judge different choices
- Use evidence to reach a conclusion
- Explain how choices affect a child's health and development
- Decide how well something works



EXTENDED WRITING SKILLS

You should be able to:

- Write in full sentences
- Organise your answers clearly
- Use PEE (Point–Evidence– Explain) to develop your ideas
- Give more detail, not just list facts
- Use connectives like:
• therefore • consequently • as a result
• this means that • however
- Use child development words correctly



DATA AND SCENARIO SKILLS

You should be able to:

- Read and understand a case study
- Find the important information
- Use information from the scenario in your answers
- Identify the needs of a parent, baby or child
- Spot risk factors
- Suggest safe and realistic ideas



TOP EXAM TECHNIQUE TIPS

- Read the scenario first
- Highlight or underline key information
- Use child development words
- Explain every point fully
- Always link your answer back to the child, parent or situation
- For 6–8 mark questions, give more than one developed point
- Use evidence from the scenario to justify your ideas



COMMAND WORDS – KNOW WHAT THEY MEAN!



DESCRIBE

Say what it is like.
Give the main points.



EXPLAIN

Say why something happens.



DISCUSS

Look at different ideas
and give your opinion.



ANALYSE

Break information down
and look at it carefully.



EVALUATE

Decide what is best and
give reasons.



JUSTIFY

Explain why your
decision is right.



RECOMMEND

Suggest the best option
and explain why.

SUBJECT KNOWLEDGE AREAS IN THE EXAM (R057)



TOPIC AREA 1

Pre-conception Health and Reproduction



- Reproductive systems
- Menstrual cycle
- Fertilisation
- Factors affecting fertility
- Pre-conception health
- Genetic conditions



TOPIC AREA 2

Antenatal Care and Preparation for Birth



- Antenatal care
- Screening and diagnostic tests
- Diet during pregnancy
- Lifestyle factors
- Stages of labour
- Methods of delivery



TOPIC AREA 3

Postnatal Checks, Care and Conditions for Development



- Postnatal checks
- Care of mother and baby
- Feeding methods
- Bonding and attachment
- Developmental needs
- Benefits of play



TOPIC AREA 4
Childhood Illnesses and a Child-Safe Environment

- Common childhood illnesses
- Immunisations
- Signs and symptoms of illness
- Accident prevention
- Home safety
- Safety equipment
- Emergency responses
- Risk assessment
- Safe environments for children



KNOW IT, APPLY IT, EXPLAIN IT – THAT'S HOW YOU SCORE TOP MARKS!



REMEMBER!

- ✓ Read the question carefully – check command words.
- ✓ Use information from the scenario to support your answers.
- ✓ Plan your answer if you have time.
- ✓ Quality over quantity – make every point count.
- ✓ Check your answer makes sense and answers the question!



You've got this! 😊

Sociology – Autumn Year 11

STEP ONE: Understanding crime and deviance as a social construct
Crime – Breaking laws set by the government and punished by courts.
Deviance – Breaking norms and expectations, punished by society.
Social Construct – Created by a particular society (in a certain place or time)

Crime differs across cultures today	Crime differs in the same culture over time
In the UK, you must be 18 to buy alcohol, 21 in the USA and in some cultures, alcohol is illegal completely	Before 2007, it was legal to smoke inside public places in the UK. This is now illegal and shows views on crime change over time

STEP FIVE: What are the specific patterns of crime? What are the reasons for this?

SOCIAL CLASS	GENDER	AGE	ETHNICITY
Statistically, most crime takes place in cities where most people are working-class (or underclass according to New Right) Working Class feature more in crime statistics because: LABELLING → The poorest working class fit the label 'typical offender' and therefore they are policed more STRAIN THEORY → They have less money and poorer education (stopping them getting higher jobs) so may turn to crime. CULTURAL DEPRIVATION → Agents of socialisation in working class areas are less effective in uniting people together VISIBLE → They commit more detectable offences like burglaries, theft and vehicle crime	Statistically, most prisoners are male (32,000 out of 35,000). However, there has been an increase in female crime Men feature more in crime statistics because: CHIVALRY THESIS → An old idea that suggested women were treated leniently by the police and courts SOCIALISATION → Male gender roles include acting tough, aggressive and dominant. Girls are taught to be caring and kind. SOCIAL CONTROL → Feminists say women are controlled by the patriarchy and have less time to be being watched and judged in society. BUT... Women do commit crime POVERTY LESS TO LOSE (Carlen's study) NEW EXPECTATIONS?	Statistics show younger people being more likely to feature in crime statistics. Younger people feature more in crime statistics because: MATERIAL FACTORS → Young people have lower-paid jobs (due to a lack of experience) and can only afford to live in deprived areas where crime occurs often SOCIAL → More influenced by peer pressure that promotes breaking rules for status and respect LABELLING → Police and media label younger people as more dangerous, leading to moral panics and self-fulfilling prophecies VISIBILITY → Youth crime is often unplanned and more obvious (eg. Assault, vandalism). These crimes are witnessed easily	Statistics show that black people are 3x more likely to be arrested. Also an increase in crime committed by Asian men Ethnic minorities feature more in crime statistics because: STEREOTYPING → Gilroy argues the police have negative views of black people and view them as more criminal, policing them more. SCAPEGOATING → Ethnic-minorities are easier targets to blame for society's problems, creating negative labels and a divide between people. INSTITUTIONAL RACISM → Identified by the MacPherson Report which found the policies of the police to be racist and focused on punishing black people rather than protecting them (eg. Stephen Lawrence Case)

UNIT 5: CRIME AND DEVIANCE

STEP TWO: What is formal and informal control?
Informal Social Control – Everyday influence from family, friends, teachers and strangers
Formal Social Control – Influence by institutions like police and courts, used when informal control does not work
Sanctions – Methods of controlling people's behaviour (positive and negative)

INFORMAL SOCIAL CONTROL	FORMAL SOCIAL CONTROL
FAMILY – Parents are role models and encourage children to act a certain way, rewarding and punishing the correct behaviour EDUCATION – Teaches children the importance of hierarchy and rules, using praise and detentions to control behaviour PEERS – People want to belong to groups and follow norms to fit in. If they don't follow norms, they might be removed from the peer group.	POLICE – They prevent and investigate crime and keep public order. They can either be: Community (having good relations with the public to stop crime) Zero-tolerance (acting tougher on small crimes to stop larger crimes) COURTS – They judge and interpret the law to sanction crimes and decide punishments. They can be: Magistrates (deal with less serious crimes and usually just fine) Juries (deal with more serious crimes)

STEP SIX: How are crime statistics collected?
 The police use a mixture of police crime statistics (recorded crime) and victim studies. These official statistics become known as the **Crime Survey for England and Wales**. Other methods to find out crimes committed include self-report studies
VICTIM STUDY → A survey sent to people to see if they have been victims of crime (anonymous)
SELF-REPORT STUDY → A survey sent to people to see if they've committed crime (anonymous)

STEP THREE: What are the basic patterns of crime in the UK?
 Crime rates have risen since the 1990s. Statistics show it is mainly committed by working-class males from ethnic-minority groups with increase in cybercrimes over time.
 Victims of crime also tend to be working class, but more equal for men and women (they face different crimes though). Ethnic-minorities are also more likely to be victims of crime

UNIT 5: CRIME AND DEVIANCE

STEP FOUR: What do theories say about crime?

FUNCTIONALISM	MERTON'S STRAIN THEORY	COHEN'S SUBCULTURAL THEORY	MARKSISM	FEMINISM	INTERACTIONISM
It is needed to allow society to work properly Crime reminds people of what is right and wrong Crime provides jobs for police and courts. ANOMIE → The breakdown of rules need to happen sometimes so rules can be enforced more clearly as new rules put in place COLLECTIVE SENTIMENTS → We need the same way to crime, bringing people closer together and building social cohesion EVALUATION They are too positive and ignore victims of crimes and not everyone learns from crime.	Not everyone can achieve success in the normal way (good education, good job) and people face pressure to be successful and achieve the goals of society. Merton says people react to this in 5 different ways (some involve crime) CONFORMITY (follow rules to achieve goals) RITUALISM (follow rules not knowing what they want) INNOVATION (break rules to achieve goals) RETREATISM (give up on goals and break rules) REBELLION (break rules to try and make a new set of goals) EVALUATION They are too deterministic, blaming crime on the goal for not having success even though middle class also commit crime.	Crimes are mainly committed by groups (or individuals influenced by groups). These crime groups are called delinquent subcultures and have norms of dishonesty, violence and bullying that is seen as acceptable. According to Cohen, delinquent subcultures are usually made up of young, working-class men who lack jobs and suffer from 'status frustration' (angry at a lack of success in their lives). These delinquent subcultures give status and respect to their most deviant members EVALUATION They are too deterministic, as not all crime is group-related and ordinary people can commit crime too	Crime happens because capitalism makes people greedy and poor people may resort to crime to achieve goods. They also say that the police and courts focus on protecting the rich and punishing the poor (who steal). This is called selective enforcement of the law . Marxists say there are 2 types of middle class crime: WHITE-COLLAR – committed by an individual and innocent people lose out CORPORATE – committed by companies to gain, innocent people lose out EVALUATION Criticised for making excuses for the working class and say that middle class crimes are ignored (they steal IT)	They have 2 main ideas Women don't feature in crime statistics because: - They are controlled more by men and have less time to commit crime (Heidensohn) - They are socialised to be more caring and less risk-taking than boys - They are treated more leniently in the courts by men (Chivalry Thesis) - The media demonises women putting them off committing crime. When women do commit crime it is because: - They experience poverty more - Expectations of women are changing - They have less bonds to society (less to lose by committing crime (Carlen)) EVALUATION Feminists ideas about being controlled and treated like 'vampires' are outdated (Carlen's research used a small sample)	There is no such thing as a typical offender , but society labels and stereotypes certain people as more criminal (working-class, young, male). The media plays a huge part in labelling these groups as criminal, leading to a moral panic (mass fear across society) (eg. Mods and Rockers). BECKER – Deviant career – criminals reoffend because society labels them. Due to labelling, these groups and ex-criminals are likely to fall into a self-fulfilling prophecy and become more troublesome EVALUATION Too deterministic as not criminals keep their labels. Also too gentle as they make excuses for criminals (society's to blame)

STEP SEVEN: Why might crime statistics be unreliable?

MISLEADING STATISTICS	HIDDEN FIGURE OF CRIME	INVISIBLE CRIME	PRACTICAL PROBLEMS
Marxists say statistics can't be trusted because police focus too much on working class crime	Many crimes aren't reported due to fear. Feminists say rape isn't reported as it might not be taken seriously	Many crimes are 'victimless', leaving no trace. For example, underage drinkers leave no footprint	Differences across police forces in the UK (no consistency) and some police forces feel pressure to keep stats low