Curriculum Companions

Year 11

Term Two

Name:

Tutor Group:

St Marks ACADEMY

Literature Paper 1: Knowledge Organiser

The exam is **1 hour, 45 mins** and you should spend **50 mins per section**

Section A: Shakespeare's 'Romeo and Juliet'
In the exam you will be given an extract to read and must write about both the extract and the play as a whole.

Example question:
How does Shakespeare present attitudes to love in the extract and play as a whole?   [30 marks]

Section B: 19th C text: 'A Christmas Carol' Charles Dickens
In the exam you will be given an extract to read and must write about both the extract and the novella as a whole.

Example question:
How does Dickens present Scrooge as a greedy character in the extract and novel as a whole?   [30 marks]

Essay planning guide for extract questions:

☐ **Step 1: Annotate the question**:
  o Focus on key words – Underline or Circle them.
  o Look for the **key theme** that is the focus of the question.

☐ **Step 2: Draw the planning table:**

Key Theme:

In the **extract**	In the **whole novel**

Add the theme to your planning table.

☐ **Step 4: Thesis Statement**

Summarise your ideas from the table to detail your opinion of how the question focus is outlined in both the extract and the novel.

☐ **Step 5: Paragraph Planning**
  o Number the points that you have made in the table.
  o Focus on the order of your points linking between the extract and the novel.

☐ **Step 3: Read the extract.**
  o Bullet point your ideas about the **key theme** in the **extract.**
  o Then bullet point links to the **key theme** in the **wider novel**.

Literature Paper 2: Knowledge Organiser

The exam is **2 hours, 15 mins** and you should spend **45 mins per section**

Section A: Modern Text: 'An Inspector Calls' J.B. Priestley

In the exam you will be given a choice of two questions but must answer one

Example questions:

Answer *either*:
1] To what extent does Priestley present Sheila as character who learns important lessons in life?

OR

2] How does Priestley explore the need for social responsibility?   [30 marks]

Section A approach:

1. Choose and **annotate the question** and mind-map initial ideas.
2. Plan **three clear ideas** that develop an answer with evidence to support and analyse.
3. Write a **thesis** as your introduction.
4. Write the **essay.** A basic structure is thesis/intro, three main analytical paragraphs and then a conclusion.

Section B: AQA 'Power and Conflict' Poetry anthology

In the exam you will be given a choice of a poem from 'love and Relationships' or 'Power and Conflict' – make sure you answer the poem from 'Power and Conflict'. You will be given a named poem and must compare it to a poem of your choice.

Example question:

26] Compare the ways poets present ideas about power in 'Ozymandias' and in one other poem from 'Power and conflict'.   [30 marks]

Section B approach:

1. **Annotate the question** and mind-map initial ideas.
2. **Re-read the named poem** and choose your poem to compare.
3. Plan **two comparative ideas** that develop an answer with evidence from each poem to support and analyse.
4. Write a **thesis** as your introduction.
5. Write the **essay.** A basic structure is thesis/intro, comparative point1 explored across each poem, comparative point 2 explored across each poem, then a conclusion.

Section C: Unseen Poetry

In the exam you will be given two unseen poems to read, interpret and analyse.

Example questions:

27. 1] In 'To a Daughter Leaving Home', how does the poet present the speaker's feelings about her daughter?   [24 marks]

27.2] In both 'Poem for My Sister' and 'To a Daughter Leaving Home' the speakers describe feelings about watching someone they love grow up. What are the similarities and/or differences between the ways the poets present those feelings?   [8 marks]

Section C approach:

1. Read and find the focus of the **first question.**
2. **Annotate the first poem.** Find three ideas/ quotations in relation to the question.
3. Write **three analytical paragraphs** that explore the poem beginning/ middle/ end.
4. Read and find the focus of the **second question.**
5. Read the second poem and identify **key techniques** to compare e.g. imagery.
6. Write 1-2 paragraphs **comparing the poets' use of techniques** and their impacts.

Skills guide: English Revision Tips

The best revision is active! Follow these types of revision tasks

Making flashcards

An effective way to revise the content for Literature is to make flashcards – these can be thematic and/ or character based. They could contain:

- **Adjectives to describe characters**
- **Big Ideas relating to themes**
- **Key quotations** with powerful words circled
- **Key scenes/ moments in the texts**
- **Key language techniques** relating to your quotations
- **Key steps** to tackling each Language question

Making the flashcards helps you revise the content, and you can then use them to quiz yourself or others.

Using past papers

Look at past papers for the Literature texts to see what questions have come up and use these to practice planning responses key themes and characters.

You can do a range of the following tasks with this:

- **Mind-mapping** ideas in response to the questions
- Writing **thesis statements**
- Writing **essay plans** (see an example template for the poetry below)
- Writing WHAT/ HOW/ WHY **practice paragraphs** – you could do this in 10/ 20/ 30 mins bursts. See the relevant skills guide page for support.

Online resources

Whilst we strongly advise NOT following advice from people on Tiktok or social media platforms, there are some trusted websites that can supplement your revision. You should also use the revision guides we have given you.

- **BBC Bitesize** – a range of interactive content and podcasts

Literature:
https://www.bbc.co.uk/bitesize/examspecs/zxqncwx

Language:
https://www.bbc.co.uk/bitesize/examspecs/zcbchv4

You may also find helpful **Mr Bruff** analysis videos on the set texts:
https://www.youtube.com/watch?v=RflJ8iXLfLc

How do the poets present power in 'the Prelude' and one other poem from 'Power and Conflict'?

Thesis:

	Comparative Point 1:	Comparative Point 2:
Poem 1 Evidence and analysis		
Poem 2: Evidence and analysis		

Skills Guide: Writing analytical paragraphs

For your Literature essays, and some of the Language reading questions, you will need to analyse writer's techniques in detail and analyse quotations. Follow this layout, using the key questions to help you structure a good analytical paragraph.

Skills Guide: Creating an Effective Analytical Paragraph

A01 WHAT?

Clear topic sentence: What is the writer presenting or character saying?
- How could I reuse the **words in the question** to give myself a topic sentence?
- Have I **placed it**? Locate which chapter/scene/section the quotation is from.

A02 HOW?

How does the writer convey/ present/ develop this?:
- What **tone** is the quotation spoken in or narrated in? Why did the writer choose this tone?
- **Powerful words**: Which words convey the most meaning?
- What different **connotations** do these words have? What do they make you imagine, think about or feel?
- What **word type** are they? Why this word and why here?
- Are there any other **techniques** the writer is using?
- Challenge: How do the meanings of words and techniques work together to **create meaning**?
- Challenge: Is it part of a wider method used by the writer? Is the writer crafting a build-up of things e.g. verbs?

A03 WHY?

Why does the writer write it?
- Consider **context**: what attitudes are revealed?
- Is the writer trying to create shock or sympathy/ to expose or criticise/, to warn or to promote an attitude or feeling?
- **Remember to link back to the key words of the question here.**

Skills guide: Academic phrasing for analysing quotations

To introduce a quotation, piece of evidence or detail (DO NOT say the writer quotes!)	To explore a word's meaning	To explore the writer's tone	To explore impact on the reader	To explore the writer's intention
• The writer begins by saying "…" • The writer states "…" • The writer describes "…" • The writer reflects that "…" • Line 3 introduces "…" • In the fifth line the writer describes "…" • In the middle of the extract, the writer changes tone when they say "…" **To add details:** …because of… …according to… …owing to… …as a result of… …as a consequence of… …in the way that…	• This connotes… • The word '…' carries connotations of… • The word '…', could mean X or Y…. • The word '…' has associations with… • The word could be connected with…	The writer's tone is… • informative • entertaining • shocking • unpleasant • critical • inspiring • intriguing • frightening • appealing • arresting • captivating • thought-provoking • dramatic • staged • realistic/ unrealistic	X leads the reader to… • examine • compare/ contrast • connect with • sympathise with • be curious about • think about • consider • imagine • question • challenge • reflect on • react to • empathise with	The writer… • challenges • exposes • subverts expectations of • evokes • indicates • clarifies • illustrates • generates • dramatises • provokes • emphasises • reinforces • links to/ connects with/ relates to

Topic Dictionary: Key Poetic Devices

Word	Definition	In a sentence…
anaphora	**Anaphora** is a type of repetition where the same word or phrase at the beginning of a line is repeated through a section of the poem.	In 'Charge of the Light Brigade' the writer uses **anaphora** when the phrase "Theirs not to.." is repeated to emphasise the powerlessness of the soldiers.
assonance	**Assonance** is the repetition of identical vowel sounds in different words near each other.	In line 5, the poet uses **assonance** to describe the "deep green sea" which creates a calm and soothing tone.
caesura	**Caesura** is a short but definite pause used for effect within a line of poetry.	In the second stanza of 'Bayonet Charge' the poet uses **caesura** after "…he stopped" to create a pause that replicates the way the soldier pauses in the battle charge to question his being there.
colloquial	**Colloquial** words and phrases are informal and are used mainly in conversation.	The speaker in the poem 'Remains' uses **colloquial** phrases such as "legs it up the road…" to create the illusion of feeling nonchalant.
dactylic	**Dactylic** is a type of meter with a pattern of 'stressed unstressed, unstressed' syllables.	'Charge of the Light Brigade' uses a **dactylic** meter to create a galloping rhythm to mimics the sounds of horses charging.
enjambment	**Enjambment** is a line having no end punctuation but running over to the next line.	There are multiple uses of **enjambment** in the poem 'Kamikaze' but particularly in stanza 4, as fond memories of the past flood into the pilot's mind to disrupt the 'incantations' and alter his mindset.
extended metaphor	An **extended metaphor** is when a metaphor is introduced and then developed through a part or through the whole of a poem.	The poem 'Exposure' creates the **extended metaphor** of the harsh weather conditions being the real enemy as the soldiers gradually die from the cold rather than physical battle.
semantic field	A **semantic field**, also known as a lexical field, is a group of words or expressions that are related in meaning	In the opening stanza of 'War Photographer' there is a **semantic field** of religion to give a spiritual and ritual quality to the photographer's job as he processes the photos of those affected by warfare.
meter	**Meter** is the pattern of beats in a line of poetry. It is a combination of how many beats there are and the arrangement of stresses.	The poets in the collection experiment with creating different **meters** in their poems to either convey action or tone. You should research anapest, dactylic and trochee meters.
verse	Poems are written in a type of **verse** which can be categorized as **rhymed verse** (has a set rhyme scheme) **blank verse** (written in iambic pentameter with no rhyme), or **free verse** (no set pattern- with or without rhyme).	In the poem 'The Prelude', Wordsworth writes in **blank verse** in order to convey the speaker's thought processes- they are not restrained by rhyme but mimic patterns that reflect his unconstrained thoughts.

Topic Dictionary: Key Language and Structural techniques

Word	Definition	In a sentence
ambiguous	If you describe something as **ambiguous**, you mean that it can be understood in more than one way.	There is **ambiguity** in the final line of the poem 'Remains' as it could mean the speaker has been violent or it could be used to represent his feelings of guilt.
anti-climax	A structural device. When there is an unexpected or disappointing <u>conclusion</u> to a story you can describe it as an **anti-climax**.	After the tense dialogue, the quick resolution was an **anticlimactic.**
antithesis	If there is an **antithesis between** two things, there is a direct contrast between them.	The writer describes an **antithesis** between the character's instinct and reason.
cyclical structure	A **cyclical structure** can happen when the ending fully links to the beginning of an extract.	There is a **cyclical structure** in the poem 'Exposure' as the ending line 'But nothing happens' links to the start of the poem. Owen uses this structure to show that despite all the deaths of the soldiers, still nothing has been done to change matters.
denouement	In a text, the **denouement** is the sequence of events at the end, when things come to a conclusion.	The Prince's speech at the end of 'Romeo and Juliet' brings the **denouement** of the play by establishing peace.
dialogue	A **dialogue** is a conversation between two people in a book, film, or play.	The writer uses **dialogue** in the extract to introduce conflict.
exposition	The **exposition** of a story is the introduction or beginning of a story that reveals important background information. This can include setting and details about characters.	The **exposition** at the start of the extract gives readers key information on the setting and protagonist.
in medias res	**In medias res** is a structural technique where a poem, extract, scene from a play or story begins in the middle of a conversation, events or a narrative	The opening scene to 'Romeo and Juliet' begins **in medias res** as the Capulet serving men are in the middle of a conversation.
juxtaposition	The **juxtaposition** of two contrasting characters, images, or ideas is the fact that they are placed together or described together, so that the differences between them are emphasized.	The **juxtaposition** of light and dark imagery in the love scenes between Romeo and Juliet conveys their undercurrent of tragedy.
rising action	**Rising action** is the related series of events in a plot that build toward the point of greatest interest/ the climax.	The inspector's line of questioning for each character builds the **rising action** of the play 'An Inspector Calls'.
shifts in focus	A structural term that can be applied to Lang Paper 1 question 3, as you discuss the narrator **shifting in focus** from narrative description to viewpoint, dialogue or action.	In paragraph 2 the narrator **shifts in focus** from the description of the woods to the character's thought and actions.

English Language Paper 1: Skills Guide: How to tackle the exam

What's in the exam?

There will be **one fiction source** to read. There is 15 mins allocated reading time at the start of the exam, but you should spend under 10 mins reading the sources so that you can give yourself 25mins to answer Q4.

Section A reading:

1. **List four things** about a focused topic from the start of the source. *[4 marks 3-5 mins]*

2. A question asking you to **analyse language** on a focused shorter extract of the source. [8 marks, 10 mins]

3. How has the writer **structured the text** to interest you as a reader? [*8marks,10 mins]*

4. You will need to **evaluate a statement on the end of the source-** you will have to both evaluate the statement and provide your own interpretation with analysis of language in support of your view. *[20 marks, 25 mins]*

Section B Writing:

5. **Creative writing.** You can choose to **write a description** or piece inspired by a given image, OR to write a section of a **short story** based on a given topic.

You are tested on both A05: your ability to structure a longer piece of writing and craft language effectively, as well as A06: your sentence structure, spelling, accuracy, punctuation and grammar. *[A05: 24 marks, A06: 16 marks, 45 mins]*

Recommended Order:
Remember to read the source first for inspiration. Either answer the questions in order to build to Q5 or if you struggle with staying on top of timings, then answer Q5 before going backwards through the paper.

-Always speak to your teacher first to work out what works best for you.

Sentence stems for analysing language: for both Q2 and Q4

Writer's technique

- The writer introduces……. The writer establishes…

- The setting is crafted by… The writer gives the impression of…

- The writer focuses on describing…/ The writer uses…

Effect on the reader

- …….creates an …………….…………atmosphere

- ………creates a mood of… / …builds upon the feeling of…

- …builds tension/ intrigue/ mystery/ anticipation of/ expectation of

- ……increases the tension for the reader because……

- …the reader begins to expect…………………....

- ………this makes the reader question/ wonder/ reason whether…

- This creates pity/ sympathy/ empathy because readers feel concern for…

- This makes readers feel fear/ unease about/ trepidation of/ anxious for… The writer then subverts expectations by…

English Language Paper 1: Skills Guide: Sentence stems for Q3, Q4 and Q5

Q3 skill up!

Q3: How has the writer structured the text to interest you as a reader?

Structural techniques:
- The writer introduces…….
- The setting is established by…
- The writer sets up the exposition with…
- The writer focuses on describing…
- The focus then shifts to……..
- The writer zooms in on ……
- The description pans out to…
- The writer changes perspective to…….
- The writer speeds up the pace when…..
- The action begins to rise when…
- The writer builds tension when….
- The conflict is introduced/ accelerated when…
- The action intensifies when…
- The writers deescalates the tension when..
- The writer builds to a climax with…
- There is a minor resolution when…
- The writer moves from this action to…

Impact

…….creates an …………………………atmosphere

………creates a mood of… / …builds upon the feeling of…

…builds tension/ intrigue/ mystery/ anticipation of/ expectation of

…….increases the tension for the reader because……

…the reader begins to expect……………………

………this makes the reader question/ wonder/ reason whether…

The… could foreshadow…………….

This creates pity/ sympathy/ empathy because readers feel concern for…

This makes readers feel fear/ unease about/ trepidation of/ anxious for… The writer then subverts expectations by…

APPROACH TO QUESTION 5:
This structure can be used for both the description and the short story options. Examiners want to see you slowly craft description and create atmosphere.

1. Create your **setting**: What location are you choosing? What is the time of day? Describe weather, temperature and the movement of the sun to establish time and place.

2. **Craft your scene:** What atmosphere/tone do you want to convey? Focus on a key character and moment to describe.

3. **Detail:** Zoom in and describe a detail either in the image (draw a box around the part you will describe) or in your imagined scene.

4. **Shift focus** to describe another **detail** in the image or in your imagined scene.

5. **Add movement** to your writing. *E.g. Move through or out of the image, move from inside to outside, a lower level to a higher level, a weather change, another character joining or a piece of action taking place etc.*

Question 4: Expressions to show you are evaluating:
- The writer conveys the XXX as… this builds sympathy because…
- Sympathy/ anticipation/ expectation… is established/ set up/ built upon when…
- As well as sympathy, readers feel worry/concern/ uneasy when…
- Whilst the writer does present … it could also be see that… However, this could mean/suggest/show… The… could also link to….
- In addition, the writer is also … Alternatively, this also makes the reader question/ wonder/ reason whether…
- Perhaps the writer is playing with our expectations by… Additionally, the writer then subverts expectations by…

English Language Paper 2: Skills Guide: How to tackle the exam

What's in the exam?

There will be **two non-fiction sources** to read; one from the 19th C. and one more modern on a related topic/theme. There is 15 mins allocated reading time at the start of the exam, but you should spend under 10 mins reading the sources so that you can give yourself 25mins to answer Q4.

Section A reading:

1. Say which **statements are true**. *[4 marks 3-5 mins]*
2. Write a **summary** of the differences on a topic about the sources. You need to summarise, infer and compare. (no language analysis). *[8m, 10 mins]*
3. For this question you need to **analyse language** on a focused shorter extract of one of the sources. *[12 marks, 10 mins]*
4. A **comparison of the two sources-** you will have to compare writers' attitudes and language use across the whole source. *[16 marks, 25 mins]*

Section B Writing:

5. **Argument writing.** You will be given a statement as a springboard and will then have to write an article, letter or speech that expresses your own point of view on a given topic.

You are tested on both A05: your ability to structure a longer piece of writing and craft language effectively, as well as A06: your sentence structure, spelling, accuracy, punctuation and grammar. *[A05: 24 marks, A06: 16 marks, 45 mins)*

Recommended Order:

- Remember to read the source first for inspiration. Either answer the questions in order to build to Q5 or if you struggle with staying on top of timings, then answer Q5 before going backwards through the paper.
- -You can re-use quotations/ideas across the questions. Therefore if you need to warm-up before tackling Q4 you can answer 1-3 first, but you must allow yourself enough time to answer Q4 thoroughly which is like a mini-essay.
- Speak to your teacher about what works best for you.

Sentence stems for language analysis (Q3 and Q4)

- The writer introduces……/ The writer puts across the idea of… by…/ The writer uses … [technique]
- **Effect on the reader**………conveys a tone of… / …builds upon the feeling/ attitude of…
- …builds tension/ intrigue/ critique of/ anticipation of/ expectation of
- ………this makes the reader question/ wonder/ reason whether…
- This creates pity/ sympathy/ empathy because readers feel concern for….

Comparative phrases (for Q4)

- Both sources… Source A… whilst Source B…
- Similarly/ In a similar way/ Likewise/ This relates to/ This is akin to…
- In contrast/ In a different way/ In opposition/ This juxtaposes with…
- However whilst source A…, source B on the other hand…

English Language Paper 2: Skills Guide: How to write a convincing argument for Q5

APPROACH TO QUESTION 5:

1. What is the **task** asking you to write? TAP?

   T = Text Type (Letter/Article/Speech)
   A = Audience (School/Government)
   P = Purpose (To argue/convince)

2. What is the **focus**? Unpack the **statement.**

3. Write your own **thesis statement** in response.

4. Plan **three logical ideas** to build an argument. Ensure you have examples to illustrate your ideas.

Section B Writing:

5. **Argument writing.** You will be given a statement as a springboard and will then have to write an article, letter or speech that expresses your own point of view on a given topic.

Logos: Phrases to introduce a *logical argument*

- *First/ Secondly/ Thirdly/ Finally…*
- *If we do … then surely … will follow.*
- *Subsequently…*
- *Logically…*
- *Reasonably...*
- *Presumably…*
- *The cause of X is…*
- *Looking at… we can see that…*
- *A solution must be to..*
- *Have you ever considered..?*

Pathos: *Phrases to convey passion and conviction*

- *I firmly believe that…*
- *Personally the matter is important to me because…*
- *Sincerely…*
- *Unreservedly…*
- *Estimably…*
- *Can I implore you to consider …?*
- *Imagine a world where…*
- *Picture …*
- *Can you ever conceive of…?*
- *It is intolerable that…*

LANGUAGE DEVICES YOU COULD USE: DAFOREST

- Direct address
- Anecdotes
- Facts
- Opinions (dressed as facts)
- Rhetorical Questions/ Repetition
- Emotive language, expert views, examples
- Statistics (you can make these up in the exam but make sure they sound authentic and believable)
- Triplets, tone

UPGRADE

Ethos: *Phrases to give yourself authority and show the audience you are have a similar view to them*

- *Clearly it is the case that…*
- *In my several years of experience as a student I have observed that…*
- *I have seen first hand…*
- *Experts/ scientists/ professionals claim that…*
- *Factually, it can be seen…*
- *Evidently…*
- *Assuredly…*
- *Undoubtedly…*
- *Unmistakably…*
- *Palpably…*

Y11 Spring Term 1: Block1- Multiplicative Reasoning

Construct and use direct and inverse proportion equations

Direct proportion VS **Inverse proportion**

A is directly proportional to B ← What the question would say → A is inversely proportional to B

A "is proportional to" B ← Read as... → A "is proportional to" $\frac{1}{B}$

$A \alpha B$ ← In maths... → $A \alpha \frac{1}{B}$

$A = k \times B$ ← Write it as a general formula we can work with... → $A = k \times \frac{1}{B}$

$A = kB$ → $A = \frac{k}{B}$

"k" is the constant that links our two numbers.

A is directly proportional to B.
When A=10, B=5.
1. Find the equation linking A and B.
   $A = 2B$

2. Find A when B=2.
   $A = 2B$ ← Start with the specific formula
   $A = 2 \times 2$ ← Substitute in values in the question
   $A = 4$

3. Find B when A=5
   $A = 2B$ ← Start with the specific formula
   $5 = 2B$ ← Substitute in values in the question
   $B = \frac{5}{2} = 2.5$ ← Solve for B

A is inversely proportional to B.
When A=10, B=5.
1. Find the equation linking A and B.
   $A = \frac{50}{B}$

2. Find A when B = 2.
   $A = \frac{50}{B}$
   $A = \frac{50}{2}$
   $A = 25$

3. Find B when A=5
   $A = \frac{50}{B}$
   $5 = \frac{50}{B}$
   $B = \frac{50}{5} = 10$

Pressure, Force, Area

Pressure, force and area are physical properties.

Area is a measure of the size of space a flat shape takes up. The derived SI unit for area is the square metre (m²).

Pressure is a compound measure, defined as the force per unit area. The standard unit of pressure is Pascals (Pa) where $1\ Pa = 1\ N/m^2$

Force is the energy attributed to a movement or physical action. Force is measured in the standard unit Newtons (N).

To calculate either the pressure, force or area of an object, we use the pressure formula:

$$Pressure = \frac{Force}{Area}$$

(Triangle: F over P × A)

Density, Mass, Volume

The density of something is its **mass** per **unit volume**.

$$Density = \frac{mass}{volume}$$

So, the mass of an object with a **density** of **4.5 grams/cm³** and a volume of **4cm³** can be found by working out

4.5 × 4 = 18 grams

(Triangle diagram: Mass, Density, Volume — M over D and V)
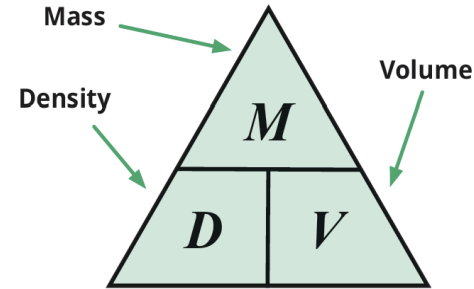
Ratio Problems

There are Red and Yellow counters in a bag in the ratio 3:2.

Eve puts 15 Red counters into the bag.

The ratio of Red to Yellow counters is now 7:3.

How many counters are in the bag at the end?

Steps: Find the LCM for the unchanged colour, yellow.

LCM of 2&3 change Y into a multiple of 6

R	Y		R	Y
3	2		7	3
9	6		14	6
18	12		28	12
27	18		42	18
36	24		56	24

We're looking for a row where the number of Reds increases by 15.

End number of counters is: 42+18= **60**

Check for knowledge

- ❑ I can construct and use direct and inverse proportion equations

- ❑ I can solve Density, Mass, Volume problems

- ❑ I can solve Pressure, Force, Area problems

- ❑ I can solve Ratio Problems

Maths| Multiplicative Reasoning |Topic Dictionary

Key Word	Definition	In a sentence
constant ratio	A relationship in which two quantities always maintain the same ratio or proportion, regardless of their individual values.	In a balanced chemical equation, the number of atoms of each element on both sides maintains a **constant ratio**.
Contant of proportionality	A fixed value that relates two quantities that are directly proportional to each other.	In the equation y=3x, the number 3is the **constant of proportionality**, showing the fixed relationship between y and x.
density	The measure of how much mass is packed into a given volume of substance.	The **density** of an object can be calculated by dividing its mass by its volume.
direct proportion	A relationship between two variables where an increase in one result in a proportional increase in the other, often described by the equation, where is the constant of proportionality.	The amount of time you spend studying is in **direct proportion** to your performance on the exam.
inverse proportion	A relationship where one variable increases as the other decreases, such that their product remains constant; typically described by the equation, where is a constant.	The speed of a car is in **inverse proportion** to the time it takes to reach a destination; the faster the car, the less time it takes.
mass	The amount of matter in an object or substance, usually measured in units such as kilograms (kg) or grams (g).	The mass of the object increased when more material was added to it.
origin	The point in a coordinate system where the axes intersect, typically represented as (0, 0) in a two-dimensional Cartesian plane.	In a coordinate plane, the **origin** is the point where the x-axis and y-axis intersect, usually at (0, 0).
pressure	The force exerted per unit area, often measured in pascals (Pa), and describes how force is distributed over a surface.	The **pressure** exerted on the walls of a container increases as the gas particles collide more frequently with the walls.
varies directly	Describes a relationship in which one variable increase or decreases in direct proportion to another, such that as one variable increases, the other does as well.	The amount of money you earn **varies directly** with the number of hours you work.
varies inversely	Describes a relationship in which one variable increases as the other decreases, such that the product of the two variables remains constant.	The intensity of light **varies inversely** with the square of the distance from the source.

Maths | Multiplicative Reasoning | Skills Guide

The diagram shows a prism placed on a horizontal floor.

$$\text{pressure} = \frac{\text{force}}{\text{area}}$$

3 m
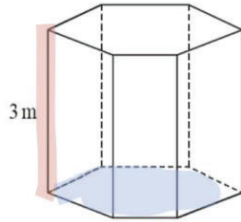
The prism has height 3 m
The volume of the prism is 18 m³
The pressure on the floor due to the prism is 75 newtons/m²

Work out the force exerted by the prism on the floor.

$$\text{Area of cross section} = \frac{18}{3} = 6m^2$$

$$\text{force} = \text{Pressure} \times \text{Area}$$
$$= 75 \times 6 = 450$$
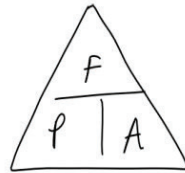
450 _____ newtons

A gold bar has a mass of 12.5 kg. $= 12,500g$

The density of gold is 19.3 g/cm³

Work out the volume of the gold bar.
Give your answer correct to 3 significant figures.

m / D | V
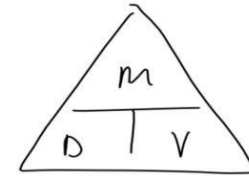
$$\text{Volume} = \frac{\text{mass}}{\text{density}} = \frac{12500}{19.3} = 647.66$$

---

y is directly proportional to $\sqrt[3]{x}$

$y = 1\frac{1}{6}$ when $x = 8$

Find the value of y when $x = 64$
① Represent with an equation
② Substitute to find k
③ Substitute k to find y.

① $y \propto \sqrt[3]{x}$
$y = k \times \sqrt[3]{x}$

② $\frac{y}{\sqrt[3]{x}} = k$

$\frac{1\frac{1}{6}}{\sqrt[3]{8}} =$

$\frac{\frac{7}{6}}{2} =$

$\frac{7}{12} = k$

③ $y = \frac{7}{12} \times \sqrt[3]{64}$
$= \frac{7}{12} \times 4$
$= \frac{28}{12}$
$= \frac{7}{3}$

$y = 2\frac{1}{3}$

There are only blue pens, green pens and red pens in a box.

The ratio of the number of blue pens to the number of green pens is 2 : 5
The ratio of the number of green pens to the number of red pens is 4 : 1

There are less than 100 pens in the box.

What is the greatest possible number of red pens in the box?

B : G : R
2 : 5
    4 : 1
8 : 20 : 5 (33)

B : G : G
8 : 20 : 5 (33)
16 : 40 : 10 (66)
24 : 60 : 15 (99)

The LCM of 5 and 4 is 20.

15

---

h is inversely proportional to p

p is directly proportional to $\sqrt{t}$

① Find a formula for h in terms of t and k.
② Substitute to find k
③ Write formula for h in terms of t only.

Given that $h = 10$ and $t = 144$ when $p = 6$, find a formula for h in terms of t

①
$h \propto \frac{1}{p} \xleftarrow{\text{Sub}} p \propto \sqrt{t}$

$h \propto \frac{1}{\sqrt{t}}$

$h = \frac{k}{\sqrt{t}}$

② $h \times \sqrt{t} = k$
$10 \times \sqrt{144} =$
$120 = k$

③
$h = \frac{120}{\sqrt{t}}$

Y11 Spring Term 1: Block 2: Geometric Reasoning

Exterior and Interior Angles of Polygons

Angle Sum

$(n - 2) \times 180^0$

number of triangles

$4 \times 180^0 = 540^0$

Polygons

| 3 | triangle | 4 | quadrilateral |
| 5 | pentagon | 6 | hexagon |

7 - heptagon

8 octagon

9 - nonagon

10 - decagon

interior angle

$\dfrac{\text{angle sum}}{\text{number of sides}}$ OR $180^0 - \text{exterior angle}$

exterior angle

$\dfrac{360^0}{\text{number of sides}}$ OR $180^0 - \text{interior angle}$

Angles in Parallel Lines

Name	Example	Description
Corresponding		**Equal corresponding angles** are angles on **same** side **of** the **transversal** and in corresponding positions
Alternate		**Equal alternate angles** are angles **between the parallel lines** on **opposite** sides **of** the **transversal** .
Co-Interior		**Co-interior angles** are angles **between the parallel lines** on the **same** side **of** the **transversal** and add up to 180°.

Check for knowledge

- ❑ I can solve problems with exterior and interior angles of polygons
- ❑ I can solve problems involving angles in parallel lines
- ❑ I can solve problems involving vectors
- ❑ I can solve problems involving circle theorems

Solve Problems Involving Vectors

$\overrightarrow{AC} = \boldsymbol{a}, \overrightarrow{BC} = \boldsymbol{b}$

The line AB is extended to the point D so that the length AD is three times the length AB.

Find the vector $\overrightarrow{AD}$.
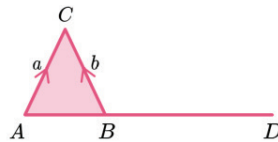
1 Write any information you know onto the diagram.

There is currently no further information we can add to the diagram.

2 Decide the route.

We know AD is three times the length of AB. We need to find a route from A to B and then multiply it by three.
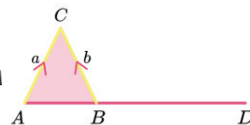
3 Write the vector.

$\overrightarrow{AB} = \boldsymbol{a} - \boldsymbol{b}$
$\overrightarrow{AD} = 3\overrightarrow{AB} = 3(\boldsymbol{a} - \boldsymbol{b})$

4 Simplify your answer.

$\overrightarrow{AD} = 3\boldsymbol{a} - 3\boldsymbol{b}$

Circle Theorems

Maths | Geometric Reasoning | Topic Dictionary

Key Word	Definition	In a sentence
bisect	To divide into two equal parts.	To find the midpoint of a line, we can **bisect** it.
chord	A line segment that goes from one point to another on the circle's circumference.	The length of a **chord** is $\frac{2}{3}$ of the diameter.
cyclic quadrilateral	A four-sided shape with every vertex on a circle's circumference.	Opposite angles on a **cyclic quadrilateral** adds up to 180°.
exterior angle	The angle between any side of a shape and a line extended from the next side.	The **exterior angle** of a regular triangle is 120°.
interior angle	An angle inside a shape.	The **interior angle** of a regular triangle is 60°.
parallel lines	Lines that are always the same distance apart and will never meet.	Linear lines with the same gradient means that they are **parallel** to each other.
polygon	A closed two-dimensional figure composed of straight-line segments.	Triangles, quadrilateral, pentagon and hexagons are all examples of a **polygon**.
segment	The slice of a circle made by a chord.	Area of **segment** = area of sector - area of triangle.
tangent	A line that touches a curve at a point.	The angle between a radius and a **tangent** is 90°.
vector	A mathematical object that has both a magnitude and a direction.	$\begin{pmatrix} 5 \\ -3 \end{pmatrix}$ is an example of a column **vector**.

The diagram shows 3 identical regular pentagons.
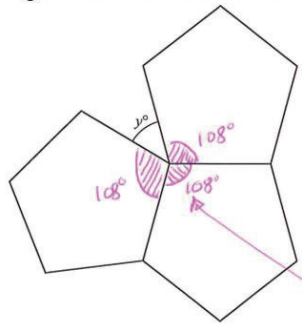
Diagram **NOT** accurately drawn

$108°$ $108°$ $108°$ $108°$

Work out the value of y.

1ST
EXTERIOR ANGLE OF A PENTEGON
$= \frac{360}{5} = 72°$

2ND INTERIOR ANGLE OF A PENTAGON $= 180 - 72$
$= 108°$

3RD $y = 360 - 3 \times 108$ **(M1)**

(A1)

(B1)

$y = \underline{36}$

$180-y$

$180-2x$

$x°$

$y°$

A, B, C and *D* are points on the circumference of a circle, centre *O*. *FDE* is a tangent to the circle.

(a) Show that $y - x = 90$
You must give a reason for each stage of your working.
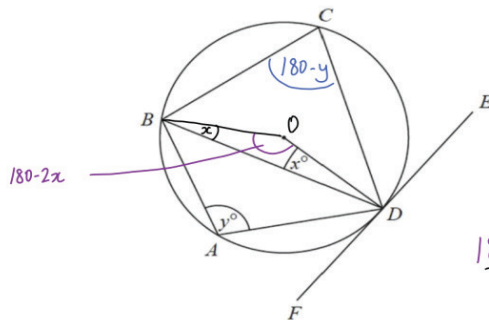
$\frac{180 - 2x}{2} = 180 - y$

$90 - x = 180 - y$

$90 + y - x = 90$

$y - x = 90$

OBD = ODB = x. Base angles in an isosceles are equal.

BOD = 180 - 2x. Angles in a triangle sum to 180.

BCD = 180 - y. Opposite angles in a cyclical quadrilateral sum to 180.

BOD = 2 x BCD. Angle at the centre is twice the angle at the circumference.

Diagram **NOT** accurately drawn

a 2

W X i

a b

P b R b Y
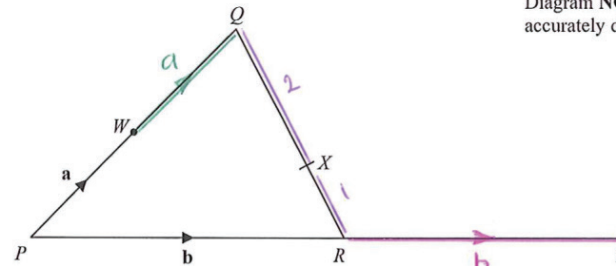
PQR is a triangle.
The midpoint of *PQ* is *W*.
X is the point on *QR* such that $QX : XR = 2 : 1$
PRY is a straight line.

$\overrightarrow{PW} = \mathbf{a}$ $\overrightarrow{PR} = \mathbf{b}$

(a) Find, in terms of **a** and **b**,

(i) $\overrightarrow{QR}$
$= \overrightarrow{QP} + \overrightarrow{PR} = -2a + b$

$\underline{b - 2a}$ **(A1)**

(ii) $\overrightarrow{QX}$
$= \frac{2}{3}\overrightarrow{QR} = \frac{2}{3}(b - 2a)$

$\frac{2}{3}b - \frac{4}{3}a$ **(A1)**

(iii) $\overrightarrow{WX}$
$= \overrightarrow{WQ} + \overrightarrow{QX} = a + \left[\frac{2}{3}b - \frac{4}{3}a\right]$

$\frac{2}{3}b - \frac{1}{3}a$ **(A1)**

R is the midpoint of the straight line *PRY*.

(b) Use a vector method to show that *WXY* is a straight line.

$\overrightarrow{XY} = \overrightarrow{XR} + \overrightarrow{RY}$

$= \frac{1}{3}\overrightarrow{QR} + \overrightarrow{RY}$

$= \frac{1}{3} \times [b - 2a] + b$

$= \frac{1}{3}b - \frac{2}{3}a + b$ **(B1)**

$= \frac{4}{3}b - \frac{2}{3}a = \frac{2}{3}(2b - a)$

NOTE THAT
$\overrightarrow{WX} = \frac{1}{3}(2b - a)$ **(B1)**

BOTH ARE MULTIPLES OF $(2b - a)$ ∴ SAME DIRECTION

ALSO, THEY BOTH GO THROUGH COMMON POINT X
(∴ STRAIGHT LINE)

Y11 Spring Term 1: Block 3: Algebraic Reasoning

Find the rule for the nth term of a linear sequence

5   8   11   14   17...

+3   +3   +3   +3

This number goes here

3 n +

5   8   11   14   17...

+3

The difference between these numbers goes here

3 n + 2

Solve linear simultaneous equations

The most common method for solving simultaneous equations is the **elimination method**.

Multiply one or both equations to make coefficients of one variable equal

Add or subtract the equations to eliminate one of the variables

Solve, then substitute back into one equation to find the value of the other variable

$3x + y = 20$ → × by **4** to make **4y** in each equation

$x + 4y = 14$

$12x + 4y = 80$

$- \ \ x + 4y = 14$ → Subtract the equations and solve

$11x = 66$

$x = 6$

$3 \times 6 + y = 20$ → Substitute back into one of the equations

$18 + y = 20$

$y = 2$

Find the rule for the nth term of a quadratic sequence

We know that a given sequence is a quadratic sequence if the second difference is a constant.

The nth term of the quadratic sequence will be of the form:

$$an^2 + bn + c$$

We can derive the formulas for a, b and c

	n = 1	n = 2	n = 3
Term	$a+b+c$	$4a+2b+c$	$9a+3b+c$
1st Difference		$3a+b$	$5a+b$
2nd Difference		$2a$	

$2a$ = 2nd difference
$3a+b$ = 2nd term − 1st term
$a+b+c$ = 1st term

Solve simultaneous equations with one quadratic

Solve: $y^2 + x^2 = 29$

$x + 7 = y$

1 Eliminate one of the variables.

We can use the fact that $y = x + 7$ to substitute the value of y into the first equation. See below:

$$(x + 7)^2 + x^2 = 29$$

2 Find the value of one variable.

$(x+7)^2 + x^2 = 29$
$x^2 + 7x + 7x + 49 + x^2 = 29$
$2x^2 + 14x + 49 = 29$
$2x^2 + 14x + 20 = 0$
$x^2 + 7x + 10 = 0$
$(x+5)(x+2) = 0$
$x = -5 \quad or \quad x = -2$

3 Find the value of the remaining variables via substitution.

As we have two values of x we can substitute both values into one of the original equations and find the two possible values of y.

$x = -5$	$x = -2$
$x + 7 = y$	$x + 7 = y$
$-5 + 7 = y$	$-2 + 7 = y$
$2 = y$	$5 = y$

4 Clearly state the final answer.

$$x = -5, y = 2$$
$$or$$
$$x = -2, y = 5$$

Check for knowledge

☐ I can find the rule for the nth term of a linear sequence

☐ I can solve simultaneous equations with one quadratic

☐ I can solve linear simultaneous equations

☐ I can find the rule for the nth term of a quadratic sequence

Maths| Algebraic Reasoning |Topic Dictionary

Key Word	Definition	In a sentence
elimination method	A technique for solving simultaneous equations by adding or subtracting the equations to eliminate one variable, making it easier to solve for the other.	Using the **elimination method**, we added the two equations to get rid of y.
inverse operations	Opposite operations that undo each other, such as addition and subtraction or multiplication and division.	To solve x + 5 = 12, I used the **inverse operation** and subtracted 5 from both sides.
linear sequence	A sequence of numbers that increases or decreases by the same amount each time. It can be written in the form an+ b, where n is the position of the term.	The numbers 3, 7, 11, 15 make a **linear sequence** because they increase by 4 each time.
nth term of a quadratic sequence	A formula that represents the n-th term in a quadratic sequence, usually in the form $an^2 + bn + c$. It helps to find any term without listing all the numbers in the sequence.	The **nth term of a quadratic** sequence helps us find any term without listing all the numbers.
quadratic sequence	A sequence of numbers where the difference between consecutive terms changes, and the second difference is constant. It can be written in the form $an^2 + bn + c$, where n is the position of the term in the sequence.	The numbers 2, 6, 12, 20 form a **quadratic sequence** because the second difference is constant.
simultaneous equations	A set of two or more equations with the same variables. The goal is to find the values of these variables that make all the equations true at the same time.	We solved the **simultaneous equations** x + y = 10 and x – y = 2 to find x and y.
simultaneous quadratic equations	A pair of equations where at least one is quadratic (involves x^2 or y^2). The goal is to find the values of the variables that satisfy both equations.	**Solving simultaneous quadratic equation**s often requires substituting one equation into the other.
solutions	Solutions The values of the variables that make an equation or a system of equations true. For example, for x + y = 5, a solution might be x=2, y=3.	The **solutions** to $x^2 + 3x - 4 = 0$ are x=1 and x = -4.
substitute	To replace a variable with a specific value or another expression in an equation to simplify or solve it.	I will **substitute** x=3 into the equation to find the value of y.
variable	A letter or symbol (like x or y) used to represent an unknown value in equations or expressions.	In the **equation** y = 2x + 1, x is the variable.

The first five terms of an arithmetic sequence are

| 1 | 4 | 7 | 10 | 13 |

Write down an expression, in terms of n, for the nth term of this sequence.

-2 1   4   7   10   13
      3   3   3   3

$3n - 2$

Here are the first five terms of a sequence.

| 4 | 11 | 22 | 37 | 56 |

Find an expression, in terms of n, for the nth term of this sequence.

$a + b + c = 4$ 11   22   37   56
$3a + b = 7$ 11   15   19
$2a = 4$ 4   4   4

$2a = 4$
$a = 2$

$3a + b = 7$
$6 + b = 7$
$b = 1$

$a + b + c = 4$
$2 + 1 + c = 4$
$c = 1$

$an^2 + bn + c$

$2n^2 + 1n + 1$

Solve the simultaneous equations

$$x + 3y = 12$$
$$5x - y = 4$$

Different
Add
$\times 3$

$15x - 3y = 12$
$+ \quad x + 3y = 12$
_____
$\dfrac{16x}{16} = \dfrac{24}{16}$

$x \quad = \dfrac{24}{16}$

$x \quad = \dfrac{3}{2}$

$x \quad = 1.5$ Sub into top equation

$x + 3y = 12$
$1.5 + 3y = 12$
$-1.5 \qquad -1.5$
$\dfrac{3y}{3} = \dfrac{10.5}{3}$
$y = 3.5$

$x = $ 1.5
$y = $ 3.5

Solve algebraically the simultaneous equations

$$x^2 + y^2 = 25 \quad \text{①}$$
$$y - 3x = 13$$

$y = 3x + 13$
$y^2 = (3x + 13)(3x + 13) \quad \text{②}$

Sub ② into ①:

$x^2 + y^2 = 25$

$x^2 + (3x + 13)(3x + 13) = 25$) expand

$x^2 + 9x^2 + 78x + 169 = 25$) simplify

$\dfrac{10x^2 + 78x + 144}{2} = \dfrac{0}{2}$

$5x^2 + 39x + 72 = 0$) factorise

$(5x + 24)(x + 3) = 0$

$5x + 24 = 0$ | $x + 3 = 0$
$x \quad = -4.8$ | $x = -3$ Sub into bottom equation

$y - 3x = 13$
$y - 3x - 4.8 = 13$
$y + 14.4 = 13$
$-14.4 \quad -14.4$

$y - 3x = 13$
$y - 3x - 3 = 13$
$y + 9 = 13$
$-9 \quad -9$

$x = -4.8$
$y = -1.4$

$x = -3$
$y = 4$

Y11 Spring Term 1: Block 4: Transforming & Constructing

Construction: using ruler and protractor or ruler and compasses

Angle bisector

Step 1: With the point of the compasses on the vertex, draw a curve

Step 2: With the point of the compasses on each intersection, draw two further curves

Step 3: Draw a line from the vertex to the intersection of the arcs

Perpendicular bisector

Step 1: With the point of the compasses on one end of the line, draw an arc

Step 2: With the point of the compasses on the other end of the line, draw a second arc

Step 3: Draw a line through the two intersections

Perpendicular from a point on a line

Step 1: With the point of the compasses on the point P, draw two arcs

Step 2: With the point of the compasses on each intersection, draw two further arcs

Step 3: Draw a line from point through the intersection of the arcs

P
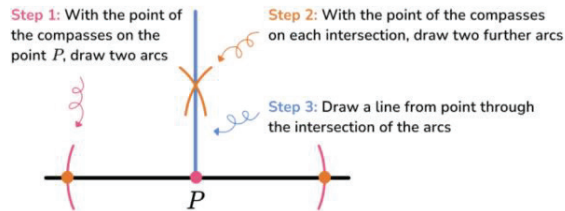
Triangle given all three sides

Step 1: Draw a line using one of the given lengths

Step 2: Set the compasses so that the distance between the point and the pencil is the second given length and draw an arc with the point of the compasses on one end of the original line

Step 3: Set the compasses so that the distance between the point and the pencil is the final given length and draw an arc with the point of the compasses on the other end of the original line

Step 4: Draw the lines to make the triangle

Solve loci problems

The locus of points that are a given distance, d, from a point.

The locus of points within a given distance, d, of a line.

The locus of points equidistant between two points (perpendicular bisector).

The locus of points equidistant between two lines (angle bisector).

The locus of points a given distance, d, from a polygon.

Understand and use trigonometrical graphs

$y = \sin \theta$

Maximum value = 1

The max/min repeats every 360°

Minimum value = −1
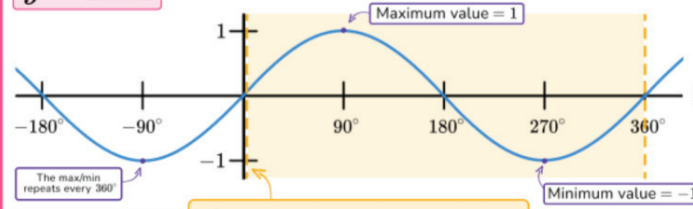
Sine and cosine graphs are periodic. These graphs repeat every 360°

$y = \cos \theta$

Maximum value = 1

The max/min repeats every 360°

Minimum value = −1

$y = \tan \theta$

Tangent graphs are also periodic. This graph repeats every 180°

The graph is not continuous. There is a vertical asymptote every 180° $(\ldots -90°, 90°, 270° \ldots)$

Check for knowledge

❑ I can do Construction using ruler and protractor or ruler and compasses

❑ quadratic

❑ I can solve loci problems

❑ I can use trigonometrical graphs
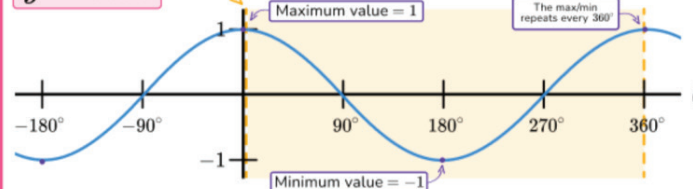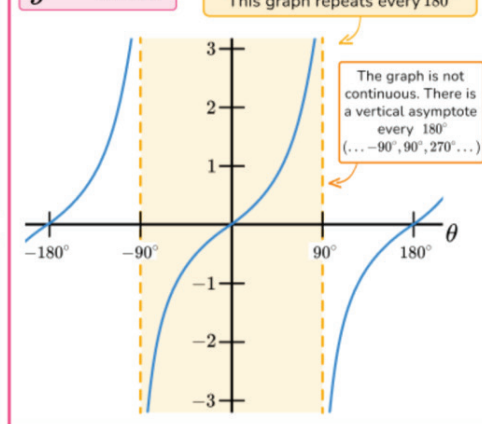
Maths | Transforming & Constructing | Topic Dictionary

Key Word	Definition	In a sentence
angle bisector	A line or ray that divides an angle into two equal parts.	The teacher showed us how to draw an **angle bisector** to split the angle in half.
bisect	To divide something into two equal parts.	If you **bisect** the circle, you'll get two equal semicircles.
construct	To draw a shape, line, or figure accurately using a compass and straightedge.	I need a ruler and compass to **construct** an accurate triangle.
cosine	In a right triangle, the ratio of the length of the adjacent side to the hypotenuse.	The **cosine** of 60 degrees is equal to 0.5.
equidistant	Being the same distance from two or more points.	The park is **equidistant** from both our school and the library.
loci	The plural of locus; a set of points satisfying a specific condition.	The **loci** of all points 5 cm from a center point form a circle.
locus	A set of points that share a particular property or satisfy a certain rule.	The **locus** of points equidistant from two fixed points is a straight line.
perpendicular	Two lines or segments that meet at a right angle (90 degrees).	The two walls are **perpendicular** to each other, forming a right angle.
perpendicular bisector	A line that is perpendicular to a segment and divides it into two equal parts.	The **perpendicular bisector** of the line segment passes through its midpoint.
sine	In a right triangle, the ratio of the length of the opposite side to the hypotenuse.	To solve the triangle, I used the **sine** of the angle to find the missing side.

In the space below, use ruler and compasses to **construct** an equilateral triangle with sides of length 6 centimetres.
You must show all your construction lines.

6cm   6cm

6cm

Scale 1:30

Sam is going to put a small table in the kitchen.

The table has to be
more than 180 cm from A $180cm \div 30 = 6cm$ (on the plan)
more than 150 cm from BC $150cm \div 30 = 5cm$ (on the plan)

Show, by shading on the diagram, the region where Sam can put the table.

Here is a graph of $y = \sin x°$ for $0 \leqslant x \leqslant 360$

(a) Using this graph, find estimates of all **four** solutions of

$$\sin x° = 0.6 \quad \text{for } 0 \leqslant x \leqslant 720$$

36 144

The graph of $y = \sin x°$ is reflected in the x-axis.

(b) Write down an equation of the reflected graph.

$y = -\sin x$

Here is a graph of $y = f(x)$

(c) On the grid, draw the graph of $y = f(x - 2)$

Y11 Spring Term 1: Block 5: Listing & Describing

Product rule for counting

The **product rule for counting** says If there are m ways of doing one thing and for each of these, n ways of doing another thing, then the total number of ways the two things can be done is $m \times n$ ways.

Example

Tim has 9 t-shirts and 4 pairs of shorts in his wardrobe. How many outfit combinations of t-shirt and shorts can be selected?

→ $9 \times 4 = 36$

This rule can be extending for more than 2 categories.

E.g. 9 t-shirts, 4 pairs of shorts **and 5 caps**

→ $9 \times 4 \times 5 = 180$ combinations

Interpreting scatter graphs

If the two variables have a relationship we call it correlation.

There are different types of correlation:

Positive correlation:

Negative correlation:

No correlation:

As one value goes up, so does the other.

As one value goes up, the other goes down.

There is no obvious relationship.
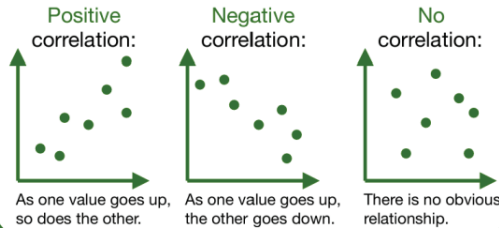
We can use the Line of Best Fit to make predictions of other results.

For example, we can estimate:

…someone's height if we know their weight is 60kg.
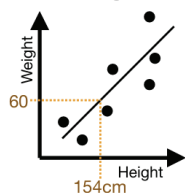
…or the wait time in KFC if we know they have 10 staff on today.
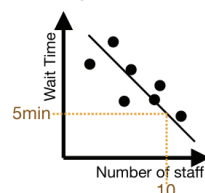
Complete and use Venn diagrams

In a class of 20 students, 3 students study both French and Spanish, 11 study French and 5 students don't study either language.

Conditional probability is a measure of the probability of events occurring if one event has already occurred.

Complete sample space
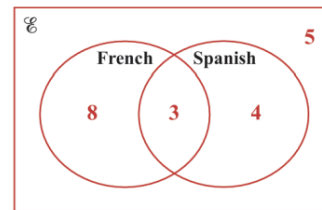
Restricted sample space given that event B has occurred
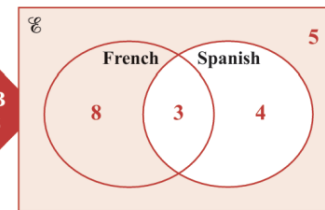
Event B occurs

One student is chosen at random

Given that this student studies Spanish, what is the probability that this student will also study French?

$= \dfrac{3}{3+4}$

$= \dfrac{3}{7}$

Construct and interpret plans and elevations

Plans and elevations are a way of representing a 3 dimensional shape on paper.

We have three views of the 3D shape:

- From the **front** of the shape, called the **front elevation**
- From the **side** of the shape, called **side elevation**
- From above **looking down** on the shape, called the **plan view**

Plan view

Front elevation   Side elevation

Front elevation

Plan view

Side elevation

Maths | Listing & Describing | Topic Dictionary

Key Word	Definition	In a sentence
conditional probability	The chance of an event happening, given that another event has already occurred.	The **conditional probability** of picking a red ball was higher after removing a blue one.
front elevation	A drawing that shows the front view of an object or structure.	The **front elevation** showed the design of the main entrance and windows.
line of best fit	A straight line drawn through the points on a scatter graph that shows the general trend of the data.	They added a **line of best fit** to the scatter graph to see the trend in the data.
negative correlation	A relationship between two variables where one decreases as the other increases.	There is a **negative correlation** between how much it rains and the number of people at the beach.
no correlation	When there is no clear relationship between two variables in a scatter graph.	The graph showed **no correlation** between shoe size and test scores.
plan view	A drawing that shows the top view of an object or structure as if looking straight down on it.	The architect drew a **plan view** of the house to show the layout of the rooms.
positive correlation	A relationship between two variables where both increase together.	There is a **positive correlation** between studying more and getting higher grades.
scatter graph	A graph that shows points plotted to represent two sets of data and how they might be related.	The students made a **scatter graph** to compare the height and weight of their classmates.
side elevation	A drawing that shows the side view of an object or structure.	The builder used the **side elevation** to see how tall the building would be.
Venn diagram	A diagram using overlapping circles to show relationships or common elements between different groups.	The teacher used a **Venn diagram** to show the shared and unique interests of two groups.

The diagram shows a prism with a cross section in the shape of a trapezium.

2.5 m
2 m
0.5 m
0.5 m
2 m
1 m
side
front

On the centimetre grid below, draw the front elevation and the side elevation of the prism. Use a scale of 2 cm to 1 m.

(Each square represents 0.5m)

This line represents an edge.

Front Elevation
Side Elevation
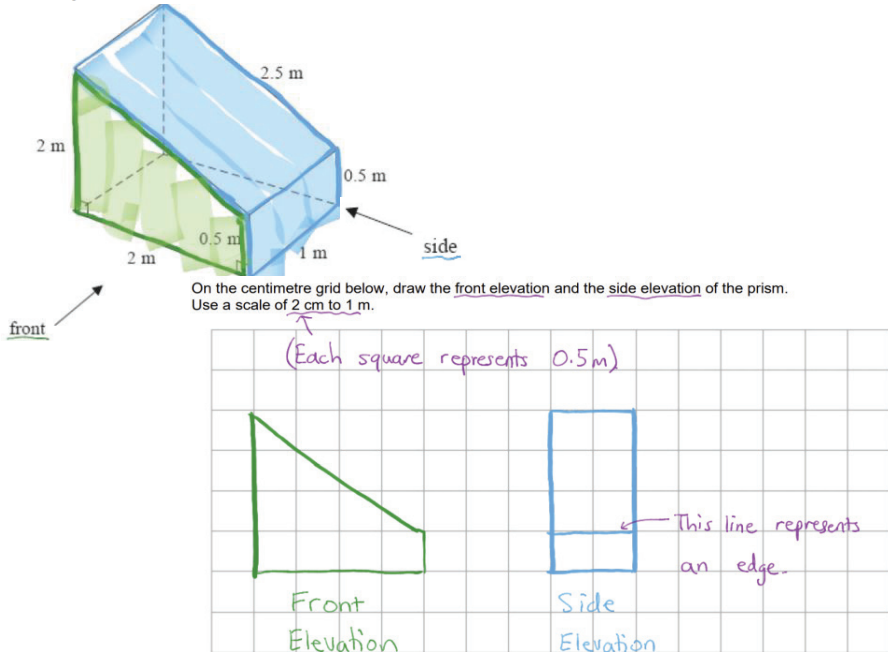
$\mathcal{E} = \{1, 2, 3, 4, 5, 6, 7, 8, 9\}$
$A = \{1, 5, 6, 8, 9\}$
$B = \{2, 6, 9\}$

$\mathcal{E}$
A
B
1
5
8
6
9
2
3 4 7
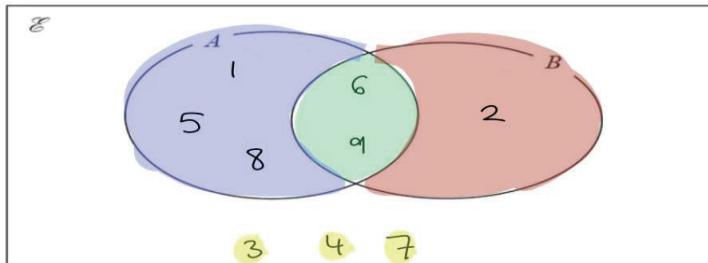
(a) Complete the Venn diagram to represent this information.

A number is chosen at random from the universal set $\mathcal{E}$.

(b) Find the probability that the number is in the set $A \cap B$

$\dfrac{2}{9}$

The scatter graph shows the maximum temperature and the number of hours of sunshine in fourteen British towns on one day.

y
Maximum temperature (°C)
20
18
16
14
12
10
7   9   11   13   15   17
Number of hours of sunshine x
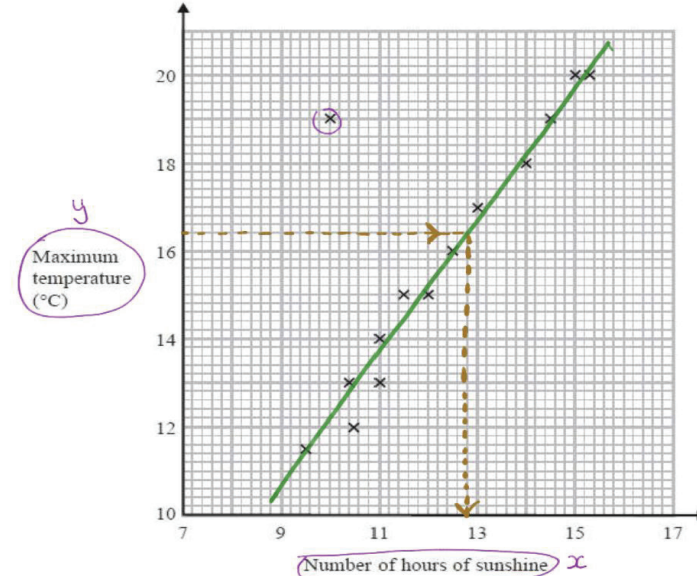
(a) One of the points is an outlier. Write down the coordinates of this point.

(....10...., ...19....)
         x   y
(1)

(b) For all the other points write down the type of correlation.

positive, negative, or none?   Positive
(1)

On the same day, in another British town, the maximum temperature was 16.4°C.

(c) Estimate the number of hours of sunshine in this town on this day.

Draw a "line of best fit" using a pencil and ruler   12.8   hours
(2)

There are 16 hockey teams in a league.

Each team played two matches against each of the other teams.

Work out the total number of matches played.

$16 \times 15 = 240$

RE | Theme C – The Existence of God and Revelation | Topic Dictionary

Image	Key Word	Definition	In a sentence
	Agnostic	A person who is unsure whether God exists	An **agnostic** person might still be interested in learning about different religions and beliefs.
	All-compassionate	Belief that God is all-loving	Being **all-compassionate** is like being kind to everyone, even when it's hard.
	All-merciful	Belief that God always forgives	Being **all-merciful** is like giving someone another chance even if they've done something wrong.
	Atheist	Someone who does not believe a God exists	Even though **atheists** don't believe in God, they can still be kind and live good lives.
	Benevolent	God's nature as all-loving and all-good	Many people believe that God is **benevolent** because He helps and cares for everyone.
	Conscience	Inner sense of right and wrong; seen as the voice of God within our mind by many religious believers.	When you feel guilty after doing something wrong, that's your **conscience** talking.
	Design argument/ teleological argument	An argument to prove God's existence by focusing on evidence of design in the world,	The **design argument** is one way people try to prove that God exists.
	Faith	A commitment to God and religion that goes beyond proof	People with strong **faith** trust that God is always there to help them.
	First cause argument	An argument to prove God's existence by logical argument that everything is caused by something else.	Just like a row of dominoes needs a push to start falling, the universe needed **a first cause** to exist.
	General revelation	Indirect revelation; the idea of being able to see something of God through nature, or scripture.	**General revelation** helps people feel closer to God without needing special messages.
	Humanism	Belief system which excludes God but focuses on the morally good behaviour of human beings.	Even though **humanists** don't believe in God, they believe in being good to everyone.

RE | Theme C – The Existence of God and Revelation | Topic Dictionary

Image	Key Word	Definition	In a sentence
	Illusion	That something is not real, but a trick of the mind.	Some people believe that the world is an **illusion,** and there's a deeper reality we can't see.
	Immanent	God's nature as present in and involved in the world	Believing in an **immanent** God can make people feel like they're never alone.
	Impersonal	God's nature as non-human, unknowable and mysterious	Some people think of God as **impersonal,** like a force that doesn't get involved in our lives.
	Infinite regression	The universe goes back to infinity	Imagine asking, "What caused that?" and the answer keeps going back and never stops—that's **infinite regression.**
	Miracle	A remarkable event that cannot be explained by science alone	If someone survives a big accident, some might call it a **miracle** because it's so surprising.
	Omnipotent	God's nature as all-powerful	An **omnipotent** being can create the universe and control everything in it.
	Omniscient	God's nature as all-knowing and aware of all that has happened past, present, future	Believing in an **omniscient** God can make people feel like they can't hide anything from Him.
	Personal	God's nature as merciful, compassionate and something humans can relate to	If God is **personal,** it means you can have a close relationship with Him and talk to Him.
	Polytheist	Belief that there are many gods/deities.	In ancient times, many cultures were **polytheist,** worshipping gods for different things like the sun and rain.
	Proof	Evidence that shows something is true or existent	**Proof** is important because it helps us know what is real and what isn't.
	Reality	What is real, actual or provable by science.	Sometimes, **reality** can be different from what we expect or hope for.

RE | Theme C – The Existence of God and Revelation | Topic Dictionary

Image	Key Word	Definition	In a sentence
	Special Revelation	God making themselves known through extraordinary experiences	Prophets often receive **special revelation** to guide and teach others about God's will.
	Theist	Someone who believes in a God or Gods	**Theists** often pray and worship to show their love for God.
	Transcendent	God's nature as beyond our understanding, existing outside the universe	Believing in a **transcendent** God makes people feel like there is something greater than the world we see.
	Revelation	When God reveals Himself	A **revelation** can change how people understand the world and their faith.
	Vision	Seeing something which is not physically real.	People believe that **visions** can show them what to do or what's going to happen.

As a Year 11 GCSE student of RE I know the core beliefs and teachings about The Existence of God and Revelation in Christianity and Islam

Design Argument

The **Design Argument** argues that God must exist because the world around us is so intricate and well-designed that there must be an intelligent creator behind it.
William Paley puts this forward in his **Watchmaker's Argument** that says if you found a watch in the grass you would not assume its intricate mechanism had come about by accident, you would assume someone had created it. The same applies for the world around us.

Arguments for this proving God's existence
- Paley explained that a watch has a clear purpose so must have a designer. As the universe is more complex than a watch, it must have an omnipotent designer. E.g., the human eye.
- Christians believe this fits with Genesis where God designed the world with a purpose.

Arguments against this proving God's existence
- Evil and suffering challenge the idea that God designed the world with a clear purpose.
- Evolution and natural selection suggest that species design themselves over time. This goes against the idea of an intelligent designer.

Genesis 1- how this can support the Design and First Cause arguments. For example, "let there be light" could reference the first cause being God. Also, God designed the world with purpose and order which is suggested through the Design augment.

The First Cause/ Cosmological argument

The **First Cause Argument** was put forward by **Thomas Aquinas** and it argues that there has to be an **uncaused cause** that made everything else happen and that must be God. It argues that nothing moves without first being pushed and that God is the only possible being that can exist with no cause as God is **eternal** (never beginning, never ending)

Arguments for this proving God's existence
Thomas Aquinas claimed that we can prove God's existence through three premises:
1. Everything that exists has a cause
2. The universe exists and has a cause
   The only possible First cause is God
- Some Christians believe God caused the Big Bang

Arguments against this proving God's existence
- Atheists say the argument is flawed. If everything that exists has a cause then why doesn't God?
- If everything has a cause then who caused God?
- Atheists would argue that the big band is the first cause and not God.

Genesis 1- how this can support the Design and First Cause arguments. For example, "let there be light" could reference the first cause being God. Also, God designed the world with purpose and order which is suggested through the Design augment.

Argument from Miracles

The **Argument from Miracl**es argues that **miracles** (a remarkable event seemingly only explained by God's actions) prove that God exists. They argue that these events (like Jesus' walking on water or people coming back from the dead) **cannot be explained by science** and that they must be the result of God's intervention.

Arguments for this proving God's existence
- Christians believe that miracles like the resurrection and incarnation show God's immanence.
- God works in the world through miracles

Arguments against this proving God's existence
- Atheists say miracle healings might be a result of mind over matter or a misdiagnosis.
- Atheists argue that miracles are just lucky coincidences or made up for fame

St Paul's special revelation a miracle that led to his conversion to Christianity.
The 69 miracles of Lourdes as evidence of the argument from miracles
Jesus' miracles as evidence that God is immanent and performs miracles today. For examples feeding the 5000 or Jesus turning water to wine.

As a Year 11 GCSE student of RE I know the core beliefs and teachings about The Existence of God and Revelation in Christianity and Islam

General Revelation

This is a form of revelation where God reveals themselves through **ordinary experiences** which are open to all people to experience.
This could be through **nature** where God's creation is revealed in the intricacy of the human eye or the beauty of the Grand Canyon.
It could be through **scripture;** God reveals much information about themselves in the Bible.

Arguments against this proving God's existence
- Christians argue the beauty of nature creates awe and wonder and shows God's immanence.
- Scripture tells us what God is like. For example, Genesis shows God's omnipotence, and the incarnation reveals his Omni-benevolence,

Arguments against this proving God's existence
- Atheists would argue that scripture is just authors' interpretations and opinions. They may have been translated and lost meaning.
- Atheists would argue that nature just tells us more about evolution and science.

"The heavens declare the glory of God; the skies proclaim the work of his hands" Psalm 19:1

"Among His signs, too, are that He shows you the lightning that terrifies and inspires hope" Qur'an 30:24

Special Revelation

This is a form of revelation where God reveals themselves through **remarkable experiences** usually only open to one or a small group of people.
These could be **visions** (seeing Mary, God or Jesus), **dreams**, **miracles** or **hearing God's call** directly.
In the Bible **Saul** experiences a vision of Jesus on the Road to Damascus and this causes him to believe in God, change his name, and preach the Gospel

Arguments against this proving God's existence
- Christians believe that visions show God's immanence, omnipotence and Omni-benevolence.
- A vision leads to enlightenment, conversion (St Paul) and can start a religion.

Arguments against this proving God's existence
- Atheists think all special revelations are illusions with no scientific evidence to prove their truth.
- The person could be mistaken or ill, deprived of sleep, be on drugs or looking for fame and money.

St Paul's special revelation a miracle that led to his conversion to Christianity.

"You will conceive and give birth to a son, and you are to call him Jesus" Luke 1:31

Nature of God
Omnipotent, Omniscient, Benevolent

According to the Bible and Christian teachings, God is **omnipotent** (all-powerful), **omniscient** (all-knowing) and **benevolent** (all-loving).
"God has power to do anything" Qur'an 2:148
"Great is our Lord and mighty in power; his understanding has no limit" Psalm 147:5

Personal vs Impersonal

Different Christians have different views on God with some seeing them as personal and some as impersonal.
A **personal God** has human characteristics and Christians can form a relationship with them through prayer.
An **impersonal God** is mysterious and unknowable and has no human characteristics. More like an idea or a force than a human being.
"How great is God – beyond our understanding Job 36:26

Transcendent vs Immanent

They also disagree about God's place in the world.
A **transcendent God** exists beyond and outside of life on earth and is not limited by the laws of physics or the rules of time and space.
An **immanent God** is active and involved in life on earth and can play a role in events that happen here. This could be through the Holy Spirit answering prayers for example.

Jesus' miracles as evidence that God is immanent and performs miracles today. For examples feeding the 5000 or Jesus turning water to wine

"As the heavens are higher than the earth, so are my ways higher than your ways and my thoughts than your thoughts" Isaiah 55:9

Arguments against the existence of God based on science

In the past people have used the existence of God to help answer big questions such as:
• How did the universe get here?
• How did humans get here?
• What happens when we die?

• Scientific knowledge has advanced so now we have the answers to many of these questions.
• While science doesn't have the answers to everything yet, it has shown so far that none of them rely on the existence of God.
• We no longer need to believe in the existence of God to answer these questions - science will answer them.

Christian

Some Christians reject the scientific argument as they believe the Genesis version of creation is literally true:

"In the beginning God created the heavens and the earth" Genesis 1:1

Muslims

Some Muslims reject the scientific argument as the Qur'an gives humans what they need to know about the creation of the universe:

"Are the disbelievers not aware that the heavens and the earth used to be joined together and that We (God) ripped them apart, that We (God) made every living thing from water? » (Qur'an 21:30)

Muslim responses

The Qur'an says: "God does not burden any soul with more than it can bear." (Qur'an 2:286)
This shows that we have the ability to handle the suffering that we may have in life.

• Shaytan (the source of evil) tries to tempt humans to sin but we should put our trust in God.
• Life is a test, and God wants to see if humans stay on the straight path of Islam. We will be rewarded fi we resist evil.
• We may not understand why God does not intervene but we should behave in the most loving way ourselves and we will be rewarded by him in the afterlife. God is just and wise and knows best when and why certain things happen.
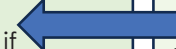
Both Christian and Muslim Response

• Scientific accounts do not necessarily conflict with the holy book.
• God created science for humans to use to their advantage and it reveals his creation to us.
• Science cannot disprove the existence of God.
• Science can tell us 'how' things work, and religion (God) can tell us 'why?

"The big bang.....does not contradict the divine act of creation; rather, it requires it" Pope Francis

Evil and suffering as an argument against the existence of God

People have tried to prove that God does not exist using logical reasoning and evidence as arguments against the existence of God.
Atheists may argue that the existence of evil and suffering in the world proves that God does not exist.
There are many examples of evil and suffering in he world.
For example, people have painful illnesses and people are fighting and killing each other.
God is supposed to be:
• all-knowing (omniscient) so he knows it is happening
• all-loving (omnibenevolent) so he would want to stop it
• all-powerful (omnipotent) so he should be able to stop it.
However, he doesn't do this, so he clearly doesn't exist.

Christian responses

• God can stop evil and suffering, but he has given humans free will **(as with Adam in Genesis 3)** to behave how they want. They choose to cause evil and suffering themselves (e.g., war), so God will not interfere with free will.
• We may not understand why God does not intervene, but we should behave in the most loving way to those that are suffering, and we will be rewarded by him in the afterlife.
• Life is a test, and God wants to see how humans respond to such events. We will be rewarded for our positive actions in the afterlife.
• Allowing evil and suffering means that humans can learn from mistakes and work together to make the world a better place, instead of thinking it's all God's job.

Skills – How to answer 4/5 mark GCSE questions in RE

Task:
Explain two contrasting beliefs in contemporary British society about the Design argument for God's existence **[4]**

Point	**Some Muslims** believe that the beauty and intricacy of nature proves that God created the world.
Explanation	**This teaches that** He created order in the world and put humans in charge of creation in order to make it easier for them to serve Him by following his words and showing stewardship.
Point	**On the other hand,** Atheists disagree with the Design argument because they do not believe there is a God.
Explanation	**They think that** the natural world evolved after the Big Bang, a random event, and through natural selection creatures designed themselves without a need for God

Try these questions on your own

1. Explain **two contrasting** beliefs about nature as general revelations. [4]
2. Explain **two contrasting** beliefs in modern British society about miracles[4]
3. Explain **two** religious beliefs about scriptures as a way of understanding the divine[5]
4. Explain **two** religious responses to the arguments against the existence of God based on science. [5]

Task:
Explain **two** religious beliefs about visions. Refer to scripture**. [5]**

Point	**One belief is** that Muslims believe that God can be revealed to people in a special direct way through visions.
Evidence (sacred writing/scripture)	**This states that, 'the prophet Muhammad had a vision of the angel Jibril on the Night of Power, who asked him to recite the Qur'an**
Explanation	**The Qur'an teaches that** some people who have had visions may become aware of reality in a new way that follows teachings in the Qur'an.
Point	**Another belief is** that a Christians belief about visions is that they reveal a message to a person which makes them want to spread the word of God to other people
Evidence (sacred writing/scripture)	An example of a vision in the Bible is in Acts 9:1-19 where it says Saul (who later became Paul) received a vision of Jesus on the Damascus Road. Saul was temporarily blinded and when he regained his sight, he changed from persecuting Christians to preaching the gospel of Jesus to everyone.
Explanation	**This means that s**ince they believe the vision was given for a specfic purpose they often begin a life of preaching or sharing their experiences with others.

RE| Theme E – Crime and Punishment|Topic Dictionary

Image	Key Word	Definition	In a sentence
	Community Service	Working in the community to pay back for a criminal act	Sometimes, people do **community service** instead of going to jail if they've broken the law.
	Capital punishment	Using physical pain as a punishment Death penalty	There is a lot of debate about whether **capital punishment** is fair or right.
	Community service order	Uk punishment involving the criminal doing a set number of hours of physical labour.	A **community service order** is a way for people to make up for their mistakes by doing good deeds.
	Corporal punishment	Punishment in which physical pain is inflicted on the criminal;	In the past, schools used **corporal punishment** to discipline students, but it's less common now.
	Crime	An action which is against the law and incurs a punishment can be against the person (e.g, murder), property (e.g, vandalism, or against the stale (e.g, treason)	If someone commits a **crime**, they can get in trouble with the police and might have to go to court.
	Death Penalty	A form of punishment where the offender is killed for their crime	There are different opinions about whether the **death penalty** is a fair form of punishment.
	Deterrence	An aim of punishment – preventing future criminals by harsh treatment of offenders	The fear of getting caught and punished can be a strong **deterrent** for people thinking about breaking the law.
	Duty	What we have a responsibility to do.	It's everyone's **duty** to be kind and respectful to others in their community.
	Evil	Something or someone considered morally very wrong or wicked; often linked to the idea of a devil or other malevolent being.	Some stories and movies talk about the battle between good and **evil.**
	Forgiveness	To show mercy and pardon someone for what they've done wrong	Many religions teach the importance of **forgiveness** as a way to live peacefully with others.
	Greed	Reason for committing crime - wanting/desiring.	**Greed** can lead people to make bad choices, like stealing or cheating others.
	Hate Crime	A crime motivated by hatred e.g. racism, homophobia	It's important to stand against **hate crimes** and support those who are victims of this kind of behavior.

RE | Theme E – Crime and Punishment | Topic Dictionary

Image	Key Word	Definition	In a sentence
	Imprisonment	Locking criminal up and taking away their civil liberties	**Imprisonment** is meant to keep dangerous people away from society and give them time to think about their actions.
	Law	The rules citizens follow. Breaking these leads to punishment.	**Laws** are made to keep people safe and make sure everyone is treated fairly.
	Murder	Unlawfully killing another person.	If someone is found guilty of **murder**, they can face severe punishment, like life in prison.
	Order	The enforcement of rules. E.g., by a police force	When there is **order**, people can go about their lives without fear of chaos or danger.
	Parole	Release of a criminal from prison under the condition they will meet with a parole officer who can monitor their behaviour.	If someone breaks the rules of their **parole**, they might have to go back to prison.
	Poverty	Not having enough money to be able to live a comfortable life	Many charities and organizations work to help people living in **poverty.**
	Prison	A place where criminals are sent to withdraw their freedom as punishment	In **prison**, people lose their freedom and must follow strict rules.
	Protection	Additional aim of punishment; to keep people safe.	Police and laws provide **protection** by stopping crime and helping those in trouble.
	Punishment	Something negative done to criminals by the state	Different actions have different **punishments**, depending on how serious the crime is.
	Reformation	An aim of punishment – to try and reform criminals	**Reformation** focuses on giving people a second chance to improve and not repeat their mistakes.
	Reparation	An aim of punishment; where the criminal makes up for, or pays back for, their crimes.	**Reparation** helps repair relationships and shows that the person is sorry for their actions.
	Retribution	An aim of punishment – seeking a form of revenge on criminals	Some people believe in **retribution** to make sure that criminals get what they deserve.

RE| Theme E – Crime and Punishment|Topic Dictionary

Image	Key Word	Definition	In a sentence
	Theft	Taking something without the owner's consent.	It's important to respect other people's belongings and never commit **theft**.
	Victim	Those directly affected by a crime e.g, person assaulted.	It's important to help and support **victims** so they can recover from what happened to them.
	Vindication	An aim of punishment; the punishment exists to justify the law.	If a person is wrongly blamed, they hope for **vindication** to clear their name.
	Young offenders	Criminals under the age of 18	The goal is to help **young offenders** change their ways before they become adults.

Type of crime

Hate crimes- crimes that are motivated by prejudice

Christians believe that this is a worst crime because we are all made in the image of God, and they go against the teaching love thy neighbour. **"Anyone who hates a brother or sister is a murderer, and you know that no murderer has eternal life residing in him"**

Murder- deliberately killing somebody.
Christians believe that this is a worst crime because this breaks the sanctity of life and Decalogue "do not murder. There are very harsh punishments for murder for this reason. **"You shall not murder" Exodus 20:13**

Theft- permanently depriving someone of something they own.
Although Christians may understand why someone commits theft for need rather than greed, they would argue we should donate and support them so prevent this. Most Christians see this as a less serious crime but argue it is wrong because it does against the Golden Rule and Decalogue. **"You shall not steal" Exodus 20:15**

Attitudes to Lawbreakers

Christians do not believe that people are evil but that people can be **tempted** to do wrong and break the law.
Christians are taught to "love the sinner, hate the sin" which means they should **forgive** and show mercy to people who have done wrong but admitted their mistakes and sought **atonement**. **"I was in prison, and you came to visit me" Parable of Sheep and Goats**

Some Christians believe that a law based on prejudice should be changed so breaking them to achieve justice is acceptable.
This is following the teaching of Jesus in **Mark 12:15 when he says, "give to Caesar what is Caesar's and to God what is God's",** This suggests obedience to God is the priority.

Some Christians say no laws should be broken because St Paul tells them to "obey the law of the land" because God has given them the authority

Muslims believe that the law must be obeyed at all times. **"God commands justice...and prohibits wrongdoing, and injustice" Qur'an 16:90**

Good and Evil Intentions

- Christian views about good and evil intentions. In the Bible it warns Christians against having any evil or wrong thoughts or intentions because they will be judged according to their behaviour. For example, Jesus said;
"You have heard it was said to the people long ago, "You shall not murder" and anyone who murders will be subject to judgement" (Matthew 5:21-22).

- Some actions can be evil for religious people even though they do not break the law. For example, adultery and working on the Sabbath day breaks the 10 Commandments.
- A good intention for Christians is generally one is encouraged by faith E.g., giving to charity.

"In everything, do to others what you would have them do to you" Matthew 7:12

- Christians believe that there is no such thing as an evil person because we are made in God's image and therefore good.
- However, the belief in original sin derived from Adam and Eve because of their disobedience to God means that some people have a tendency to do evil things even though they are not evil. Evil is an abuse of free will
- Most Christians believe in a figure called the Devil or Satan who is an evil power, yet less powerful that God who is good. The Devil constantly tries to tempt people towards evil. Therefore, they believe evil is a combination of external and internal factors.

Reasons For Crimes

People are tempted to commit crime for a wide range of reasons including **poverty** (not having enough money or food), **upbringing** (where people are not taught right from wrong), **addiction** (some people commit crimes to feed an addiction), **greed** (committing crimes out of a desire for things they cannot afford), **hatred** or out of **opposition to unjust law** (breaking the law to oppose hateful or unjust laws)

Intention is important in Islam as it will be taken into consideration at Judgement by God. Some believe that our actions and intentions will be 'weighed' by Allah like scales of justice,

"All actions are judged by motives, and each person will be rewarded according to their intentions" Hadith

As a Year 11 GCSE student of RE I know the core beliefs and teachings about Crime and Punishment in Christianity and Islam

Three Aims of Punishment

Deterrence
This aim of punishment seeks to **use punishment as a message** to others considering committing crime. By giving one criminal a harsh punishment others may be put off committing a similar crime. **"Cut off the hand of thieves....as punishment for what they have done – a deterrent from God" Qur'an 5:38**

Reformation
This aim of punishment seeks to help criminals **change their behaviour for the better**. It may involve therapy, education or training. Many Christians support this as a form of 'love your neighbour' **mercy**.

Retribution
This aim of punishment is society getting its own back on the offender. The Old Testament says **'an eye for an eye'** so some Christians would argue that this form of punishment is just according to the Bible.

Forgiveness

Forgiveness is at the heart of Jesus' teaching. It means to show **mercy** and pardon someone for what they have done wrong but showing someone forgiveness does not mean they should be justly punished for their crimes. When Jesus was crucified, he forgave those who sentenced him to death and crucified him saying: **'Father forgive them, for they know not what they do'. Luke 23:34** Forgiveness leads Christians to support reformation as an aim of punishment as it allows the criminal to be forgiven and to ask for forgiveness. They also use forgiveness as an argument against the death penalty.

Christian Attitudes to Punishment

Prisons
Many Christians believe prisoners should be **treated well** when in prison as even though they have done wrong they do not believe in evil people as much as evil actions. Some Christians campaign for better prison conditions out of mercy.

Corporal Punishment
Most Christians do not support using physical pain as a form of punishment as it is **harmful** and **negative**. It is currently illegal in the UK and many Christians would rather seek to reform a criminal than punish them in this way.

Community Service
Many Christians argue in favour of community service where criminals work to **repay** their community as a punishment. It allows criminals to make up for what they have done and does not harm the offender in the process.

Many people question why an omnipotent, omniscient and Omni-benevolent God would allow moral evil that causes suffering; however the Bible makes it clear that God gave humans free will and it is up to them to make the right decisions before Judgement Day. **Jesus' teachings in the Parable of the Sheep and the Goats** and throughout the Bible are a guide for Christians. So Christians believe they should follow the example of Jesus who helped people who he saw suffering

Christian and Muslim teachings about suffering

Christians believe that if we want to be forgiven by God we must be willing to forgive. **Jesus tells Peter that he should forgive 70 times 7**. This means we should forgive unconditionally to gain salvation.

Muslims believe that only Allah can truly forgive and will only forgive those who are truly sorry (repent) and intend to follow the faith properly in the future. This is perfectly in line with the compassionate and merciful nature of God.

Suffering is also seen as a test from Allah, **"You are sure to be tested through your possessions and person...this is the best course" Qur'an 3:186**

Suffering is an unfortunate part of living. Evil that causes suffering can be natural or moral. Christians believe that they should try to help others who are suffering in the Parable of the Sheep and Goats.

Christians believe that good can come out of suffering. St Paul suffered at the hands of the Roman authorities when he was trying to promote Christianity. He said **"We also glory in our sufferings because we know that suffering produces perseverance, persistence and character" (Romans).**

Corporal Punishment

Punishing offenders by causing them physical pain, for example, by lashing, amputation of limbs or caning. Examples of countries that use corporal punishment include Iran, Saudi Arabia and Singapore. It is illegal in the UK.

Arguments For
- In the Bible it states that **"a rod for a fools back."**
- The Shari'ah law in Islam permits corporal punishment **"Cut off the hands of thieves...Qur'an 5:38**
- It is a retributive punishment. The Bible states- **"an eye for an eye"** so criminals should suffer like victims.
- It acts as a deterrent which puts criminals off. **"He who spares the rod hates their children, but the one who loves their children is careful to discipline them" Proverbs 13:24**

Arguments Against
- It breaks the sanctity of life for Muslims and Christians
- Most Christians would not support it for criminals as it causes physical harm and Jesus taught '**pray for those that persecute you**'
- Christians believe it is not loving thy neighbour – Jesus **"Blessed are the merciful, for they will be shown mercy" Matthew 5:7**
- It doesn't allow criminals to reform

- The Qur'an says that if someone is sorry and asks for forgiveness then the punishment does not need to be used. This means it is better to refrain from using corporal punishment and those that don't use it will be favoured by God
"But if anyone repents after his wrongdoing and makes amends, God will accept his repentance; God is most forgiving, most merciful" Qur'an 5:38

- Both Christians and Muslims believe that community service would be a better alternative.

- Statistics suggest and show that capital punishment does not deter.

- The Qur'an says those who show mercy will be rewarded by God. Some Muslims allow 'blood money' where the victim or their family receives money as compensation. **"But if the culprit is pardoned by his aggrieved brother, this shall be adhered to fairly, and the culprit shall pay what is due in a good way....."Qur'an 2:178**

The Death Penalty/Capital Punishment

The **death penalty** means the state killing criminals who have committed the worst crimes. It has not been used in the UK since 1969 but is still a common punishment elsewhere in the world.

Arguments For
- It is a retribution and the Bible- "an eye for an eye."
- It acts as a deterrent which puts criminals off
- It protects society because you can't re-offend if you're dead.
- Some Muslims support this because it is included in the Shari'ah Law.

"**Whoever sheds human blood, by humans shall their blood be shed" Genesis 9:6**

".....do not take life, which God has made sacred, except by right (justice). This is what He commands you to do: so that you may use your reason" Qur'an 6:151

A**rguments Against**
- If you convicted the wrong person, the innocent die
- Somebody cannot reform if they are dead. Jesus gave his life to reform humanity so we should do the same.
- It breaks the sanctity of life and Decalogue. In the Bible, Jesus says **"If someone strikes you on the right cheek, turn to him the other also." This shows that the old law (An eye for an eye)** was dismissed by Jesus.

Skills – How to answer 12 mark GCSE question in RE

Criteria	Marks
A well-argued response with reasoned consideration of different points of view. Logical chains of reasoning leading to judgement(s) supported by knowledge and understanding of relevant evidence and information	10-12
Reasoned consideration of different points of view. Logical chains of reasoning that draw on knowledge and understanding of relevant evidence	7-9
Reasoned consideration of a point of view. Recognition of different points of view, each supported with relevant reasons and evidence.	4-6
Point of view stated with one reason in support	1-3

Try this questions on your own
'The death penalty should be made legal in Great Britain' **Evaluate this statement.**

Theme E - "It is right to forgive all offenders whoever they are and whatever they have done" Evaluate this statement .

For (agree with the statement)

One reason why Christians/Muslims would agree with the statement is ….

This means that…
X2

Religious Teachings

Christian/Islamic teachings that support this view/opinion are…
X2

Against (disagree with the statement)

However, some may disagree with this statement because….

This means that…
X2

Religious Teachings

Christian/Islamic teachings that support this view/opinion are…
X2

My opinion/conclusion -

In conclusion…

I believe this because…

TIP
It is essential to include evaluation because this is the key skill that you are being tested on in the 12-mark question. You can evaluate after each viewpoint, and/or at the end as part of your justified conclusion

TIP
Try to use religious terms in your answer, if it is appropriate, as this helps you to demonstrate your knowledge of the subject, For example, forgiveness, atonement, crime

TIP
Spelling, punctuation and grammar is assessed on each 12- mark question, so make sure you are careful to use your best written English

Try this questions on your own
'Sometimes suffering can be good for a person' **Evaluate this statement.**

Skills – How to answer 12 mark GCSE question in RE

Theme E - "It is right to forgive all offenders whoever they are and whatever they have done" Evaluate this statement.

For (agree with the statement) One reason why Muslims would agree with the statement is …. This means that… X2 **Religious Teachings** **Christian/Islamic teachings that support this view/opinion are…** X2	**For (Agree with the statement)**	Forgiveness is showing grace and mercy and pardoning someone for what they have done wrong. Both Christianity and Islam teach that forgiveness is an important aspect of life between humans and God. **In the Lord's Prayer it states that, " Forgive us our sins, as we forgive those who sin against us."** This shows how that if we wants our sins forgiven, we need to do so to those who offend us. Christians should always forgive anybody who wants to be forgiven. When the disciples asked Jesus how many times they should forgive, suggesting that seven was a fair number, **Jesus told them it should be seventy-seven times.** In other words, there should be no maximum. Jesus even asked God to forgive the people who crucified him because they didn't know what they were doing. So, it should not matter how many times, whoever is asking to be forgiven or what they have done to be forgiven for. If someone is forgiven, there is a better chance that they wil be reformed and try hard to make sure that whatever they have done is never repeated. This is what repentance is about and forgiveness and repentance are closely linked. No sin is unforgiveable and so people, especialy religious people, should always forgive, especially as this does not mean that the sinner is not punished because they have been forgiven. **The Qur'an states that, " A kind word and forgiveness is better than a charitable deed followed by hurtful words**
Against (disagree with the statement) However, some may disagree with this statement because…. This means that… X2 **Religious Teachings** **Christian/Islamic teachings that support this view/opinion are…** X2	**Against (disagree with the statement)**	Some people who are victims of serious crimes find it very difficult to forgive. They cannot imagine how they can ever feel anything but hatred for someone who has wronged them so horribly. A victim of rape may find it hard to forgive their attacker and they are highly unlikely to ever forget it. Time is a great healer and maybe forgiveness is more easily given some years later. **The line in the Lords' Prayer that says: 'Forgive us our sins, as we forgive those who sin against us,'** is unrealistic because there are some awful things that should never be forgiven unless the offender shows they are truly sorry and remorseful, and even then, it is almost impossible. **Many Jews find it impossible to forgive the Nazis for hte Holocaust and why should they be expected to? Some victims of 9/11 are still suffering from the after marks of this attack, how can they forgive?**
My opinion/conclusion - In conclusion… I believe this because…	**Conclusion**	In conclusion both Christianity and Islam teach that forgiveness is an important aspect of life between humans and God. In my opinion I believe this because forgiveness is an ideal that religions want people to work towards. I think if they become the victims themselves, they may change their mind. We are only human, and it is difficult to forgive someone who has grealy hurt you or a loved one. Maybe Muslim's have it right because they teach that offenders should seek forgiveness from their victim before expecting God to forgive them. To me, this seems fair.

Science | Genetics and evolution (B15)

S*marks*

Core focus
All learners
Triple science only

Speciation	The process by which two species evolve from a single original species by natural selection. Speciation often occurs in response to isolation or a change in the environment of one population.

Theory of Evolution

Charles Darwin proposed the theory of evolution by natural selection (as seen in Variation and Evolution KO (B14)).

Darwin published his ideas in *On the Origen of Species (1859)*. There was much controversy surrounding these revolutionary ideas and the theory was gradually accepted because:

1. The theory challenged the idea that god made all the animals and plants that live on earth,
2. There was sufficient evidence at the time the theory was published to convince many scientists
3. The mechanism of inheritance and variation was not known until 50 years after the theory was published.

Other theories, such as Jean-Bapiste Lamarck, are based on the idea that changes occur in organisms during its lifetime can be inherited. We now know that in the vast majority of cases this type of inheritance cannot occur.

The understanding of genetics

➤ **Mid-19th century** - Gregor Mendel carried out breeding experiments on plants. One of his observations was the inheritance of characteristics is determined by 'units' that are passed on.

➤ **Late 19th century** - the behaviour of chromosomes during cell division was observed.

➤ **Early 20th century** - it was observed that chromosomes and units behaved in similar ways. This led to the idea that 'units', now called genes, were located in chromosomes.

➤ **Mid-20th century** - the structure of DNA was determined and the mechanism of gene function was worked out.

The scientific work by many scientists led to the gene theory being developed.

Speciation

Large population with common gene pool

Isolation — Two populations separated by a barrier

Mutation — Mutants

Natural selection

Selection pressure — Temperature — Hairy form has a selective advantage

Selection pressure — Predation — Blue form has a selective advantage

After a very long period — The populations can no longer interbreed to produce fertile offspring, so two new species have formed

LAMARCK

DARWIN

The cross Mendel performed

P — X — Pure-breeding yellow line — Pure-breeding green line

F₁ — X

F₂
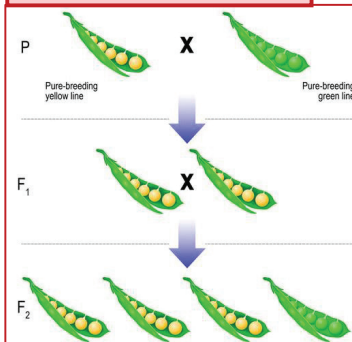
New species can also arise as a result of **isolation**:

➤ two populations of a species can become geographically separated because of the environment
➤ isolation can prevent interbreeding and the combination of genes within a species
➤ different mutations can take place in the isolated groups and create different **phenotypes** within a particular location
➤ over time species may evolve to be different to each other, and they will not be able to interbreed

Science|Genetics and evolution (B15)

1 THERE IS VARIATION WITHIN THE PEPPERED MOTH POPULATION. LIGHT MOTHS > DARK MOTHS

2 POLLUTION LEADS TO DARKER BARK ON TREES. THE ENVIRONMENTAL CHANGE IS BENEFICIAL TO THE DARK MOTHS. THEY NOW HAVE THE ABILITY TO CAMOUFLAGE AGAINST THE BARK OF THE TREES

4 DARK MOTHS ARE NOW MORE LIKELY TO SURVIVE AND REPRODUCE, PASSING ON THEIR ALLELES FOR A DARK PHENOTYPE TO THEIR OFFSPRING

3 LIGHT MOTHS ARE NOW MORE LIKELY TO BE EATEN BY BIRDS, AND LESS LIKELY TO REPRODUCE

5 OVER TIME, THERE IS A GRADUAL INCREASE IN THE PROPORTION OF DARK MOTHS. DARK MOTHS > LIGHT MOTHS

Fossils and extinction

Fossils are the 'remains' of organisms from millions of years ago, which are found in rocks.

Fossils may be formed:

- From parts of organisms that have not decayed because one or more of the conditions needed for decay are absent.
- When parts of the organism are replaced by minerals as they decay
- As preserved traces of organisms, such as footprints, burrows and rootlet traces

Many early forms of life were soft bodied, so no fossils where formed. What traces there were have been destroyed by geological activity. This is why scientist can not be certain about how life began on earth.

Evidence of evolution

The theory of evolution by natural selection is now widely accepted.

Evidence for the theory has been shown through:

- Characteristics being passed on to offspring through genes
- Fossil records (to see how much or little organisms have changed as life developed on earth)
- How resistance to antibiotics evolves in bacteria

Extinction

Extinction occurs when there are no remaining individuals of a species still alive. Factors that may cause extinction include:

- A new disease
- Environmental changes over geological time

- A new predator (either evolved or introduced)
- A new competitor (either evolved or introduced)
- A single catastrophic event that destroys the habitat (e.g. volcanic eruption)
- Natural changes in species over time

1 The reptile dies and falls to the ground.

2 The flesh rots, leaving the skeleton to be covered in sand or soil and clay before it is damaged.

3 Protected, over millions of years, the skeleton becomes mineralised and turns to rock. The rocks shift in the earth with the fossil trapped inside.

4 Eventually, the fossil emerges as the rocks move and erosion takes place.
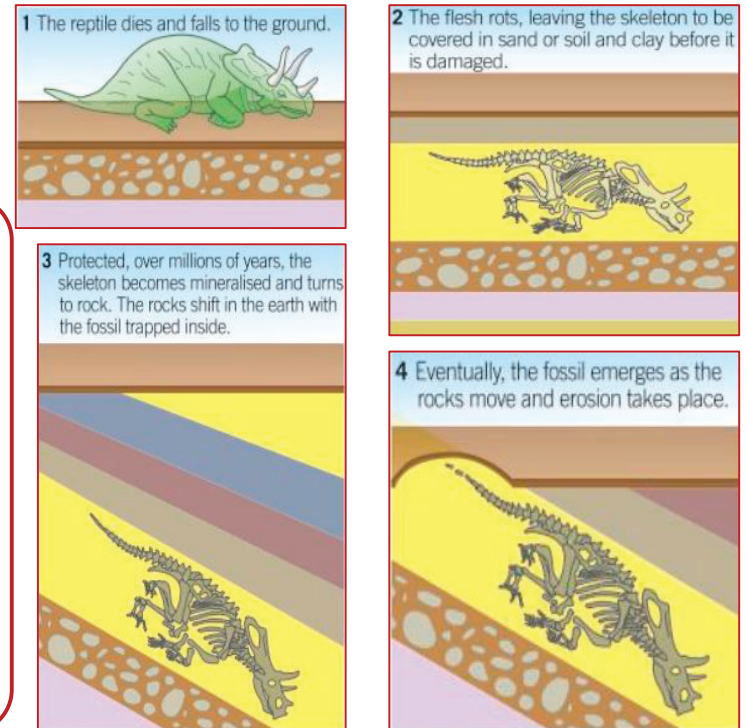
Antibiotic resistant bacteria

- Bacteria can evolve rapidly because they reproduce at a fast rate,
- Mutations in bacterial pathogens produce new strains.
- Some strains might be resistant to antibiotics (so are not killed)
- They survive and reproduce, so the population of resistant strain increases.
- The resistant strain will spread, because people are not immune to it and there is no effective treatment.

How antibiotic resistance develops
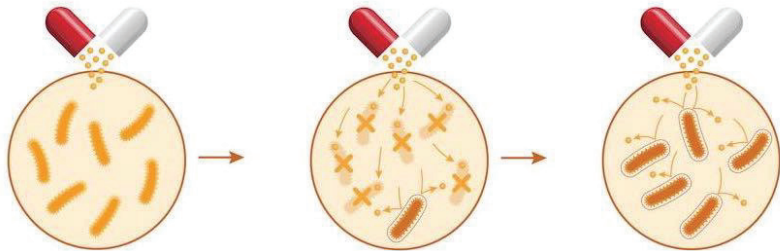
Antibiotics help our bodies to kill the types of bacteria that make us sick

Some of the bacteria that make us sick get better at defending themselves against antibiotics, meaning resistant bacteria are harder to kill. This is called antibiotic resistance

The **resistant bacteria** start to multiply, making our antibiotics **less and less effective**

MRSA

- MRSA is resistant to antibiotics
- To reduce the development of antibiotic resistant strains:
  - Doctors should not prescribe antibiotics inappropriately (e.g. for treating viral infections)
  - Patients should complete the full course of antibiotics, so all the bacteria is killed
  - The agricultural use of antibiotics should be restricted
- The development of new antibiotics is slow and costly. It is unlikely to keep up with the emergence of new strains.

Classification of living organisms

- Traditionally living things have been classified into groups depending on their structure and characteristics in a system developed by **Carl Linnaeus.**
- **Linnaeus** classified living things into kingdom, phylum, class, order, family, genus and species. To remember, think! _Keep Ponds Clean Or Frogs Get Sick!_
- Organisms are named by their. Binomial system of genus and species (e.g. homo sapiens)

- As evidence of internal structures become more developed due to improvements in microscopes, and the understanding of biochemical processes progressed, new models of classification were proposed.
- Due to evidence (from chemical analysis) there is now a 'three domain system' developed by **Carl Woese**. In this system organisms are divided into:
  - Archaea (primitive bacteria usually living in extreme environments)
  - Bacteria (true bacteria)
  - Eukaryota (which includes protists, fungi, plants and animals)

Evolutionary trees
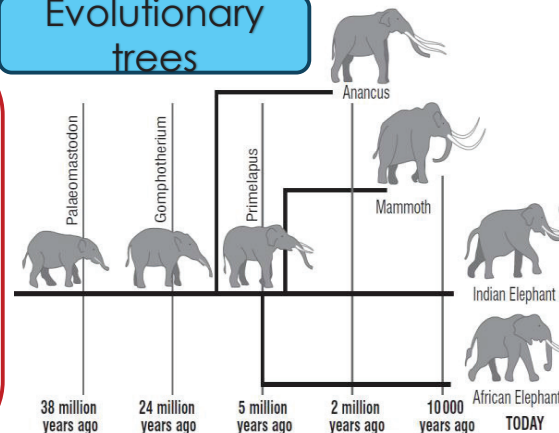
- Evolutionary trees are a method used by scientists to show how living organisms are related.
- They use current classification data for living organisms and fossil data from extinct organisms.

Science | Organising an ecosystem (B17)
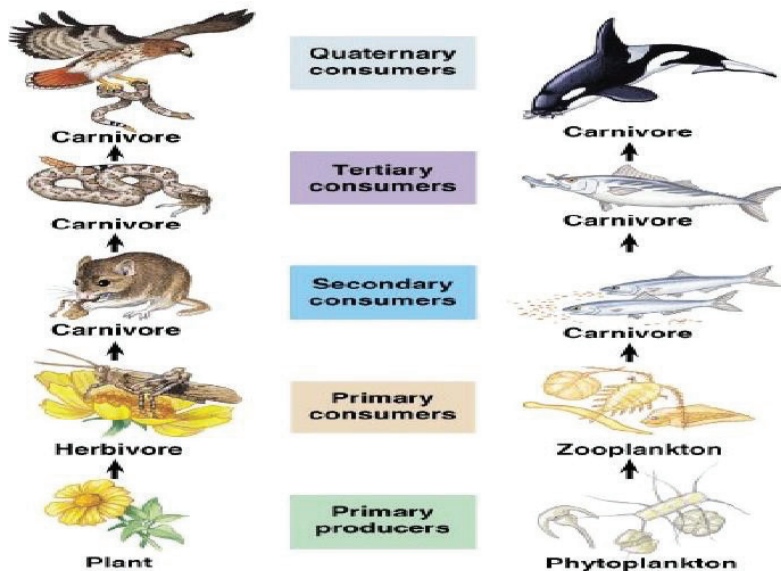
Feeding relationships

- ➢ Feeding relationships within a community can be represented by **food chains.**
- ➢ All food chains begin with **producers**
- ➢ Producers synthesises their own food (glucose) by **photosynthesis**
- ➢ Examples are plants and algae
- ➢ The <u>arrows</u> in a food chain show the **flow of energy**.
- ➢ Animals that are eaten are known as **prey**.
- ➢ In a stable community, the numbers of predators and prey rise and fall in a cycle.

Materials cycling- The decay cycle

- ➢ Many materials cycle through both abiotic and biotic components of an ecosystem.
- ➢ The **decay cycle** is important in recycling materials for re-use. For example, carbon dioxide and mineral ions.
- ➢ **Decomposers** (bacteria and fungi) break down waste products and dead organisms.
- ➢ **Detritivores** (maggots and worms) may start the process of decay by eating the waste or dead organisms.
- ➢ The decomposers then digest the dead animals, plants and detritus feeders (and their waste) to return carbon dioxide, water and mineral ions back to the environment.
- ➢ A stable community recycles all of the nutrients it takes up
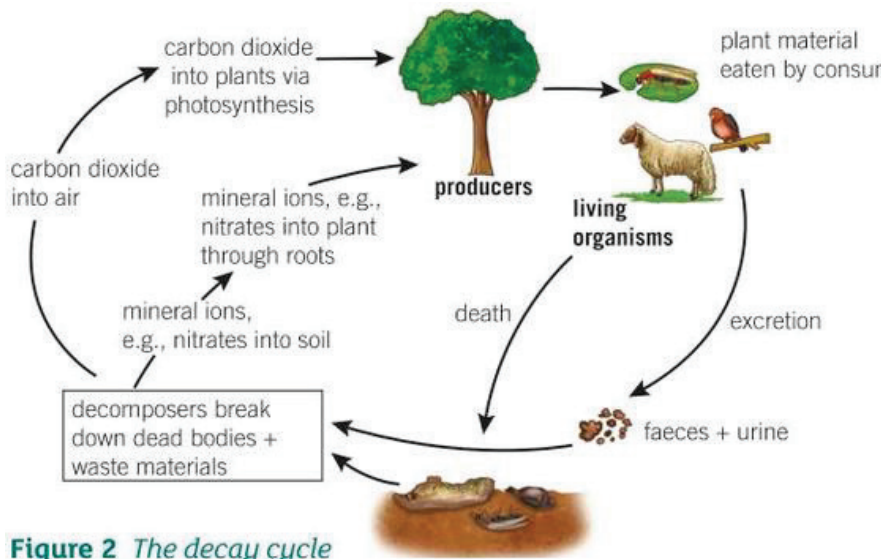
Figure 2 *The decay cycle*

Science | Organising an ecosystem (B17)

Science

Rates of Decomposition

Factors that affect the rate of composition by decomposers:

➢ Temperature – the enzymes controlling the decay reactions (digestion and respiration) are affected by temperature.
  ➢ If it is cold, the enzymes work slowly
  ➢ If it is hot, the enzymes denature
➢ Moisture – most microorganisms grow faster in moist conditions,
  ➢ Rate of decomposition is higher in moist conditions
➢ Oxygen – some microorganisms are anaerobic,
  ➢ But many need a supply of oxygen for aerobic respiration

So the rate of decay is higher in warm and wet conditions, with a good availability of oxygen.

Uses of Decomposition

Organic Waste
Newspaper
Leaves/Grass
Fruit/Vegetable
Kitchen Waste
Woody Materials

Soil (Microorganisms) ← **Water**
← **Air**

Carbon Dioxide Heat

Finished Compost

Triple science only
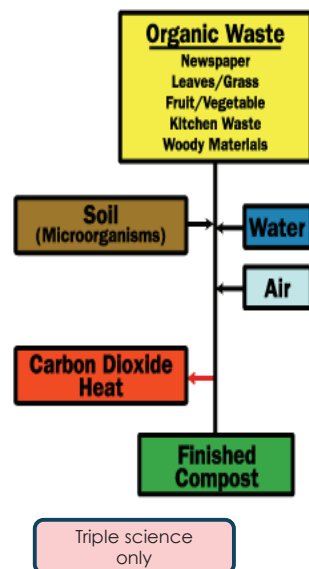
Variables:
Independent – change in temperature (e.g. 20, 30, 40℃)
Dependent – change in pH
Control – the time the milk was left to decay, the moisture levels, the oxygen levels, volume of milk, volume of decomposer.

Method
1. Place 20 cm³ of fresh milk into three beakers
2. Decide the three temperatures you will investigate. Write these onto the sides of the beakers. **Use regular intervals of temperature!**.
3. Use universal indicator paper or solution to determine the pH of the milk in the three beakers
4. Cover each beaker in cling film and incubate at the appropriate temperature
5. Use universal indicator paper or solution to determine the pH of the milk in the three beakers after 24, 48 and 72 hours

Required Practical – The effect of temperature on the rate of decay of milk

$$Rate\ of\ decay\ (g.days) = \frac{change\ in\ mass\ (g)}{time\ (days)}$$

EXAMPLE: A group of students were studying the rate of decay of a piece of bread. At the start of the experiment the mass was **25 g** and after **10 days** the mass of the bread was **20 g.**

Change in mass (g) = starting mass – end mass
$change\ in\ mass\ (g) = 25 - 20 = 5g$

$Rate\ of\ decay\ (g.days)$
$= \frac{5g}{10\ days} = 0.5\ g.day^{-1}$

Curriculum Companions **Year 11 Term Two**

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Science | Organising an ecosystem (B17)

- The **water cycle** provides fresh water for plants and animals on land, before draining into the seas and oceans.
- Water constantly **evaporates** from the land surface, rivers and the seas.
- As water rises into cooler air, it **condenses**, forming clouds.
- Water is then **precipitated** back to the surface as rain, snow, hail or sleet.
- Water passes though the bodies of living organisms (plants and animals) and is released via **respiration** and **decay**.
- Animals also lose water in urine, faeces, and sweat (only mammals)
- Plants also lose water during **transpiration**.
- A stable community recycles all of the nutrients it takes up
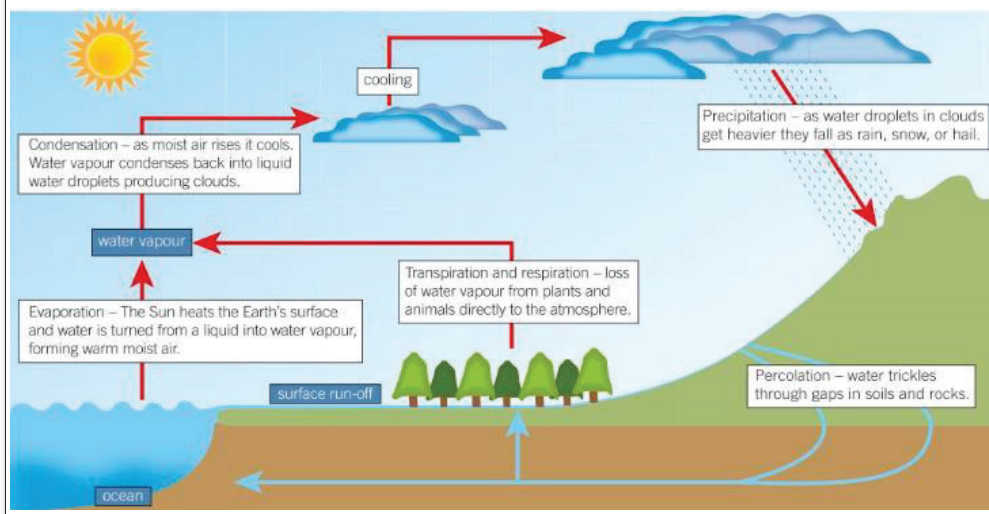
- The **carbon cycle** returns carbon from organisms to the atmosphere as carbon dioxide to be used by plants in photosynthesis.
- The carbon cycle involves photosynthesis, respiration and combustion
  - **Photosynthesis** removes carbon dioxide from the atmosphere
    - Used to make carbohydrates, fats and proteins
- Animals eat plants and build up carbon into their bodies
- When organisms die, microorganisms return the carbon back into the atmosphere through **respiration**.
- When humans cut down and burn trees (**combustion**) carbon dioxide is released back into the atmosphere.
- A stable community recycles all of the nutrients it takes up

Science | Biodiversity and ecosytems

Compounds of sulphur and nitrogen
Prevailing wind

Wind carries pollution hundreds of miles, where it falls as acid rain

Trees, plants, lakes and rivers are poisoned
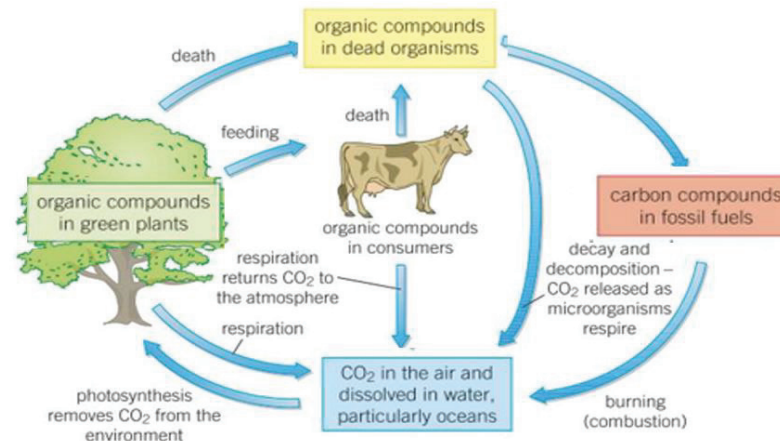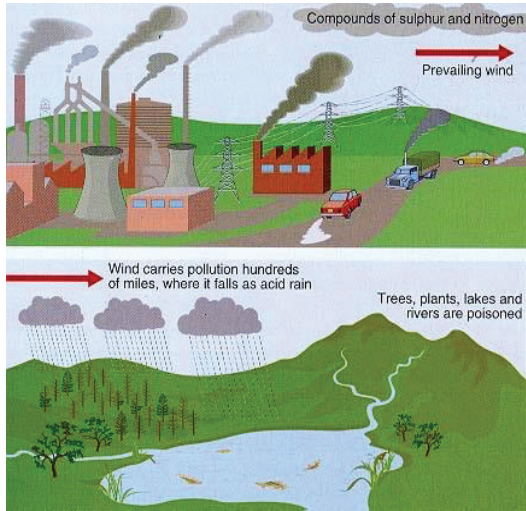
A high **biodiversity** ensures a stable community by reducing the dependence of one species on another for food, shelter, and maintenance of the physical environment. Human activity is affecting biodiversity, as the population of the earth continues to increase.

How do humans reduce biodiversity:
❑ Land use – building houses/farming
❑ Pollution – land, water and air pollution
❑ Quarries – to gain resources

Types of pollution – all three kill plants and animals, reducing biodiversity

	Caused by…	Issues
Land	Land fill (waste produced by homes) • destroys habitats • Toxic chemicals (nuclear, untreated waste) spread into soil	Increase in chemicals, kills plants = reduces **biodiversity**. **Bioaccumulation** – build up of toxic material in food chain. Effects top predator the most.
Water	Chemicals (fertiliser, pesticides, herbicides) and untreated waste washing into water system	**Bioaccumulation** in aquatic food chains. **Eutrophication** of bodies of water, causing death of aquatic organisms due to lack of O_2.
Air	Burning fossil fuels releases CO_2, sulphur dioxide and soot.	Sulphur dioxide causes **acid rain**. Can negatively effect wildlife (kill trees, destroy habitats and ecosystems) Soot can cause global dimming, and can also cause breathing problems

Eutrophication (water)

6. Fish (and other organisms) die due to lack of O_2

4. Increased growth of algae, shading out aquatic plants (can no longer photosynthesise and die)

1. Fertiliser soaks into soil, contaminating ground water

All learners

Triple science only

Fish become toxic because they ingest toxic plankton from lake

Lake becomes toxic because of chemical waste

Toxin through food chain transfer causes the top consumer to become intoxicated and die

2. Contaminated ground water enters lake

3. Increased nutrients absorbed by algae

5. Increased decomposition of aquatic plants uses O_2 dissolved in water

Science | Biodiversity and ecosytems

Deforestation

Reasons for deforestation:
- ❑ To grow staple foods
- ❑ To rear (farm) cattle
- ❑ To grow crops for biofuels

Negative effects of deforestation:
- ❑ Less trees to take in CO_2
- ❑ Trees that are cut down are burnt → release more CO_2
- ❑ Decomposers break down dead material → release more CO_2
- ❑ Reduce **biodiversity** through destruction of habitats

Peat bog destruction

Peat bogs are areas of land that store CO_2, and form over thousands of years.

Peat is made of dead plant material that do not decay

The land in peat bogs is:
- ❑ Very acidic
- ❑ Lack oxygen

So decomposition of dead materials does not occur.

Peat bogs have **high biodiversity**.

Reasons for destruction:
- ❑ Peat is used as a fuel → releases CO_2
- ❑ Used to improve soil properties → releases CO_2

Peat bogs are being destroyed at a higher rate than they are being formed.

Destruction of peat bogs decreases biodiversity, as it is destroying habitats and ecosystems.

Global warming and the greenhouse effect – the three main greenhouses gases are: **carbon dioxide, methane and water vapour**

Natural Greenhouse Effect | Human Enhanced Greenhouse Effect
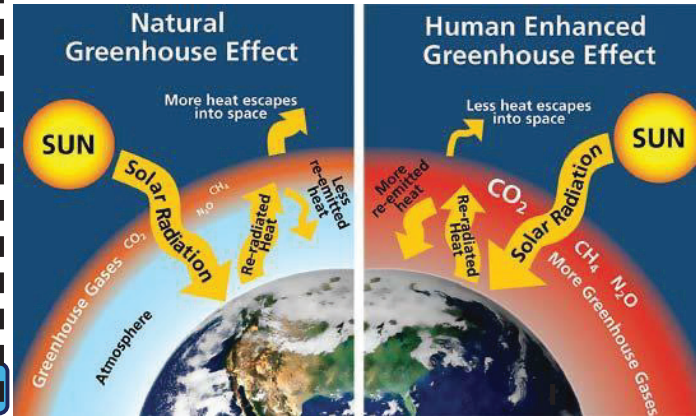
Global warming - increase in the average temperature due to the build up of greenhouse gases.

Consequences of global warming:
- ❑ Loss of habitats – flooding, desertification.
- ❑ Changes in distribution – changes in rainfall, increase/decrease in temperature
- ❑ Change in migration patterns

Impact of change

Environmental factors, such as, availability of water, temperature, and concentration of dissolved atmospheric gases in water are closely linked to the distribution of organisms.

These changes may be:

- ❑ Seasonal
- ❑ Geographic
- ❑ Caused by human interaction

Maintaining biodiversity

- ❑ **Breeding programmes for endangered species** – used to increase population of species
- ❑ **Protection and regeneration of rare habitats** – protects organisms populations to all them to grow.
- ❑ **Reintroduction of field margins and hedgerows** – increase diversity of wild animals (increases biodiversity)
- ❑ **Reduction in deforestation and carbon emissions** – governments are using greener sources to produce electricity (less pollutants released into atmosphere)
- ❑ **Recycling resources** – less waste = less land used for land fill – less CO_2 released.

Science |Genetics and evolution| Topic Dictionary

Key term	Definition	In a sentence
Binomial system	The universal system of naming organisms using their genus and species.	The **binomial system**, developed by Carl Linnaeus, is used to give every species a unique scientific name consisting of two parts: the genus and the species.
Classification	The organisation of living organisms into groups according to their similarities..	The **classification** of animals into different groups, such as mammals, birds, and reptiles, helps scientists understand their relationships and evolution.
Domain	The highest level of classification. The three domains are: archaea, bacteria and eukaryote.	In biology, the **domain** is the highest level of classification, dividing all life into three groups: Bacteria, Archaea, and Eukarya.
Evolutionary trees	Models used to explain evolutionary links between groups of organisms.	Scientists analyse the relationships between organisms using evolutionary trees.
Extinction	The permanent loss of all members of a species from an area or the world.	The dodo is a bird that is **extinct.**
Fossils	The remains of dead organisms found in rocks which are millions of years old.	Mr smith carefully brushed away the dirt, revealing a collection of **fossils** that told the story of an ancient ecosystem.
Linnaean system	The classification of organisms into kingdom, phylum, class, order,family, genus and species, as developed by Carl Linnaeus.	In biology class, we learned how the **Linnaean system** of classification organizes living organisms into hierarchical categories.
Natural selection	The process by which the frequency of advantageous traits passed on in genes gradually increases in a population over time.	**Antibiotic resistance** is an example of natural selection.
Speciation	The formation of new species in the course of evolution, often due to the evolution of two isolated populations.	Over time, geographical isolation and environmental differences led to **speciation**.
Species	The smallest group of clearly identified organisms in Linnaeus's classification system, often described as a group of organisms that can breed together and produce fertile offspring.	The rainforests of the Amazon are home to thousands of **species**, many of which have yet to be discovered by scientists.

Science |Organising an ecosystem| Topic Dictionary

Key term	Definition	In a sentence
Abiotic factors	The non-living aspects of an ecosystem e.g. temperature, light intensity, moisture, wind direction, wind intensity, soil pH, soil mineral content, carbon dioxide levels and oxygen levels.	The survival of the plants in the desert depends on both biotic factors, like animals and insects, and **abiotic factors**, such as temperature and soil moisture.
Population	All organisms of the same species living with one another in a habitat.	The rabbit **population** in the meadow has surged this spring, as mild weather and abundant food sources create ideal breeding conditions.
Predators	Consumers that prey on and eat other animals.	The wolf, as a **predator**, hunts the deer, its prey, in a delicate balance of nature where each relies on the other for survival.
Prey	Animals that are eaten by predators.	The cheetah, a skilled predator, swiftly chases down the deer, its **prey**, in a high-speed pursuit across the savanna.
Producers	Photosynthetic organisms (e.g. green plant or alga) at the start of the food chain that provide biomass for all living things.	Plankton, as primary **producers** in aquatic ecosystems, play a crucial role in converting sunlight into energy, forming the foundation of the food chain.
Water cycle:	The cycle through which water moves between living organisms and the environment, involving evaporation, transpiration, condensation and precipitation.	The **water cycle** plays a crucial role in maintaining Earth's climate by regulating the movement of water between the atmosphere, oceans, and land.
Anaerobic decay	Decomposition in the absence of oxygen (commonly occurring in waterlogged soils) that produces carbon dioxide and methane gas.	**Anaerobic decay** occurs when organic matter breaks down in the absence of oxygen, often producing gases like methane in landfills or swampy environments.
Biogas	A type of biofuel (methane gas) produced by anaerobic decay in biogas generators	**Biogas** is a renewable energy source produced from the breakdown of organic waste, offering a sustainable alternative to fossil fuels.
Mycoprotein	A food high in protein (suitable for vegetarians) that is produced by the microorganism, *Fusarium*, in fermentation vats.	Some people eat **mycoprotein** which is a plant-based protein made from fungi, kind of like mushrooms. It is nutritious and a great alternative to meat.

Science |Biodiversity and ecosystem| Topic Dictionary

Key term	Definition	In a sentence
Quadrat	A square grid of known area used in sampling to determine the abundance and distribution of organisms in an ecosystem.	To study the distribution of wildflowers, the ecologist placed several **quadrats** across the field and recorded the number of species within each one.
Transect:	A line along an area used in sampling to determine the abundance and distribution of organisms in an ecosystem.	The scientists laid a **transect** line across the forest to observe how plant species vary with changes in altitude and soil type.
Peatlands	Areas of peat soil in wetland habitats formed by the accumulation of partially decayed organic matter. Peat is commonly used as a garden compost.	**Peatlands** are fragile ecosystems that store vast amounts of carbon, but they are at risk of degradation due to drainage and climate change.
Deforestation	The removal of trees from land which is subsequently used to grow crops or provide space for cattle.	**Deforestation** in the Amazon rainforest has reached alarming levels, threatening countless species and disrupting the global climate balance.
Biodiversity	The variety of living organisms in an ecosystem.	The forest's **biodiversity** is remarkable, with a wide variety of plant and animal species that depend on the diverse ecosystem for survival
Pollution	Contamination or destruction of the natural environment due to human intervention.	**Pollution** in the river has caused a decline in water quality, threatening aquatic life and disrupting the local ecosystem.
Population	All organisms of the same species living with one another in a habitat.	The world **population** continues to grow rapidly, putting increasing pressure on resources such as food, water, and energy.
Food security	Ensuring that populations have access to adequate amounts of safe and nutritious food.	**Food security** in the USA is a growing concern, with many communities facing challenges related to access, affordability, and nutrition.
Sustainable fisheries:	Methods of harvesting fish at a sustainable rate and increasing fishstocks, for example, by controlling net size or introducing fishing quotas.	**Sustainable fisheries** in Peru are crucial for preserving marine biodiversity while supporting local communities that rely on fishing for their livelihoods.

Science | Using Resources 2
Big idea: The Earth

REDUCE   REUSE   RECYCLE

Ways of reducing the use of resources

Reduce, reuse and recycle	This strategy reduces the use of limited resources	This, therefore, reduces energy sources being used, reduces waste (landfill) and reduces environmental impacts.
Limited raw materials	Used for metals, glass, building materials, plastics and clay ceramics	Most of the energy required for these processes comes from limited resources. Obtaining raw materials from the Earth by quarrying and mining causes environmental impacts.
Reusing and recycling	Metals can be recycled by melting and recasting/reforming	Glass bottles can be reused. They are crushed and melted to make different glass products. Products that cannot be reused are recycled.

Corrosion and its prevention

Corrosion	Destruction of materials by chemical reactions	e.g iron rusting
Preventing corrosion	Coatings added to metals-barrier	e.g greasing, painting and electroplating
Sacrificial corrosion	More reactive metal used as a coat for a less reactive metal	The coat will react with air and not the underlying metal
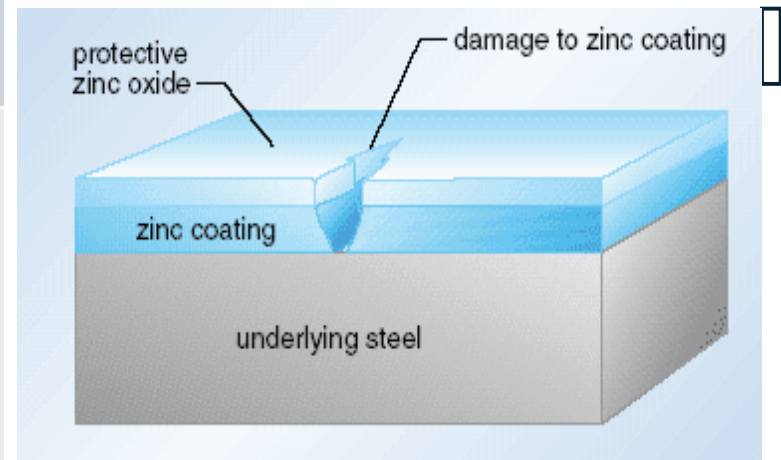
protective zinc oxide — damage to zinc coating
zinc coating
underlying steel

Science | Using Resources 2 Big idea: The Earth

Core focus

All learners

HT only

Triple science only

St marks

POLYMER CHAINS

CROSS-LINKED POLYMER CHAINS

Cross link

Thermosetting Polymer Structure
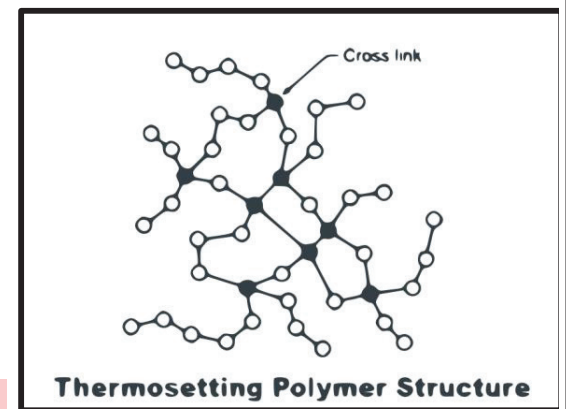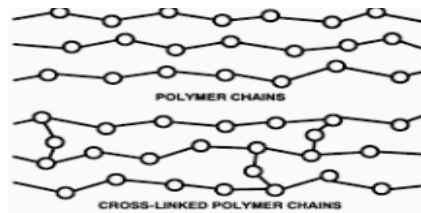
Ceramics polymers and composites

Polymers	Thermosetting	Polymers do not melt when heated
	Thermosoftening	Polymers melt when heated

Composite materials		• Soda-lime glass, made by heating sand, sodium carbonate and limestone. • Borosilicate glass, made from sand and boron trioxide, melts at higher temperatures than soda-lime glass. • MDF wood (woodchips, shavings, sawdust and resin) • Concrete (cement, sand and gravel)
Ceramic materials		Made by shaping wet clay and then heating in a furnace, common examples include pottery and bricks.
Polymers	Polymers	These factors affect the properties of the polymer. Low density (LD) polymers and high density (HD) polymers are produced from ethene. These are formed under different conditions.
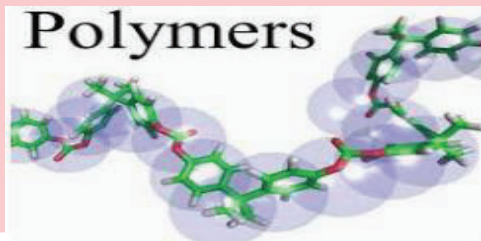
Science | **Using Resources 2** Big idea: The Earth

Core focus
All learners
HT only
Triple science only

THE HABER PROCESS
Used H₂ + N₂
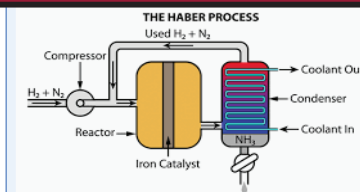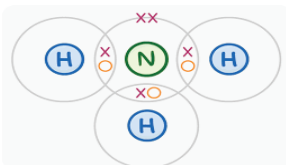
The Haber process-conditions and equilibrium

Pressure	The reactant side of the equation has more molecules of gas. This means that if pressure increases, equilibrium shifts towards the production of ammonia.
Temperature	The forward reaction is exothermic. Decreasing temperature increases ammonia production at equilibrium.

Haber process and use of NPK fertilisers

The Haber Process	Used to manufacture ammonia	Ammonia is used to produce fertilisers
Raw materials	Nitrogen from the air while hydrogen from natural gas	Both gases purified before passed over iron catalyst. Nitrogen + hydrogen ⇌ ammonia
Catalyst	Iron	Catalyst speeds up both directions of the reaction.

Phosphate rock

Treatment	Products
Nitric acid	The acid is neutralised with ammonia to produce ammonium phosphate, a NPK fertiliser.
Sulfuric acid	Calcium phosphate and calcium sulphate(a single superphosphate)
Phosphoric acid	Calcium phosphate (a triple superphosphate)

NPK fertilisers	These contain nitrogen, phosphorous and potassium	Formulations of various salts containing appropriate percentage of the elements.
Fertiliser examples	Potassium chloride. Potassium sulphate and phosphate rock are obtained by mining	Phosphate rock needs to be treated with an acid to produce a soluble salt which is used to manufacture ammonia salts and nitric acid.

Science | Structure and Bonding

Smarks
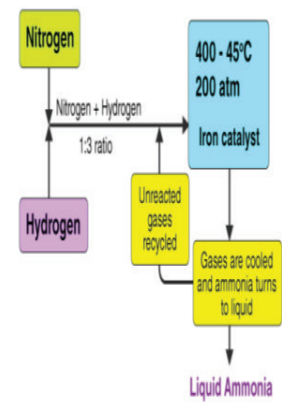
All learners

Core focus

Triple science only

HT only
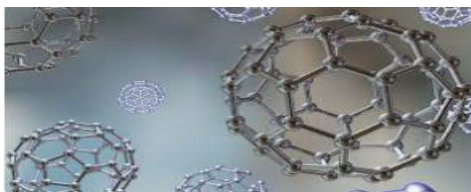
State Symbols:
Solid (s)
Liquid (l)
Gas (g)
Aqueous (aq) – this is a **solution**

Nanoparticles (Triple only)
- Nanoscience refers to structures that are **1–100 nm in size**, of the order of a few hundred atoms. Coarse particles are often referred to as dust.

- Nanoparticles may have properties different from those for the same materials in bulk because of their **high surface area to volume ratio**. It may also mean that **smaller quantities are needed** to be effective than for materials with normal particle sizes.

- Nanoparticles have many applications in medicine, in electronics, in cosmetics and sun creams, as deodorants, and as catalysts. New applications for nanoparticulate materials are an important area of research.

States of Matter
- The three states of matter are solid, liquid and gas. Melting and freezing take place at the melting point, boiling and condensing take place at the boiling point.
- The three states of matter can be represented by a simple model. In this model, particles are represented by **small solid spheres.**
- **Particle theory** can help to explain melting, boiling, freezing and condensing.
- The amount of energy needed to change state from solid to liquid and from liquid to gas depends on the strength of the forces between the particles of the substance. The nature of the particles involved depends on the type of bonding and the structure of the substance.
- The stronger the forces between the particles the higher the melting point and boiling point of the substance.
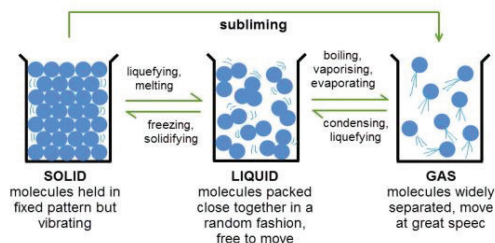
Limitations of the Particle Model (HT only)
- Limitations of the simple model above include that in the model there are no forces, that all particles are represented as spheres and that the spheres are solid.
- We know atoms are not all spheres and are mostly empty space.

Ionic Bonding – TRANSFERRING Electrons
- When a **metal** atom reacts with a **non-metal** atom electrons in the outer shell of the metal atom are **transferred.**
- *Metal atoms lose electrons to become positively charged ions.*
- *Non-metal atoms gain electrons to become negatively charged ions.*
- The ions produced by metals in Groups 1 and 2 and by non-metals in Groups 6 and 7 have the electronic structure of a noble gas (Group 0).
- The electron transfer during the formation of an ionic compound can be represented by a dot and cross diagram.

Covalent Bonding – SHARING Electrons

- When atoms **share** pairs of electrons, they form covalent bonds.
- These bonds between atoms are strong.
- The covalent bonds in molecules and giant structures can be represented in the following forms:
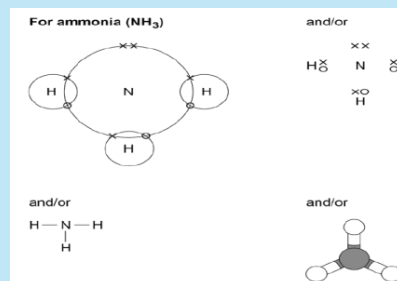
Science | Structure and Bonding
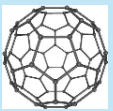
St marks

All learners

Core focus

State Symbols:
Solid (s)
Liquid (l)
Gas (g)
Aqueous (aq) – this is a **solution**
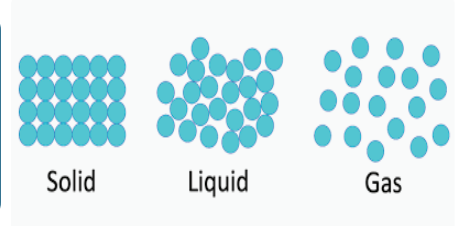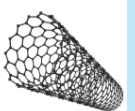
Solid   Liquid   Gas

Fullerenes
- Fullerenes are molecules of carbon atoms with hollow shapes. The structure of fullerenes is based on hexagonal rings of carbon atoms but they may also contain rings with five or seven carbon atoms.
- The first fullerene to be discovered was Buckminsterfullerene (C60) which has a spherical shape.
- Carbon nanotubes are cylindrical fullerenes with very high length to diameter ratios. Their properties make them useful for nanotechnology, electronics and materials.
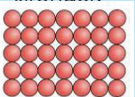
Bucky ball
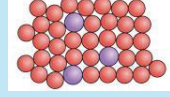
Carbon nanotube

Alloys
- Alloys are mixtures of 2 or more elements, one of which his a metal. *Examples are brass and steel.*
- Metals are alloyed so that the regular structure of metals is changed and **the layers of ions can no longer slide** over one another; therefore making it much stronger.
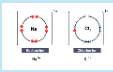
pure metal
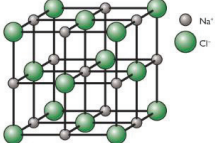
alloy

Ionic Bonding
Metal + Non-Metal
Strong electrostatic attraction between ions in all directions.
Formed by the TRANSFER of electrons

Dot and cross Diagram:

STRUCTURE
Giant Ionic Lattice
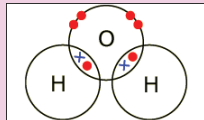
Giant lattice of opposite charged ions
Examples: sodium chloride

PROPERTIES
Conductivity
Conducts as LIQUID and in SOLUTION (ions are mobile)
Does not conduct as SOLID (ions are fixed)
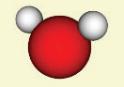
High Melting Point
Strong electrostatic forces between ions require high energy (heat) to separate.

Covalent Bonding
Non-Metals only
Strong bonds between atoms
Formed by the SHARING of electrons

Dot and cross diagram:

STRUCTURE
Small Molecule
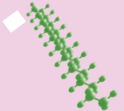
Strong bonds hold the molecule together BUT weak intermolecular forces.

Examples: Water, Ammonia

PROPERTIES
Conductivity
Does not conduct because there are no ions or delocalised electrons.

Low Melting Point
Weak intermolecular forces between molecules require little energy (heat) to separate)

STRUCTURE
Large Molecule
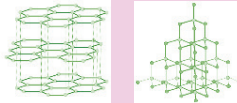
Strong bonds hold the molecule together BUT strong intermolecular forces.
Examples: Polymers (plastics)

PROPERTIES
Conductivity
Does not conduct because there are no ions or delocalised electrons.

High Melting Point
Strong intermolecular forces between molecules require more energy (heat) to separate

STRUCTURE
Giant Structures
Graphite
Diamond
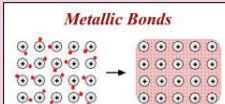
Strong bonds
Fullerene
hold the giant structures
Together.
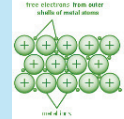
PROPERTIES
Conductivity
Does not conduct because there are no ions or delocalised electrons.
EXCEPTION: Graphite and FULLERENES conduct.

High Melting Point
Strong covalent bonds in between atoms require more energy (heat) to separate

Metallic Bonding
Metals only
Strong electrostatic attraction between positive ions in a 'sea' of delocalised electrons

Metallic Bonds

STRUCTURE
Giant Metallic Lattice

Strong electrostatic attractions between ions in a sea of delocalised electrons
STRONG BONDS.

PROPERTIES
Conductivity
Conducts in LIQUID and SOLID because it has DELOCALISED ELECTRONS that can CARRY CHARGE.

Malleable/Ductile
Metals are arranged in LAYERS that can SLIDE.
High Melting Point
Strong metallic bonds require high energy (heat) to separate.

Key term	Definition	In a sentence
Alloy	Mixture of metals that are physically combined.	**Alloys** are stronger than pure metals.
Corrosion	Corrosion is the destruction of materials by chemical substances in their environment.	Water and air are examples of chemicals that causes **corrosion** in metals.
Composite material	A mixture of materials put together for a specific purpose e.g. strength	Soda lime glass and concrete are examples of **composite materials.**
Ceramic material	Made from clay.	Pottery and bricks are examples of **ceramic material**.
Polymer	a large molecule made up of many repeating units called monomers	Low density and high-density **polymers** are formed under different conditions.

Science |Structure and bonding| Topic Dictionary

Delocalised	Free moving electrons	**Delocalised** electrons carry the charge in graphite.
Electrostatic forces	The force of attraction between opposite charged particles.	**Electrostatic force** holds the Na$^+$ and Cl$^-$ ions in sodium chloride.
Giant ionic lattice	An ionic compound held together by electrostatic forces between oppositely charged ions	Sodium chloride is a **giant ionic lattice** structure.
Intermolecular forces	The weak forces holding molecules together	**Intermolecular force** of attraction are found between small molecules.
Ionic bonding	Electrostatic attraction between negative and positive ions	**Ionic bonding** is a type of chemical bond.
Molecule	Covalent bonds joining atoms together to make a particle	Carbon dioxide and oxygen are examples of **molecules**.

Sмarks

Science | Electromagnetism
Big idea: Forces

Magnetic field lines

- Go from the north pole to the south pole
- The closer together the lines, the stronger the force
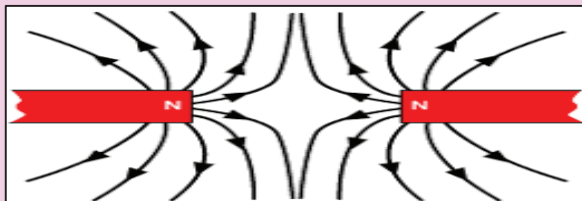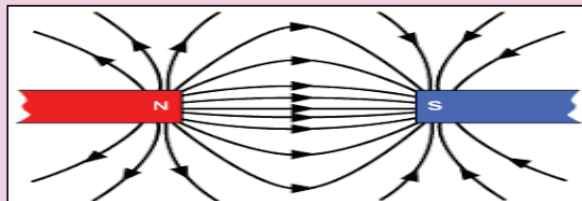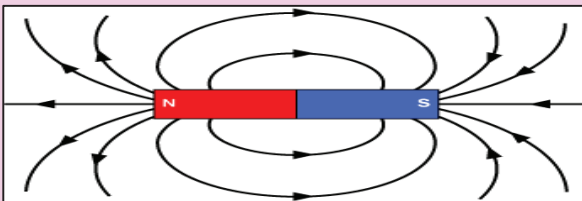
Electromagnets

An electric current produces a magnetic field. You can use the right hand rule to show the direction of the field.

Current — Thumb point along the direction of the current

Other fingers give the direction of the field
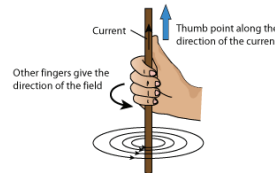
When arranged into coils this makes a 'solenoid'.

Coil carrying electric current
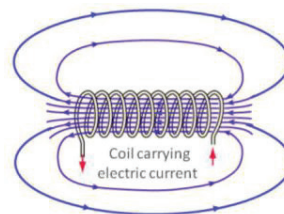
We can make the field stronger by adding a magnetic core, increasing the current, or increasing the number of coils.

The motor effect

A moving current in a magnetic field will generate a force due to the interaction of the two magnetic fields. The direction can be shown using Fleming's left hand rule.

Force F   Magnetic field B
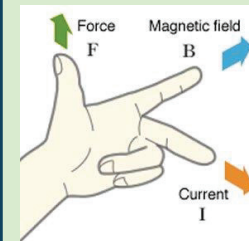
Current I

This effect can be used to create an electric motor
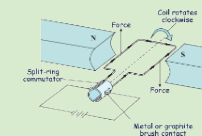
The generator effect

If you move a conductor (which is part of a complete circuit) through a magnetic field you will generate a current. This is how AC electricity is generated in power stations

current — maximum forward current — number of turns — $\frac{1}{2}$ turn — 1 turn — maximum reverse current — coil position

coil rotated — N — S — carbon brushes — slip ring
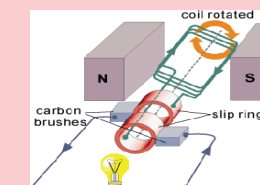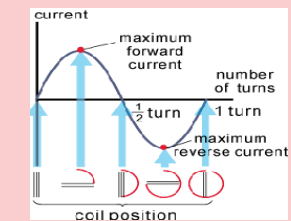
Transformer use an alternating magnetic field produced by the primary coil to generate a current in the secondary coil.

Primary windings — Secondary Windings — V_P — V_S — soft iron core
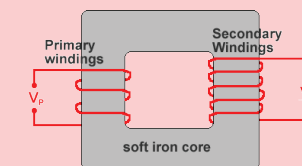
Science | P14 Light – TRIPLE ONLY
Big idea: Radiation transfers energy

Smarks

Core focus
All learners
HT only
Triple science only

The speed of light in a vacuum is 3.00×10^8 m/s

Colour

White light is a mixture of all the different colours of light. We an see this when we refract white light through a prism. Red light has the longest wavelength of visible light up to violet

Wavelength (nm)
400 450 500 550 600 650 700
Visible Spectrum
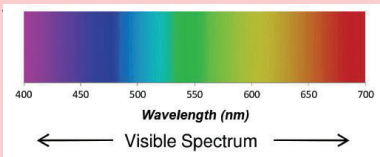
Filters and surfaces

Filters are materials which only let certain wavelengths of light through. A red filter will absorb all of the violet, blue, green, and yellow wavelengths of light. If you had a red filter followed by a blue filter, no light will get through. This is because the filter only lets through red light and the blue filter only lets through blue light.
Surfaces are similar to filters in that a yellow surface will absorb all of the other colours and only reflect yellow light. If you were to look at a yellow wall through a violet filter it would look black. This is because the wall is only reflecting yellow light which the filter will absorb.

Image in the mirror

The image formed in a mirror is upright, virtual and laterally inverted (back to front). This is because the light appears to come from behind the mirror.

Concave lens

The image formed by a concave lens is always diminished (smaller), the right way up, and virtual.

Concave lenses are often used in eyeglasses to treat near-sightedness.

Object   F   Image   F
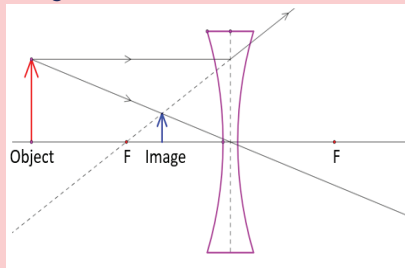
Convex lens diagrams

The image produce by a convex lens depends upon where the lens is in relation to the object. To produce a ray diagram you should draw a line from the top of the object horizontally until you hit then lens before going straight through the principle focus (F). Draw second line straight through the centre of the lens. Where the two lines cross is where the top of the image will be formed. The base of the image will be on the centre line
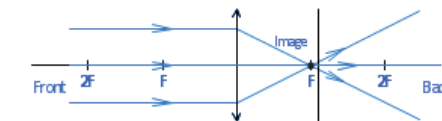
Object at infinity: point image at F

Applications: burning a hole with a magnifying glass

Object outside 2F: real, smaller image between F and 2F

Applications: lens of a camera, human eyeball lens, and objective lens of a refracting telescope

Object at 2F: real image at 2F same size as object

Applications: inverting lens of a field telescope

Object between F and 2F: magnified real image outside 2F

Applications: motion-picture or slide projector and objective lens in a compound microscope

Object at F: image at infinity

Applications: lenses used in light houses and searchlights
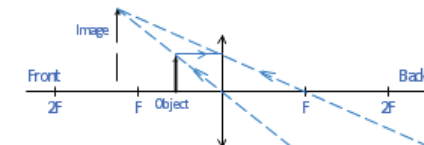
Object inside F: magnified virtual image on the same side of the lens as the object

Applications: magnifying with a magnifying glass, eye-piece lens of microscope, binoculars, and telescope

Science | P14 Light – TRIPLE ONLY
Big idea: energy

Core focus

All learners

HT only

Triple science only

Key Vocabulary

Incident ray	Light ray coming in
Specular reflection	Reflection from a smooth surface. Parallel incident rays will still be parallel after reflecting
Diffuse reflection	Reflection from a rough surface. Parallel incident rays will be reflected in all different directions, scattering the light.
Refraction	The change in direction of a wave when it travels across a boundary between two mediums
Real image	An image which can be seen on screen. Formed by focusing light rays onto a screen
Virtual image	A virtual image is formed at a place where light rays appear to have come from after being reflected of refracted.
Concave lens	A lens which is wider at the edge than at the centre
Convex lens	A lens which is wider at the centre than at the edge
Magnification	A magnification of greater than 1 means the image is larger than the object. If magnification is less than 1 then the image is smaller than the object
Opaque	No light is transmitted through the object

Law of Reflection

The law of reflection states that the angle of incidence is equal to the angle of reflection

Specular reflection

Specular reflection occurs on flat shiny surfaces, such as a mirror. As all of the light rays hit the mirror surface at the same angle, they are all reflected at the same angle.

Diffuse reflection

Diffuse reflection occurs when light hits a rough surface. As the surface is uneven each ray of light hits the surface with a different angle of incidence and so is reflected in a different direction. This is why you don't see a reflection of your face when you look at a wall, the light is scattered
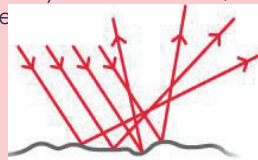
Refraction

Refraction occurs when light passes from one medium to another. If it goes from a less optically dense medium to a more optically dense medium it will turn towards the normal, as in the example below. If it goes from a more optically dense medium to a less optically dense medium it will turn away from the normal line.
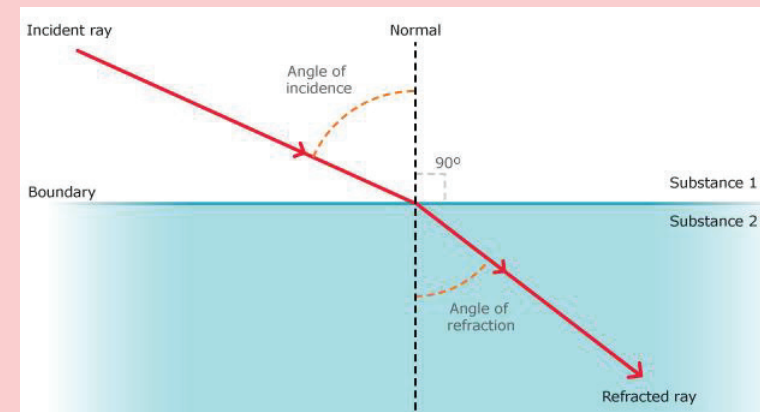
Refraction occurs due the wave changing speed as it goes from one medium to the other. In a more optically dense medium the light will travel slower than in a less optically dense medium. In this diagram the light enters at an angle so the bottom of the wave front slows down before the top of the wave front

Different wavelengths of light are refracted different amounts depending on their wavelength. The short the wavelength, the more the light slows down and so the more the light is refracted. As violet has the shortest wavelength of visible light it is refracted the most. Red light has the longest wavelength and is refracted the least. This phenomenon in what lets a prism split white light into a rainbow.

Science | P16 Space – triple only
Big idea: Radiation transfer energy

St marks

Core focus
All learners
HT only
Triple science only

Life cycle of a star
mass > 8 solar masses
- A large cloud of dust and gas collapses due to gravity.
- Fusion starts and a massive, hot, quick burning star is born.
- As the star runs out of hydrogen it expands and cools, creating a red super giant.
- The red super giant will eventually collapse before exploding in a supernova. The largest explosions in the universe.
- The supernova will either leave behind a black hole or a super dense neutron star.

Mass< 8 solar masses
- A large cloud of dust and gas collapses due to gravity.
- Fusion starts and a (relatively) smaller, colder star is born.
- As the star runs out of hydrogen it expands and cools, turning into a red giant.
- Rather than going into a supernova the red giant 'puffs' off the outer layer of gas, called a planetary nebula.
- The core of the star remains as a white dwarf, this is small and cool but last an exceptionally long time (~14 billion years!)

Cloud of gas and dust (nebula)

Protostar

Stars about the same size as the Sun

Main sequence star

Stars much bigger than the Sun

Red giant | Red super giant

White dwarf | Supernova

Black dwarf | Neutron star | Black hole
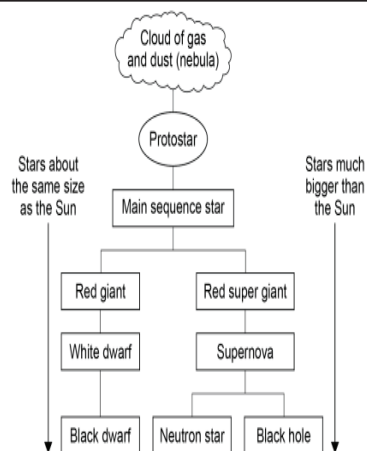
As the star is 'burning' the inward force due to gravity is balanced by the pressure of the superheated gasses.

Dark matter
We have evidence that some galaxies have a lot more mass than we can observed or explain. This mass has been given the term dark matter as it only appears to interact through gravity, meaning it gives of no radiation, visible or otherwise! Scientist do not yet fully understand dark matter.

Dark energy
Observations show that the universe is expanding at an accelerated rate despite gravity trying to pull all matter together. This means there must be some energy or repulsive force to overcome gravity. This has been termed Dark energy as we cannot observe it or directly detect it.

Doppler effect
An increase (or decrease) in the frequency of sound, light, or other waves as the source and observer move towards (or away from) each other. An example of this is when a formula 1 car goes past the observer, the sound of the engine changes.

static sound source   moving sound source
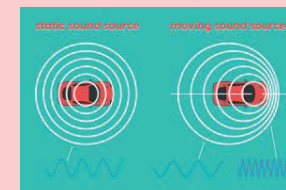
Red Shift
As stars and galaxies give off light we can measure how the wavelength of light they give off has changed depending on if they are moving towards us or away from us. If a galaxy is moving away from us then the wavelength of the light will be increased towards the red end of the spectrum (red shift), if it is moving towards us then the wavelength will decrease towards the blue end of the spectrum (blue shift). Most things we can observe in the universe are red shifted meaning that they are moving away from us, this is strong evidence for the big bang theory. We also observe that typically the further away an object is the quicker it is moving away provides evidence that the universe is expanding, which in turn is evidence for the big bang theory.

Science | Electromagnetism | Topic Dictionary

Key term	Definition	In a sentence
Electromagnet:	A solenoid with an iron core.	An **electromagnet** is a magnet that consists of a piece of iron or steel surrounded by a coil.
Magnetic Field Lines:.	Lines representing the strength and direction of a magnetic field. The field line direction at any point is in the direction that a force would act on another north pole if placed at that point	Magnets create **magnetic field lines** that cannot be seen
Magnetic Compass:	A device containing a small bar magnet that points in the direction of the Earth's magnetic field.	The **magnetic compass** — used in navigation for hundreds of years — is a tool that helps you find your way.
Magnetic Field:.	The region around a magnet in which another magnet or magnetic material will experience a force	When the solar wind slams into the Earth, the **magnetic field** wrapped around the planet usually shields us
Magnetic Poles:	The regions of a magnet where the magnetic forces are at their strongest.	Each row had magnet pole faces pointing in the same direction, and the rows alternated in **magnetic pole** orientation.
Solenoid:	A wire wrapped into the shape of a coil, that has a strong and uniform magnetic field inside of it. The solenoid's magnetic field strength can be increased by adding an iron core.	An electric **solenoid** was used to provide rapid thrust at the foot.
North seeking pole	A compass needle is a bar magnet and points north.	The end of the compass which points towards the north is called the **north-seeking pole** or simply the north pole
South seeking pole	Like pole (N-N) repel, unlike pole (N-S) attract.	The end of the compass which points towards the south is called the **south-seeking pole** or simply the south pole.
Transformers	Step up transformers increase voltage and decrease current to increase efficiency by reducing the amount of heat lost • Step down transformers decrease voltage and increase current to make it safer for domestic use	By using **transformers**, the voltage of the power can be stepped up to a high voltage
Generator Effect:	When there is relative motion between an electrical conductor and a magnetic field, a potential difference will be induced across the ends of the conductor. A current will flow if this conductor is part of a complete circuit	If the conductor is part of an electric circuit, an induced current will flow and is often referred to as the **generator effect.**
Electric Motor:	A current-carrying coil of wire in a magnetic field. The two sides of the coil that are perpendicular to the magnetic field experience forces in opposite directions, causing rotation	**Electric motors** eased the burden of humans by transforming electricity into motion.
Alternator:	A device that makes use of the generator effect to generate alternating current.	An **alternator** is the part of a car's engine that powers everything that uses electricity.

Science | Space Physics Topic Dictionary

Key term	Definition	In a sentence
Artificial Satellites	: Man-made satellites that have been sent into space for purposes such as satellite imaging and communications.	Sputnik was the first **artificial satellite** launched into the space.
*Big Bang Theory:	The currently accepted model for the origin of the universe. It suggests that the universe has expanded from an initially very small, hot and dense point.	Certain problems that arise due to the standard **big bang theory** are addressed, and new answers are given using inflationary cosmology.
*Dark Energy:	A hypothesised form of energy, believed to be responsible for the universe's ever-increasing rate of expansion.	In the present day, **dark energy** makes up 68% of the matter and energy of the universe.
*Dark Mass:	A hypothesised type of mass that cannot be observed by current methods. It is used to explain why some galaxies rotate faster than they should for their observed mass.	In astronomy, **dark mass** is a hypothetical form of matter that does not interact with light or other electromagnetic radiation
Main Sequence Star:	The stable state of all stars. The gravitational forces pulling the star together, and the pressure pushing outwards, are balanced.	A sufficiently dense, and hot, core region will trigger nuclear fusion, thus creating a **main-sequence star.**
*Star Life Cycle.	: The stages that a star passes through in its lifetime, dependent on the size of the star relative to the sun	The **lifecycle of a star** starts when it is a nebula up till a black dwarf.
*Supernova:	The explosion of a massive star, that distributes the elements created by the fusion reactions in the star, throughout the universe.	When the **supernova** explodes, all the elements produced are thrown out into the Universe.
White Dwarf:	When the fusion reactions in stars of a similar magnitude to the sun come to an end, the star will contract under gravity and cool down to form a white dwarf.	Three years ago, astronomers put a **white dwarf** on a scale and watched the needle move.
*Red-Shift:.	The observed increase in the wavelength of the light emitted by distant galaxies. The more distant the galaxy, the faster it is moving and so the bigger the observed increase in wavelength	Distant galaxies are **red-shifted**, showing that they are moving away from us
*Red Giant Star	When their hydrogen is used up and larger nuclei are produced by fusion, stars of a similar magnitude to the Sun will expand to form a red giant.	A **red giant** forms after a star has run out of hydrogen fuel for nuclear fusion and has begun the process of dying.

Separate Physics only (bracketing the rows from Big Bang Theory to White Dwarf)

Skills guide - graphs

Constructing graphs

Most data you meet in science is **continuous** and will require a line graph to represent.

The first step is to use a pencil And ruler to draw your **axes**.

The second step is to add a **scale** to your axes. You should go up in either 1s, 2s, or 5s (or 0.1s, 0.2s, 0.5s, or 10s, 20s, 50s Etc). What you choose will depend on the size of your **axis** and the data you have to fit onto the **axis**.
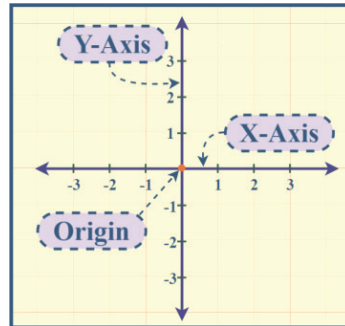
my independent data goes onto my x-axis and my dependant data goes on my y-axis.

I have 18 divisions/squares on my **x-axis**. I need to plot up to 4 minutes. if I divide 4 by 18 then each square should be worth 0.222.

We should round this down to 0.2 minutes per square.

following the same process for my **Y-axis**, 55/18 is 3.05. We should reduce this to 2 degrees per square.
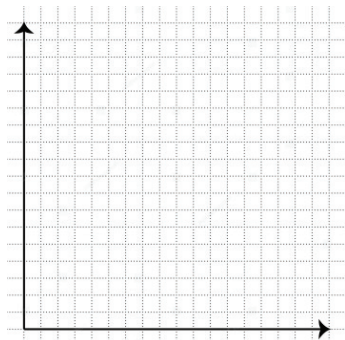
Time (minutes)	Temperature (°C)
0	0
1	21
2	32
3	43
4	55

Interpreting graphs

Directly proportional: if one value doubles, the other value will double, the two values have a constant **ratio**.

A **directly proportional** relationship will be a linear graph which passes through the **origin**.
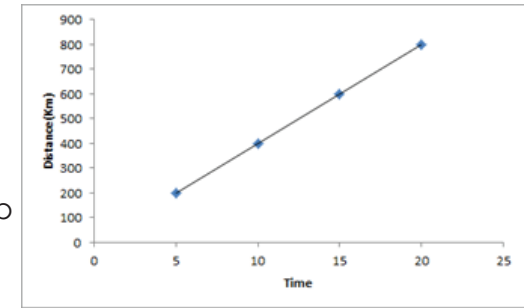
Describe the relationship between distance and time: distance is **directly proportional** to time.

Describing a trend: say what you see, in detail. Use any key data from the graph. Examples below.

The concentration of carbon dioxide remained constant at 300 ppm until 1930 when it began to increase at a faster and faster **rate**.
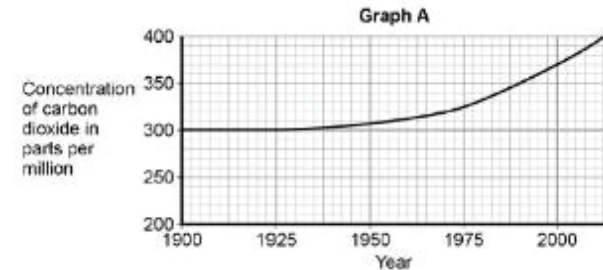
The rate of photosynthesis increased as light intensity increased the maximum rate of photosynthesis was 200 units which was reached at 230 units of light intensity. The rate of increase of the rate of photosynthesis was maximum at the beginning and decreased as it approached the maximum.
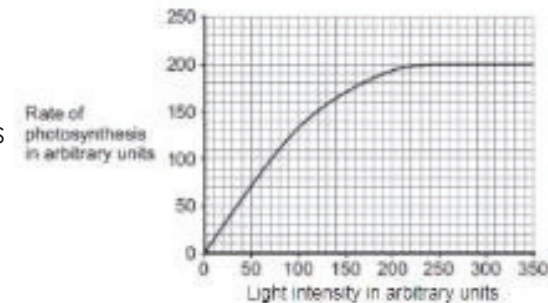
Skills guide - calculations

Single step calculation – GUESS

G: given – identify the information you are given in the question

U: unknown – what is the unknown that you have been asked to calculate?

E: Equation – given the information given and that you have been asked to find, recall an equation which links them all.

S: substitute – substitute your information into the equation

S: solve – rearrange your equation if necessary and then use your calculator to solve

Example layout

V= 4V
R= 12Ω
I = ?

$$V = IR$$

$$4 = I \times 12$$

$$I = \frac{4}{12}$$

$$I = 0.33A$$

Multistep calculations

In following the GUESS method, you may find that you do not have enough values to solve the equation. Typically, this means you need to do an additional calculation.

Example:

The power of the kettle was 2.6 kW

The kettle took 120 seconds to heat 0.80 kg of water from 18 °C to 100 °C

Calculate the specific heat capacity of water using this information.

P= 2.6kW = 2600W
t= 120 s
m= 0.8 kg
ΔΘ= 100-18 =82^{0}C
c=?

$$E = mc\Delta\theta$$
$$E = 0.8 \times c \times 82$$

As we can see, to calculate the specific heat capacity, we first need to know the energy supplied (E). We can follow the same process to calculate E and then use this to complete the above equation.

P= 2.6kW = 2600W
t= 120 s
m= 0.8 kg
ΔΘ= 100-18 =82^{0}C
c=?

$$P = \frac{E}{t}$$

$$2600 = \frac{E}{120}$$

$$E = 2600 \times 120$$

$$E = 312000J$$

$$E = mc\Delta\theta$$

$$312000 = 0.8 \times c \times 82$$

$$c = \frac{312000}{0.8 \times 82}$$

$$c = 4760 \, ^J/_{kg \, °C}$$

Skills guide – writing a practical method exam question

Plan

We have been asked to write a method to find the **density** of an irregular object.

1. We should recall the equation for **density** and write it out.
2. What do we need to find to calculate **density**?
3. What equipment will we need to find those values?
4. How will we use that equipment?
5. We can use bullet points for full marks if you find it easier than paragraphs.

Mass is found using a **mass balance**

$$density = \frac{mass}{volume}$$

Volume is found using a **measuring cylinder**.

A student wanted to determine the density of the irregular shaped object shown in **Figure 1**

Figure 1

(a)   Plan an experiment that would allow the student to determine the density of the object.

Model answer

Mass

- Measure the mass of the object using a mass balance.

Volume

- Part fill a measuring cylinder with water and record the initial volume.
- Gently lower the object into the water.
- Record the new volume of the water.
- The volume of the object is the final volume – initial volume.

Density

- Use the equation density = mass/volume to calculate the density of the object.

GCSE Art | Natural Forms and Botanical Art |Topic Dictionary

Image	Word	Definition	In a sentence...
	botanical art	A representation of a plant or fungi or lichen, which is scientifically and botanically correct but not necessarily 'complete' as a scientific recording.	**Botanical** artists at Kew Gardens work faithfully with the scientists to draw a true likeness of plants and flowers, connecting science and art.
	complementary colours	Colours that sit across from each other on the colour wheel. These are often referred to as **opposite colours** and even **contrasting colours**. The three different names all mean the same thing. When complementary colours are placed next to each other, a very strong contrast is created. The colours appear more vivid and brighter.	The **complementary colours** used in Van Gogh's botanical art are vivid and contrasting. He uses colour schemes of blues and oranges.
	composition	Composition is the sum of how you place all the parts within an image: the use of the edges of the frame, use of shapes within the frame, the prominence of any foreground or background details, the position of the subject within the frame, even the shape of the frame itself.	Fitch draws our eye to the central feature of a large oversized flower, framed by cropped elements of pond life, in a **composition** that is balanced with symmetry.
	form	In relation to art the term form has two meanings: it can refer to the overall form taken by the work – its physical nature; or within a work of art it can refer to the element of shape among the various elements that make up a work.	In my botanical tonal drawing, I have shown a range of tone from dark to light tones to create a 3D **form** in a 2D drawing.
	mood	The atmosphere in a painting, or the feeling expressed. Is the art tranquil, or is it dark and disturbing? Tone refers to the lightness or darkness of colours used, which can help to create a sense of depth or distance in art. Artists use light and dark colours to convey a mood or an emotion.	The tranquil setting that Fitch's white flower occupies creates a peaceful, calming **mood.**
	scale	the overall physical size of an artwork or objects in the artwork. We always relate scale to the size of the human body - how big or small the piece is in relation to us. An artist may decide to use a scale which is different from life-sized and this will have an impact on how it feels.	The size and **scale** of the central white flower draws your eye into the botanical illustration.
	tint	Where an artist adds a colour to white to create a lighter version of the colour. An example of a tint is pink. Pink is a tint created by adding white to red**.**	In Fitches botanical illustration he uses pink **tints** in the background flowers that have sculptural forms.
	white	A colour associated with purity, innocence, and simplicity in art. It can evoke feelings of cleanliness, brightness, and calmness, and is used to create space and balance or to enhance other colours' brightness.	Fitch's **white** flower reflects tone and colour back into it**.**

AO1: RESEARCH (ARITSTS & IMAGE)

WHAT?

- Research
- Inspiration & ideas
- Mood boards
- Mind - map
- Artist analysis
- Personal response
- Annotation

WHY?

Develop **Ideas** through **investigations**, demonstrating critical **understanding** of sources.

GLITCH ART

HOW?

- Create a **mood board**
- Find **relevant** images of artist's work.
- Comment on what you see.
- **Respond** to the work by creating a **copy & personal response**.
- Show how this has **developed** your **ideas.**
- You must write critically about the research and ideas you are developing.

AO2: EXPERIMENTS WITH MEDIA (Refine)

WHAT?
Refine work by exploring **ideas,** selecting and **experimenting** with appropriate **media, materials, techniques** and **processes.**

HOW?
- Use a range of media
- Thoughtful & meaningful
- Select appropriate resources, materials, techniques.
- Evaluating the process
- Discussing your work
- Show skill

WHY?
To demonstrate and show your **ideas, materials and technical skills**

AO3: RECORDING OBSERVATIONS (Evidence)

WHAT?
Record ideas, observations and **insights** relevant to intentions as work progresses.

HOW?
- Record & Organise information (Layout)
- Primary Observation (first-hand) i.e drawing or photography
- Presenting
- Documenting

WHY?
To **evidence ideas** drawn and explained through **written reflective annotation**.
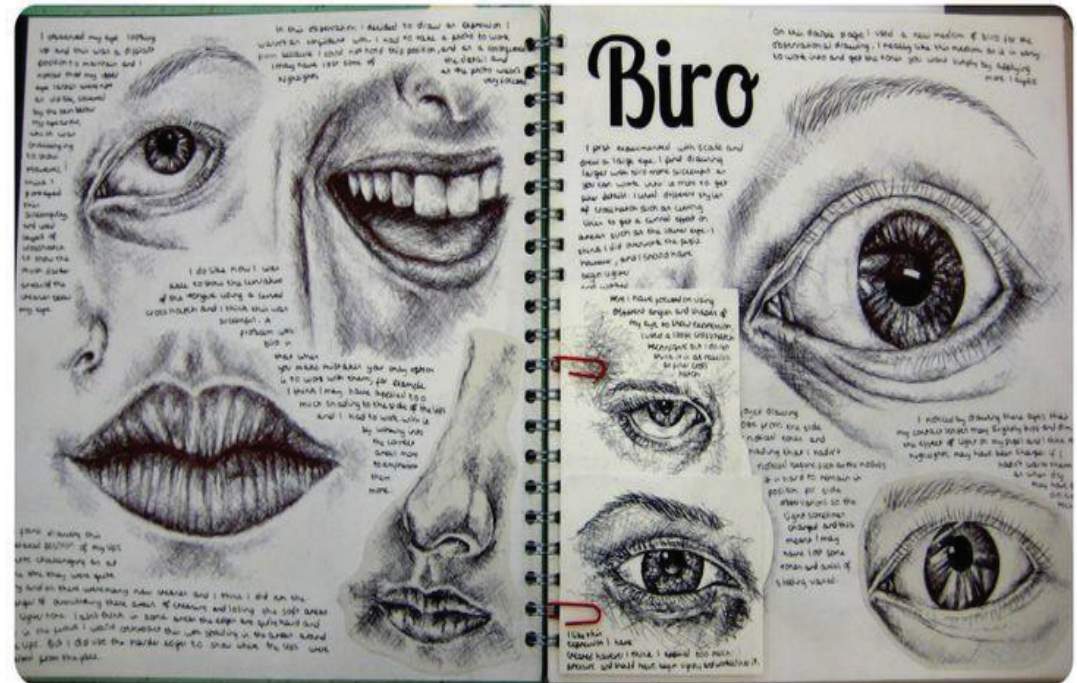
AO4: FINAL OUTCOME

WHAT? Present a **personal** and **meaningful response** that **realises intentions** and demonstrates **understanding of visual language.**

WHY? Create a personal response that is **refined for showcasing**.

HOW?
Realise intentions.
High marks go to final pieces that make the most of all that has been learnt in the preparatory work.
This can also be explained in the Evaluation.

Make Connections (Links with Artists)
You must make a **clear connection between your work** and the work of **artist/s studied**

AO3: RECORDING OBSERVATIONS (Evidence)

AO2: EXPERIMENTS WITH MEDIA (Refine)

Mood Board:

Investigate the theme: *Natural Forms.*

Media experimentation and recording skills with idea development in response to the theme.

AO3: RECORDING OBSERVATIONS (Evidence) AO2: EXPERIMENTS WITH MEDIA (Refine)

Line drawings in fine liner and felt tip - from observation
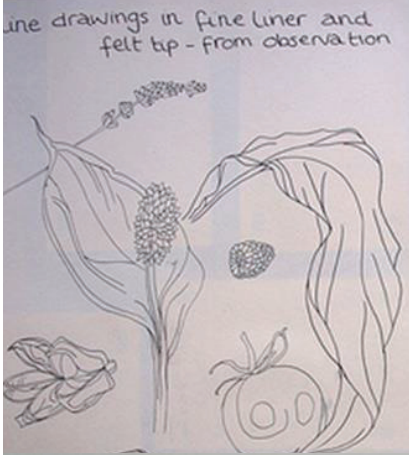
Delicate line
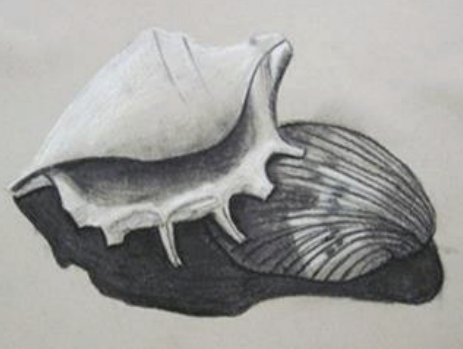
Shape and form with controlled tonal range in charcoal

Shape/form, proportion and tonal range in lead pencil

Accurate recording of mark-making.

LINE

TONE

TEXTURE

SHAPE

FORM
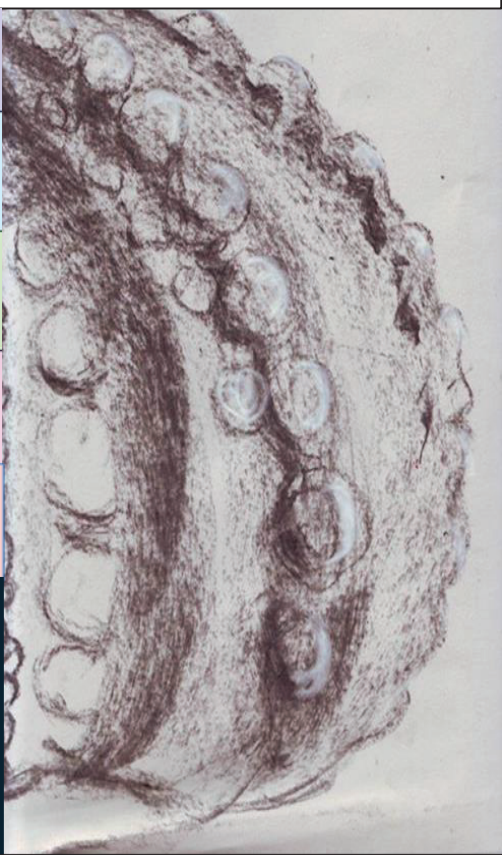
Direct observational studies in different media from primary and secondary sources

AO2: EXPERIMENTS WITH MEDIA (Refine)

Wax resist

Mono-print

Oil pastels/chalk pastels
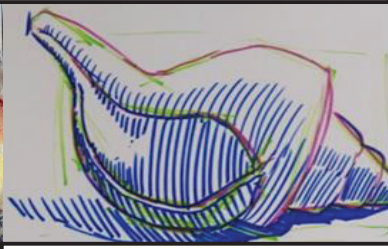
Felt tip pen

Colour pastel chalk
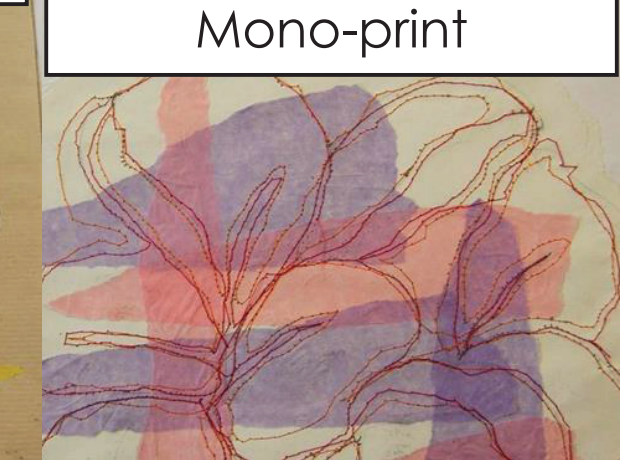
Machine stitch, pen/wash
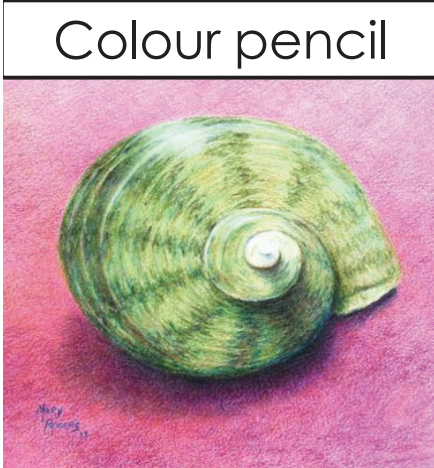
Colour pencil
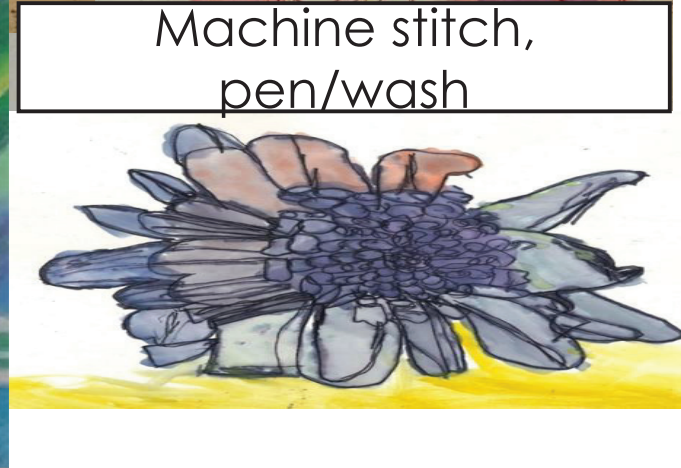
Annotating your Sketchbook

What?	**WHAT IS IT? Explain the piece of work you are annotating** Examples: • This is a first hand drawing that I made of… • This is a series of photographs I took of…
Why?	**WHY DID YOU MAKE IT? Explain how this piece helps you in your project.** Examples: • To get ideas about,,,, to show what I have learned about… • To explore the ideas of… • To analyse the style of… • To try out the technique of… • To develop my skills…
How?	**HOW DID YOU MAKE IT? Explain how you created the piece of work** Examples: • I drew it using… • I painted it with… • I constructed it form…
Quantity?	**HOW GOOD IS IT? What are you pleased with? What could you improve?** Examples: • I am pleased with the way I… • One good element of this work is… • The best feature of this work is… • I wish that I had… • One area that I could improve is…
Learning?	**WHAT DID YOU LEARN? What have you found out? What are your next steps?** Examples: • I improved my skills in… • I got better at working in the style of… • I feel more confident about…

Next Steps…..

Analysis of Artwork *writing frame*

- **Who is the artist?** *This artwork is by the artist…*
  What style/genre does the artist work in and what movement?
- **What is the title of the work?** *This is titled '* ------------------------ *'*
  Does the title give you any clues as to what the piece is about?
- **What media was used?** *This is an oil painting/acrylic painting/watercolour/print/photograph/pencil drawing/ Sculpture*
- **How has the artist used the media?**
- **How has the artist used tone / colour in the artwork/ shape/form?**
- **What mood or effect do the tones /colour/ structure of the shape/form create?**
- **Describe the colours that have been used. (warm/cool/complementary? Contrasting/ bold/flat/ solid/opaque/bright/lurid/soft/ transparent/?**
- **Does it have a realistic or unrealistic look /quality? Why?**
- **Describe the composition and viewpoints of the work.**
  What is in the foreground and background? How is the piece made up its arrangement, what is the focus?
- **What was your first reaction / thoughts about the work?** *I chose this artists work because when I first saw it I really liked the use of….*
- **Is there a message behind the artwork? What do you think it is?**
- **How could you use this art to develop your own ideas.**
  I intend to create a…collage/ painting/drawing/print of… in the same style by…..
- **The materials? Methods? Ideas? Colours?**

Key words
foreground
background
perspective
viewpoint
atmosphere
bright
shadow
close-up
form
line
texture
soft
reflections
symmetrical
tone
pattern
shape
sculpture
assembled
vivid
unusual
absurd
mundane
quirky
fun
mark-making

Skills Guide: Personal Annotation

Think about:
line, tone, form, texture, shape, colour, pattern, composition, subject matter and your theme

Key Questions	Sentence Starters
What: have I done? Introduce your work **What: materials/medium have I used?** Paint, pencil, oil pastels, collage, mixed media… **Is it your own work or a copy of someone else's?**	In this piece I have…. This is a first-hand observation of……using……. I drew a ……. and recorded the light, medium and dark tones using a pencil. I have used the following materials……… This piece contains the following characteristics…… The artist:………… has influenced my design in their use of…….. I was inspired by ……………. When creating this piece of work. Here I have shown………… In the style of………………
Why: have I done it? What have I learned? • Have you learned about a new artist? • What new skills/ techniques have you used? • Are you trying to improve using a material? • How does you work connect to your theme?	I have shown varied tone in the style of…….. The Artist……. has influenced the piece because……. I have worked in the style of……. I explored different tonal values of..……..by producing tones of dark to light.
How: have I done it? Try to describe how you have done your work step by step. **Include all KEY points** • How have you made it? • What materials/ medium have you used? • What steps did you create to do this? • What techniques have you used?	I drew it using… From first-hand observation of a ………………. I drew out………using different types of line, both thicker, bolder lines to make the…….. The materials I have used for this piece are…. The process I undertook was to…. I used ……… technique Through working in this way, I have learnt how to…………
Quality: How good is it? • What are you pleased with? • What could you improve?	I am pleased with the way I…… One good element of this work is…… The best feature of this work is….. I wish that I had…..one area that I could improve is……. This piece could have been improved by including…………… To improve this piece, I could have………… I could have made greater use of……………… In this piece I have used too much/ not enough ………..
Learning: What did you learn? • What have you found out? • What are your next steps?	I improved my skills in…. I got better at working in the style of………. I feel more confident about…………..

What are the Principles and Values that Underpin British Society?

Topic 1

Module: Life in Modern Britain

What does it mean to be British?

Key learning points

- The five **Fundamental British Values (FBVs)** are **democracy**, **individual liberty**, **tolerance**, **mutual respect** and the **rule of law**. The idea is that **to be British**, you don't need to be **from somewhere** or **a certain race or religion** - you need to **live by the British values**.

- There are also **other values** that support democracy, such as **respect**, **kindness** and **freedom of speech**.

- Most people, when asked, say to be **British** a person should **speak English**, **have British citizenship** and **respect British laws and organisations** like the **NHS** and the **Army**.

- However, truly defining what it means to be **British** is **extremely difficult** because **people disagree over it**.

- Legally, it means **being a citizen**.

- But practically, **non-citizens living here** have **lots of rights** like the **right to work**, the **right to healthcare**, the **right to education** and the **right to become a citizen**.

value

What rights and responsibilities do British people have?

Key learning points

- The **key rights** that come with being **British** are things like **freedom of speech**, the **right to life** (to have food, water and shelter), the **right to education**, the **right to healthcare**, the **right to vote** and the **right to marry**.

- But there are also **responsibilities** that come with being a **citizen** of any country. In **Britain**, the **four main responsibilities** are **paying taxes**, **doing jury service**, **following the law** and **voting in elections**.

- The **government** also believes that **citizens** have a **responsibility** to know about the **country's history and culture**. That's why **becoming a citizen** involves **passing a test about it**.

- This often means that **people who weren't born citizens** know more about **British history and culture** than **people who were!**

responsibility

What are the principles and values that underpin British society?

Key learning points

- The **government**'s idea of the **ideal British person** is actually about a **lot more** than just **following values** and **following responsibilities**.

- The **ideal British person** considers **being British** as a **key part of their identity**, the **things that make them who they are**.

- As a result of this, they **respect others**, **take part** in **democracy** (beyond just voting), **respect tradition**, **have a job**, **have a good education** and **support the country** in things like **wars**, **international politics** and **sporting events**.

- The main point is that **being British** is about **what you are** (kind, respectful, driven by values) rather than **who you are**. Your **ethnicity**, **race**, **gender**, **sexuality**, **religion** and other **characteristics** don't matter. Many people would argue that **whether you're a citizen** doesn't really matter either! **Britishness** is a **state of mind** and a **way of life**, not something you can **point to** and **define**.

identity

What do we Mean by Identity?

Topic 2

Module: Life in Modern Britain

What's the United Kingdom?

Key learning points

- The **United Kingdom (UK)** is, confusingly, a **country** made up of **four countries** - **England**, **Wales**, **Scotland** and **Northern Ireland** (not to be confused with Ireland, which is its own country).

- A **country** is a **part of the world** with **defined borders around it**. Each **country** in the **UK** has its own **animal**, **flower** and **patron saint**.

- The **flag** of the **UK**, the **Union Jack**, is a **combination** of **English**, **Scottish** and **Irish** flags. **Wales** is not represented on it.

- The **crest** of the **UK** shows the **animals** of **England** and **Scotland**. Wales and **Northern Ireland** aren't there. **Wales** doesn't have a **flower** on the crest either, while the **other three** do, so it's **not represented at all**.

country

How is the UK's population changing?

Key learning points

- The **UK**'s population is **changing** in **several key ways**: it's getting **more diverse**, **less religious**, and **older**.

- The process of a **whole population** getting **older** is called **aging**.

- This is happening for **three main reasons**: **better healthcare** to treat diseases among the elderly, **no major wars** in a long time that have killed off younger men, and **people having children later in life** as the cost of living increases.

- Having an **aging population** is a **major issue** for a **country** for **two main reasons**: they **cost a lot** in **pensions** and **healthcare**, and they **don't bring in money** from **taxes** because they **don't have jobs**.

aging

What Impact has Immigration had on the UK?

Key learning points

- **Immigration** refers to the process of people **moving into** a **country**. **Emigration** refers to the process of people **moving out of** a **country**. Someone who **moves between countries** is a **migrant**. They have **emigrated** from the **country they leave** and **immigrated** into the **country they join**.

- The main reasons for **immigration** to the **UK** is that the person **has a job lined up here** or they are **joining someone they know here**.

- **Legal immigration** to the **UK** is **historically high**. So is **illegal immigration**, when people come here **without permission**.

- However, all kinds of **immigration** are **key to the UK's economy** because **many industries rely on immigrants**. It also impacts our **culture**, **religion**, **food** and **values**.

immigration

What do we mean by identity?

Key learning points

- **Diversity** refers to a thing containing many different **elements** or **parts**. The **UK population** has a lot of **diversity**.

- This is **good** because it **promotes equal rights**, **brings in talented people**, **encourages community** and **makes social change** over time.

- In a **diverse society**, people are in **groups** that **overlap with each other**. For example, you can be **British**, **Jamaican**, **Christian** and a **Spurs Supporter**.

- This is different to a **multicultural society**, where **different cultures are blended** into **one overall culture** that **people have to fit into**. This can involve **giving up** some of **who they were before arriving here**.

diversity

What is the Role of the Media and Free Press?

Topic 3

Module: Life in Modern Britain

What are the rights and responsibilities of the media?

Key learning points

- The **media** refers to **ways of communicating** with **lots of people at once**. It's normally divided into **old/traditional media** like **radio** and **newspapers**, and **new/modern media** like **streaming services** and **social media**.

- Key **rights** of the **media** include **asking questions**, **investigating**, **commenting on current affairs** and **seeking the truth**. A **key case study** for this is the **investigation** by ITV into Boris Johnson's party during lockdown.

- Key **responsibilities** of the **media** include **telling the truth**, being **open** and **honest**, being **bold**, not **invading people's privacy**, and being **free, or at least cheap**. A **key case study** for this is the **phone hacking** by the **News of the World** into **Millie Dowler**.

media

What is freedom of the press?

Key learning points

- **Freedom of the press** is the **idea** that the **media** should be able to **share ideas** and **information** without having to **worry** about **negative consequences**.

- It is one of the **most important** parts of a **democracy**. This is why we **do not find it** in many **dictatorships**.

- However, there are **legitimate reasons** a **government** might want to use **censorship**, where they **control what the media can say**.

- This might be **military censorship**, to keep the **details** of **weapons** and **technology secret** from a **country's enemies**.

- But in general, **censorship** is a **bad thing** because **governments** will **overuse it** to **keep secrets from the people**.

censorship

What is public interest?

Key learning points

- **Public interest** refers to **things the public should know**. This is **different** from **things the public wants to know**. There may be many things, like **gossip** and **private details**, that the **public want to know** but **shouldn't**.

- The **media** should **only publish** things that are **in the public interest**. This might sometimes **include private details** if they have been **hidden** or **kept secret** from **voters** who **make decisions** in **elections**.

- However, it can be **difficult** to decide **what public interest covers** and what it **doesn't**. For example, during the **pandemic**, the **government** had to make **difficult decisions** about **how much to tell the media**. They wanted the **public** to be **informed** about the **virus**, but didn't want to **spread fear**.

public interest

What is the role of the media and free press?

Key learning points

- In the **modern day**, there are **risks** from things like **fake news** and **disinformation**, which is **lies** spread **deliberately** through the **media** to **hide the truth** and **change minds**.

- This means a **good**, **honest** and **responsible media** is **more important** than **ever before**.

- The **role** of the **media** and **free press** is to **publish information** in the **public interest** without **invading** our **privacy**.

- To **make sure** they **do it right**, there is **IPSO**: the **Independent Press Standards Organisation**. They can **fine the media** and even **force apologies** and **retractions of stories**.

IPSO

What is the UK's role in key Global Organisations?

Topic 4

Module: Life in Modern Britain

What is the United Nations?

Key learning points

- The **United Nations** was founded in **1948**, after **World War Two**, to stop such a **serious conflict** from happening again.

- The **main part** is the **UNGA**, the **UN General Assembly** of **193 member countries**. They **write** and vote on **resolutions** that are sent up to the **UNSC**, the **UN Security Council** of **five permanent members** and **ten rotating temporary members**.

- The **UK** is a **permanent member** of the **UNSC**. Each **permanent member** has the power to **veto resolutions**.

veto

What is NATO?

Key learning points

- **NATO** is the **North Atlantic Treaty Organisation**, an **alliance** of **32 members**.

- To join, a **country** must **sign the NATO Treaty** and **get permission** from the **other member countries**.

- The **most important** part of the **NATO Treaty** is **Article 5**, which says **an attack on one country** is an **attack on all countries**.

- This means **NATO** is a **mutual defence alliance** where all **members** will **defend each other** from **outside threats**.

mutual

What is the Commonwealth?

Key learning points

- The **Commonwealth** is a **voluntary association** of **countries**, most of which were **once** in the **British Empire**.

- An **empire** is a **group of countries** that are all **controlled** by a **single country**, often through **invasion** and **military force**.

- The **members** of the **Commonwealth** are **united** by their **shared history**, **culture** and **values**.

- They **support each other** if there are **natural disasters**, and they **often trade with each other** too.

empire

What are the EU and the WTO?

Key learning points

- The **EU**, or **European Union**, is a **supranational organisation** of **countries** in **Europe**. The **UK** voted to **leave** in **2016** and **left** in **2020**.

- A **supranational organisation** is one whose **members** agree to **do what they are told**. If they **disagree** with its **instructions**, they can always **leave**. They are still **sovereign**.

- By contrast, the **WTO**, or **World Trade Organisation**, is an **organisation** whose **members** all **write** and **agree on rules** for **global trade**, to keep **trade fair** and **prices stable**.

supranational

How does the UK resolve international conflict?

Key learning points

- To **resolve** something means to **solve** it, or **come to an agreement** about it.

- The **UK** has **many ways** of doing this.

- The main ones are **the use of force** by sending in **armed forces**, **mediation** by **negotiating** with the other countries, **sanctions** by **damaging countries' economies** to **punish** them, **calling for help** by **asking our international allies** to come to our side, and to use **aid** to **win allies** who will **help us in the future**.

resolve

What is the UK's role in key global organisations?

Key learning points

- In the **modern world**, one of the main ways the **UK** can **affect global politics** is by using **foreign aid**.

- This is often **food**, **water** or **medicine** that **supports countries** and **wins allies** for **future conflicts**.

- But it can also be **military aid**, like in the **Russia-Ukraine War**, where the **UK** and **other countries** are **sending weapons of war** to **Ukraine** to help them **defend themselves**.

foreign aid

How can Citizens make themselves Heard?

Topic 5

Module: Life in Modern Britain

How do we participate in democracy?

Key learning points

- In a **free country** like the **UK**, there are **many ways** to **participate** in **democracy** beyond just **voting**. Many of them can be done by **young people** as well!

- The main ways are by **campaigning**, **lobbying**, being on a **jury**, being a **Special Constable**, or **becoming a politician**. Even just **reading the news** is a way to **participate!**

- **Participation** in **democracy** is **important** because it leads to a **mandate**, where the **results** of a **vote** give **clear evidence** about **what should happen** or **who should run the country**.

mandate

How do we hold politicians to account?

Key learning points

- **Accountability** is the idea that a **person** or **group** can suffer **negative consequences** for their **actions**. It is **extremely important** for **democracy**.

- The **main ways** we **hold politicians to account** are through **elections**, where we can **vote them out**, the **law**, where they can **go to prison**, and through the **media**, which can **investigate politicians** and **uncover bad behaviour**.

- One **good example** of this is the **2010** and **2015 General Elections**. In **2010**, the **Liberal Democrats** won **57 seats** on a **promise** not to **raise university fees**. They **broke this promise**, and in **2015** won only **8 seats**.

accountability

What are interest groups?

Key learning points

- **Interest groups** are groups **involved in politics** that have an **interest** in **supporting a cause** or **promoting an idea**.

- Famous examples include **Extinction Rebellion**, **Just Stop Oil**, **Fathers 4 Justice** and the **Confederation of British Industry**.

- They will often **lobby politicians** to **make changes** that they **believe in**. They also often **oppose each other** and **argue on different sides** of the **same issues**.

- Most **interest groups** allow **people to join**, sometimes for a **fee**. They do not **try to win elections**, but they **try to influence politics**.

interest groups

How do people use the media to make change?

Key learning points

- **Individuals** often use the **media** to **make change**, especially in the age of **social media** where it's **easier** to **get attention**.

- This can be by **campaigning**, or by **signing petitions** or **giving interviews to newspapers**.

- Many people **engage with politics online** and **share their opinions** to try and **persuade others**. However, this can produce an **echo chamber**, where the **only views people here** are **ones they already agree with**. This can **reinforce damaging ideas** and **lower the quality** of **political debate**.

echo chamber

How can citizens make themselves heard?

Key learning points

- Because the **UK** is a **democracy**, the ability of **citizens** to **make themselves heard** is **extremely important**.

- One of the more **visible** ways to **get attention** is through **protest**. For example, in **2003** there was the **biggest protest** in **British history**, when **one million people protested** against the **Iraq War**.

- Sometimes, **protest doesn't work** and people turn to **civil disobedience**, where they **deliberately break the law** in a way that **doesn't hurt anyone** but **causes disruption** and **gets attention**. Groups like **Just Stop Oil** use this method.

civil disobedience

Citizenship | Life in Modern Britain| Topic Dictionary

Image	Word	Definition	In a sentence . . .
	value	Something that is thought to be important by members of a community or country.	Honesty is a **value** that people don't appreciate enough in society these days.
	responsibility	Something that you have to do.	You can get ahead in your career by taking **responsibility** for more things and showing you're good at them.
	identity	What makes you who you are.	Your **identity** will grow and change as you get older and learn more about yourself.
	country	A part of the world with defined borders around it.	The government is the group of people responsible for running a **country**.
	aging	Getting older.	For a government, having an **aging** population can be a real problem.
	immigration	The process of people moving into a country.	There has been a lot of **immigration** to the UK throughout our history, which is why the country is so diverse.

Citizenship | Life in Modern Britain | Topic Dictionary

Image	Word	Definition	In a sentence . . .
	diversity	Something that contains many different elements or parts.	The Equality Act 2010 was designed to recognise and protect **diversity** in this country.
	media	Ways of communicating with many people at once.	Don't believe everything you read in the **media**, make sure you check your facts.
	censorship	When a government controls what the media can say.	Although it's often a bad thing, **censorship** isn't always necessarily bad - sometimes it protects our privacy.
	public interest	Things the public should know.	Most people agree that knowing what politicians are up to is in the **public interest**.
	IPSO	Independent Press Standards Organisation.	**IPSO** is responsible for regulating newspapers and magazines in the UK.
	veto	The ability to stop something from happening.	The Prime Minister has the power to **veto** any decisions made by Cabinet Ministers.

Citizenship | Life in Modern Britain| Topic Dictionary

Image	Word	Definition	In a sentence . . .
	mutual	An agreement that is beneficial for all the people involved.	The feeling of friendship between the USA and the UK is **mutual**, and has been for many years.
	empire	A group of countries all controlled by a single country.	Most countries in Europe had an **empire** at some point.
	supranational	An organisation of countries that can tell its members what to do if they join.	When a country joins a **supranational** organisation, it agrees to follow some rules or suffer negative consequences.
	resolve	To solve something, or end a disagreement.	The role of many different international organisations is to **resolve** conflict around the globe.
	foreign aid	Resources, for example food, water, medicine and money, that the UK sends to other countries.	UK citizens argue over exactly how much **foreign aid** should be given.
	mandate	When the results of a vote give clear evidence about what should happen or who should run the country.	The Conservative Party won a clear **mandate** in the 2019 General Election.

Citizenship | Life in Modern Britain| Topic Dictionary

Image	Word	Definition	In a sentence . . .
	accountability	When a person or group can suffer negative consequences for their actions.	It's very difficult to have a democracy without **accountability** for our leaders/
	interest groups	A political organisation of people who care about an issue.	For young people, **interest groups** are a way to participate even though you can't vote yet.
	echo chamber	When you only talk or interact with people who agree with you.	The risk of being in an **echo chamber** is that your views on things aren't challenged.
	civil disobedience	Actively breaking the law as a form of protest, in a way that won't hurt anyone.	Many famous activists throughout history used **civil disobedience** to make their point.

Skills Guide: Citizenship Exams

1 MARK QUESTIONS

All about **definitions** and **knowledge**. Sometimes open-ended with lines for **single sentence answers**. Sometimes **multiple choice** with **one correct answer**.

Command Words: Name, Define, Identify

Name requires you to simply provide an answer without any further explanation. E.g. *Name one feature of a democracy.*

Define requires a definition written in full, without an example needed. E.g. *Define what is meant by the rule of law.*

Identify requires you to give one answer from a possible list. E.g. *Identify one purpose of justice.*

GENERAL TIPS AND TRICKS

- You don't have to do the paper in **order**. If you come across a question you find tricky, **skip it** and move onto one you know you can do.
- Spelling and grammar **don't matter**, so long as the examiner can understand the point you're making. There are **no SPaG marks**.
- Citizenship is **positively marked**. You get marks for anything correct you say. The more you write, the more you can get. **Just have a go!**
- The **amount of marks** a question is worth and the **command word** in the question are your **biggest clues** for what you need to do.

2 MARK QUESTIONS

All about **examples** and **explanation**. Sometimes open-ended with lines for **two sentence answers**. Sometimes **multiple choice** with **two correct answers**.

Command Words: Name, Identify, Explain

Name requires you to simply provide two answers without any further explanation. E.g. *Name two groups in the UK responsible for enforcing the law.*

Identify requires you to give two answers from a possible list. E.g. *Identify two positive consequences of immigration on UK society.*

Explain requires you to define the term and provide an example. E.g. *Explain the term "plurality."*

4 MARK QUESTIONS

All about **comparison** and **contrast**. Often based on a **source** that must be **referenced**. Always require **two points**, each worth **two marks**. Answer **in detail**.

Command Words: Describe, Discuss

Describe requires you to name and explain two different things/features. E.g. *Describe two ways civil law differs from criminal law in the UK*. Each one needs to be named and then further developed, ideally with an example or a case study.

Discuss requires you to make two points and explain them, ideally with examples. E.g. *Discuss how victims of conflict could be protected*. You need to make two points, and for each one explain what it means and give an example.

REMEMBER, 4-mark questions are based on **sources**, but how you **use** the source depends on the **instructions**. Sometimes you **have to reference the source**, and sometimes you're **not allowed to use it**. There are **two ways it can go**, so **read the question carefully**:

With reference to Source G . . .
- Here you need to refer to information from the source, and make it clear you're doing it.

Discuss two ways, not mentioned in Source B . . .
- Here you won't get marks for mentioning the ways that Source B mentions.

8 MARK QUESTIONS

All about **evaluation**. Often contain **suggestions for what to write about**, but you **don't have to use them**. Always write **at least two paragraphs** and **include a conclusion**.

Command Words: Examine, To what extent

Examine requires you to weigh up the statement. Using evidence from your knowledge of Citizenship, write out arguments on either side of it. E.g. *The only purpose of sentencing criminals in the UK should be to send them to prison. Examine this statement*. You need to write at least one paragraph arguing the statement is true and at least one arguing the statement is not, using the format below, then a conclusion where you say whether it's true, all things considered.

To what extent requires you to agree, disagree or come down on both sides of a statement. E.g. *"The most effective way for a UK citizen to make a difference in society is to join a trade union. Considering a range of views, to what extent do you agree or disagree with this statement?"* You need to write at least one paragraph agreeing with the statement and one disagreeing, using the format below, then a conclusion where you personally agree or disagree.

REMEMBER, your paragraphs should follow the **PEEL** format. Make a **point**, e.g. *One way democratic values support democracy is that the value of free speech allows us all to be heard*. Then **explain** it, e.g. *This means we can express ourselves by criticising the government and trying to change other people's minds about who they vote for*. Then give an **example**, e.g. *For instance, in 2003 over a million people protested against the Iraq War at a march in Central London*. And finally, **link** back to the question, e.g. *This shows how the democratic value of free speech in particular supports democracy.*

If you can't think of an **example**, then **explain** further. Ask yourself - "so what?" - and keep going with your explanation.

PEEL: Point - Explain - Example - Link

French | Holidays | Topic Dictionary

Image	Key Word	Definition	In a Sentence
	un musée (m)	museum	Moi, j'adore visiter le musée de Louvre car c'est tres divertissant.
	un office de tourisme (m)	tourist office	On peut trouver des informations à l'office de tourisme
	au bord de la mer	By the seaside	Tous les étés, je vais en vacances au bord de la mer
	un forêt (m)	forest	Pendant les vacances, je fais une promenade en forêt
	une île (f)	island	L'année prochaine, je vais voyager aux îles grecques.
	un terrain de sport (m)	sports field	Dans mon collège, il y a un terrain de sport
	une campagne (f)	countryside	Je préfère plutôt les vacances à la campagne.
	un camping (m)	campsite	Les vacances en camping sont formidables
	un hôtel (m)	hotel	Mon hôtel est très moderne et aussi assez confortable.
	un village (m)	village	J'ai visité un village historique avec ma famille.
	les grandes vacances	summer holidays	Pendant les grandes vacances, on voyage aux Etats -Unis

French | Holidays | Sentence Builder 1

Add a tme marker and a verb		destination		Who with?	Reason		Add a Past tense		And a reason
Normalement (Normally) D'habitude (Usually) Tous les ans (Every year) En été (In summer)	je vais (I go) mon ami(e) va (he/she goes)	à Paris (to Paris) à Madrid à Rome à Lisbonne à New York	en France (in France) en Espagne (in Spain) en Italie (in Italy) au Portugal (in Portugal) aux Etats-Unis (in the USA)	avec mes / ses parents. (with my / his-her parents) avec mes / ses grands-parents. (with my / his-her grandparents) avec mes / ses amis. (with my / his-her friends) avec ma / sa famille. (with my / his-her family) avec mon / son école (with my / his-her school)	mais (but)	l'année dernière (last year)	je suis allée (I went) il est allé (he went) elle est allée (she went)	à Paris à Madrid à Rome à Lisbonne à New York	en France. en Espagne. en Italie. au Portugal. aux Etats-Unis.
En août (In August) Au printemps (In spring) En hiver (In winter) En automne (In autumn) Pendant les vacances scolaires (During the school holidays)	je voyage (I travel) il/elle voyage (he/she travels)	en train (by train) en bateau (by boat) en avion (by plane) en voiture (by car) en car (by coach) à vélo (on a bike)	parce que c'est… (because it is) (très / vraiment / assez / plutôt) (very / really / quite / rather) rapide (fast) bon marché (cheap) confortable (comfortable) génial (great) pratique (practical) un long trajet (it's a very long journey) moins cher que l'avion (it's less expensive than the plane) plus confortable que le car (it's more comfortable than the coach)			j'ai voyagé (I travelled) il/elle a voyagé (he/she travelled)	en train (by train) en bateau (by boat) en avion (by plane) en voiture (by car) en car (by coach) à vélo (on a bike)	parce que c'était… (because it was) (très / vraiment / assez / plutôt) (very / really / quite / rather) rapide (fast) bon marché (cheap) confortable (comfortable) génial (great) pratique (practical) un long trajet (it's a very long journey) moins cher que l'avion (it's less expensive than the plane) plus confortable que le car (it's more comfortable than the coach)
A Paris (In Paris) A Madrid A Rome A Lisbonne A New York	on peut (we can) on ne peut pas (we cannot)	• visiter le centre-ville (visit the town-centre) • faire de la natation / des achats / du ski nautique / de la voile / de la planche à voile / des promenades (go swimming / shopping / water skiing / sailing / windsurfing / for walks) • utiliser la piscine en plein air (use the outdoor swimming pool) • nager (swim) • se détendre (relax) • bronzer sur la plage (sunbathe) • lire le journal / un roman d'aventure (read the newspaper / an adventure novel) • y aller (go there)				on pouvait (we could) on ne pouvait pas (we couldn't)	• visiter le centre-ville (visit the town-centre) • faire de la natation / des achats / du ski nautique / de la voile / de la planche à voile / des promenades (go swimming / shopping / water skiing / sailing / windsurfing / for walks) • utiliser la piscine en plein air (use the outdoor swimming pool) • nager (swim) • se détendre (relax) • bronzer sur la plage (sunbathe) • lire le journal / un roman d'aventure (read the newspaper / an adventure novel	

French | Holiday activities and 3 tenses | Sentence Builder 2

PRESENT	**En vacances, quand** (On holiday, when)	**il fait chaud** (it is hot)) **il fait froid** (it is cold) **il fait beau / mauvais** (the weather is nice/bad) **il y a du soleil** (it is sunny) **il y a du vent** (it is windy) **il y a du brouillard** (it is foggy) **il y a des nuages** (there are clouds) **il y a de l'orage** (there are storms) **il pleut** (it rains) **il neige** (it snows)	**je nage dans la mer** (I swim in the sea) **je bronze (I sunbathe)** **je fais des randonnées (I go hiking)** **je fais du kayak (I go kayaking)** **je fais du camping (I go camping)** **je fais les magasins (I go shopping)** **je fais du lèche-vitrine (I go window shopping)** **je fais de la planche à voile (I go windsurfing)** **je fais une excursion en car (I go on a coach trip)** **je visite de nombreux monuments historiques (I visit lots of historic monuments)** **je prends beaucoup de photos (I take lots of pictures)**	**tous les jours. (every day)** **chaque jour. (every day)** **tous les matins. (every morning)** **tous les après-midis. (every afternoon)** **tous les soirs. (every evening)** **dès que je peux. (whenever I can)** **de temps en temps. (from time to time)** **une fois par semaine. (once a week)** **deux fois par jour. (twice a day)**
PAST	**L'année prochaine, s'** (Next year, if)		**je nagerai dans la mer** (I will swim in the sea) **je bronzerai** (I will sunbathe) **je ferai des randonnées** (I will go hiking) **je ferai du kayak** (I will go kayaking) **je ferai du camping** (I will go camping) **je ferai les magasins** (I will go shopping) **je ferai du lèche-vitrine** (I will go window shopping) **je ferai de la planche à voile** (I will go windsurfing) **je ferai une excursion en car** (I will go on a coach trip) **je visiterai de nombreux monuments historiques** (I will visit lots of historic monuments) **je prendrai beaucoup de photos** (I will take lots of pictures)	

FUTURE	**L'année dernière, pendant les vacances, comme** (Last year, during the holiday, as)	**il faisait chaud** (it was hot) **il faisait froid** (it was cold) **il faisait beau / mauvais** (the weather was nice/bad) **il y avait du soleil** (it was sunny) **il y avait du vent** (it was windy) **il y avait du brouillard** (it was foggy) **il y avait des nuages** (there were clouds) **il y avait de l'orage** (there were storms) **il pleuvait** (it rained) **il neigeait** (it snowed)	**tous les jours,** (every day) **tous les matins,** (every morning) **tous les après-midis,** (every afternoon) **tous les soirs,** (every evening) **de temps en temps,** (from time to time)	**j'ai** (I)	**nagé dans la mer.** (swam in the sea) **bronzé.** (sunbathed) **fait des randonnées.** (went hiking) **fait du kayak.** (went kayaking) **fait du camping.** (went camping) **fait les magasins.** (went shopping) **fait du lèche-vitrine.** (went window shopping) **fait de la planche à voile.** (went windsurfing) **fait une excursion en car.** (went on a coach trip) **visité de nombreux monuments historiques.** (visited lots of historic monuments) **pris beaucoup de photos.** (took lots of pictures)

French | Photo Card | Skills Guide

Success Criteria:

- ☐ Have you **described what you can see** in the photo?
- ☐ Have you **used PALM** to add a **range of details?**
- ☐ Have you linked your ideas with straightforward **connectives?**
- ☐ Have you **given your opinion** about the activity?
- ☐ Have you given **a variety of reasons?**
- ☐ Use the **Present tense** to say what people are doing

Step 1: Describe what you can see in the photo

Sur la photo il y a... (in the photo there is…)
Sur la photo je peux voir... (in the photo I can see...)

☐ Who?   **P**eople

- une femme/une fille (a woman/girl)
- un homme/un garçon (a man/boy)
- une famille/un groupe (a family / group)
- des étudiants (some students)

☐ What are they doing?   **A**ction

- **Ils sont en train de marcher** (they are walking
- **Ils sont en train de parler** (they are talking)

☐ Where?   **L**ocation

Ils sont... (They are..)

- **en ville** (in the city)
- **à la plage** (at the beach)
- **à la montaigne** (in the mountains)
- **au restaurant** (in a restaurant)
- **au parc** (at the park)
- **chez eux** (at home)

☐ What is the mood?   **M**ood

- **Ils sont contents** (they are happy)
- **Il fait beau** (it is good weather)
- **Il fait mauvais** (it is bad weather)

Décris la photo et exprime ton opinion sur sortir avec tes amis.

Model answer

Description: Sur la photo il y a un groupe d'amis. Je peux voir qu'ils sont en train de parler et je pense qu'ils sont à la plage. Finalement, ils sont contents. Je dirais qu'ils sont en vacances.

Opinion: A mon avis, j'adore aller en vacances avec mes amis parce que c'est divertissant et ça me plaît, mais quelquefois c'est un peu fatigant.

Step 2: Give an opinion about the activity

☐ Start with an opinion phrase

- **À mon avis** (In my opinion)
- **Je pense que / Je crois que** (I think that)
- **Selon moi** (according to me)

☐ Give a positive opinion

- **c'est amusant / divertissant** (it is fun / entertaining)
- **c'est relaxant / palpitant** (it is relaxing / exciting)
- **ça me plaît / me fait rire** (it makes me happy / laugh)

☐ Link with a connective(s)

- **aussi / et** (also / and)
- **cependant / mais** (however / but)

☐ Give a negative opinion

- **c'est barbant/ désagreable** (it is boring / unpleasant)
- **c'es fatigant / monotone** (it is tiring / dull)
- **ça me fait triste** (it makes me sad)

French | School Uniform | Topic Dictionary

Image	Key Word	Definition	In a Sentence
	un manteau	a coat	Je n'ai pas de **manteau.**
	une chemise	a shirt	Je porte **une chemise** blanche.
	une veste	a jacket	Il faut porter **une veste.**
	des chaussettes	socks	Mes **chaussettes** sont blanches.
	une cravate	a tie	Je n'aime pas porte **une cravate.**
	une jupe	a skirt	Les filles peuvent porter **une jupe.**
	un pull	a jumper	S'il fait froid, je porte **un pull.**
	un pantalon	trousers	Quelquefois je porte **un pantalon.**
	une robe	a dress	On ne peut pas porter **une robe.**
	des baskets	trainers	Je préfère porter **des baskets.**
	des chaussures	shoes	Mes **chaussures** sont noires.

French tenses | Irregular verbs

Aller –to go

	Présent	Passé-composé	Imparfait	Futur immédiat	Futur proche	Conditionnel
Je / J'	vais	suis allé (e)	allais	vais aller	irai	irais
Tu	vas	es allé (e)	allais	vas aller	iras	irais
Il / Elle / On	va	est allé (e)	allait	va aller	ira	irait
Nous	allons	sommes allé(e)s	allions	allons aller	irons	irions
Vous	allez	êtes allé(e)s	alliez	allez aller	irez	iriez
Ils / Elles	vont	sont allé(e)s	allaient	vont aller	iront	iraient

Faire –to do

	Présent	Passé-composé	Imparfait	Futur immédiat	Futur proche	Conditionnel
Je / J'	fais	ai fait	faisais	vais faire	ferai	ferais
Tu	fais	as fait	faisais	vas faire	feras	ferais
Il / Elle / On	fait	a fait	faisait	va faire	fera	ferait
Nous	faisons	avons fait	faisions	allons faire	ferons	ferions
Vous	faites	avez fait	faisiez	allez faire	ferez	feriez
Ils / Elles	font	ont fait	faisaient	vont faire	feront	feraient

Avoir –to have

	Présent	Passé-composé	Imparfait	Futur immédiat	Futur proche	Conditionnel
Je / J'	ai	ai eu	avais	vais avoir	aurai	aurais
Tu	as	as eu	avais	vas avoir	auras	aurais
Il / Elle / On	a	a eu	avait	va avoir	aura	aurait
Nous	avons	avons eu	avions	allons avoir	aurons	aurions
Vous	avez	avez eu	aviez	allez avoir	aurez	auriez
Ils / Elles	ont	ont eu	avaient	vont avoir	auront	auraient

French tenses | Irregular verbs

Être –to be

	Présent	Passé-composé	Imparfait	Futur immédiat	Futur proche	Conditionnel
Je / J'	suis	ai été	étais	vais être	serai	serais
Tu	es	as été	étais	vas être	seras	serais
Il / Elle / On	est	a été	était	va être	sera	serait
Nous	sommes	avons été	étions	allons être	serons	serions
Vous	êtes	avez été	étiez	allez être	serez	seriez
Ils / Elles	sont	ont été	étaient	vont être	seront	seraient

Pouvoir –to be abe to

	Présent	Passé-composé	Imparfait	Futur immédiat	Futur proche	Conditionnel
Je / J'	peux	ai pu	pouvais	vais pouvoir	pourrai	pourrais
Tu	peux	as pu	pouvais	vas pouvoir	pourras	pourrais
Il / Elle / On	peut	a pu	pouvait	va pouvoir	pourra	pourrait
Nous	pouvons	avons pu	pouvions	allons pouvoir	pourrons	pourrions
Vous	pouvez	avez pu	pouviez	allez pouvoir	pourrez	pourriez
Ils / Elles	peuvent	ont pu	pouvaient	vont pouvoir	pourront	pourraient

Vouloir –to want

	Présent	Passé-composé	Imparfait	Futur immédiat	Futur proche	Conditionnel
Je / J'	veux	ai voulu	voulais	vais vouloir	voudrai	voudrais
Tu	veux	as voulu	voulais	vas vouloir	voudras	voudrais
Il / Elle / On	veut	a voulu	voulais	va vouloir	voudra	voudrait
Nous	voulons	avons voulu	voulions	allons vouloir	voudrons	voudrions
Vous	voulez	avez voulu	vouliez	allez vouloir	voudrez	voudriez
Ils / Elles	veulent	ont voulu	voulaient	vont vouloir	voudront	voudraient

French | My School and School Rules | Skills Guide 1

Have you used..

1. a verb?	2. a noun?	3. a connective?	4. An opinion phrase?	5. a verb?	6. an intensifier?	7. an adjective?
J'adore (I love)	l'anglais (English) l'espagnol (Spanish) le français (French) l'histoire (History) la géographie (Geography) l'informatique (IT) le dessin (Art) l'EPS (PE) le théâtre (Drama) la musique (Music)	parce que (because) mais (but) et (and) cependant (however)	je pense que / je crois que (I think that) je dirais que (I would say that) selon moi (according to me) à mon avis (in my opinion) je trouve que (I find that)	c'est (it is)	très (very) assez (quite) vraiment (really) un peu (a bit)	amusant (fun) divertissant (entertaining) intéressant (interesting) facile (easy) difficile (difficult) utile (useful) inutile (useless)
J'aime (I like) Je n'aime pas (I don't like) Je déteste (I hate)	les maths (Maths) les sciences (Science) mon/ma prof de … (my … teacher)			il est / elle est (he/she is)		stricte (strict) gentil(le) (kind) drôle (funny)

Dans mon collège (At my school) Dans notre collège (at our school)	on doit (you/one must) on peut (you/one can)	apporter le matériel scolaire (bring your equipment) bavarder en classe (chat in class) manger/boire en classe (eat/drink in lessons) courir dans le couloir (run in the corridors) decir palabrotas (swear) écouter les profs (listen to the teachers) être à l'heure (be on time)	**Example:** J'adore les sciences parce que selon moi c'est très divertissant. (I love Science because according to me it's very entertaining)
À mon avis c'est (In my opinion it is) Je trouve que c'est (I find that it is)	très (very) un peu (a little) assez (quite) trop (too) vraiment (really)	juste (fair) / logique (logical) / nécessaire (necessary) / raisonnable (reasonable) agaçant (annoying) / frustrant (frustrating) / injuste (unfair) ridicule (ridiculous) / inutile (pointless)	

French | My Future plans | Skills Guide 2

STEP 1: Quand j'étais petit(e), je voulais être (When I was little, I wanted to be)
Quand mon ami(e) était petit(e), il / elle voulait être (When my friend was little, he/she wanted to be)

mais maintenant je voudrais être (but now I would like to be)
mais maintenant il / elle voudrait être (but now he / she would like to be)

docteur (a doctor) **chirurgien** (a surgeon) **infirmier / infirmière** (a nurse) **dentiste** (a dentist)	**coiffeur / coiffeuse** (a hairdresser) **esthéticien / esthéticienne** (a beautician) **comptable** (an accountant) **vendeur / vendeuse** (a shop assistant)	**entraîneur personnel** (a personal trainer) **agriculteur / agricultrice** (a farmer) **policier** (a police officer) **réceptionniste** (a receptionist)	**mécanicien / mécanicienne** (a mechanic) **journaliste** (a journalist) **instituteur / institutrice** (a primary school teacher) **prof** (a secondary school teacher)

STEP 2: Donc l'année prochaine je (ne) vais (pas) étudier (So next year I am (not) going to study)

Donc si j'ai de bons résultats, je vais (So if I have good results, I am going to)

les SVT (science) **les arts plastiques** (art) **les maths** (maths) **la géographie** (geography) **la technologie** (technology) **la musique** (music) **la religion** (RE)	**le français** (French) **le dessin** (art) **l'EPS** (PE) **l'histoire** (history) **l'espagnol** (Spanish) **l'anglais** (English) **l'informatique** (computing) **l'art dramatique** (drama)	**continuer mes / ses études** (continue with my / his-her studies) **trouver du travail** (find a job) **faire un apprentissage** (do an apprenticeship) **passer le bac** (take the A Level) **prendre une année sabbatique** (take a gap year) **aller à l'université** (go to uni)

STEP 3: parce que (because) / **car** (because) / **puisque** (since) / **mais** (but) / **cependant** (however) / **toutefois** (however)

ça sera (it will be) **ça ne sera pas** (it won't be)	**une expérience passionnante.** (a fascinating experience) **utile et assez intéressant.** (useful and quite interesting) **ma / sa passion.** (my / his-her passion) **une perte de temps.** (a waste of time) **utile pour mon / son avenir.** (useful for my / his-her future)	**amusant** (fun) **fantastique** (fantastic) **divertissant** (entertaining) **incroyable** (incredible) **époustouflant** (amazing) **facile** (easy) **fascinant.** (fascinating) **relaxant** (relaxing)	**trop difficile.** (too difficult) **monotone** (repetitive) **très cher.** (very expensive) **barbant** (boring) **ennuyeux** (boring) **nul** (rubbish)

j'ai des notes exceptionnelles (I have amazing grades) **j'ai des notes satisfaisantes** (I have good grades) **je fais des progrès** (I make progress)	**je fais toujours des efforts** (I always put a lot of effort in) **c'est (vraiment / très / un peu / plutôt / trop / assez) intéressant** (it's (really / very / a bit / rather / too / quite) interesting

French | Speaking | Exam Style question

1. Est –ce que tu apprenais une langue a l'école primaire? **(Past Tense)**

Oui, j'apprennais le francais et l'espagnole –Yes, I used to learn French and Spanish

Non, je n'apprennais pas de langue -No, I didn't learn a language

2. Tu apprends quelles langues au college? **(Present Tense)**

Au collège, j'apprends l'allemand et l'italien –In school, I am learning German and Italian

En ce moment, j'apprends le francais mais je n'apprends pas l'espagnole. –At the moment, I am learning French but I don't learn Spanish

3. Comment est-ce que tu vas améliorer ton francais a l'avenir? **(near future tense)**

A l'avenir, Je vais –In the future, I am going to

regarder des films allemands –watch German films
écouter des podcasts en français –listen to French podcasts
utiliser un appli sur mon portable-use an app on my phone
lire des magazines en français –read French magazines

French | Writing: the 20 marker | Skills Guide

Exam question: Write to your friend about your school. You must include:
- *description of your school day*
- *your opinion of subjects with reasons*
- *how you got to school last week*
- *what you are going to do after school today*

Model answer

Salut Marie,

Bullet Point 1: Je vais vous parler de mon collège. J'ai trouvé la semaine dernière un peu dure. Lundi, en classe de maths, j'ai ri pendant un examen et le prof n'était pas très content !

Bullet Point 2: Moi, je pense que je suis fort en français mais, malheureusement, la prof n'est pas d'accord. Mercredi dernier, elle a dit que je ne suis pas assez travailleur. C'est injuste !

Bullet Point 3: Ensuite, **v**endredi matin, le bus était en retard, donc je suis arrivé au collège en retard.

Bullet Point 4: Je dirais que n'aime aucune matière au collège ! Je vais passer mon temps à faire du sport. Je ne vais pas faire mes devoirs et je vais jouer souvent sur mon portable en regardant aussi la télé,

Challenge checklist:

🏆	❑ Past, present and future timeframes ❑ Connectives, time phrases ❑ Extended sentences (e.g. avec, dans) ❑ Opinion phrases
🏆🏆	❑ A wide range of tenses ❑ Different persons of the verb (e.g. il /elle) ❑ Justified opinions / reasons ❑ Negatives (ne…pas / ne…jamais) ❑ Ambitious vocabulary
🏆🏆🏆	❑ Phrases with more than one tense ❑ Infinitive phrases (J'aimerais +inf) ❑ Complex phrases ❑ Positive and negative statements

Challenge: Translate into French:

I like my school and my teachers. My favourite subject is maths because it is fun. I always do my homework in the evening. Last month I went to the museum with my history class. It was quite boring. Next year I want to continue to learn English because it will be very important for my future.

Geography | The Changing Economic World | Topic Dictionary

Image	Key word	Definition	In a sentence
	birth rate	The number of births in a year per 1000 of the total population.	The **birth rates** in LICs are usually higher than in HICs.
	commonwealth	The Commonwealth is a voluntary association of 56 independent and equal sovereign states, which were mostly territories of the former British Empire	**Commonwealth** states have no legal obligation to one another. Instead, they are united by language, history, culture, and their shared values of democracy, human rights, and the rule of law.
	death rate	The number of deaths in a year per 1000 of the total population.	The **death rate** decreases as a country becomes more developed.
	de-industrialisation	The decline of a country's traditional manufacturing industry due to exhaustion of raw materials, loss of markets and increasing competition from NEEs.	The UK has seen **de-industrialisation** as factories have moved to countries in southeast Asia.
	development	The progress of a country in terms of economic growth, the use of technology and human welfare.	The UK has a high level of **development.**
	development gap	The widening difference in standards of living and wellbeing between the world's economically richest and poorest countries (between HICs and LICs).	There is a **development gap** between the north and south of the UK
	European Union	An international organisation of 27 European countries, formed to reduce trade barriers and increase cooperation among its members.	A person who is a citizen of a **European Union** country can live and work in any of the other 26 member countries without needing a work permit or visa.
	fairtrade	Is a system that ensures producers in LICs and NEEs are given a fairer price for the goods they produce	**Fairtrade** leads to improvements in income, workers' rights and working conditions, and reduces exploitation.
	globalisation	The process which has created a more connected world, with increases in the movements of goods (trade) and people (migration and tourism) worldwide.	**Globalisation** has led to increased connectivity between the UK and the rest of the world.
	Gross National Income GNI	A measurement of economic activity that is calculated by dividing the gross (total) national income by the size of the population.	**GNI** takes into account not just the value of goods and services, but also the income earned from investments overseas.
	Human Development Index (HDI)	A method of measuring development which combines GDP per capita, life expectancy and adult literacy to give an overview	The **human development index** uses economic and social indicators to produce an index figure that allows comparison between countries.

Geography | The Changing Economic World | Topic Dictionary

Image	Key word	Definition	In a sentence
	industrial structure	The relative proportion of the workforce employed in different sectors of the economy	The four sectors in the **industrial structure** are primary, secondary, tertiary and quaternary.
	infant mortality	The average number of deaths of children under 1 year of age, per 1000 live births, per year.	The infant mortality
	information technology	Computer, internet, mobile phone and satellite technologies	**Information technology** speed up communication and the flow of information.
	intermediate technology	Technology that is suited to the needs, skills, resources, knowledge and wealth of local people in the environment in which they live.	In LICs **intermediate technology** is often simple, easily learned and easily maintained technology.
	international aid	Money, goods and services given by the government of one country or a multilateral institution such as the World Bank or International Monetary Fund	**International aid** helps to improve the quality of life and economy of another country.
	life expectancy	The average number of years a person might be expected to live.	HIC countries usually have longer **life expectancies** than LICs.
	literacy rate	The percentage of people who have basic reading and writing skills	As a country's development increases the **literacy rates** increase.
	microfinance loans	Very small loans which are given to people in the LICs to help them start a small business.	**Microfinance loans** help to provide employment to people as more businesses are opened.
	north-south divide	Economic and cultural differences between Southern England (and Northern England.	The **north-south divide** shows there are clear differences in health conditions, house prices, earnings, and political influence.
	post-industrial economy	The economy of many economically developed countries where most employment is now in service (tertiary) industries.	The UK has a **post-industrial economy** with the majority of people working in the service sector.
	service industries	The economic activities that provide various services	**Service industries** include commercial (shops and banks), professional (solicitors and dentists), social (schools and hospitals), entertainment (restaurants and cinemas) and personal (hairdressers and fitness trainers).
	trade	The buying and selling of goods and services between countries.	
	transnational corporation TNC	A company that has operations (factories, offices, research and development, shops) in more than one country	Many **TNCs** are large and have well-known brands such as Shell and Nike.

Geography | The Changing Economic World | Knowledge Organiser

Variations in the level of development

LICs		Poorest countries in the world. GNI per capita is low and most citizens have a low standard of living.
NEEs		These countries are getting richer as their economy is progressing from the primary industry to the secondary industry. Greater exports leads to better wages.
HICs		These countries are wealthy with a high GNI per capita and standards of living. These countries can spend money on services.

Causes of uneven development

Development is globally uneven with most HICs located in Europe, North America and Oceania. Most NEEs are in Asia and South America, whilst most LICs are in Africa. Remember, development can also vary within countries too.

Physical factors affecting uneven development

Natural Resources	Natural Hazards
• **Fuel sources** such as oil. • Minerals and metals for fuel. • **Availability for timber**. • Access to **safe water**.	• Risk of tectonic hazards. • Benefits from **volcanic material** and **floodwater.** • Frequent hazards **undermines redevelopment**.

Climate	Location/Terrain
• **Reliability** of rainfall to benefit farming. • **Extreme climates** limit industry and affects health. • Climate can **attract tourists.**	• **Landlocked countries** may find trade difficulties. • Mountainous terrain makes farming difficult. • **Scenery attracts tourists**.
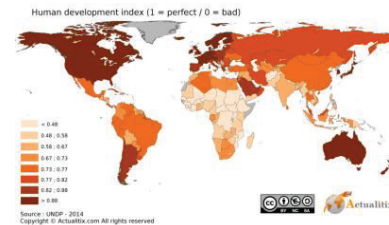
Human factors affecting uneven development

Aid	Trade
• Aid can help some countries develop **key projects** for infrastructure faster. • **Aid** can improve services such as schools, hospitals and roads.	• Countries that export more than they import have a **trade surplus**. This can improve the national economy. • **Trading goods** and services is more profitable than raw materials.

Education	Health
• Education creates a **skilled workforce** meaning more goods and services are produced. • **Educated people earn more money**, meaning they also pay more taxes. This money can help develop the country in the future.	• **Lack of clean water** and poor healthcare means a large number of people suffer from **diseases**. • People who are ill cannot work so there is little contribution to the economy. • More money on healthcare means less spent on development.

Politics	History
• **Corruption** in local and national governments. • The **stability of the government** can effect the country's ability to trade. • Ability of the country to **invest into services and infrastructure**.	• **Colonialism** has helped Europe develop, but slowed down development in many other countries. • Countries that went through industrialisation a while ago, have now develop further.

Human development index (1 = perfect / 0 = bad)

Source : UNDP - 2014
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Consequences of Uneven Development

Levels of development are different in different countries. This uneven development has consequences for countries, especially in wealth, health and migration.

Wealth	People in more developed countries have higher incomes than less developed countries.
Health	Better healthcare means that people in more developed countries live longer than those in less developed countries.
Migration	If nearby countries have higher levels of development or are secure, people will move to seek better opportunities and standard of living.

The Demographic Transition Model

The demographic transition model (DTM) shows population change over time. It studies how birth rate and death rate affect the total population of a country.
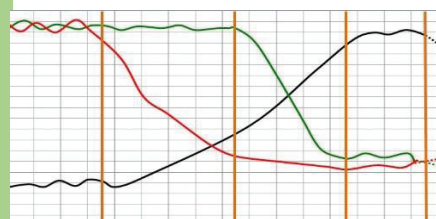
STAGE 1	STAGE 2	STAGE 3	STAGE 4	STAGE 5
High DR High BR Steady	*BR Low Declining DR Very High*	*Rapidly falling DR Low BR High*	*Low DR Low BR Zero*	*Slowly Falling DR Low BR Negative*
e.g. Tribes	e.g. Kenya	e.g. India	e.g. UK	e.g. Japan

Geography| The Changing Economic World| Knowledge Organiser

Reducing the Global Development Gap

Microfinance Loans

This involves people in LICs receiving smalls loans from traditional banks.
+ Loans enable people to begin their own businesses
- Its not clear they can reduce poverty at a large scale.

Foreign-direct investment

This is when one country buys property or infrastructure in another country.
+ Leads to better access to finance, technology & expertise.
- Investment can come with strings attached that country's will need to comply with.

Aid

This is given by one country to another as money or resources.
+ Improve literacy rates, building dams, improving agriculture.
- Can be wasted by corrupt governments or they can become too reliant on aid.

Debt Relief

This is when a country's debt is cancelled or interest rates are lowered.
+ Means more money can be spent on development.
- Locals might not always get a say. Some aid can be tied under condition from donor country.

Fair trade

This is a movement where farmers get a fair price for the goods produced.
+ Paid fairly so they can develop schools & health centres.
-Only a tiny proportion of the extra money reaches producers.

Technology

Includes tools, machines and affordable equipment that improve quality of life.
+ Renewable energy is less expensive and polluting.
- Requires initial investment and skills in operating technology

Reducing the Development Gap in the Maldives

Location and Background

The Maldives is an island nation scattered across the Indian Ocean, southwest of Sri Lanka and India. This tropical paradise is famous for its hundreds of coral islands grouped together in atolls, which are ring-shaped reefs.
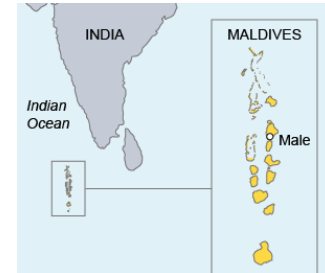
Tourist economy

Most tourists come from Europe. They come to see the *coral* reefs, clear blue seas and white beaches. Tourists spend over US $200 million per year, which means that tourism generates the biggest income for the country. Fishing is the second largest *industry*, but this does not bring in as much money.

Multiplier effect

-**Jobs from tourism** have meant **more money** has been spent in shops and other businesses.
-Government has invested in **infrastructure** to support tourism.
-

Managing tourism

Within 20 years, resort islands could make up about 20% of the Maldivian islands. The country needs tourists to visit, but the damage that tourists can do when large numbers of them visit fragile environments must be limited.

The Ministry of Tourism has created rules, such as:
•for each island resort that is created, one island must be left as a reserve
•any new resorts must only be two storeys high
•only 20% of the land area of an island can be built upon

Geography| The Changing Economic World| Knowledge Organiser

Case Study: Economic Development in Nigeria

Location & Importance

Nigeria is a NEE in West Africa. Nigeria is just north of the Equator and experiences a range of environments.

Nigeria is the most populous and economically powerful country in Africa. Economic growth has been based on oil exports.

Influences upon Nigeria's development

Political	Social
Suffered **instability** with a **civil war** between 1967-1970. From 1999, the country became **stable** with **free and fair elections**. Stability has **encouraged global investment** from China and USA.	Nigeria is a **multi-cultural, multi-faith society**. Although mostly a strength, diversity has caused **regional conflicts** from groups such as the Boko Haram terrorists.

Cultural	Industrial Structures
Nigeria's **diversity** has created rich and varied **artistic culture**. The country has **a rich music, literacy and film industry** (i.e. Nollywood). A successful national football side.	Once mainly based on agriculture, **50% of its economy is now manufacturing and services**. A thriving manufacturing industry is **increasing foreign investment** and **employment opportunities**.

The role of TNCs	Changing Relationships
TNCs such as **Shell** have played an important role in its economy. + Investment has **increased employment and income**. - **Profits move to HICs**. - Many **oil spills** have **damaged fragile environments**.	Nigeria plays a leading role with the **African Union** and **UN**. **Growing links** with **China** with huge **investment in infrastructure**. Main import includes petrol from the EU, cars from Brazil and phones from China.

Environmental Impacts	Aid & Debt relief
The 2008/09 **oil spills devastated swamps** and its **ecosystems**. Industry has caused **toxic chemicals** to be discharged in open sewers - r**isking human health**. **80% of forest** have been **cut down**. This also increases CO² emissions.	+ Receives **$5billion** per year in aid. + **Aid groups** (ActionAid) have improved health centres, provided anti-mosquito nets and helped to protect people against AIDS/HIV. - Some aid fails to reach the people who need it due to **corruption**.

Effects of Economic Development

Life expectancy has increased from 46 to 53 years. 64% have access to safe water. Typical schooling years has increased from 7 to 9.

Case Study: Economic Change in the UK

Causes of Economic Change	Towards Post-Industrial
De-industrialisation and the **decline** of the UK's industrial base. **Globalisation** has meant many industries have moved overseas, where labour costs are lower. **Government investing** in supporting vital businesses.	The **quaternary industry** has **increased**, whilst **secondary** has **decreased**. Numbers in **primary** and **tertiary industry** has **stayed the steady**. Big increase in **professional** and **technical jobs**.

Developments of Science Parks	CS: UK Car Industry
Science Parks are groups of scientific and technical knowledge based businesses on a single site. • Access to **transport routes**. • **Highly educated workers**. • Staff benefit from **attractive working conditions**. • Attracts **clusters** of related **high-tech businesses**.	Every year the UK makes 1.5 million cars. These factories are owned by large TNCs. i.e. Nissan. • 7% of energy used there factories is from **wind energy**. • New cars are more energy **efficient and lighter**. • Nissan produces **electric and hybrid cars**.

Change to a Rural Landscape

Social	Economic
Rising house prices have caused tensions in villages. Villages are **unpopulated** during the day causing **loss of identity**. **Resentment** towards **poor migrant communities**.	**Lack of affordable housing** for local first time buyers. Sales of farmland **has increased rural unemployment**. Influx of poor migrants puts **pressures** on local services.

Improvements to Transport	UK North/South Divide
A **£15 billion 'Road Improvement Strategy'**. This will involve 10 new roads and 1,600 extra lanes. **£50 billion HS2 railway** to improve connections between key UK cities. **£18 billion** on Heathrow's controversial **third runway**. UK has many **large ports** for importing and exporting goods.	- Wages are **lower** in the North. - Health is **better** in the South. - Education is **worse** in the North. + The government is aiming to support a **Northern Powerhouse** project to resolve regional differences. + More **devolving of powers** to disadvantaged regions.

Geography | Skills Guide

## Map Skills

Compass points
Compass directions are vital for finding your way around a map and provide the easiest way of describing the distribution of different features.

Distance on a map
If you are required to work out the straight-line distance (as the crow flies) between 2 places, simply place your ruler over both points and measure the distance in-between, then convert into kilometres using the scale line or by multiplying your answer by 0.5, i.e. 7 cm on the map equals 3.5km in real life. .

4 and 6 figure grid references
Ordnance Survey map are covered in a series of blue grid lines. These grid lines can be used to pinpoint locations through a unique number known as a grid reference.
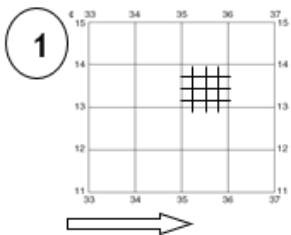
1 Go along the bottom of the map until you reach the point which forms the left side of the square you're trying to locate e.g. 35
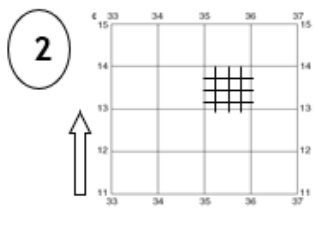
2 Then, go up the side of the map until you reach the point that forms the bottom side of the square you're trying to locate e.g. 13
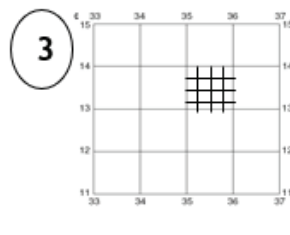
3 Now put your two answers together e.g. 35 13.

If you want to pinpoint an exact place on a map, such as a church or farm building, then you will need to use a **six-figure grid reference**. The first step is to find the four-figure reference, now imagine this square is divided up into 100 tiny squares, with 10 squares along each side.
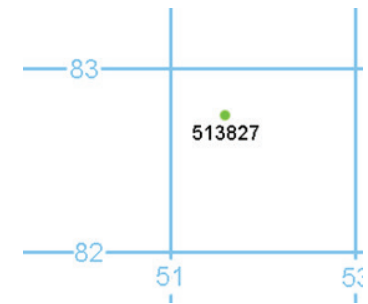
Still remembering to go along the corridor and then up the stairs, estimate how far across and then up the square the feature is.

Contour lines
Hills, slopes and mountains are represented on a map using contour lines.

A contour is a line drawn on a map that joins points of equal height above sea level. We can see how heigh the land is by the number on the line.

The steeper the slope the closer together the contour lines will be
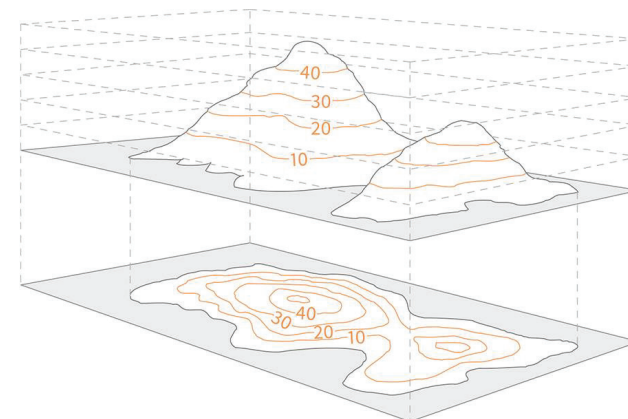
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Answering 1-mark questions

These usually require you to:

- Add something to a diagram
- Write a 1 word answer
- Shade a box
- Define a key term.

Be very careful with these questions as they like to trick you. READ THE QUESTIUON VERY CAREFULLY

Answering 2-mark questions

These will require you to:
- Tick 2 boxes
- Write 2 reasons why something happens
- Fill in the gaps
- Describe a graph
- Describe distribution on a map

If you are asked to explain a pattern on a graph the following structure will help you.

Trend – what this the overall pattern of the graph.
Examples – pick out examples that support the overall pattern
Anomalies – is there any part of the data that doesn't fit the overall trend

TEA in action.
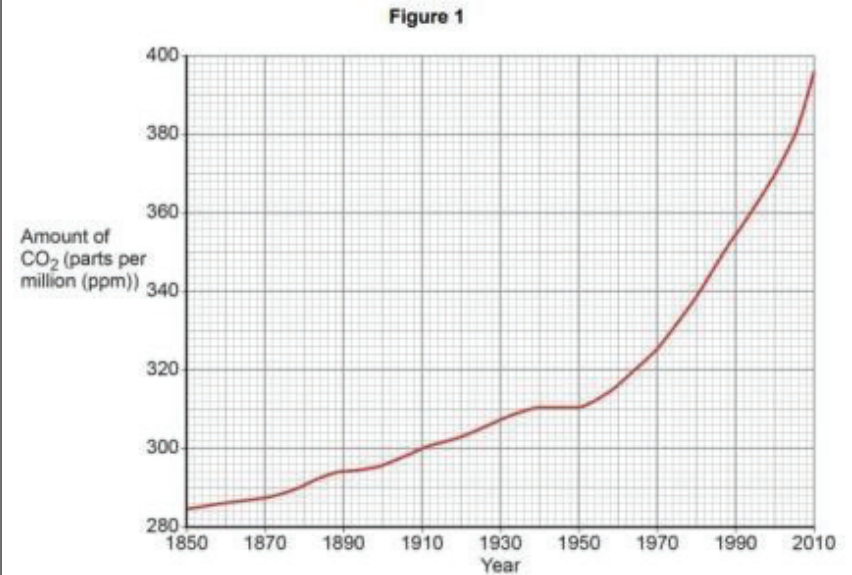
Figure 1

Describe the change in the amount of carbon dioxide in the atmosphere shown in figure (2 marks)

Overall, the graph shows an increase in the amount of carbon dioxide (CO2). In 1850 there was 284 ppm however the amount increases steadily until 1950 where there was 310 ppm but after that it increases rapidly 396 ppm in 2010. From 1940 to 1950 however, there was no significant increase in the amount of CO2.

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Answering 3-mark questions

These will require you to:
- Fill in the gaps in a paragraph
- Label things on a diagram
- Describe a graph (in detail)
- Describe distributions on a map with suggestions and reasoning

They require you to describe in detail but also on occasion to provide a basic explanation or a suggestion usually based on a source figure in the paper. See the worked example to help you.

It is common in all three papers to be asked to **describe the distribution** and link to a map.

Distribution – how something is spread over an area.

To structure your response in relation to a map you should follow the steps here.

1. **T**rends – give the overall pattern
2. **E**xamples – specific place examples to prove your point
3. **A**nomalies – any countries that do not fit the pattern you expect to see.

TEA in action.

Study **Figure 1**, a map showing the percentage of the population living in urban settlements in different parts of the world.

Figure 1
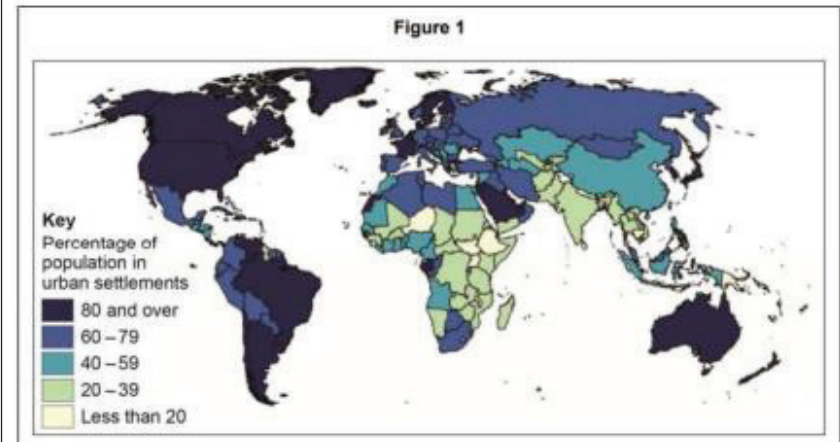
Describe the differences in percentage of population living in urban settlements in Africa and South America (3 marks)

Africa has a much larger difference of people living in urban settlements than South America. Some landlocked countries in central and eastern have less than 20% of people in urban areas whereas the majority has between 20 and 39%. South American countries are much more urbanised with nearly all the countries are 60% and over. However, some countries on the western coast of Africa are 80% and over and one country in northern part of South America is 20% - 39% urbanised.

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Answering 4-mark questions

These will require you to:
• Explain 2 points in detail
• Explain a point in a lot of detail

Consequently
As a result of
Therefore
This means that

4 Mark questions are a nice way to pick up marks. They tend to have a figure attached to them which you can use to help you with the answer.

To ensure that you are expanding your points you must use CATT statements to help you add relevant detail and your own knowledge.

Worked example with no figure:

Outline one mitigation strategy which aims to reduce the rate of climate change (4 marks)

One strategy that can be used to mitigate climate change is converting our energy production from burning fossil fuels to using renewables. **This means that** coal, oil and natural gas fired power stations would be decommissioned and our energy would come from energy sources such as tidal power, wind power and solar power. **Consequently**, this is beneficial as our energy will come from sources that don't produce CO2 meaning it doesn't let shorter wave infrared radiation out into space warming the planet. It also means that the energy is readily available to be used on site and doesn't have to be transported around by vehicles (such as coal trucks and oil tankers) **as a result** further mitigating climate change by minimising greenhouse gases emitted by vehicles

Worked example with a figure:

Study **Figure 15**, a photograph showing the effects of river flooding in Somerset in 2014.

Figure 15

Explain the likely economic effects of river flooding in this area (4 marks)

The photograph shows that that the road has been submerged under the water. **This means that** vehicles cannot travel along the road which means that residents of this area will not be able to get to work. This could have an economic impact on their personal income. If continued over a long period of time, could result in being unable to pay rent or keep up with mortgage leading to debt.

Secondly, I can see that resident's homes have been flooded. **This means that** there is a high personal economic cost to the residents as their personal belongings may have been destroyed. If they are not insured this means that they must replace it themselves at a high cost.

Geography | Skills Guide

How to answer a 6-mark question.

A 6-mark question will often ask you to use a figure and your own understanding. This is the plan you need to follow in this case:
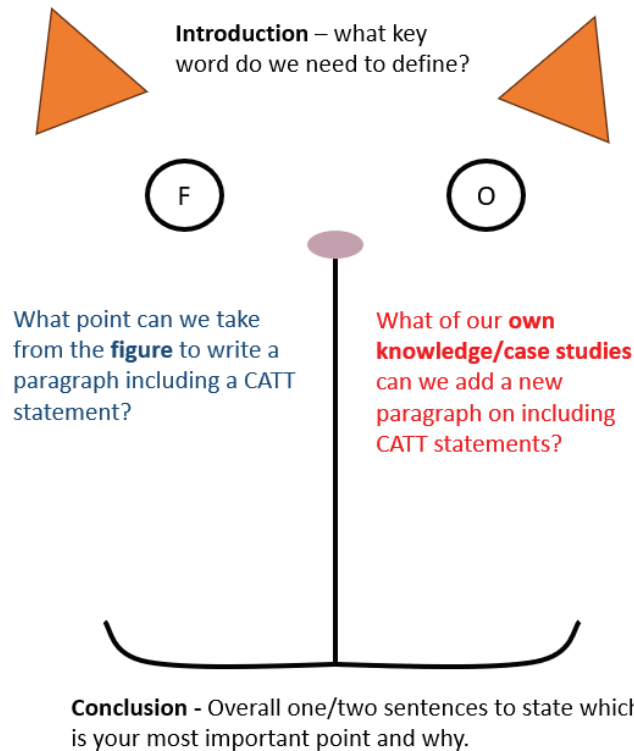
Introduction – what key word do we need to define?

F

O

What point can we take from the **figure** to write a paragraph including a CATT statement?

What of our **own knowledge/case studies** can we add a new paragraph on including CATT statements?

Conclusion - Overall one/two sentences to state which is your most important point and why.

Consequently

As a result of

Therefore

This means that

Within our responses it is important that we expand our points in order to show our geographical ability to explain our points. **CATT statements** will help us do this.

Potential 6-mark command words.

Image	Command words	What you need to do
	Discuss	Present key points about different ideas or strengths and weaknesses of an idea.
	Explain	Set out purposes or reasons/ Say why something happens.
	Suggest	Present a possible case of why something has happened/how it can impact something.
	To what extent	Judge the importance or success of something (strategy, scheme, project).

Geography| Skills Guide

How to answer a 9-mark question.

We will use our **cat plan** to ensure that we include all the vital elements for a 9-mark question. This plan will work for all command words!
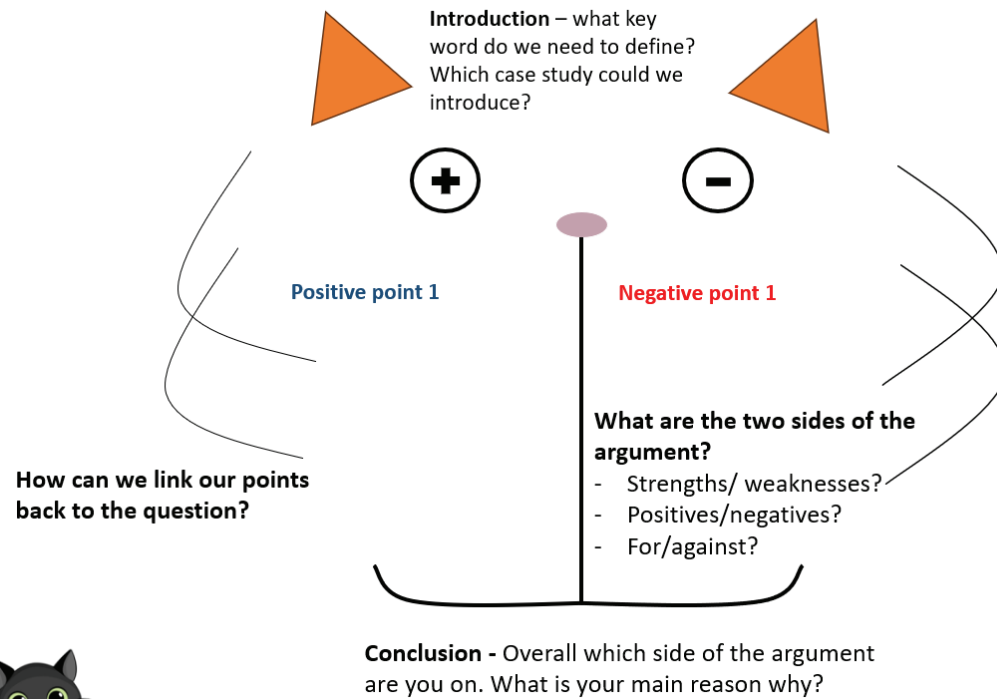
Introduction – what key word do we need to define? Which case study could we introduce?

⊕

⊖

Positive point 1

Negative point 1

How can we link our points back to the question?

What are the two sides of the argument?
- Strengths/ weaknesses?
- Positives/negatives?
- For/against?

Conclusion - Overall which side of the argument are you on. What is your main reason why?

Consequently

As a result of

Therefore

This means that

Within our responses it is important that we expand our points in order to show our geographical ability to explain our points. **CATT statements** will help us do this.

Potential 9-mark command words.

Image	Command words	What you need to do
	Assess	Make an informed judgement. Present both sides of an argument and use evidence to make your judgement.
	Discuss	Present key points about different ideas or strengths and weaknesses of an idea.
	Evaluate	Judge from available evidence. Present both sides of an argument and use evidence to make your judgement.
	Explain	Set out purposes or reasons/ Say why something happens.
	Justify	Support a case with evidence.
	To what extent	Judge the importance or success of something (strategy, scheme, project).

DIT | EXAM Command Words | Topic Dictionary

Keyword	Definition	In a sentence
Annotate the diagram by: ● identifying and labelling XX ● stating XX	Identify and label the diagram and state what each, i.e. feature/process/characteristic is for, their purpose etc	Annotate the image to explain two features of the direct messaging interface.
Describe	Present two (or more) linked descriptive points on characteristics, features, uses or processes. Do not need to include a justification or reason.	Describe two ways that two-factor authentication restricts user access to computer systems.
Discuss	Consider the different aspects in detail of an issue, situation, problem or argument and how they interrelate.	Discuss the impact of people wanting to upgrade to the latest smartphone.
Draw	Produce a diagram or process flow using information from the given context.	Draw a flow chart diagram on page 11 to show this part of process.
Evaluate	Consider various aspects of a subject's qualities in relation to its context such as: strengths and weaknesses, advantages and disadvantages, pros and cons. Come to a judgement supported by evidence which will often be in the form of a conclusion.	Evaluate the impacts for Yasmine of using social media in this way.
Explain	Present one point that identifies a reason, way, benefit, or importance, etc. and a second point that justifies/explains the first point. Where used, a third point is a further expansion of the justification/explanation.	Explain one benefit to the company of employing staff in other countries.
Give	Provide a response, i.e. feature, characteristic or use of.	Give two benefits to the staff of working from home.
Identify	Select the correct answer from the given context.	Identify TWO ways the nursery could dispose of its old PCs in an environmentally friendly way.
State	Recall from memory facts, terms, processes, legal implications, etc. or provide the correct answer to the given context.	State two other ways Boom Game League could use cookies.

DIT | Moden Technologies | Knowledge Organiser

Traditional networks are made up of several PCs, routers and other devices that are connected using cables and wires.

Ad hoc networks are networks that do not require wires or cables, Modern technology has made it possible for organisations to connect devices when they are needed.

Benefits of ad hoc	Drawbacks of ad hoc
√ They are scalable	x They are less secure.
√ They are flexible	x They have a reduced speed.
√ They require limited setup.	x The network can become unorganised.

Examples of ad hoc networks:
- PAN
- Open Wi-Fi
- Tethering or Personal Hotspot

Issues affecting availability:

- Rural vs city locations
- Developed vs developing countries
- Available infrastructure
- Mobile network coverage
- Blackspots

Features and usage of cloud storage:

- ISPs often give users a cloud storage allocation as part of a phone or tablet contract
- **Scalability** – you can pay for extra storage.
- Services can also be provided by third parties
- Cloud storage is useful for storing backups of your files. Copies of the files are made on different servers so that they are protected if attacked or in case of a natural disaster such as fire or flood
- You can **synchronise** with the cloud.

Cloud Storage Providers:

box
OneDrive
iCloud
Google Drive
Dropbox

What is cloud storage?

Files and folders are stored remotely rather than on a PC or device.

The files are stored on **servers** so they can be accessed via the internet.
When you want to access the media, the data is **downloaded** or streamed to the device you wish to use it on.
It remains in the file in the cloud unless you delete it.
Data on your device can also be **uploaded** to the cloud.

When is cloud storage available?

- Only when there's an internet connection.
- If the connection is broken access will be terminated.
- The speed of the connection will impact file upload speed and download stream speed.
- If there is a suitable connection, data and files in the cloud can be accessed 24/7

What can be stored in the cloud?

- Images/Videos
- Emails
- Contact info
- App Back Ups

IT | Cyber Security | Knowledge Organiser

Data and information theft
Data and information both have value as they can be sold for financial gain.
This can be done by stealing customer
payment information and then using it to purchase goods illegally.
Breaches of data and information are a major cause of identity theft.

Fun/ Challenge
- Hackers may attack systems for the thrill, adrenaline rush or a sense of personal achievement.
- They may view increased security as a technical challenge and enjoy trying to get past it.
- They may also get recognition from their peers when they successfully hack into systems.

Disruption
Any attack that prevents an organisation from operating normally causes operational chaos, loss of earnings and reputational damage.
Disruption can be caused in many ways e.g. defacing a website or **Denial-of-service (DoS) attacks**

Motivations may be: financial/social/political reasons.

Organisations have become reliant on digital systems to hold data and perform vital business functions.
Many organisations have their digital systems attacked daily.
The reasons these attacks may occur are varied

- Fun/
- challenge
- Industrial espionage
- Data and information theft
- Reasons why systems are attacked
- Financial gain
- Disruption
- Personal attack

Industrial Espionage
Intellectual property (designs, business strategy etc) can be stolen through organised cyberattacks.

These types of assets can be highly valuable, leading to cheaper, fake copies of products being sold and the original organisation suffering a loss of income.

Financial Gain
A very simple motive: money.

Extorting money from victims of a cyberattack is common practice.

Personal Attack
The most common type of personal attack is made by ex-employees holding a grudge against their former employer, perhaps feeling they have been unfairly treated or suffered a form of emotional distress.

Internal Threats

Impacts of security breach

Immediate Impacts	Longer-term Impacts
• Data loss • Lost sales • Downtime • Reduction in productivity	Damage to the organisation's public image which could lead to: • Financial loss • Potential legal action

DIT | Implications | Knowledge Organiser

Key Concepts:
Computer Ethics
Computer ethics refers to a set of principles to regulate the use of computers.
Ethics has become an important consideration due to the spread of computerised systems and electronic communications.
Computer ethics can be broken down into the following main areas of consideration:

Privacy Concerns

Hacking – is unlawful intrusion into a computer or a network. A hacker can intrude through the security levels of a computer system or network and can acquire unauthorised access to other computers.

Malware – means malicious software which is created to impair a computer system. Common malware are viruses, spyware, worms and trojan horses. A virus can delete files from a hard drive while a spyware can collect data from a computer.

Data Protection – also known as information privacy or data privacy is the process of safeguarding data which intends to influence a balance between individual privacy rights while still authorising data to be used for business purposes.

Anonymity – is a way of keeping a user's identity masked through various applications.

Intellectual Property Rights

Copyright – is a form of intellectual property that gives proprietary publication, distribution and usage rights for the author. This means that whatever idea the author created cannot be employed or disseminated by anyone else without the permission of the author.

Plagiarism – is an act of copying and publishing another person's work without proper citation. It's like stealing someone else's work and releasing it as your own work.

Cracking – is a way of breaking into a system by getting past the security features of the system. It's a way of skipping the registration and authentication steps when installing a software.

Software License – allows the use of digital material by following the license agreement. Ownership remains with the original copyright owner, users are just granted licenses to use the material based on the agreement.

Effects on Society

Jobs – Some jobs have been abolished while some jobs have become simpler as computers have taken over companies and businesses. Things can now be done in just one click whereas before it takes multiple steps to perform a task. There are also ethical concerns on health and safety of employees getting sick from constant sitting, staring at computer screens and typing on the keyboard or clicking on the mouse.

Environmental Impact – Environment has been affected by computers and the internet since so much time spent using computers increases energy usage which in turn increases the emission of greenhouse gases. There are ways where we can save energy like limiting computer time and turning off the computer or putting on sleep mode when not in use. Buying energy efficient computers with Energy Star label can also help save the environment.

Social Impact – Computers and the internet help people stay in touch with family and friends. Social media has been very popular nowadays.

Computer gaming influenced society both positively and negatively. Positive effects are improved hand-eye coordination, stress relief and improved strategic thinking. Negative effects are addiction of gamers, isolation from the real world and exposure to violence.

Computer technology helps the government in improving services to its citizens. Advanced database can hold huge data being collected and analysed by the government. Computer technology aids businesses by automating processes, reports and analysis.

DIT||Skills Guide

Exemplar questions & student answers

(e) The company could protect against an attack by having user access restrictions.

One user access restriction method is biometrics because this is unique to the user and cannot be copied.

Explain **two other** user access restrictions the company could use.

(4)

1 The company could use strong passwords, so only authorised staff

   would have access

Award **one** mark for the correct method and **one** mark for a justification of each method, up to a maximum of **four** marks.

2 They could also use two factor authentication

   Program counter (PC)

(strong) Passwords (1) so only **authorised / specific** users can access the systems (1)

Physical security measure (locks/ID cards/PIN codes) (1) becaus this will stop access to the (server) **room** / because you would need a key (1)

Two-factor authentication (1) because the user would have to verify themselves using a second method (1)

Using correct settings/levels of permitted access (1) so that user are restricted to accessing only certain areas of the systems (1)

Exam vocabulary focus:

Explain   Present one point that identifies a reason, and a second point that justifies both point.

Y11 BTEC Tech Award in Music Practice Skills guide: What will I be assessed on in Music?

Learning Aim B Practising and Performing

This is your opportunity to show that you can **sing/play** a 30-60 second piece.

Learning Aim B Composing

This is your opportunity to show that you can **compose** a piece of music related to a professional brief.

Listening to and analysing music

Creating a plan for your portfolio.
Taking inspiration from other musicians and composers.

Exploring your thinking

Creating a portfolio of work that shows your knowledge of compositional and sonic features, and how they are used in your performance and composition

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PRACTICAL SKILLS involving performing and composing/creating music
Learning Outcome B: Apply understanding of the use of techniques to create music

ACADEMIC SKILLS involving research and writing
Learning Outcome A: Demonstrate an understanding of styles of music

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Things to consider:

Instrumentation roles and functions of different instruments, e.g. transposing for other instruments and vocal ranges, use of timbre, special effects

How individual parts fit together, e.g. arrangements, SATB, orchestration, exploring timbre, rhythm section and soloists, call and response

Ensemble skills such as playing in time with a sense of pulse, sensitivity to others.

Impact of the music for the purpose and intended audience it was created for

Types of music product:
- live performance
- audio recording

Things to consider:

Starting points and stimuli (both musical and non-musical)
Repetition and contrast
Developing and extending musical ideas

Impact of the music for the purpose and intended audience it was created for.

Types of music product:
- composition for media, such as film, TV, adverts and computer games
- original song or composition
- Digital Audio Workstation (DAW) project.

Things to consider for each style:

Compositional features such as melody, harmony, tonality, rhythm and structure

Sonic features such as instrumentation, timbre, texture and production

How each feature is used in each style

The effect of the music on the audience

Further exploration of the use of features with audio/video examples

Things to consider:

Iconic composers, artists, bands and producers who have influenced and impacted musical styles

Impact of technology on musical styles, instruments, production and recording

Further exploration of stylistic features of:

Style 1: Reggae
Style 2: Britpop
Style 3: Music for Film (Horror)
Style 4: West African Music

How you have demonstrated understanding through analysis and practical workshops

Y11 Component 2: Knowledge Organiser: How to plan a composition and performance

1 Set 2 SMART Targets for composition and performance.

S M A R T

SPECIFIC — Make goals clear and **specific**.
MEASURABLE — Define **measureable** assets.
ATTAINABLE — Confirm your goals are **attainable**.
RELEVANT — Verify your goals are **relevant**.
TIME-BASED — Set up a **time-based** plan.

2 Plan your chords: Here are numbers used to label chords in a chord progression.

Number	Roman Numeral
1	I
2	II
3	III
4	IV
5	V
6	VI
7	VII
8	VIII

3 Know your key!
Chords in the key of C Major

I   II   III   IV   V   VI   VII

Top tips:
Musical elements: Dynamics, Tempo, Pitch, Rhythm should all be carefully planned and accurate, using the MIDI editor/quantise function where necessary

Musical style: Your composition should be in keeping with the style eg Britpop, Reggae and you should be able to describe how your ideas are typical of the style in your log

Musical experimentation: In your composition log you should describe at least TWO different special effects techniques you have used to show experimentation (eg reverb, distortion, automation, panning)

Musical evaluation/Consideration of brief: How does your composition link to the brief set by the examination board? You should explain your thinking clearly in your production notes/log. How successful is your composition

4 What techniques are you going to use in your performance production?

Top Tips:
Musical elements: Dynamics, Tempo, Pitch, Rhythm should all be carefully planned and **accurate**

Musical style: Your performance should be in keeping with the style eg Britpop, Reggae

Musical expression: You should use your voice/instrument expressively, considering tone, articulation and phrasing

Musical experimentation: In your practice log you should describe at least TWO different ways of performing your music to show that you have experimented with different ideas

Musical evaluation/Consideration of brief: How does your performance link to the brief set by the examination board? You should explain your thinking clearly in your production notes/log. How successful is your performance and how do you want your audience to feel when hearing it?

Musical development checklist:
Does your composition have:
Melody, including passing notes, leaps, steps, imitation, doubling, variation
Chords, including added notes, major, minor, diminished, change of key
Rhythmic features. Including syncopation, cross-rhythm, dotted notes, triplets
Structure, including introduction, main section, development section and end

BTEC Tech Award in Music Practice Component 2 :Topic Dictionary

Image	Key term	Definition	Where we might see it
☹	**limited**	**Narrow** ability, range or scope.	**Limited** planning that demonstrates tentative progressions
☹	**superficial**	Lacking **depth** of knowledge and understanding.	Basic reflections lead to **superficial** music improvements.
☹	**tentative**	Not connected to the task and context.	Musical content is limited and **tentatively** stylistically accurate
😐	**adequate**	The work is **acceptable** with **gaps** and **inconsistencies** shown throughout the portfolio.	Developmental processes are **adequately** applied
😐	**partial**	Some key points are included, but others are missing.	Professional skills for the music industry are **partially** applied
😐	**straightforward**	To the point and easy to understand.	**Straightforward** reflections lead to some musical improvements.
🙂	**appropriate**	**Relevant skills** and **knowledge** are selected to reflect the aim.	**Appropriate** reflections lead to clear musical improvements.
🙂	**competent**	Showing **necessary ability, knowledge or skill** to complete portfolio successfully.	**Competent** planning that demonstrates incremental and sequential progression
😆	**comprehensive**	Work is **well developed** and **thorough**. All compositional and sonic features are considered in **detail.**	**Comprehensive** planning that demonstrates defined logical progression
😆	**effective**	Applying **relevant knowledge, understanding** and **skills** to a task, producing a successful outcome.	**Effective** development of musical content/material in line with creative intentions.
😆	**perceptive**	Showing a **deep level of understanding.**	**Perceptive** reflections lead to highly effective musical improvements.

Exploring Music Products and Styles: Glossary of Compositional and Sonic Features

Image	Musical term	Definition	Where we might find it
	harmony	How chords are used	Compositional feature In West African traditional vocal music people often sing in **harmony**
	melody	The combination of pitch and rhythm (tune)	Compositional feature **Melody** can be disjunct (moving in leaps) or conjunct (moving in steps)
	tonality	The key/main scales of a piece and how (if) it changes	Compositional feature The **tonality** of the Exorcist theme is minor, whereas the tonality of "One Love" by Bob Marley is major
	rhythm	The combination of different note durations	Compositional feature **Rhythm** is an important feature of West African Djembe music
	structure	The different sections of music and how they are laid out	Compositional feature The structure of most Britpop songs is intro/Verse/Chorus
	instrumentation	The instruments playing and how they are playing	Sonic feature The **instrumentation** of the famous Jaws theme is Double Bass/Low Strings
	production	How sound is manipulated with technology	Sonic feature Britpop **production** techniques were basic compared to nowadays because they did not rely on computers
	texture	How the layers of sound are arranged (Thick=many layers/Thin-one or few layers)	Sonic feature The **texture** of Bob Marley's "Three Little Birds" is melody plus accompaniment
	timbre	The specific quality of a sound	Sonic feature The Marimba has a wooden, mellow **timbre**

Y11 Tech Award in Music Practice Component 2: Mark Scheme

Marking Grid Learning Aim A

10-12	❑ Comprehensive planning that demonstrates defined logical progression and iterative sequence for effective improvement of musical skills and technique. ❑ Plans are purposeful and focused, demonstrating an in-depth analysis of developmental needs in line with intentions.
7-9	❑ Competent planning that demonstrates incremental and sequential progression for appropriate improvement of musical skills and technique in line with intentions. ❑ Plans are clear and structured, demonstrating competent analysis of musical skills and technique in line with intentions.
4-6	❑ Adequate planning that demonstrates indiscriminate and/or non-sequential progression and sequence for sufficient improvement of musical skills and techniques in line with intentions. ❑ Plans are straightforward and sufficient, demonstrating some analysis of developmental needs in line with intentions
1-3	❑ Limited planning that demonstrates tentative progressions and organisation for the basic improvement of musical skills and techniques in line with intentions. ❑ Plans are basic and superficial, demonstrating a limited analysis of developmental needs in line with intentions.

Marking Grid Learning Aim A

10-12	❑ Developmental processes are applied securely and are effective in improving skills and techniques. ❑ Technical exercises are purposeful and effective in their links to developmental and intended outcomes.
7-9	❑ Developmental processes are applied appropriately and are competent in improving skills and techniques, ❑ Technical exercise are appropriate and clear in their links to developmental and intended outcomes.
4-6	❑ Developmental processes are adequately applied, with some improvement of skills and techniques. ❑ Technical exercises have partial links to development and intended outcomes.
1-3	❑ Development processes are superficially applied, with limited improvement of skills and techniques. ❑ Technical exercises have superficial links to development and intended outcomes.

Y11 Tech Award in Music Practice Component 2: Mark Scheme

Marking Grid Learning Aim B

10-12	❑ Effective refinement of musical skills through application to intended musical outcomes. ❑ Perceptive reflections lead to highly effective musical improvements.
7-9	❑ Competent refinement of musical skills through application to musical outcomes. ❑ Appropriate reflections lead to clear musical improvements.
4-6	❑ Adequate refinement of musical skills through application to musical outcomes. ❑ Straightforward reflections lead to some musical improvements.
1-3	❑ Limited refinement of musical skills throughout application to musical outcomes. ❑ Basic reflections lead to superficial music improvements.

Marking Grid Learning Aim B

10-12	❑ Effective development of musical content/material in line with creative intentions. ❑ Musical content is effective and stylistically accurate.
7-9	❑ Competent development of musical content/material in line with creative intentions. ❑ Musical content is competent and mostly stylistically accurate.
4-6	❑ Adequate development of musical content/material in line with creative intentions. ❑ Musical content is adequate and partially stylistically accurate.
1-3	❑ Limited development of musical content/material in line with creative intentions. ❑ Musical content is limited and tentatively stylistically accurate.

Marking Grid Learning Aim B

10-12	❑ Professional skills are purposefully applied and effectively develop musical skills. ❑ Professional skills for the music industry are consistently applied with assurance throughout the development process.
7-9	❑ Professional skills are appropriately applied and mostly develop musical skills. ❑ Professional skills for the music industry are appropriately applied throughout the development process.
4-6	❑ Professional skills are adequately applied and partially develop musical skills. ❑ Professional skills for the music industry are partially applied throughout the development process.
1-3	❑ Professional skills are superficially applied and tentatively develop musical skills. ❑ Professional skills for the music industry are tentatively applied throughout the development proves.

Previously

Development: How do Children learn and develop?

**Development:
How do children learn and develop?**

Big Idea: Bias
What forms of bias exist within psychology?

Next

Memory: How do we recall past events?

Topic 1 – Planning research

Hypothesis

Variables

Ethics

Sampling

Topic 2 – Doing research (experiments)

Designs

Methods

Strengths and weaknesses

Topic 3 – Doing research (self report

Open questions

Closed questions

Structures interviews

Unstructured interviews

Questionnaires

Topic 4 – Doing research (observation)

Overt

Covert

Participant

Non-participant

Naturalistic

Controlled

Topic 5 – Doing research (Case studies and correlations)

Case studies

Correlational data

Topic 6 – Analysis data

Types of data

Tables, Charts, and Graphs

Reliability

Validity

Bias

Operationalise

Ecological validity

Social desirability

Demand characteristics

correlation

Bias

Knowledge check

Planning research

I can recognise and write different types of hypothesis
- Alternate
- Null
- One tailed
- Two tailed

I can recognise and define different variables
- IV
- DV
- Extraneous variables

I can explain different sampling methods
- Random sampling
- Stratified sampling
- Opportunity sampling
- Volunteer sampling

I can evaluate
- Different sampling methods

I can describe code of ethics
- Debrief
- Right to withdraw
- Informed consent
- Protection from psychological/physical harm
- Privacy

Doing research

I can describe how experiments work
- Designs (repeated measures and independent groups)
- Types (Lab/Field/Natural)

I can evaluate experiments
- Designs
- Types

I can describe how interviews work
- Structured
- unstructured

I can evaluate interviews
- Structured
- Unstructured

I can describe how questionnaires work
- Open/closed questions

I can evaluate questionnaires
- Designs
- Types

I can describe how Observations work
- Participant vs non-participant
- Covert vs overt
- Naturalistic vs controlled

I can evaluate Obsevrations
- Participant vs non-participant
- Covert vs overt
- Naturalistic vs controlled

Analysis

I can describe Types of data
- Quantitative vs qualitative
- Primary vs secondary

I can evaluate
- Quantitative vs qualitative
- Primary vs secondary

I can describe Descriptive stats
- Mean
- Mode
- Media
- Range

I can describe different tables, charts and graphs
- Tally chart
- Bar chart and pie charts
- Histograms, line graphs, scatter diagrams

I can describe Reliability
- Internal reliability
- External reliability
- Inter rater reliability

I can describe Validity
- Ecological validity
- Population validity
- Construct validity

I can define and describes
- Demand characteristics, Observer effects, social desirability.

Topic 1 - Planning research

Hypotheses: A hypothesis (plural hypotheses) is a precise, testable statement of what the researchers predict/s will be the outcome of the study.

Null Hypotheses: A null hypothesis is a statement that predicts no difference or correlation in the findings.

Alternate Hypotheses: An alternate hypothesis is a statement that predicts a difference of correlation in the findings.

There are 3 key things to include when writing a hypothesis
1. Include both conditions (of IV)
2. Include the DV
3. Operationalise variables

E.g. Students writing in purple ink will score higher than students writing in black ink in a psychology mock exam.

Variables

IV – independent variable (something which is changed)

DV – dependent variable (something which is measured)

Extraneous variables (Variables that must be controlled)

Co-variables – two measured variables

Standardisation – keeping variables the same across conditions

Ethics

D - Deception

R – Right to withdrawl

I – Informed consent

P – Protection from harm (psychological and physical)

P – Privacy

Sampling

Random – everyone has an equal chance of selection

Opportunity – Use the most accessible/available people

Volunteer/self selection – participants choose to select themselves

Topic 2 – Doing research (experiments)

Experimental methods

Laboratory – the IV is under the experimenter's control and the experiment takes place in a controlled/artificial environment

Field - the IV is under the experimenter's control and the experiment takes place in an uncontrolled/natural environment

Natural – The experimenter does not control the IV, but instead takes advantage of a naturally occurring variable.

Experimental design

1) Independent measures
Participants only complete 1 condition

| 10 participants | • Condition 1 |
| 10 participants | • Condition 2 |

2) REPEATED MEASURES
All of the participants take part in BOTH conditions of the independent variable.

| Twenty Participants | Condition 1 | Condition 2 |

The participants repeat the experiment whilst taking part in all of the conditions.

Evaluation

Lab experiment = + control over variables – ecological validity

Field experiment = + ecological validity – control over variables

Natural experiment = +ecological validity – difficult to repeat

Topic 3 – Doing research (self report)

Interviews

Structured – preset questions

+ Reliable and easy to analysis

Unstructured – no preset questions

+ Greater validity and the interview can build a rapport.

Questionnaires

Open questions – questions with unlimited possible answers

E.g. How do you feel about revision?

Closed questions – questions with a limited range of response

E.g. Did you revise for the mock exam?

Rating scales – Questions with a set range of answers

E.g. How long did you revise for the mock exam?

1) Less than an hour   2) 1-2 hours 3) more than 2 hours

Self report evaluation

Social desirability – When participants change their responses to fit with social expectations

Leading questions – When the way the interview phrases a question influences the response the participant gives

Topic 4 – Doing research (Observation)

Overt vs covert

Covert observations – The participants are aware they are being watched

+ Participants do not change their behaviour (reduced demand characteristics)

Overt observations – The participants are *not* aware they are being watched

+ It is possible to get informed consent (ethical)

Participant vs non-participant

Participant observation – The observer engages in the behaviour they are watching

+ The observer gains greater insight (validity)

Non-participant observation – The observer does not engage in the behaviour they are watching

+ The observer can maintain objectivity)

Naturalistic vs controlled

Naturalistic behaviour– The observation takes place in the context where the behaviour would normally occur

+ Ecologically valid)

Controlled observation – The observation takes place in a controlled (lab) environment

+ Greater control over extraneous variables

Topic 2 – Doing research (Case studies and Correlation)

Case studies

Case study – an in depth study of one person/group/instance/institution

Case studies will typically use a wide range of methods (including experiments, observations, interviews, and questionnaires).

Case studies typically involve exceptional cases e.g.

A patient with a disorder or rare brain damage.

+ Provide rich/in depth data

+ ecologically valid

- Unrepresentative of neurotypical people

- Difficult to repeat

Correlation

Correlation – Correlational research involve measuring two variables to find a relationship.

Correlational data will be plotted onto a scattergram and a line of 'best fit' will be drawn.

If the line goes diagonally upwards, this is a positive correlation. Diagonally downwards will be a negative correlation. If is difficult to draw a line of best fit, there is no correlation.
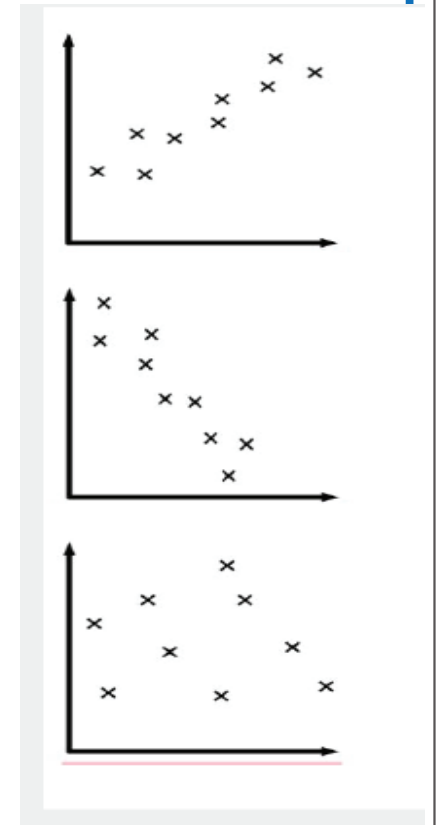
Topic 6 – Analysis data

Data

Key term	Definition
Qualitative data	Typically descriptive data.
Quantitative data	Data that can be measured and written down with numbers.
Primary Data	First-hand information that has been collected by the researcher for the purpose of their study.
Secondary data	The researcher uses pre-existing data. The data could have been from a newspaper, diary entry or even data collected by another researcher or study.

Bias

Gender Bias	The emphasis of the study is more inclined to one gender.
Cultural Bias	The emphasis of the study is more inclined to one ethnicity/culture.
Age Bias	The emphasis of the study is more inclined to a certain age group.
Experimenter bias	The researcher influences the results in order to portray a certain outcome.
Observer bias	Observer bias occurs when the observers' biases/personal inclinations determine which behaviours they choose to observe.

Reliability and validity

Reliability = consistency of measures (will you get the same result each time?)
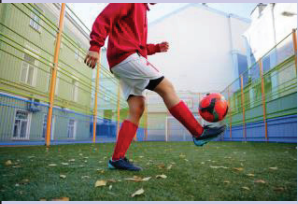
Validity = the accuracy of measures (are you measuring what you claim to be measuring?)

Planning Dictionary: Tier 3

Image	Word	Definition	In a sentence
	Extraneous variable	A variable (other than IV) that might affect DV	Weather could have been an extraneous variable in Bickman's study.
	Hypothesis	A testable statement or prediction	A good hypothesis should refer to both IV and DV or both co variables.
	Null hypothesis	A prediction that there will be no difference or no correlated	Bickman's null hypothesis was that uniform would not affect obedience
	Alternate hypothesis	A predction that there will be a difference or correlation	Bickman's hypothesis was that the guard would be obeyed more often than the civilian.
	Independent variable	The variable that is manipulated	Bickman's IV was the uniform worn by the confederate.
	Sample	The people being studied	Bickman used an opportunity sample.
	Variable	Something that changes	Experiments have an independent and dependent variable.

Subject/Topic Dictionary: Tier 3

Image	Word	Definition	In a sentence
	Competence	'Psychologists value the continuing development and maintenance of high standards of competence in their professional work, and the importance of preserving their ability to function optimally within the recognised limits of their knowledge, skill, training, education, and experience.'	A psychologist has a duty to uphold a level of competence.
	Generalisability	The extent to which the findings of a study apply beyond the research.	Bickman's study is not generalisable as the sample only included Americans.
	Integrity	Psychologists value honesty, accuracy, clarity, and fairness in their interactions with all persons, and seek to promote integrity in all facets of their scientific and professional endeavours.	Honesty is a key aspect of integrity
	Opportunity	A random method where the most accessible or easily found people are chosen as the participants.	Bickman conducted an opportunity sample.
	Random sample	A sample where everyone in the population has an equal chance of selection.	One way to conduct a random sample is to
	Respect	'Psychologists value the dignity and worth of all persons, with sensitivity to the dynamics of perceived authority or influence over clients, and with particular regard to people's rights including those of privacy and self-determination'	Psychologists must show respect to their participants
	Self-selected sample	A sample method in which participants volunteer themselves	Zimbardo conducted a self-selected sample

Subject/Topic Dictionary: Tier 3

Image	Word	Definition	In a sentence
	Case study	An in-depth study of one group, individual, or instance.	HM was a famous case study.
	Experiment	An study that measures the impact of IV on DV	Bickman conducted an experiment.
	Field	An experiment that takes place in a natural context.	Bickman conducted a field experiment in New York.
	Interview	An interview is a conversation where questions are asked and answers are given.	Interviews can be structured or unstructured.
	Lab experiment	An experiment that takes place in an artificial environment.	Cooper and Mackie conducted a lab experiment.
	Natural experiment	An experiment where the IV naturally occurs.	Piaget used natural experiments
	Observation	Observing of participants behaviour through controlled or uncontrolled conditions.	Observations can be participant or non participant.

Subject/Topic Dictionary: Tier 3

Image	Word	Definition	In a sentence
	Demand characteristics	A subtle cue that makes participants aware of what the experimenter expects to find or how participants are expected to behave	Piaget is criticised for demand characteristics
	Observer effects	Refers to subjects altering their behaviour when they are aware that an observer is present.	Observer effects can be avoided by using a covert observation
	Internal reliability	The method of measuring the external consistency of a test. This method is carried out by different "raters" giving consistent estimates/measures of behaviour	**Lab experiments have high internal reliability.**
	External reliability	Refers to the extent to which a measure varies from one use to another.	**Replication is an indicator of high external reliability.**
	Construct validity	Ability of a measurement tool to actually measure the psychological concept being studied.	IQ lacks construct validity as it might not measure genuine intelligence.
	Ecological validity	Refers to the extent to which the findings of a research study are able to be generalised to real-life settings.	Lab experiments lack ecological validity.
	Population validity	How representative the sample used is to the entire population.	The more representative the sample, the high population validity.

Spanish | Holidays | Topic Dictionary

Image	Key Word	Definition	In a Sentence
	un museo	museum	Me encanta visitar el museo del Louvre porque es muy entretenido
	una oficina de turismo	tourist office	La información se puede encontrar en la oficina de turismo
	al lado del mar	By the seaside	Todos los veranos voy de vacaciones a la playa.
	un bosque	forest	Durante las vacaciones doy un paseo por el bosque.
	una isla	island	El año que viene voy a viajar a las islas griegas.
	un campo deportivo	sports field	En mi colegio hay un campo deportivo.
	una campaña	countryside	Prefiero las vacaciones en el campo.
	un camping	campsite	Las vacaciones en camping son geniales
	un hotel	hotel	Mi hotel es muy moderno y también bastante cómodo.
	un pueblo	village	Visité un pueblo histórico con mi familia.
	las vacaciones de verano	summer holidays	Durante las vacaciones de verano viajamos a Estados Unidos.

Spanish | Holidays | Sentence Builder 1

Add a tme marker and a verb		destination		Who with?	Reason	Add a Past tense		And a reason
Normalmente (Normally) **Generalmente (Usually)** **Todos los años (Every year)** **En verano (In summer)** **En Agosto (In August)** **En primavera (In spring)** **En invierno (In winter)** **En otoño (In autumn)** **Durante las vacaciones escolares (During the school holidays)**	**voy (I go)** **mi amigo (a) va (he/she goes)**	**a Paris** (to Paris) **a Madrid** **a Roma** **a Lisboa** **a Nueva York**	**en Francia (in France)** **en España (in Spain)** **en Italia (in Italy)** **en Portugal (in Portugal)** **en los Estados Unidos (in the USA)**	**con mis / sus padres.** (with my / his-her parents) **con mis / sus abuelos.** (with my / his-her grandparents) **con mis / sus amigos.** (with my / his-her friends) **con mi / su familia.** (with my / his-her family) **con mi / su colegio** (with my / his-her school)		**fui (I went)** **fue (he / she went)**	**a Paris** (to Paris) **a Madrid** **a Roma** **a Lisboa** **a Nueva York**	**en Francia (in France)** **en España (in Spain)** **en Italia (in Italy)** **en Portugal (in Portugal)** **en los Estados Unidos (in the USA)**
	viajo (I travel) **viaja (he/she travels)**	**en tren** (by train) **en barco** (by boat) **en avión** (by plane) **en coche** (by car) **en autocar** (by coach) **en bicicleta** (on a bike) **en moto** (on a motorbike)	**porque es…** (because it is) **(muy / muy / bastante / bastante)** (very / really / quite / rather) **rápido** (fast) **barato** (cheap) **cómodo** (comfortable) **genial** (great) **práctico** (practical) **un viaje muy largo** (a very long journey) **menos caro que el avión** (less expensive than the plane) **más cómodo que el autocar** (it's more comfortable than the coach)		**pero (but)**	**el año pasado (last year)**	**viajé (I travelled)** **viajó (he/she travelled)**	**en tren** (by train) **en barco** (by boat) **en avión** (by plane) **en coche** (by car) **en autocar** (by coach) **en bicicleta** (on a bike) **en moto** (on a motorbike)	**porque fue…** (because it was) **(muy / muy / bastante / bastante)** (very / really / quite / rather) **rápido** (fast) **barato** (cheap) **cómodo** (comfortable) **genial** (great) **práctico** (practical) **un viaje muy largo** (a very long journey) **menos caro que el avión** (less expensive than the plane)
En Paris (In Paris) **En Madrid** **En Roma** **En Lisboa** **En Nueva York**	**se puede (we can)** **no se puede (we cannot)**	• **visitar el centro de la ciudad** (visit the town-centre) • **ir de compras** (go shopping) • **hacer natación / esquí acuático / vela / windsurf** (go swimming / water skiing / sailing / windsurfing) • **pasearse** (go for a walk) • **usar la piscina al aire libre** (use the outdoor swimming pool) • **relajarse** (relax) • **tomar el sol en la playa** (sunbathe) • **leer el periódico / una novela de aventuras** (read the newspaper / an adventure novel)				**se podía (we could)** **no se podía (we couldn't)**	**visitar el centro de la ciudad** (visit the town-centre) **ir de compras** (go shopping) **hacer natación / esquí acuático / vela / windsurf** (go swimming / water skiing / sailing / windsurfing) **pasearse** (go for a walk) **usar la piscina al aire libre** (use the outdoor swimming pool) **relajarse** (relax) **tomar el sol en la playa** (sunbathe)	

Spanish | Holiday activities and 3 tenses|Sentence Builder 2

PRESENT

Durante las vacaciones, cuando (On holiday, when)

- **hace calor** (it is hot)
- **hace fresco** (it is cool)
- **hace frío** (it is cold)
- **hace buen / mal tiempo** (the weather is nice/bad)
- **hace sol** (it is sunny)
- **hace viento** (it is windy)
- **está nublado** (it is foggy)
- **hay nubes** (there are clouds)
- **hay tormenta** (there are storms)
- **llueve** (it rains)
- **nieva** (it snows)

- **nado** en el mar (I swim in the sea)
- **tomo** el sol (I sunbathe)
- **voy** de paseo (I go hiking)
- **hago** piragüismo (I go kayaking)
- **voy** de campamento (I go camping)
- **voy** de compras (I go shopping)

- todos los días. (every day)
- cada día. (every day)
- cada mañana. (every morning)
- cada tarde. (every afternoon)
- cada tarde. (every evening)
- cuando puedo. (whenever I can)
- a veces. (from time to time)
- una vez a la semana. (once a week)
- dos veces al día. (twice a day)

- **Lo paso** bien! (I have a good time!)
- **Tengo** un tiempo maravilloso! (I have a wonderful time!)
- **Lo paso bomba!** (I have a blast!)
- **Es** increíble! (It is incredible!)
- **Lo paso mal!** (I have a bad time!)
- **Lo paso fatal!** (I have an awful time!)
- **Es** horrible! (It is dreadful!)
- **Es** un desastre! (It is a disaster!)

PAST

El año próximo, si (Next year, if)

- **iré** de escaparates (I will go window shopping)
- **haré** windsurf (I will go windsurfing)
- **haré** una excursión en autocar (I will go on a coach trip)
- **haré** esquí acuático (I will go water skiing)
- **visitaré** muchos monumentos históricos (I will visit lots of historic monuments)
- **tomaré** muchas fotos (I will take lots of pictures)

- **Lo pasaré** bien! (I will have a good time!)
- **Tendré** un tiempo maravilloso! (I will have a wonderful time!)
- **Lo pasaré bomba!** (I will have a blast!)
- **Será** increíble! (It will be incredible!)
- **Lo pasaré mal!** (I will have a bad time!)
- **Lo pasaré fatal!** (I will have an awful time!)
- **Será** horrible! (It will be dreadful!)
- **Será** un desastre! (It will be a disaster!)

FUTURE

El año pasado, durante las vacaciones, como (Last year, during the holiday, as)

- **hacía calor** (it was hot)
- **hacía fresco** (it was cool)
- **hacía frío** (it was cold)
- **hacía buen / mal tiempo** (the weather was nice/bad)
- **hacía sol** (it was sunny)
- **hacía viento** (it was windy)
- **estaba nublado** (it was foggy)
- **había nubes** (there were clouds)
- **había tormenta** (there were storms)
- **llovía** (it rained)
- **nevaba** (it snowed)

- **todos los días.** (every day)
- **cada día.** (every day)
- **cada mañana.** (every morning)
- **cada tarde.** (every evening)
- **a veces.** (from time to time)

- **nadé** en el mar. (I swam in the sea)
- **tomé** el sol. (I sunbathed)
- **fui** de paseo. (I went hiking)
- **hice** piragüismo. (I went kayaking)
- **fui** de campamento. (I went camping)
- **fui** de compras. (I went shopping)
- **fui** de escaparates. (I went window shopping)
- **hice** windsurf. (I went windsurfing)
- **hice** una excursión en autocar. (I went on a coach trip)
- **hice** esquí acuático. (I went water skiing)
- **visité** muchos monumentos históricos. (I visited lots of historic monuments)
- **tomé** muchas fotos. (I took lots of pictures)

- **Lo pasé bien!** (I had a good time!)
- **Tuve** un tiempo maravilloso! (I had a wonderful time!)
- **Lo pasé bomba!** (I had a blast!)
- **Fue** increíble! (It was incredible!)
- **Lo pasé mal!** (I had a bad time!)
- **Lo pasé fatal!** (I had an awful time!)
- **Fue** horrible! (It was dreadful!)
- **Fue** un desastre! (It was a disaster!)

Spanish | Photo Card | Skills Guide

Success Criteria:

- ❑ Have you **described what you can see** in the photo?
- ❑ Have you **used PALM** to add a **range of details?**
- ❑ Have you linked your ideas with straightforward **connectives?**
- ❑ Have you **given your opinion** about the activity?
- ❑ Have you given **a variety of reasons?**

- ❑ Use the **Present tense** to say what people are doing

Step 1: Describe what you can see in the photo

En la foto hay... (in the photo there is…)
En la foto puede ver... (in the photo I can see...)

❑ **Who?** **P**eople

- **una mujer/una chica** (a woman/girl)
- **un hombre/un chico** (a man/boy)
- **una familia/un grupo** (a family / group)
- **unos estudiantes** (some students)

❑ **What are they doing?** **A**ction

- **están caminando** (they are walking
- **están hablando** (they are talking)
- **está(n) sonriendo** (they are smiling)

❑ **Where?** **L**ocation

Están en ... (They are in...)

- **la ciudad** (the city)
- **la playa** (the beach)
- **las montañas** (the mountains)
- **un restaurante** (a restaurant)
- **el parque** (the park)
- **casa** (at home)

❑ **What is the mood?** **M**ood

- **son felices** (they are happy)
- **hace buen tiempo** (it is good weather)
- **hace mal tiempo** (it is bad weather)

Describe esta foto y da tu opinión sobre salir con amigos

Model answer

Description: En la foto hay un grupo de cinco amigos. También hay tres chicas y dos chicos. Puedo ver que están sonriendo y pienso que están en la playa. Finalmente, son muy felices.

Opinion: A mi modo de ver, me encanta viajar con amigos porque es entretendio y me hace reír, aunque a veces es un poco agotador.

Step 2: Give an opinion about the activity

❑ **Start with an opinion phrase**

- **En mi opinión** (In my opinion)
- **A mi modo de ver** (In my opinion)
- **Pienso que / Creo que** (I think that)
- **Según yo** (according to me)

❑ **Give a positive opinion**

- **es divertido / entretenido** (it is fun / entertaining)
- **es relajante / emocionante** (it is relaxing / exciting)
- **me hace feliz / reír** (it makes me happy / laugh)

❑ **Link with a connective(s)**

- **también / aunque** (also / although)
- **sin embargo / pero** (however / but)

❑ **Give a negative opinion**

- **es aburrido / desagradable** (it is boring / unpleasant)
- **es agotador / monotono** (it is tiring / dull)
- **me hace triste** (it makes me sad)

Spanish | School uniform|Topic Dictionary

Image	Key Word	Definition	In a Sentence
	un abrigo	a coat	No tengo **un abrigo.**
	una camisa	a shirt	Llevo **una camisa** blanca.
	una chaqueta	a jacket	Se debe llevar **una chaqueta.**
	unos calcetines	socks	Mis **calcetines** son blancos.
	una corbata	a tie	No me gusta llevar **una corbata.**
	una falda	a skirt	Las chicas puede llevar **una falda.**
	un jersey	a jumper	Si hace frío, llevo **un jersey.**
	unos pantalones	trousers	A veces llevo **unos pantalones.**
	un vestido	a dress	No se puede llevar **un vestido.**
	unas zapatillas de deporte	trainers	Prefiero llevar **unas zapatillas de deporte**.
	unos zapatos	shoes	Mis **zapatos** son negros.

Spanish | Regular tenses

PRESENT TENSE	HABLAR	BEBER	VIVIR
Yo (I)	hablo	bebo	vivo
Tú (You sing)	hablas	bebes	vives
Él/Ella (He/she/it)	habla	bebe	vive
Nosotros/as (We)	hablamos	bebemos	vivimos
Vosotros/as (You pl)	habláis	bebéis	vivís
Ellos/Ellas (They)	hablan	beben	viven

PAST TENSE	HABLAR	BEBER	VIVIR
Yo (I)	hablé	bebí	viví
Tú (You sing)	hablaste	bebiste	viviste
Él/Ella (He/she/it)	habló	bebió	vivió
Nosotros/as (We)	hablamos	bebimos	vivimos
Vosotros/as (You pl)	hablasteis	bebisteis	vivisteis
Ellos/Ellas (They)	hablaron	bebieron	vivieron

IMPERFECT TENSE	HABLAR	BEBER	VIVIR
Yo (I)	hablaba	bebía	vivía
Tú (You sing)	hablabas	bebías	vivías
Él/Ella (He/she/it)	hablaba	bebía	vivía
Nosotros/as (We)	hablábamos	bebíamos	vivíamos
Vosotros/as (You pl)	hablabais	bebíais	vivíais
Ellos/Ellas (They)	hablaban	bebían	vivían

FUTURE TENSE	HABLAR	BEBER	VIVIR
Yo (I)	hablaré	beberé	viviré
Tú (You sing)	hablarás	beberás	vivirás
Él/Ella (He/she/it)	hablará	beberá	vivirá
Nosotros/as (We)	hablaremos	beberemos	viviremos
Vosotros/as (You pl)	hablaréis	beberéis	viviréis
Ellos/Ellas (They)	hablarán	beberán	vivirán

Present Continuous		HABLAR	BEBER	VIVIR
Yo	estoy			
Tú	estás			
Él/Ella	está	- ANDO	- IENDO	- IENDO
Nosotros/as	estamos			
Vosotros/as	estáis			
Ellos/Ellas	están			

Use a range of tenses to elevate your work and get a higher grade!

Spanish | Irregular tenses

PRESENT TENSE	estar	ser	tener	ir	hacer
Yo	estoy	soy	tengo	voy	hago
Tú	estás	eres	tienes	vas	haces
Él/Ella	está	es	tiene	va	hace
Nosotros/as	estamos	somos	tenemos	vamos	hacemos
Vosotros/as	estáis	sois	tenéis	vais	hacéis
Ellos/Ellas	están	son	tienen	van	hacen

FUTURE TENSE	tener	hacer
Yo	tendré	haré
Tú	tendrás	harás
Él/Ella	tendrá	hará
Nosotros/as	tendremos	haremos
Vosotros/as	tendréis	haréis
Ellos/Ellas	tendrán	harán

PAST TENSE	estar	ser	tener	ir	hacer
Yo	estuve	fui	tuve	fui	hice
Tú	estuviste	fuiste	tuviste	fuiste	hiciste
Él/Ella	estuvo	fue	tuvo	fue	hizo
Nosotros/as	estuvimos	fuimos	tuvimos	fuimos	hicimos
Vosotros/as	estuvisteis	fuisteis	tuvisteis	fuisteis	hicisteis
Ellos/Ellas	estuvieron	fueron	tuvieron	fueron	hicieron

IMPERFECT	ver	ser	ir
Yo	veía	era	iba
Tú	veías	eras	ibas
Él/Ella	veía	era	iba
Nosotros/as	veíamos	éramos	íbamos
Vosotros/as	veíais	erais	ibais
Ellos/Ellas	veían	eran	iban

Choose the correct answer:
a. (Yo) **Tenemos / Tengo** los ojos verdes.
b. (Tú) **Tienes / Tiene** los ojos azules.
c. (Él) **Tiene / Tienen** el pelo corto.
d. (Ella) **Tienen / Tiene** el pelo rizado.
e. (Nosotros) **Tengo / Tenemos** los ojos azules.

Choose the correct answer:
a. (Yo) **Soy / Sois** muy alta.
b. (Tú) **Eres / Somos** un poco bajo.
c. (Él) **Son / Es** demasiado amable.
d. (Vosotros) **Eres / Sois** bastante perezosos.
e. (Ellos) **Son / Es** demasiado deportistas.

Spanish | My School and School Rules | Skills Guide

Have you used..

1. a verb?	2. a noun?	3. a connective?	4. An opinion phrase?	5. a verb?	6. an intensifier?	7. an adjective?
Me encanta(n) (I love) **Me gusta(n)** (I like) **No me gusta(n)** (I don't like) **Odio** (I hate)	**el inglés** (english) **el español** (spanish) **el francés** (french) **la historia** (history) **la geografía** (geography) **la informática** (it) **el dibujo** (art) **la educación física** (pe) **el teatro** (drama) **la música** (music) **las matemáticas** (maths) **las ciencias** (science) **mi profe de …** (my … teacher)	**porque** (because) **pero** (but) **y** (and) **sin embargo** (however)	**pienso que / creo que** (I think that) **diría que** (I would say that) **según yo** (according to me) **a mi modo de ver** (in my opinion) **encuentro que** (I find that)	**es** (it is) **son** (it is/they are) **es** (he/she is)	**muy** (very) **bastante** (quite) **realmente** (really) **un poco** (a bit)	**divertido/a(s)** (fun) **entretenido/a(s)** (entertaining) **interesante(s)** (interesting) **fácil(es)** (easy) **difícil(es)** (difficult) **útil(es)** (useful) **inútil(es)** (useless) **estricto/a** (strict) **amable** (kind) **gracioso/a** (funny)

En mi colegio (At my school) **En nuestro colegio** (at our school)	**se debe** (you/one must) **se puede** (you/one can)	**traer el material escolar** (bring your equipment) **charlar en clase** (chat in class) **beber en clase** (drink in lessons) **correr en el pasillo** (run in the corridors) **decir palabrotas** (swear) **escuchar a los profes** (listen to the teachers) **ser puntual** (be on time)	**Example:** Me encantan las ciencias porque según yo son muy entretenidas. (I love Science because according to me it's very entertaining)
En mi opinión es (In my opinion it is) **Lo encuentro** (I find it)	**muy** (very) **un poco** (a little) **bastante** (quite) **demasiado** (too) **realmente** (really)	**justo** (fair) / **logico** (logical) / **necesario** (necessary) / **razonable** (reasonable) **molesto** (annoying) / **frustrante** (frustrating) / **injusto** (unfair) **ridiculo** (ridiculous) / **inútil** (pointless)	

Spanish | My Future plans | Skills Guide 2

Cuando era pequeño (a), quería ser (When I was little, I wanted to be) **Cuando mi amigo (a) era pequeño (a), quería ser** (When my friend was little, he/she wanted to be)		**pero ahora me gustaría ser** (but now I would like to be) **pero ahora le gustaría ser** (but now he / she would like to be)	
médico(a) (a doctor) **cirujano(a)** (a surgeon) **enfermero / enfermera** (a nurse) **dentista** (a dentist)	**peluquero / peluquera** (a hairdresser) **esteticista** (a beautician) **contable** (an accountant) **dependiente / dependienta** (a shop assistant)	**entrenador personal** (a personal trainer) **granjero / granjera** (a farmer) **policía** (a police officer) **recepcionista** (a receptionist)	**mecánico** (a mechanic) **periodista** (a journalist) **maestro / maestra de escuela primaria** (a primary school teacher) **profe** (a secondary school teacher)
Entonces, el año que viene, (no) voy a estudiar (So next year I am (not) going to study)		**Entonces, si tengo buenas notas, voy a** (So if I have good results, I am going to)	
ciencias (science) **arte** (art) **matemáticas** (maths) **geografía** (geography) **tecnología** (technology) **música** (music) **religión** (RE)	**francés** (French) **dibujo** (art) **deporte** (PE) **historia** (history) **español** (Spanish) **inglés** (English) **informática** (computing) **arte dramático** (drama)	**continuar** con mis / sus estudios (continue with my / his-her studies) **encontrar** un trabajo (find a job) **hacer** un aprendizaje (do an apprenticeship) **hacer** el bachillerato (take the A Level) **tomar** un año sabático (take a gap year) **ir** a la universidad (go to uni)	
porque (because) / **ya que** (because) / **dado que** (since) / **pero** (but) / **sin embargo** (however)			
será (it will be) **no será** (it won't be)	**una experiencia fascinante**. (a fascinating experience) **útil y bastante interesante.** (useful and quite interesting) **mi / su pasión.** (my / his-her passion) **una perdida de tiempo.** (a waste of time) **útil para mi / su futuro.** (useful for my / his-her future)	**divertido (a)** (fun) **fantástico (a)** (fantastic) **entretenido (a)** (entertaining) **increíble** (incredible) **asombroso (a)** (amazing) **fácil** (easy) **fascinante** (fascinating) **relajante** (relaxing)	**demasiado difícil.** (too difficult) **monótono (a)** (repetitive) **muy caro (a)** (very expensive) **aburrido (a)** (boring) **malo (a)** (rubbish)
tengo notas increíbles (I have amazing grades) **tengo buenas notas** (I have good grades) **progreso adecuadamente** (I make progress)		**siempre pongo mucho esfuerzo** (I always put a lot of effort in) **es (muy / muy / un poco / bastante / demasiado / bastante) interesante** (it's (really / very / a bit / rather / too / quite) interesting	

French | Speaking | Exam Style question

1. ¿Qué actividades extraescolares haces? Cuando lo haces?

2. ¿Porque te gusta? (Me gusta porque es…)

3. ¿ Qué hiciste recientemente?

Mi passion es –I am passionate about…	el deporte / el arte/ la musica
Los Lunes –on Mondays **A la hora de comer** At lunch time **Despues el insti** –after school	Juego…I play Toco…I play Voy al club / a clases de…I go to the club / to classes
Soy miembro –I am a member	Del club / equipo de natacion –of the swimming club
Es	Divertido / emocionante / relajante
Te ayuda a –it helps you	aprender cosas nuevas –to learn new things Hacer nuevos amigos –many new friends Ser creative –a –be creative
Participé a …I participated **Organicé**… I organised	Un concierto / un espectaculo Una competicion / una exposicion
Jugué un Partido	Gané un trofeo –I won a prize

Spanish | Writing: the 20 marker | Skills Guide

Exam question: Write to your friend about your school. You must include:
- *description of your school day*
- *your opinion of subjects with reasons*
- *how you got to school last week*
- *what you are going to do after school today*

Model answer

Hola Maria,

Bullet Point 1: Te voy a contar sobre mi colegio. La semana pasada me resultó un poco difícil. El lunes, en clase de matemáticas, me reí durante un examen y ¡la profesora no estaba muy contenta!

Bullet Point 2: Creo que soy bueno en francés pero, lamentablemente, el profesor no está de acuerdo. El miércoles pasado dijo que no soy lo suficientemente trabajador. ¡Es injusto!

Bullet Point 3: Luego, el viernes por la mañana, el autobús llegó tarde, así que llegué tarde al colegio

Bullet Point 4: ¡Yo diría que no me gusta ninguna materia en el colegio! Voy a dedicar mi tiempo a hacer deporte. No voy a hacer mis tareas y muchas veces juego en mi celular mientras veo televisión.

Challenge checklist:

🏆	☐ Past, present and future timeframes ☐ Connectives, time phrases ☐ Extended sentences (e.g. avec, dans) ☐ Opinion phrases
🏆🏆	☐ A wide range of tenses ☐ Different persons of the verb (e.g. il /elle) ☐ Justified opinions / reasons ☐ Negatives (ne…pas / ne…jamais) ☐ Ambitious vocabulary
🏆🏆🏆	☐ Phrases with more than one tense ☐ Infinitive phrases (J'aimerais +inf) ☐ Complex phrases ☐ Positive and negative statements

Challenge: Translate into French:

I like my school and my teachers. My favourite subject is maths because it is fun. I always do my homework in the evening. Last month I went to the museum with my history class. It was quite boring. Next year I want to continue to learn English because it will be very important for my future.

History | Crime and Punishment in Early Modern England, c.1500-c.1700 | Topic Dictionary

Image	Key Word	Definition	In a sentence…
	authority	Noun: A word used to describe the people who have the power to make decisions	I wish I had the **authority** to change some rules in the country.
	branding	Noun: A punishment where a mark was made on a criminal by burning their skin with a hot iron	One of the most painful punishments was **branding**.
	capital crime	Noun: a crime that is punished by with the death penalty.	High treason was a **capital crime**.
	capital punishment	Noun: Legally killing someone as punishment for a crime they have committed.	In the UK **capital punishment** no longer exists.
	civil war	Noun: a war fought between two sides from the same country.	In England there was a **civil war** between 1642-1651
	clergy	Noun: People who work for the church	A priest or bishop is an example of a member of the **clergy**.
	Constable	Noun: an official responsible for law enforcement in a village or local area	If you were a **constable** you were in charge of the nightwatchmen.
	corporal punishment	Noun: The punishment of people by beating them	**Corporal punishment** used to be legal in schools in the UK.
	crime	Noun: An action for which you can be punished by law	It would be a **crime** to steal some food from that shop.
	deterrence	Noun: Discouraging something by creating a feeling of fear	Severe punishments act as a **deterrence** to others.
	enclosure	Noun: land fenced off so only the landowner can use it.	Lots of people ended up in poverty due to **enclosure**.
	Enlightenment	Noun: philosophical movement of the 17th and 18th centuries that focused on the use of reason to question ideas that were previously accepted.	During the **Enlightenment** people started to question the importance of religion.

History | Crime and Punishment in Early Modern England, c.1500-c.1700 | Topic Dictionary

Image	Key Word	Definition	In a sentence…
	excommunicate	Verb: To be rejected by the Catholic Church	If you are **excommunicated** it means you will not get into Heaven.
	execution	Noun: Killing someone as punishment for a crime	**Execution** is another way of saying capital punishment.
	heresy	Noun: A set of beliefs different from the established religion	If you were accused of **heresy,** you could be executed.
	high treason	Noun: plotting to kill the King	If you committed **high treason** you would be given the death penalty.
	Import Duties	Noun: taxes payable on goods imported into the country.	**Import Duties** vary depending on the item you are importing.
	Justice of the Peace (JP)	Noun: Senior judges who kept order in unruly areas	You would have to wait a long time for the **Justice of the Peace** to reach your village.
	law	Noun: The system of rules developed by the government of a country	It is really important that people follow the **law**.
	law enforcement	Noun: Making sure the law is obeyed	**Law enforcement** has greatly developed over the last 1,000 years.
	maiming	Verb: To cause physical harm to someone	An example of **maiming** someone is cutting off their hand.
	martyr	Noun: Someone who suffers or dies for their beliefs	Lots of people who Mary I killed could be considered **martyrs**.
	moral crimes	Noun: crimes that don't harm people or property, but don't match society's views or behaviour, e.g. not following church rules.	Cheating on your partner would be considered a **moral crime**.

History| Crime and Punishment in Early Modern England, c.1500-c.1700 |Topic Dictionary

Image	Key Word	Definition	In a sentence…
	petty theft	Noun: The crime of stealing low value items	You should not commit **petty theft**!
	plague	Noun: a disease that spread through fleas on rats	The plague got the nickname the **Black Death**.
	poaching	Noun: The crime of illegally catching animals for food	Lots of poorer people started **poaching** to provide food for their families.
	Poor Relief	Noun: financial assistance for the poorest members of society	Elizabeth I introduced the **Poor Relief** to support those in the most need.
	Puritan	Noun: A very strict Protestant	Oliver Cromwell was a **Puritan**.
	sanctuary	Noun: a safe place	My home is my **sanctuary**.
	smuggling	Noun: bringing goods into a country without paying the taxes due	There are harsh penalties for people who **smuggle** goods into the country.
	superstition	Noun: beliefs based on old ideas about magic, rather than reason or science	Over time, the belief in witches was seen as a **superstition.**
	transportation	Noun: sending criminals to America or Australia to work for a fixed period	You would not want to be **transported** as you were treated like an enslaved person.
	treason	Noun: The crime of betraying the King or Queen	Committing **treason** was one of the worst crimes you could commit in Medieval Britian.
	Watchman	Noun: Local man who patrols an area at night to help keep order	Being a **nightwatchman** was an unpaid role!

What social changes affected crime and punishment 1500-1700?

Population growth

During the 16th and 17th centuries there was a steady increase in the population. More people meant it was harder for some to find work.

Printing

After printing was invented in the 15th century, more books and pamphlets started to appear. A favourite topic for pamphlets was crime, particularly witchcraft and vagabondage.

Religious Turmoil

Religious changes made by Henry VIII during the 1530s caused much unrest and confusion. This was followed by a period of religious upheaval as the country switched from Protestant to catholic monarchs and back again. As religious argument continued, both sides accused the other of being in league with the Devil. This helped increase public belief in evil and supernatural explanations for events.

Economic changes

England was becoming wealthier overall and some people became richer. However, the overwhelming majority remained poor.

Political change

This period also saw the greatest rebellion of all – the English Civil War (1642-1649) in which Parliament fought and beat the King's forces. This led to the execution of King Charles I. This created a feeling of insecurity and fear that lasted decades.

Landowners' attitudes

Landowners were becoming richer and growing in influence during this period. They encouraged laws that defended their rights, power and property against those they regarded as a threat. Increasingly landowners regarded the poor with suspicion. They felt threatened by their growing numbers and wanted to keep the poor firmly in their place.

How did crimes change in the Early Modern period?

Vagabonds were unemployed homeless people.

- **Vagrancy Act 1547** – after 3 days, branded with a V and sold into slavery for 2 years.
- **Act for the Relief of the Poor 1597** – whipping and burning the ear
- **Poor Law 1601** – established a distinction between deserving and undeserving poor. Could still be branded or whipped or sent to a House of Correction.

Ban Christmas!

Ban drinking, dancing and feasting!

Ban playing sport on a Sunday!

Large areas of land had been **enclosed**, so more people left the countryside to go to towns in search of work.

Many poor people continues to **poach** and hunt rabbits and hares or fish in rivers. **1671 Game Act** made these activities illegal.

However, most people ignored this, and poaching became a '**social crime**'.

After Parliament's victory in the English Civil War and Charles I's execution, **Oliver Cromwell** took the title Lord Protector.
He was a **Puritan** and thought people should focus on religion, so between 1653-1658 some activities and entertainments were made illegal.

Case Studies: The Gunpowder Plot and Witchcraft

- When King James I became king, **Catholics** hoped to worship freely. However, the laws against Catholics were tightened and more harshly enforced. Most Catholics had little choice but to accept the changes.

- **Robert Catesby** hatched a plan to blow up Parliament, kill King James and put a Catholic on the throne.

- **Guy Fawkes** placed 36 barrels of gunpowder beneath the Houses of Parliament, more than enough to destroy the building and everyone in it.

- An anonymous letter warned Lord Monteagle not to attend the opening of Parliament. Lord Monteagle informed Robert Cecil – the king's Chief Minister.

- Soldiers searched Parliament and arrested Fawkes. He was **tortured** and identified the other plotters. When soldiers caught up with them, Catesby and a few others were killed in the fighting.

- The survivors returned to London for trial. They were sentenced to be **hanged, drawn and quartered**.

- Between **1645 and 1647**, there were many cases of **witchcraft** in East Anglia. At the centre of this was **Matthew Hopkins**, a man known as the **Witchfinder General** due to his 'ability' to spot witches.

- Accusations of witchcraft were **caused** by: village tension, changes to the law, religious upheaval, the Civil War and pamphlets.

- Hopkins collected evidence against 36 people, mostly **elderly women**. Hopkins claimed that if a mouse, spider or fly was in the room it was a '**familiar**' and a sign of the devil.

- Those found guilty of witchcraft were **hanged**.

How did policing methods change in the Early Modern period?

Continuities since the Middle Ages

The **hue and cry** was still used. If the alarm was raised, citizens had to turn out and look for the criminal. This was led by the constable.

Ordinary people were still expected to deal with crime **themselves**.

Constables continued to have an unpaid and part-time role.

Coroners still investigated unnatural deaths.

There were a variety of courts in use, but all still relied on a **local jury**.

Manor courts dealt with local, minor crimes such as selling underweight bread and drunkenness.

Royal judges visited each county twice a year to deal with the most serious offences. These were known as **County Assizes.**

Changes

Watchmen were employed in larger towns to patrol the streets day and night. They were expected to arrest drunks and vagabonds.

Rewards were offered for the arrest of particular criminals accused of serious crimes. Rewards could be very high!

JPs became an important part of law enforcement. JPs judged manor court cases. They could fine people, send them to the stocks, and order them to be whipped.

Quarter Sessions were held four times a year. JPs from across the county would come together to judge more serious cases. They even had the power to sentence someone to death.

Those accused of serious crimes could no longer claim benefit of the clergy.

The *Habeas Corpus Act* of **1679** meant that everyone arrested had to appear in court or be released. People no longer feared being seized and locked up without trial.

How did punishments change in the Early Modern period?

The **pillory** was intended to shame and **humiliate**. It was used to punish crimes such as cheating at cards, persistent swearing and selling underweight bread. If the crowd disapproved of the crime they would pelt the offender with stones. Criminals convicted of sexual crimes were sometimes killed in the pillory.

Fines were perhaps the most common and were used for minor offences such as swearing, gambling, drunkenness and failure to attend church.

Whipping was intended to cause great pain. It usually took place on market day when there was a crowd to watch so was also **humiliating**. It was used for vagabonds, drunkenness and theft of low value goods.

By the late 1500s **Houses of Correction** were built to punish and **reform** offenders. They became known as **Bridewells** after the first one built in London. Vagabonds, unmarried mothers and repeat offenders were sent to Bridewells. Inmates were sometimes whipped and made to do **hard labour**.

The **Bloody Code** refers to the period in England where **225** crimes carried the death penalty. Authorities hoped that by having such a harsh punishment would act as a deterrent, but in reality, juries often lied in an attempt to save people.

Prisons continued to be used for those awaiting trial and for people in debt. However, prisons were very rarely used as a punishment in themselves. Prison conditions were **poor**. Men and women were kept together and younger prisoners were often bullied or abused. **Prisons were dirty and unhealthy.**

Carting meant being paraded round the streets on a cart for all to see and aimed to shame the criminal. It was used for vagrancy, adultery and running a brothel!

Women who argued with or disobeyed their husbands could be convicted as **scolds**. The punishment was the **ducking stool** in the local river or pond. Women who argued in public or swore could be punished in the same way.

From the 1660s, criminals began to be sent (**transported**) thousands of miles away to the **American** colonies. **Transportation** for life was used for murderers who escaped the death penalty. Once in America, some prisoners suffered conditions close to **slavery**. Between 50 000 and 80 000 men, women and children were transported to America up to 1770. Transportation was used as it helped England establish a permanent colony in North America. Some people though that the punishment would allow criminals to **reflect** on their crimes.

Skills – How to answer 4-mark similarity or difference question

Criteria	Marks
• A brief similarity or difference is stated. • Gives some simple overall ideas but does not answer the specific question	1-2
• A clear similarity or difference is stated and explained. • Accurate information is given throughout the answer and is precisely used to meet the demands of the question	3-4

Explain one way **policing methods** in the Middle Ages were similar to policing methods in the Early Modern period. [4-marks]

One way **policing methods** were **similar** in the Middle Age and the Early Modern period is that they both relied on the community.

For example, in the Middle Ages, the **hue and cry** was used which involved the whole town or village chasing after a criminal in order to apprehend them. If a villager did not join in, then the whole community paid a fine. This shows that the community were responsible for capturing a criminal.

This is **similar** to the Early Modern period, in which **constables and nightwatchmen** were used. These positions were chosen by the local community and every male citizen was expected to be a **nightwatchman**. Again, this shows that it was down to the local community to police themselves.

Have a go at the questions below:

- Explain one way **the purpose of punishment** in the Middle Ages was **similar** to in the Early Modern period. [4-marks]

- Explain one way **the types of punishment** in the Middle Ages were **similar** to in the Early Modern period. [4-marks]

- Explain one way **the types of crime** in the Middle Ages were **different** to in the Early Modern period. [4-marks]

History | Crime and Punishment in 18th and 19th century Britain | Topic Dictionary

Image	Key Word	Definition	In a sentence…
	authority	Noun: A word used to describe the people who have the power to make decisions	I wish I had the **authority** to change some rules in the country.
	branding	Noun: A punishment where a mark was made on a criminal by burning their skin with a hot iron	One of the most painful punishments was **branding**.
	capital crime	Noun: a crime that is punished by with the death penalty.	High treason was a **capital crime**.
	capital punishment	Noun: Legally killing someone as punishment for a crime they have committed.	In the UK **capital punishment** no longer exists.
	clergy	Noun: People who work for the church	A priest or bishop is an example of a member of the **clergy**.
	Constable	Noun: an official responsible for law enforcement in a village or local area	If you were a **constable** you were in charge of the nightwatchmen.
	corporal punishment	Noun: The punishment of people by beating them	**Corporal punishment** used to be legal in schools in the UK.
	crime	Noun: An action for which you can be punished by law	It would be a **crime** to steal some food from that shop.
	deterrence	Noun: Discouraging something by creating a feeling of fear	Severe punishments act as a **deterrence** to others.
	execution	Noun: Killing someone as punishment for a crime	**Execution** is another way of saying capital punishment.
	high treason	Noun: plotting to kill the King	If you committed **high treason** you would be given the death penalty.

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Image	Key Word	Definition	In a sentence…
	Import Duties	Noun: taxes payable on goods imported into the country.	**Import Duties** vary depending on the item you are importing.
	inhumane	Adjective: cruel, without compassion	The treatment of animals in the cosmetics industry can be considered **inhumane**.
	law enforcement	Noun: Making sure the law is obeyed	**Law enforcement** has greatly developed over the last 1,000 years.
	maiming	Verb: To cause physical harm to someone	An example of **maiming** someone is cutting off their hand.
	martyr	Noun: Someone who suffers or dies for their beliefs	Lots of people who Mary I killed could be considered **martyrs**.
	oath	Noun: a solemn promise	The King would make people swear an **oath** of loyalty.
	pardon	Noun: when a person is let off punishment for a crime of which they have been convicted.	Criminals can appeal a sentence in hopes of receiving a **pardon**.
	penal	Adjective: involving punishment	During the 18th and 19th centuries you could be transported to a **penal** colony.
	petty theft	Noun: The crime of stealing low value items	You should not commit **petty theft**!
	poaching	Noun: The crime of illegally catching animals for food	Lots of poorer people started **poaching** to provide food for their families.
	Poor Relief	Noun: financial assistance for the poorest members of society	Elizabeth I introduced the **Poor Relief** to support those in the most need.
	proportionately	Adjective: in a fair and balanced way	A **proportionate** punishment would be harsher for a serious crime and less harsh for a minor crime

History | Crime and Punishment in 18th and 19th century Britain | Topic Dictionary

Image	Key Word	Definition	In a sentence…
	smuggling	Noun: bringing goods into a country without paying the taxes due	There are harsh penalties for people who **smuggle** goods into the country.
	trade union	Noun: an organisation that represents workers to protect their rights	It is really important to join a **trade union!**
	transportation	Noun: sending criminals to America or Australia to work for a fixed period	You would not want to be **transported** as you were treated like an enslaved person.
	treason	Noun: The crime of betraying the King or Queen	Committing **treason** was one of the worst crimes you could commit in Medieval Britian.
	trial	Noun: a legal process where a judge (and jury) decide whether someone is guilty of a crime	If you are accused of a crime, you have a **trial** to determine if you are guilty or innocent.
	Watchman	Noun: Local man who patrols an area at night to help keep order	Being a **nightwatchman** was an unpaid role!

What social changes affected crime and punishment in the industrial period?

Population rise and movement
By 1750 there were around 9.5 million people living in England and Wales. Most lived in villages scattered throughout the countryside. However, by 1900 the population had risen to 41.5 million and was mainly concentrated in towns.

Work
During the 18th century, most people had made a living from farm work. By the end of the 19th century, most people found employment in workshops or factories. Work had moved into the towns and cities.

Education
During the 18th century, only a small minority of children attended school. Rates of literacy were low. However, by 1850, 70% of the population could read and write. This rose 95% by 1900, after a law in 1880 said that all children had to go to school until the age of 13.

Voting rights
By the mid-18th century, only one in every eight men could vote. By 1885 nearly all men had this right. Therefore, governments began to make improvements to housing and health, in order to win votes from ordinary people.

Travel
Transport underwent huge changes during the 18th and 19th centuries. By the 1840s, railways had become a major form of travel. These were much faster than the roads and gradually became cheaper so that ordinary people could afford to use them.

Growing acceptance of government involvement
For centuries, British people had resisted any government involvement in local affairs as an interference, which threatened their freedom. However, by the 19th century, people began to accept that the government should have some control over certain things.

Harvests
By the 19th century, there was less chance of poor harvests causing high food prices or starvation. Food could be imported cheaply and quickly from other countries

Wealth and taxes
Two centuries of trade and industrial growth made Britian a wealthy country in this period. During the 19th century, the government collected higher taxes, which they could use to pay for reforms that would improve people's lives.

New ideas about human nature
During the 18th century, new ideas emerged about human nature. Some argued that improving people's education, along with their living and working conditions, might encourage better behaviour. By the mid-1800s, Charles Darwin developed his theory of evolution. This led some people to believe that there was a criminal class that was somehow less evolved than other people.

Crimes against the person and property

Changes in highway robbery – a crime against the person

Highway robbery **increased** in the 18th and 19th centuries because:
- Improved roads led to more people travelling,
- Increased trade between towns meant more goods and money were transported by road,
- Many roads were isolated making it easy to get away with highway robbery.

In **1772**, to try and reduce highway robbery, it became a capital crime to be armed and in disguise on a high road. Mounted patrols on major roads and the growth of railways helped reduce instances of highway robbery, which disappeared completely in the 1830s.
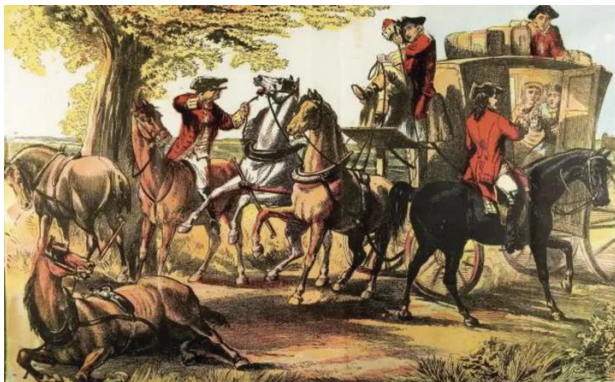
Changes in poaching– a crime against property

Poaching increased in the 18th century, with poaching gangs that worked on a large scale. This led to the 1723 Waltham Black Act, which made poaching a capital crime and also made it illegal to carry snares or own hunting dogs in a poaching area.

Many viewed this law as unfair. Many poaching laws were repealed in 1823.

Changes in smuggling – a crime against property.

Smuggling increased from 1740-1850 because the tax on imported goods was so high. Smugglers made large profits by bringing these goods into the country without paying tax and selling them on.

This led to large gangs of smugglers, such as the Hawkhurst Gang, which smuggled high volumes of goods.

Mounted customs officers tried to prosecute smugglers. They found it difficult because of the large areas of coast to patrol.

Taxes were cut in the 1840s and smuggling decreased.

Crimes against authority – the Tolpuddle Martyrs

In 1834, in Tolpuddle, Dorset, a group of farm workers formed a 'friendly society' (an early form of trade union) to protest about their low wages compared to other farm workers' wages.

The farm owners and the government feared they were losing control of their workers. The six men were arrested for taking secret oaths – an old law intended to stop naval mutinies.

The six were found guilty at their trial. They all received the maximum sentence of seven years transportation to Australia in an attempt to deter others from forming trade unions.

News of the Tolpuddle Martyrs' sentences spread quickly due to the press. 200,000 signatures were collected in opposition of their harsh punishment.

The Home Secretary decided to continue their sentence and the six were sent to Australia.

Protests continued and in 1836 the martyrs were pardoned and returned home.

The incident highlights how the authorities used laws to criminalise people they viewed as a threat.

It shows how the government would protect the interests of employers at the expense of workers.

Significance of the Tolpuddle Martyrs

The pardoning of the martyrs illustrates the impact of public opinion.

The martyrs inspired some to fight for workers' rights but others were put off by how the martyrs were treated.

How did law enforcement and policing methods change?

The Bow Street Runners

- Established in London in 1749 by Henry Fielding, Chief Magistrate at Bow Street Court, to try and tackle the huge crime wave of 17th-century London. Feilding's half-brother, John, took over in 1754.
- At first they charged fees and collected rewards, but by 1785 they were paid by the government
- Introduced new methods of finding evidence to bring criminals to justice – the first modern 'detectives'.
- Branched out to patrolling major roads both on foot and horse. The patrols were less successful than the detecting side, as there were not enough of them to deal with the dramatically increasing crime rate.
- Shared information on crimes and suspects with others – the beginnings of a crime intelligence network.

The 1865 Police Act

This act made professional police forces, which were based on the model of the Metropolitan Police, compulsory across the whole country. All forces were funded by the government and were regularly inspected by officials employed by the government. Police officers were not only tasked with keeping law and order, preventing crime through patrolling the streets and arresting criminals, but were to detect criminals after crimes had been committed. The aim of all activities was to deter crime.

1829: Metropolitan Police Act – began Britain's police force in London.

1835: Municipal Corporations Act – borough councils could set up police forces in their area (but only around half did so!)

1839: Rural Constabulary Act – counties could set up police forces, which 2/3 of the counties did.

1842: Detective department set up at the Metropolitan Police Force headquarters in London.

1856: Police Act – forced all towns and counties to set up a professional force.

1878: Criminal Investigations Department (CID) set up for the Metropolitan Police Force.

Case study – Robert Peel

Robert Peel had a huge influence on both punishment and law enforcement when Home Secretary during the 1820s. He ended the Bloody Code by reducing the number of death penalty offences and tried to reform the prison system. In 1829, he persuaded parliament to pass the Metropolitan Police Act, which set up the first professional police force in London.

1823 Gaols Act

- Prisoners are to be separated into groups so that experienced criminals do not spend time with young offenders
- Male and female prisoners are to be separated
- Female prisoners will be guarded by female warders
- Prisons must have a fresh water supply and a drainage system
- Prison warders must be paid, and prisoners are not to pay them fees
- Prisoners should have proper food
- Doctors and chaplains should visit prisoners with magistrates to check on the conditions
- Prisoners must attend chapel

Reforming the penal code.

After 1810 there were an unprecedented number of capital crimes. According to the law, someone could receive the same punishment for murder as they could for petty theft – the death penalty.

In practice, the death penalty was rarely used for petty crime, as judges thought it was unfair, and transportation or prison was usually preferred, which meant the penal code made little sense. In 1825, Peel reduced the number of capital crimes by 100 because he wanted:
- Less harsh punishments for petty crimes
- To try and reform petty criminals rather than kill them.
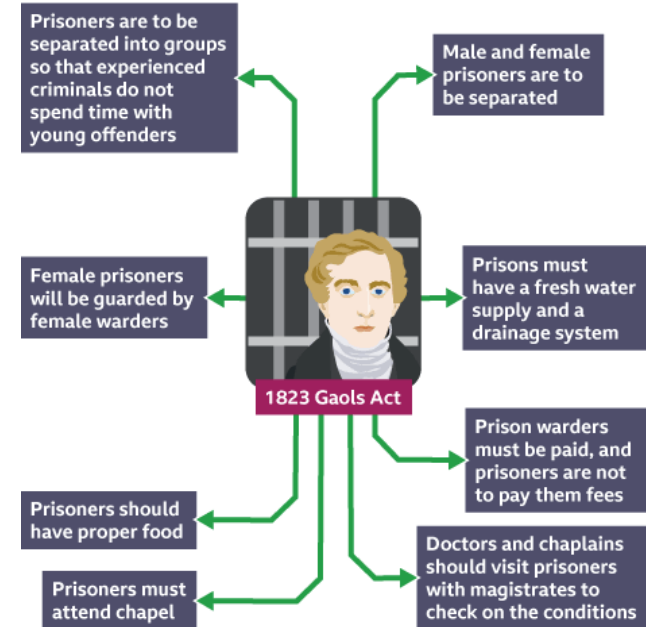
Metropolitan Police Force

The central aim was to prevent crime and disorder and to be totally impartial and objective.

Recruits carefully selected and well trained. It was a full-time and fairly well-paid job.

Members had a uniform so they could be identified (and didn't look like soldiers).

Members were usually unarmed and were trained to use minimum physical force only as a last resort.

Focused on patrolling areas where crime was high. Successfully reduced street crime and disorder.

Not popular at first, but soon recognised by the public as being honest and trustworthy.

Changing views on the purpose of punishment

Factors that changed view on the purpose of punishment

Rapidly growing crime rates led the government to increase the Bloody Code throughout the 18th century. The number of capital crimes reached a peak of 225 in 1810 in an attempt to deter crime. However, it was clear that these deterrents were not working and a new strategy was needed.
Continuing the idea that punishment should be about retribution and deterrence, the 19th century saw increasing feelings that:

- Punishments should be equal to the crime committed
- Corporal and capital punishments were inhumane except for very serious crimes
- Punishment should also be about rehabilitating the offender.

This led to a decrease in the use of the death penalty and the end of the Bloody Code and an increase in other forms of punishment:

First transportation and then imprisonment.

This change in attitude also helped lead to the ending of public executions in 1868.

Transportation to Australia

The increase in the crime rate increased transportation to Australia. Once there the criminals worked for settlers for seven years providing free labour to build infrastructure. Most stayed in Australia once their sentence ended as they couldn't afford the fare home. Transportation ended by 1868 because:
- Australia no longer needed forced labourers and it didn't want 'criminals'.
- Some felt it was too expensive and not a strong enough deterrent to crime. Others felt it was too harsh for both the criminals and their families.
- More prisons had been built and prison was increasingly used instead of transportation.
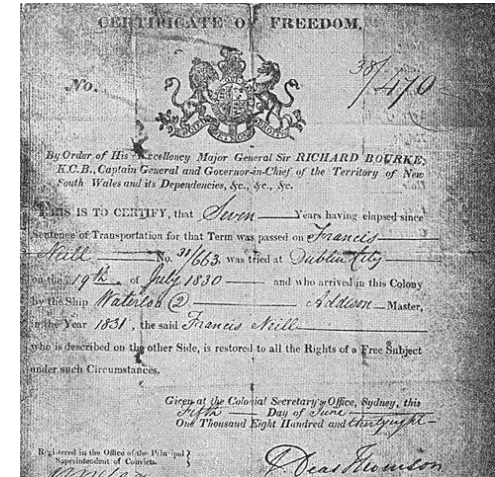
Prison and prison reformers.

Conditions in 18th century prisons were very poor but they were increasingly used as a form of punishment. Many thought prison conditions should be poor with hard labour, but several reformers believed prisons should be improved to increase the likelihood of rehabilitation.

John Howard's work led to the 1774 Gaol Act, which suggested how health and sanitation in prisons could be improved. Elizabeth Fry began visiting women in Newgate Prison in 1813. She set up education classes to reform female prisoners. She also got them better food and clothes, and treated prisoners with kindness and respect.

Pentonville Prison and the separate system

A plan of Pentonville prison

Legend:
- Exercising yards (red)
- Sunk courts (yellow)
- Officers' rooms (tan)
- Cells (blue)
- Entrance gateway (green)
- Administrative rooms (grey)
- Inspection hall (orange)
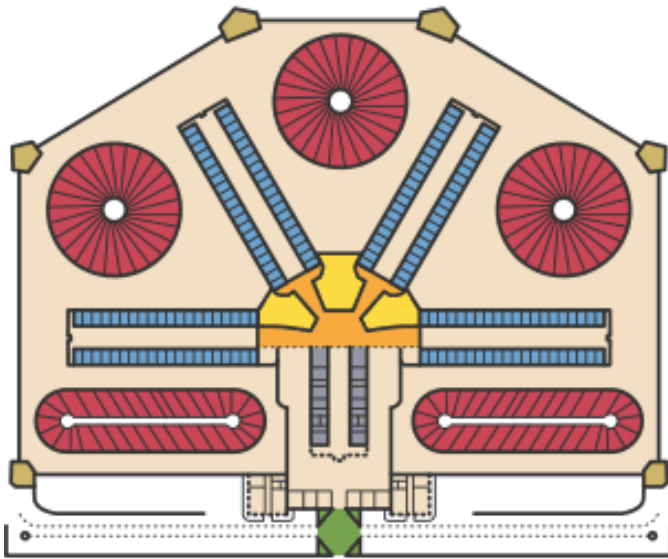
Reasons for the separate system:

1. For **rehabilitation**: Solitude was thought to be the best way to provide prisoners with an opportunity to reflect on their crimes, turn to religion and therefore reform their ways. It also meant that prisoners could not be influenced by other criminals. The cell provided everything they needed so they didn't have to leave it others than for short spells of exercise.
2. For **retribution**: The isolation and boredom made the criminal 'pay' for their crime.
3. As a **deterrent**: It was a serious punishment and was therefore thought to act as a deterrent to committing crimes.

Strengths of the separate system

- Compared with previous prisons, it was clean and there was far less disease.
- Many people thought that it provided the right level of punishment – it was seen as harsh but not overly so.

Weaknesses of the separate system

- The continuous isolation led to mental illness and a high suicide rate.
- There was no education or instruction to provide new skills for prisoners to use when they were released.

Skills – How to answer 12-mark GCSE question in History

Criteria	Marks
• Accurate information is given throughout the answer and precisely used to meet the demands of the question. • A consistent analytical approach is taken, showing a logical and consistent line of reasoning.	10-12
• Gives a good range of accurate information. • The answer explains different reasons and begins to analyse some.	7-9
• Gives some accurate information. • The answer contains some explanation, but this is not supported.	4-6
• Includes a brief amount of knowledge. • Gives some simple overall ideas but does not answer the specific question.	1-3

Try this question on your own:
Explain why the purpose of punishment changed in the period 1400-1900. You may use:
- Prisons
- The Bloody Code

Explain why there were new definitions of crimes against authority in the period c.1000-c.1700. You may use:
- heresy
- poaching

You must also use information of your own.

[12]

P1. Use the first bullet point

• Describe the key term in the bullet point
• Explain how that caused the event in the question
• Link back to the question

P2. Use the second bullet point

• Describe the key term in the bullet point
• Explain how that caused the event in the question
• Link back to the question

P3. A third point of your own.
• Describe your key term
• Explain how that caused the event in the question
• Link back to the question

Model Answer

Explain why there were new definitions of crimes against authority in the period c.1000-c.1700. You may use: • heresy • poaching You must also use information of your own. [12]	P1. Use the first bullet point • Describe the key term in the bullet point • Explain how that caused the event in the question • Link back to the question	One reason the definition of crimes against authority changed was due to the rise in landowners who wanted to protect their land and resources. A prime example of this was how poaching developed throughout this time. Poaching is when someone hunts on another person's property and was often required for those of the lower classes due to increasing enclosure. Poaching was defined as a crime against authority because it challenged the authority of the landowners. As landowners relied on their property to assert their dominance on the people, therefore, making poaching illegal would enable them to further control the lower classes. Therefore, one change in the definition of crime against authority was the change in poaching laws.
	P2. Use the second bullet point • Describe the key term in the bullet point • Explain how that caused the event in the question • Link back to the question	Another way in which crime against authority changed was **heresy**. Heresy is when a person believed in the 'wrong' religion compared to the rest of the country. This became considered to be a crime against authority as in 1534, Henry VIII broke away from the Catholic Church and placed himself as the Head of the Church of England. This meant that heresy changed to become a crime against authority as by believing a different faith to the monarch, you were implying that the monarch was wrong; which challenged their right to rule, and thus heresy carried the death penalty. Therefore, one change in the definition of crimes against authority was the rise of heresy.
	P3. A third point of your own. • Describe your key term • Explain how that caused the event in the question • Link back to the question	A final way in which crimes against authority changed during this time period was the introduction of the Forest Laws by King William I. William I was only the King as he conquered England at the Battle of Hastings. He therefore had the power to determine what was meant by a crime against authority. This meant that he introduced a series of laws that would help him to assert his authority on the territory he had conquered. One example of this was the Forest Laws. The Forest Laws were laws that made it illegal to cut down trees, to own a dog or to use a bow and arrow. These laws were used to ensure that the King's territory were being protected and that his authority went unquestioned. Therefore, one change in the definition of crime against authority was the introduction of the Forest Laws.

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