

# Curriculum Companions

Year 9

Term One

Name:

Tutor Group:



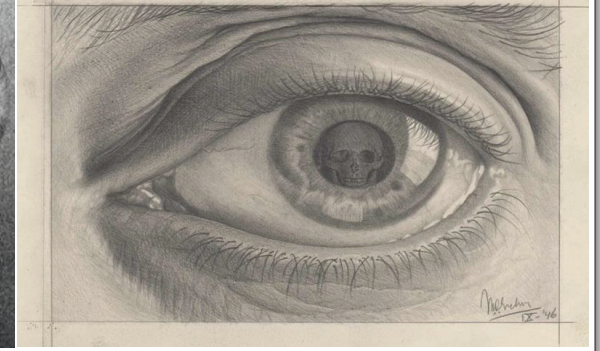
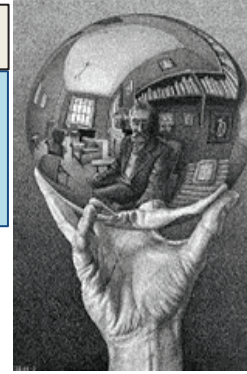
# Year 9 Portraiture | Knowledge Organiser



## AO1: RESEARCH (ARTISTS & IMAGE)

How to draw and observe within a convex and concave mirror using tonal range.

What is the illusion in this Portrait?



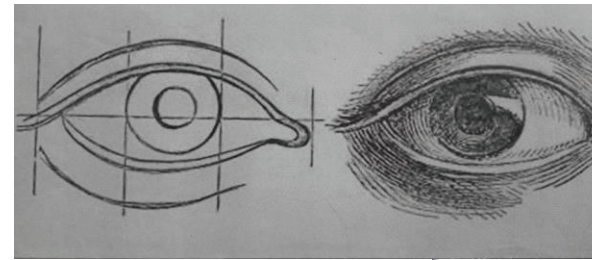
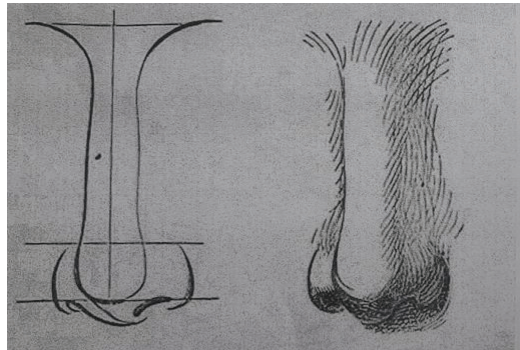
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## AO2: EXPERIMENTS WITH MEDIA

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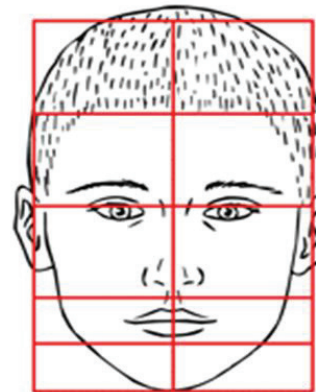
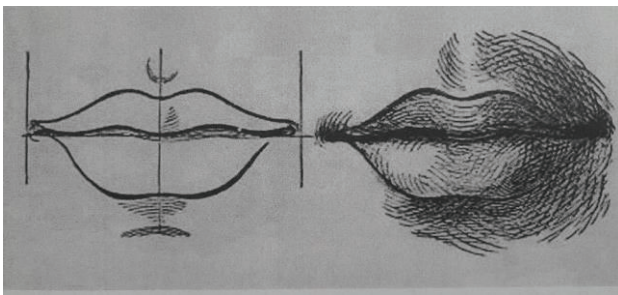
What is the message behind Escher's work?

Experimenting and expanding drawing knowledge with charcoal

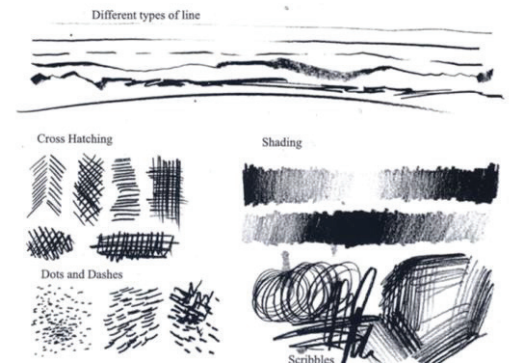


How do you build tone to create form?







Recording using shape, and size to be proportionally accurate in a portrait.




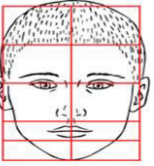




### MARK MAKING with a PENCIL



# Art | Botanical Art | Topic Dictionary

Image	Word	Definition	In a sentence...
	<b>cross-hatching</b>	Cross-hatching is the layering of multiple lines to achieve tone. Artists draw in the direction of the shape they are drawing to achieve a realistic and lifelike appearance. The more layers you use the darker the tone achieved. Notice the curved lines in the folds of skin and lighter areas that have no lines.	I could improve my control of <b>cross hatching</b> to create marks that are closer together creating darker areas, adding to the illusion of a 3D form.
	<b>composition</b>	A portrait's composition is the sum of how you place all the parts within it: use of the edges of the frame, use of shapes within the frame, the prominence of any foreground/background details, the position of the subject within the frame, even the shape of the frame itself.	Within the <b>composition</b> in Parmigianino's portrait the artist is playing with illusion through compositional tricks.
	<b>depth</b>	The illusion of space / solidity. Using tone in your allows you to create pictorial depth or space .	I have observed <b>depth</b> of tone using my 2B lead pencil, to show the mid and dark tones in my recording of the facial features.
	<b>form</b>	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	I have observed shape and <b>form</b> in my drawing of the nose, however my tone needs greater depth and variation to improve the 3D appearance of the <b>form</b> .
	<b>line</b>	Lines that are used to define the shape or form of an object or a figure, or to highlight key details of an image are called contour lines (or outlines).	I have used a soft use of <b>line</b> in mapping out my portrait and in my observation of the facial features.
	<b>mood</b>	Mood is 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 <b>mood</b> of the piece is dark and subdued, due to its dark colour palettes and exaggerated features.

# Art | Botanical Art | Topic Dictionary

Image	Word	Definition	In a sentence...
	<b>perspective</b>	Perspective helps create the illusion of realism, space and depth in a two-dimensional work. It allows artists to create more lifelike images that appear three-dimensional. Ultimately, this enhances viewer engagement by drawing them into the painting, creating a more immersive experience.	have observed and used <b>perspective</b> in my recording of a portrait to create a 3D appearance observing shape and form.
	<b>proportion</b>	Proportion refers to the dimensions of a composition and relationships between height, width and depth. How proportion is used will affect how realistic or stylised. something seems. Proportion also describes how the sizes of different parts of a piece of art or design relate to each other.	I have observed accurate <b>proportion</b> of the size and shape of the head with accompanying features.
	<b>scale</b>	Scaling is the process of adjusting proportions and dimensions, is pivotal in pencil portrait drawing. It ensures that the final artwork accurately represents the subject, capturing facial features and expressions with precision.	I have a proportional representation of a human head to <b>scale</b> .
	<b>shape</b>	Shape is an area enclosed by a line. It could be just an outline, or it could be shaded in. Shapes can be geometric or irregular.	In my drawings of the facial features I have recorded a good use of varied <b>shape</b> with a soft and controlled use of line.
	<b>symmetry</b>	To be equal on both sides. You'll see both sides of your face are pretty symmetrical. This is known as bilateral symmetry and it's where both sides either side of this dividing line appear more or less the same.	have observed a good use of <b>symmetry</b> in my proportional drawing of the portrait with even tone.
	<b>tone</b>	This refers to the lightness or darkness of something. This could be a shade or how dark or light a colour appears. Tones are created by the way light falls on a 3D object. The parts of the object on which the light is strongest are called <b>highlights</b> and the darker areas are called <b>shadows</b> .	I am developing my application of <b>tone</b> in my observation of the face, using the rubber to create light areas against varied <b>tone</b> .

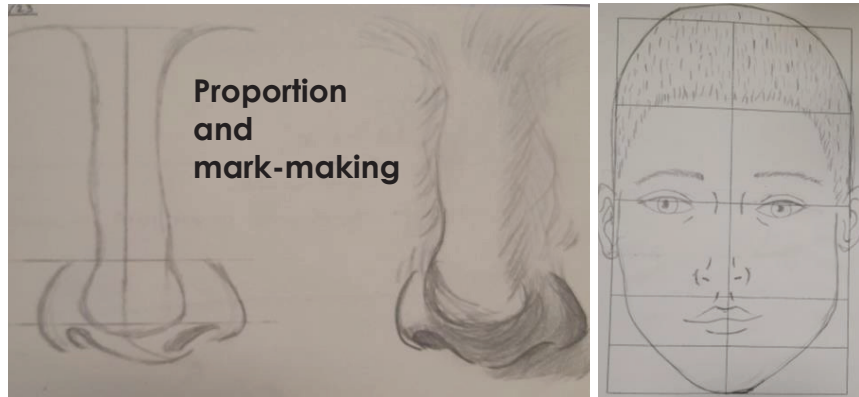
# Skills Guide: AO3 Recording Observations: Exemplars



Tonal range using expressive charcoal with control.

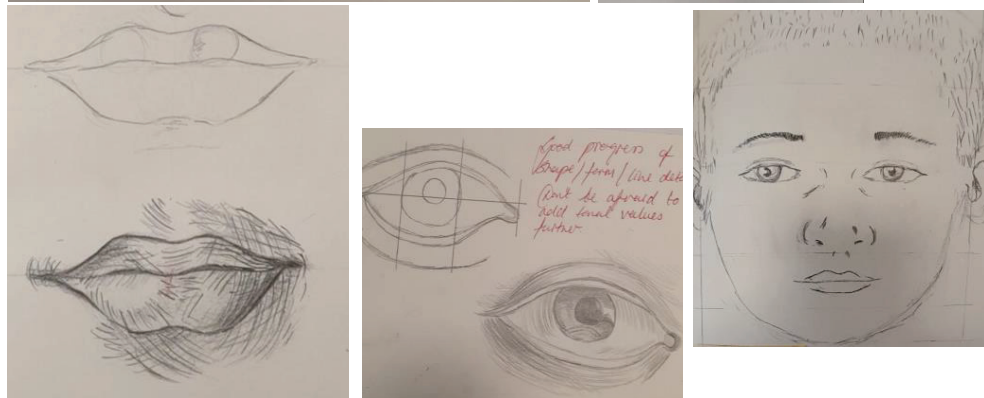


Shape, line, proportion and tone

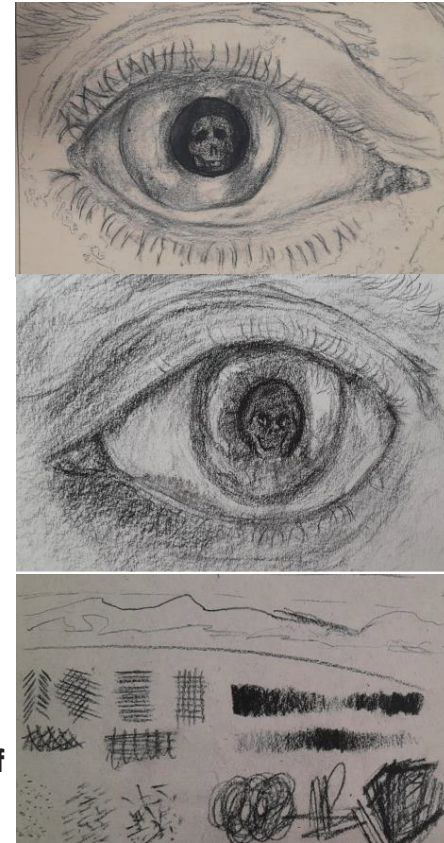


Proportion and mark-making

Accurate recording of mark-making



**Pencil** :Graphite, soft hard tone, tonal range, dark, medium, light shadows/highlights, blending in shading contrast.



**AO3: RECORDING OBSERVATIONS**

**(Evidence)**

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

I can visually adapt and improve my work combining and organising ideas showing outstanding recording with a high level of observation.

I can observe with attention to detail and skill with adequate effect and annotation that records insights with ideas fully explained.

I can observe and record from life/resources with some skill and annotate in my own words with clear explanations.

I can record limited ideas and annotate in my own words, showing some confidence emerging with observations.

I can record to a basic level from resources with some key-terms.

**As a Year 9 Artist I can...**

I can use tone to create light and shade in my observations.	
I can use a soft use of line to show shape with proportion.	
I can use mark-making to create tone and form.	
I can describe the main features of an artists work.	
I can respond to the features used in the work of others and describe them fully, with perceptive ideas.	
I can reflect and annotate my own work with next steps.	

# Drama | What skills do I need to be successful in Drama? | Skills Organiser

## Drama: Term 1 – Skills Dictionary:

### Rank yourself based on your confidence in each skill in week 1 and in week 12

4= Excellent understanding (no areas for development, fully consistent)

3= Good understanding (many strengths and a few areas for development, consistent)

2=Basic understanding (some strengths and some areas for development, mostly consistent)

1=No understanding (few strengths and many areas for development, inconsistent)

Vocal Skill	Definition	Examples of how to improve	1	12
<b>projection</b>	Using the voice to fill the performance space. E.g: An actor working in the hall will have to project more than an actor performing in the studio. <b>Projection</b> is important because the audience need to hear you.	. Diaphragm exercises. Breathing exercises Vocal warm ups.		
<b>articulation</b>	Speaking clearly so the dialogue can be understood.	Vocal Warm Ups Tongue twisters Focus on consonants		
<b>tone</b>	Communicating emotion with the voice	Knowing character and their motivation: Units and objectives Subtext Given Circumstance Opera exercise.		
<b>pace (voice)</b>	How fast or slow you speak.	Recording dialogue. Extreme Slow down Extreme Speed up		
<b>volume</b>	How loud or quiet you are.	Play with volume, Extremely loud/ quiet. Note impact.		
<b>pitch</b>	How high or low the voice is	Scales		

Physical Skill	Definition	Examples of how to improve	1	12
<b>gesture</b>	Using the body to communicate character/ emotion.	Exaggeration Selecting key words Mime		
<b>facial expression</b>	Using the face to communicate character/ emotion.	Facial warm ups – chewing toffee etc Rehearsing with a mirror.		
<b>pace (movement)</b>	How fast or slowly you move	Jacques LeCoq's 7 levels of tension.		
<b>levels</b>	How high or low you are compared to something/some one else	Utilising blocks/chairs etc		
<b>space</b>	The distance between two people or things.	Draw the stage out using masking tape.		

# Term 1 | How will I explore the story of 'White Boy'? | Knowledge Organiser

## White Boy

White Boy is a play about a multicultural group of friends in a South London school trying to figure out their way in the world.

The play covers themes of friendship, identity, love, loss, gangs, knife crime and drugs.



To explore White Boy, we will be using **SCRIPTS** and thinking about creating the world of the play.

Week	What will I learn? – Half Term 1
1	Introduction to Ricky and their friends.
2	Victor's introduction
3	The football match
4	Sorted's story and Flips' introduction
5	Zara shares a secret
6	Sorted is afraid

Week	What will I learn? Half Term 2
1	Flips pressures Kabir
2	A tragedy occurs at school
3	Scene selection and rehearsal
4	Rehearsal
5	Performance – Practical assessment
6	Written assessment

## Term 1 Key Words: White Boy (script)

<b>Identity</b>	Who or what a person is.
<b>Reacting</b>	Responding in the moment to what is happening in the scene.
<b>Atmosphere</b>	The mood created
<b>Dynamics</b>	Variations in levels of energy, physical movement, pace or emotional intensity in a scene.
<b>Intimidation</b>	To intentionally make someone scared or fearful
<b>Empathy</b>	The ability to understand the feelings of another.
<b>Exposition</b>	Introduces the characters, setting, events and key ideas.
<b>Rising action</b>	A series of related events occur leading up to the key moment in the plot.
<b>Climax</b>	The most exciting part of the performance.
<b>Falling action</b>	The main conflict between the protagonist (the central character) and the antagonist (his opposite) is established.
<b>Catastrophe/Resolution</b>	A character is defeated/wins and events return to a state of normality.
<b>Chekov's Gun</b>	"If a gun appears in the first act, it will be used by the last act."

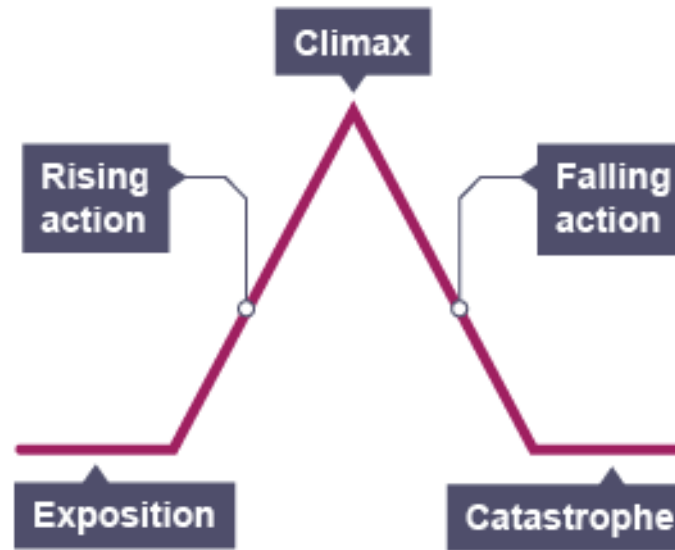
# Term 1 | White Boy | Knowledge Organiser



## Who is Tanika Gupta?

- Tanika Gupta is a British playwright,
- She was born in London to immigrant parents from Kolkata, India.
- As a child, Gupta performed Tagore dance dramas with her parents. Her mother Gairika Gupta was an Indian classically trained dancer, and her father Tapan Gupta was a singer.
- Gupta graduated from Oxford University with a Modern History degree.
- Later, she worked for an Asian women's refuge in Manchester.
- Over the past 25 years Tanika has written over 25 stage plays that have been produced in major theatres across the UK.

## Play Structure



Stages	What?
Exposition	Introduces the characters, setting, events and key ideas.
Rising Action	A series of related events occur leading up to the key moment in the plot.
Climax	The most exciting part of the performance.
Falling Action	The main conflict between the protagonist (the central character) and the antagonist (his opposite) is established.
Catastrophe / Resolution	A character is defeated or wins the day and events return to a state of normality.

## How does this unit link to BTEC?

### Component 1

Exploring the Performing Arts

### Component 2

Developing Skills and Techniques in the Performing Arts

### Component 3

Responding to a Brief

## This unit links to Component 2 in the BTEC.

You will explore a play, select a scene and develop your physical, vocal and rehearsal skills to perform 'off book' (without a script).



## Y9 English | The Hound of The Baskervilles | Knowledge Organiser

### 1. How do writers use language to create suspense and tension?

Detective writers use a range of language features to build tension, including (but not limited to):

- Progression of short sentences
- Development of verbs
- Vivid imagery using the senses
- Slow reveal
- Sounds
- Description of action
- Red herrings and slow reveal

### 2. How do writers structure mystery?

As you have learnt in **Y7 and 8**, most stories are structured in the '**story arc**'. They have an **exposition, rising action, falling action and resolution**.

However, mystery and detective fiction is **structured** a bit more like a **staircase**.

Writers of mystery use a series of **clues and cliffhangers** to build suspense and tension. As the detective solves each clue, a new clue is revealed, and the chapter ends on a cliffhanger. At the end of the novel, the mystery is finally solved and the tension is released.

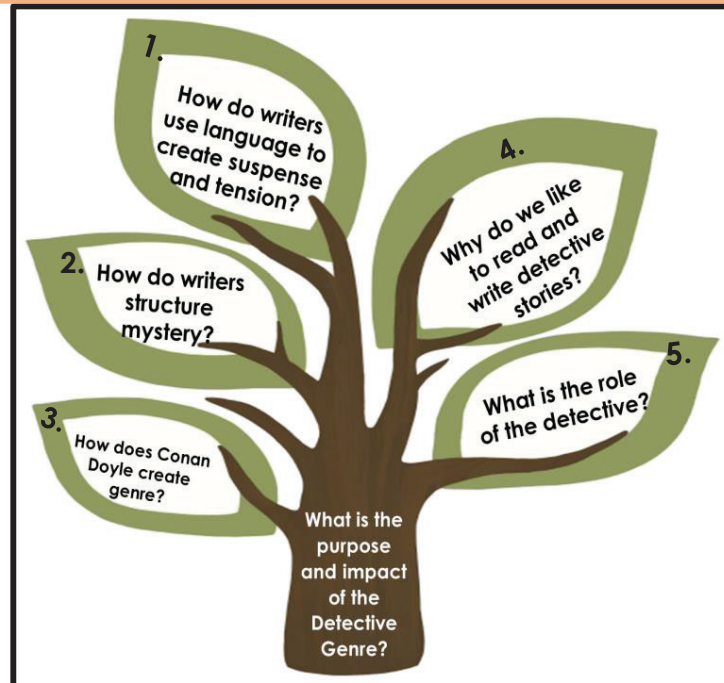
### 3. How does Conan Doyle create genre?

- **Gothic setting**; the moor, the old, grand Baskerville estate, descriptions using pathetic fallacy, myth of the Hound being a supernatural creature
- **Characterisation** of Sherlock Holmes and his assistant Dr Watson
- **Epistolary narrative style**; journal accounts and letters
- **Structure**; each chapter has a mystery to solve, a new revelation and a mini-climax or cliffhanger

### 4. Why do we like to read and write detective stories?

The **19<sup>th</sup> Century** saw a **sudden rise in the popularity of detective fiction**, which reflected the social changes brought on by the **industrial revolution**. For example, Industrialisation brought people from the countryside to cities, which led to **different classes living more intertwined lives**. Furthermore, there was an **increase in crime** due to overcrowding and rising rates of poverty.

Detective fiction can be understood a **reaction to this instability**. Readers find **comfort** in the unsolvable being solved, the supernatural being proved to be natural, and the **restoration of law, order and class structure** at the end of the novel. In this way, we can read the detective genre as a **socially conservative** genre.







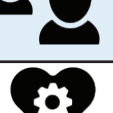




### 5. What is the role of the detective?

Of course, in real life, the detective's role is to **solve the mystery**. However, as a **narrative device**, the detective's role is to **guide the reader** to solve the mystery alongside them.











Detective stories are most often written in first person, with the detective as the narrator. This creates **proximity between the character and the reader** and allows us to solve the clues at the same time as the detective. However, Conan Doyle uses Watson, Holmes side-kick, as the narrator for 'The Hound of the Baskervilles.' Why do you think Conan Doyle created this narrative distance between the detective and the reader?

In detective mysteries, the detective usually works as the **moral representative** in the novel, forcing the reader to judge each suspect according to their own morals. The detective is typically characterised by their **quick wit, intelligence and strong ethical code**. However, Sherlock's ethical code can be called into question: does he always deal with things the right way? Does he always judge correctly?

## Y9 English | The Hound of the Baskervilles | Tier 2 Vocabulary

Image	Word	Definition	In a sentence
	<b>Chilling</b>	If something is <b>chilling</b> , it means that it is scary or frightening.	The spooky moors and unexplained deaths create a <b>chilling</b> atmosphere that keeps readers on edge.
	<b>Deduction/ Deduce</b>	A <b>deduction</b> is a conclusion that you have reached about something because of other things that you know to be true.	Sherlock Holmes <b>deduces</b> the truth behind the hound and the Baskerville curse from the clues Dr Watson gathers.
	<b>Detective</b>	A <b>detective</b> is an investigator that specialises in solving crimes.	Dr Watson wants to be a <b>detective</b> and therefore works with Holmes to solve the Baskerville case.
	<b>Ethics/ Ethical</b>	If something is <b>ethical</b> , it means it is accepted as being right and good.	Solving the mystery of the hound is <b>ethical</b> as it brings a criminal to justice.
	<b>Inherit / Heir</b>	If you inherit something, it has been passed down to you. That makes you an heir.	Sir Henry Baskerville was the <b>heir</b> to the Baskerville estate and therefore <b>inherited</b> it when Sir Charles died.
	<b>Moral</b>	A <b>moral</b> person behaves in a way that is believed by most people to be good and right.	Mr Stapleton does not behave in a <b>moral</b> way as he lies and manipulates people.
	<b>Mystery</b>	A <b>mystery</b> is something is unknown or unsolved to the reader.	The identity is of the hound is a <b>mystery</b> because we do not know who it is.
	<b>Speculate</b>	If you <b>speculate</b> about something, you make guesses about its nature or identity, or about what might happen.	Sherlock Holmes asked Dr Watson to <b>speculate</b> at who the cane belonged to, before he told him his own observations.
	<b>Supernatural</b>	The <b>supernatural</b> are creatures, forces or events with powers that are out of ordinary nature or existence.	Dr Mortimer came to the conclusion that something <b>supernatural</b> had happened.

## Y9 English | The Hound of The Baskervilles | Tier 3 vocabulary

Image	Word	Definition	In a sentence
	<b>Cliffhanger</b>	When a part of a story ends without revealing the resolution/answer. Readers/audiences are left wondering what happens next.	Doyle uses a <b>cliffhanger</b> when Watson is stranded on the foggy moors.
	<b>Epistolary</b>	In an <b>epistolary narrative</b> , the story is told through the form of <b>letters, diary entries, newspaper clippings etc.</b>	Conan Doyle uses the <b>epistolary</b> technique when he includes different character's letters to tell the story.
	<b>Genre</b>	A <b>genre</b> is a particular type of literature, music, film, (or other art form) which people consider as a type because it has special characteristics.	Sherlock Holmes is a character from the detective fiction <b>genre</b> .
	<b>Gothic</b>	<b>Gothic</b> refers to <b>scary</b> storytelling that uses dark settings, supernatural elements, and intense emotions to create a sense of fear and mystery.	Conan Doyle creates a <b>gothic</b> atmosphere through the mysterious and suspenseful setting.
	<b>Narrative focus</b>	The events/plot that a story is focused on and which characters play key roles.	The <b>narrative focus</b> often shifts between Dr Watson's experience on the moors and Sherlock Holmes' investigation in London.
	<b>Perspective</b>	Someone's <b>perspective</b> is their point of view or opinion.	We often see Sherlock Holmes' <b>perspective</b> through his letters to Dr Watson.
	<b>Red Herring</b>	A clue or piece of information which is misleading or is intended to be <b>misleading</b> or distracting.	Mr and Mrs Barrymore are a <b>red herring</b> in the case of Sir Charles' death.
	<b>Structure</b>	<b>Structure</b> is how a story is laid out from beginning, middle to end and the events in between.	The Hound of the Baskervilles follows a classic detective story <b>structure</b> with Dr Watson introducing the mystery.
	<b>Suspense</b>	<b>Suspense</b> is a feeling where you are left worrying and wondering what will happen next.	When Watson is stranded on the foggy moors, the readers are left with a feel of <b>suspense</b> as they are worried about what will happen to him.
	<b>Tension</b>	A feeling of stress, nervousness, worry and sometimes fear about a specific event.	The mystery of the hound builds <b>tension</b> with every shadowy figure and every howl at night.

## Y9 English | Analysing the structure of an extract | Skills Guide

### Year 9: Baseline assessment on Hound of the Baskervilles

This extract is from the manuscript Dr Mortimer gives Sherlock Holmes in Chapter 2, detailing the myth of the curse of the Baskervilles. At this point the men have gone in search of Sir Hugo who is chasing the maiden with his hound dogs.

Read through the extract then answer the question that follows.

They had gone a mile or two when they passed one of the night shepherds upon the moorlands, and they cried to him to know if he had seen the hunt. And the man, as the story goes, was so crazed with fear that he could scarce speak, but at last he said that he had indeed seen the unhappy maiden, with the hounds upon her track. 'But I have seen more than that,' said he, 'for Hugo Baskerville passed me upon his black mare, and there ran mute behind him such a hound of hell as God forbid should ever be at my heels.' So the drunken squires cursed the shepherd and rode onward. But soon their skins turned cold, for there came a galloping across the moor, and the black mare, dabbled with white froth, went past with trailing bridle and empty saddle. Then the revellers rode close together, for a great fear was on them, but they still followed over the moor, though each, had he been alone, would have been right glad to have turned his horse's head. Riding slowly in this fashion they came at last upon the hounds. These, though known for their valour and their breed, were whimpering in a cluster at the head of a deep dip or goyal, as we call it, upon the moor, some slinking away and some, with starting hackles and staring eyes, gazing down the narrow valley before them.

The company had come to a halt, more sober men, as you may guess, than when they started. The most of them would by no means advance, but three of them, the boldest, or it may be the most drunken, rode forward down the goyal. Now, it opened into a broad space in which stood two of those great stones, still to be seen there, which were set by certain forgotten peoples in the days of old. The moon was shining bright upon the clearing, and there in the centre lay the unhappy maid where she had fallen, dead of fear and of fatigue. But it was not the sight of her body, nor yet was it that of the body of Hugo Baskerville lying near her, which raised the hair upon the heads of these three dare-devil roysterers, but it was that, standing over Hugo, and plucking at his throat, there stood a foul thing, a great, black beast, shaped like a hound, yet larger than any hound that ever mortal eye has rested upon. And even as they looked the thing tore the throat out of Hugo Baskerville, on which, as it turned its blazing eyes and dripping jaws upon them, the three shrieked with fear and rode for dear life, still screaming, across the moor. One, it is said, died that very night of what he had seen, and the other twain were but broken men for the rest of their days.

Such is the tale, my sons, of the coming of the hound which is said to have plagued the family so sorely ever since. If I have set it down it is because that which is clearly known hath less terror than that which is but hinted at and guessed. Nor can it be denied that many of the family have been unhappy in their deaths, which have been sudden, bloody, and mysterious. Yet may we shelter ourselves in the infinite goodness of Providence, which would not forever punish the innocent beyond that third or fourth generation which is threatened in Holy Writ. To that Providence, my sons, I hereby commend you, and I counsel you by way of caution to forbear from crossing the moor in those dark hours when the powers of evil are exalted.

You will be given a **blurb** to remind you what is happening in the extract.

You will be given an **extract** from a section of Hound of the Baskervilles.

We are not testing you on **anything else**.

You will be given a **question** which tells you what to focus your essay on.

The **checklist** underneath will remind you how to answer the question.

#### Essay question:

Explore Conan Doyle's presentation of the hound as mysterious and chilling.

#### You should:

- Plan first – three or four points from the beginning, middle and end of the extract.
- Include direct quotations as evidence in your answer
- Explore how the structure and narrative focus changes and develops throughout the text.

### When I analyse structure, I can:

Clearly explain how the narrative focus develops throughout the extract.

Use short quotes as examples of how the focus shifts.

Use subject terminology to describe structural features.

Analyse how the structural features impact the reader.

## Y9 English | Analysing structure: Annotated Exemplar

In the opening of the extract, the writer **deliberately builds up a sense of dread around the hound** before he is revealed to the readers. Through **initially focussing** on the shepherd, who is so **'crazed with fear that he could scarce speak'**, the writer **creates a sense of foreboding as we wonder what the shepherd could have seen to scare him so much.**

The description of the shepherd then **shifts to dialogue**, as the Shephard reveals he has seen **'a hound of hell.'** Here, the **use of the supernatural alerts the readers to the terrifying nature of the hound**, **building the readers' sense of dread and fear.** This **is further amplified** when the **writer describes** Hugo's riderless horse gallops past them, it's **'empty saddle' signalling to the reader the likely possibility of death.**

My first paragraph only **focusses on the opening of the extract.**

I try to summarise the **overall effect** of the opening section of the extract before I break down how that effect was created.

I use **structural terminology** throughout to describe how the narrative focus shifts and develops.

I use **short quotes** as evidence for the structural features I am describing. I do not analyse the language in these quotes.

I use **analytical verbs** to explore **specifically** how the structural features **impact the reader.**

**Challenge:** I explore the way the structural features **link to and build** upon each other to create an **overall effect.**

## Y9 English | Structuring a detective story | Skills guide

In Autumn 2, you will write a short section of a longer detective story.

**Step 1: Decide what part of the narrative arc your section will be from.**

- *Do you want to write the beginning, the climax or the resolution?*

**Step 2: Plan your setting and story:**

- *Will you set your detective story in the Victorian Era or in the present day?*
- *What gothic setting will you use? Will it be like Dartmoor, or an isolated building*
- *Who is your detective? What crime are they solving?*
- *Challenge: Does your detective abide by the law, or take matters into their own hands, like Sherlock?*

**Step 3: Plan your narrator:**

- *Will the detective narrate the story, or someone else, like Watson?*
- *Challenge: Can we trust your narrator? Do they make sound ethical judgements?*












**Step 4: Plan your structure:**

- *How will you introduce a new clue at the opening of your story?*
- *How will you build up the tension as your detective slowly solves the mystery?*
- *How will you reveal the answer to the clue at the end of your story? Will the mystery be resolved, or will there be a new clue?*

**When I write a chapter of a mystery story, I can:**

	Chose appropriate elements of the gothic, detective and mystery genres to use in my writing for effect.
	Vary my vocabulary to create specific tones and atmospheres.
	Structure my story according to the principles of mystery and detective writing.
	Use a variety of techniques to impact my reader.
	Use accurate spelling, grammar and punctuation.
	<b>Challenge:</b> Make deliberate choices about the narrative voice of my story, thinking about how my narrator will guide the reader through the text.
	<b>Challenge:</b> Consider whether I want to include or subvert some of the contextual factors which led to the creation of gothic fiction.

# French | School facilities | Topic Dictionary

Image	Key Word	Definition	In a Sentence
	une salle de classe	a classroom	Dans mon collège il y a des <b>salles de classe</b> .
	une bibliothèque	a library	Dans <b>la bibliothèque</b> , on peut lire un livre.
	une cantine	a canteen	Je n'aime pas manger à <b>la cantine</b> .
	un court de tennis	a tennis court	Pendant le récré je vais au <b>court de tennis</b> .
	un gazon artificiel	an astro-turf	On n'utilise pas le <b>gazon artificiel</b> .
	un gymnase	a sports hall	Dans mon collège il y a un <b>gymnase</b> .
	une laboratoire	a lab(oratory)	On a beaucoup de <b>laboratoires</b> .
	un cour	a playground	Je bavarde avec mes amis au <b>cour</b> .
	une piscine	a swimming pool	Dans mon collège idéal il y aurait <b>une piscine</b> .
	une grande salle	an assembly hall	Les mardis je vais à la <b>grande salle</b> .
	une salle des profs	a staff room	Il y a <b>une salle de profs</b> .

# French | School uniform | Topic Dictionary

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



# French | My school | Knowledge Organiser

## Check for knowledge:

- I can say what subjects I like (Steps 1+4)
- I can describe my uniform and give my opinion (Steps 2+4)
- I can describe the rules in my school (Steps 3+4)
- I can give justified opinions (Step 4)

## Step 1: Say what subjects you like

J'adore / Je déteste	<i>I love / I hate</i>
J'aime / Je n'aime pas	<i>I like / I don't like</i>
l'espagnol / le français / l'anglais	<i>Spanish / French / English</i>
l'histoire / la géographie	<i>History / Geography</i>
Les maths / les sciences	<i>Maths / Science</i>
Le dessin / l'informatique	<i>Art / IT</i>
Parce que c'est...	<i>because it is</i>
amusant	<i>fun</i>
facile	<i>easy</i>
intéressant	<i>interesting</i>
utile	<i>useful</i>
le/la prof est sympa/stricte	<i>the teacher is kind/strict</i>

## Step 2: Describe your uniform

Je porte...	<i>I wear</i>
Il faut porter...	<i>You must wear...</i>
une chemise	<i>a shirt</i>
une veste	<i>a jacket</i>
un pantalon	<i>trousers</i>
des chaussures	<i>shoes</i>
une cravate	<i>a tie</i>
une jupe	<i>a skirt</i>
des baskets	<i>trainers</i>
des chaussettes	<i>socks</i>

## Step 3: Discuss school rules

On (ne) doit (pas)...	<i>You must (not)...</i>
On (ne) peut (pas)...	<i>You can(not)...</i>
Il est interdit de/d'...	<i>It is forbidden...</i>
écouter les profs	<i>listen to the teachers</i>
mâcher du chewing-gum	<i>chew gum</i>
faire les devoirs	<i>do homework</i>
porter de l'uniforme	<i>wear uniform</i>
courir dans le couloir	<i>run in the corridor</i>
bavarder en classe	<i>chat</i>
utiliser le portable	<i>use your phone</i>

## Step 4: Elevate your sentences with opinions

Je pense que / Je crois que	<i>I think that</i>
Je dirais que	<i>I would say that</i>
Selon moi	<i>According to me</i>
À mon avis	<i>In my opinion</i>
C'est...	<i>It is...</i>
confortable	<i>comfortable</i>
élégant	<i>stylish</i>
juste	<i>fair</i>
joli	<i>pretty</i>
important	<i>important</i>
nécessaire	<i>necessary</i>
inconfortable	<i>uncomfortable</i>
môche	<i>ugly</i>
injuste	<i>unfair</i>
ridicule	<i>ridiculous</i>
agaçant	<i>annoying</i>
frustrant	<i>frustrating</i>

# French | My School | 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?
<b>J'adore</b> (I love)  <b>J'aime</b> (I like)  <b>Je n'aime pas</b> (I don't like)  <b>Je déteste</b> (I hate)	<b>l'anglais</b> (English) <b>l'espagnol</b> (Spanish) <b>le français</b> (French) <b>l'histoire</b> (History) <b>la géographie</b> (Geography) <b>l'informatique</b> (IT) <b>le dessin</b> (Art) <b>l'EPS</b> (PE) <b>le théâtre</b> (Drama) <b>la musique</b> (Music)  <b>les maths</b> (Maths) <b>les sciences</b> (Science)  <b>mon/ma prof de ...</b> (my ... teacher)	<b>parce que</b> (because) <b>mais</b> (but) <b>et</b> (and) <b>cependant</b> (however)	<b>je pense que / je crois que</b> (I think that)  <b>je dirais que</b> (I would say that)  <b>selon moi</b> (according to me)  <b>à mon avis</b> (in my opinion)  <b>je trouve que</b> (I find that)	<b>c'est</b> (it is)         <b>il est / elle est</b> (he/she is)	<b>très</b> (very) <b>assez</b> (quite) <b>vraiment</b> (really) <b>un peu</b> (a bit)	<b>amusant</b> (fun) <b>divertissant</b> (entertaining) <b>intéressant</b> (interesting) <b>facile</b> (easy) <b>difficile</b> (difficult) <b>utile</b> (useful) <b>inutile</b> (useless)   <b>stricte</b> (strict) <b>gentil(le)</b> (kind) <b>drôle</b> (funny)
<b>Dans mon collège</b> (At my school)  <b>Dans notre collège</b> (at our school)	<b>on doit</b> (you/one must)  <b>on peut</b> (you/one can)	<b>apporter le matériel scolaire</b> (bring your equipment) <b>bavarder en classe</b> (chat in class) <b>manger/boire en classe</b> (eat/drink in lessons) <b>courir dans le couloir</b> (run in the corridors) <b>decir palabrotas</b> (swear) <b>écouter les profs</b> (listen to the teachers) <b>être à l'heure</b> (be on time)			<b>Example:</b> J'adore les sciences parce que selon moi c'est très divertissant.  (I love Science because according to me it's very entertaining)	
<b>À mon avis c'est</b> (In my opinion it is)  <b>Je trouve que c'est</b> (I find that it is)	<b>très</b> (very) <b>un peu</b> (a little) <b>assez</b> (quite) <b>trop</b> (too) <b>vraiment</b> (really)	<b>juste</b> (fair) / <b>logique</b> (logical) / <b>nécessaire</b> (necessary) / <b>raisonnable</b> (reasonable)  <b>agaçant</b> (annoying) / <b>frustrant</b> (frustrating) / <b>injuste</b> (unfair) <b>ridicule</b> (ridiculous) / <b>inutile</b> (pointless)				

# French | My school | Skills Guide

## Success Criteria:

- Have you **introduced yourself**?
- Can you give **opinions** and **reasons** about **school subjects**? Have you used the correct **word order** and **adjective endings**?
- Can you describe your **school uniform**? Can you express your opinion about it?
- Can you describe your **school rules**? Can you give your opinion using an **opinion phrase**? Could you add an **intensifier**?

**Connectives**  
used to link ideas

Variety of  
**adjectives**

**Intensifiers**  
used to add detail

**Opinion phrases**  
used to upgrade answer.

## Simple answer:

Bonjour, je m'appelle Hélène et mon collègue s'appelle St Marks. J'aime l'anglais parce que c'est amusant. Je n'aime pas les sciences parce que c'est difficile. Je porte une chemise blanche et une veste rouge. Dans mon college on doit faire les devoirs.

**Examples/Complex reasons**  
given to justify opinions

## Extended answer:

Bonjour, je m'appelle Hélène et mon collègue s'appelle St Marks. **J'aime bien** l'anglais parce que ça m'intéresse et c'est vraiment utile car je voudrais être journaliste. Cependant, je n'aime pas les sciences puisque c'est difficile et le prof peut être très stricte et désagréable. Mon uniforme scolaire se compose d'une chemise blanche et une veste rouge, mais je le trouve un peu inconfortable. Aussi, dans mon college on doit faire les devoirs, toutefois je crois que c'est assez logique et juste.

## Spanish | School facilities | Topic Dictionary

Image	Key Word	Definition	In a Sentence
	una aula	a classroom	En mi colegio hay muchas <b>aulas</b> .
	una biblioteca	a library	En <b>la biblioteca</b> , se puede leer libros.
	una cafetería	a canteen	No me gusta comer en <b>la cafetería</b> .
	una cancha de tenis	a tennis court	Durante el recreo voy a la <b>cancha de tenis</b> .
	un césped artificial	an astro-turf	No se puede usar el <b>césped artificial</b> .
	un gimnasio	a sports hall	En mi insti hay un <b>gimnasio</b> .
	un laboratorio	a lab(oratory)	Tenemos muchos <b>laboratorios</b> .
	un patio	a playground	Charlo con mis amigos en el <b>patio</b> .
	una piscina	a swimming pool	Mi colegio ideal tendría <b>una piscina</b> .
	un salon de actos	an assembly hall	Los martes vamos al <b>salon de actos</b> .
	un salon de profes	a staff room	Hay <b>un salon de profes</b> .

# French | Relationships | Topic Dictionary

Image	Key Word	Definition	In a Sentence
	je m'entends bien	I get on well	<b>Je m'entends bien</b> avec ma soeur parce qu'elle est sympa.
	je me dispute	I argue	Quelquefois <b>je me dispute</b> avec mon frère parce qu'il est énervant.
	je me chamaille	I bicker	De temps en temps <b>je me chamaille</b> avec mes parents.
	je m'amuse	I have fun	Tous les weekends, <b>je m'amuse</b> avec mes amis.
	il / elle me fait rire	He/She makes me laugh	J'adore mon meilleur ami parce qu' <b>il me fait rire</b> .
	il / elle écoute mes problèmes	He/She listens to my problems	Ma mère toujours <b>écoute mes problèmes</b> .
	il / elle croit en moi	He/She believes in me	Ma grand-mère <b>croit en moi</b> .
	il / elle aide tout le monde	He/She helps everyone	J'admire Michelle Obama parce qu' <b>elle aide tout le monde</b> .

# French | My family & friends | Knowledge Organiser

## Check for knowledge:

- I can describe my appearance & personality (Steps 1+2)
- I can describe others' appearance and personality (Steps 1+2)
- I can say what makes a good friend (Step 3)
- I can say who my role model is (Step 4)

### Step 1: Describe your own and others' appearance

<b>J'ai</b>	<i>I have</i>
<b>Ma mère / Mon père / Mon ami(e) a</b>	<i>My mum / dad / friend has</i>
<b>les yeux bleus / verts / marron</b>	<i>blue / green / brown eyes</i>
<b>les cheveux bruns / blonds / noirs</b>	<i>brown / blond / black hair</i>
<b>les cheveux frisés / raides / ondulés</b>	<i>curly / straight / wavy hair</i>
<b>les cheveux longs / courts</b>	<i>long / short hair</i>
<b>Je suis</b>	<i>I am</i>
<b>Ma mère / Mon père / Mon ami(e) est</b>	<i>My mum / dad / friend is</i>
<b>grand(e) / petit(e)</b>	<i>tall / short</i>
<b>gros(se) / mince</b>	<i>fat / thin</i>
<b>fort(e) / faible</b>	<i>strong / weak</i>

### Step 2: Describing your own and others' personality

<b>Je suis</b>	<i>I am</i>
<b>Ma mère / Mon père / Mon ami(e) est</b>	<i>My mum / dad / friend is</i>
<b>Je m'entends bien avec ma mère / ma soeur parce qu'elle est...</b>	<i>I get on well with my mum / sister because she is...</i>
<b>Je me dispute avec mon père / mon frère parce qu'il est...</b>	<i>I argue with my dad / brother because he is...</i>
<b>sympa</b> <i>nice</i>	<b>méchant(e)</b> <i>mean</i>
<b>gentil(le)</b> <i>kind</i>	<b>sévère</b> <i>strict</i>
<b>drôle</b> <i>funny</i>	<b>têtu(e)</b> <i>stubborn</i>
<b>patiente(e)</b> <i>patient</i>	<b>impatient(e)</b> <i>impatient</i>
<b>généreux/se</b> <i>generous</i>	<b>énervant(e)</b> <i>annoying</i>

### Step 3: Saying what makes a good friend

<b>Un bon ami(e)...</b>	<i>A good friend...</i>
<b>Aide tout le monde</b>	<i>Helps everyone</i>
<b>Écoute mes problèmes</b>	<i>Listens to my problems</i>
<b>Croit en moi</b>	<i>Believes in me</i>
<b>Accepte mes imperfections</b>	<i>Accepts my imperfections</i>
<b>Prend soin de moi</b>	<i>Takes care of me</i>
<b>Me donne des conseils</b>	<i>Gives me advice</i>
<b>Me fait rire</b>	<i>Makes me laugh</i>
<b>Respecte mes opinions</b>	<i>Respects my opinions</i>

### Step 4: Say who your role model is

<b>Mon modèle à suivre est...</b>	<i>My role model is</i>
<b>J'admire...</b>	<i>I admire...</i>
<b>il/elle a beaucoup de talent</b>	<i>he/she has a lot of talent</i>
<b>il/elle a beaucoup de succès</b>	<i>he/she has a lot of success</i>
<b>il/elle a beaucoup de détermination</b>	<i>he/she has a lot of determination</i>
<b>il/elle lutte contre la pauvreté</b>	<i>he/she fights against poverty</i>
<b>il/elle lutte pour les droits humains</b>	<i>he/she fights for human rights</i>
<b>il/elle utilise leur célébrité pour aider les autres</b>	<i>he/she uses their fame to help others</i>

# French | My family & friends | 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?
<p><b>Je m'entends bien avec</b> (I get on well with)</p> <p><b>Je me dispute avec</b> (I argue with)</p> <p><b>Je me chamaille avec</b> (I bicker with)</p> <p><b>Je m'amuse avec</b> (I have fun with)</p>	<p><b>ma mère</b> (mum) <b>ma soeur</b> (sister) <b>mon (meilleure) amie</b> (best friend - f) <b>ma grand-mère</b> (grandmother)</p> <p><b>mon père</b> (father) <b>mon frère</b> (brother) <b>mon (meilleur) ami</b> (best friend - m) <b>mon grand-père</b> (grandfather) <b>mon/ma prof</b> (my teacher)</p>	<p><b>parce que</b> (because)</p> <p><b>mais</b> (but)</p> <p><b>et</b> (and)</p> <p><b>cependant</b> (however)</p>	<p><b>je pense que / je crois que</b> (I think that)</p> <p><b>je dirais que</b> (I would say that)</p> <p><b>selon moi</b> (according to me)</p> <p><b>à mon avis</b> (in my opinion)</p> <p><b>je trouve que</b> (I find that)</p>	<p><b>elle est</b> (she is)</p> <p><b>il est</b> (he is)</p>	<p><b>très</b> (very)</p> <p><b>assez</b> (quite)</p> <p><b>vraiment</b> (really)</p> <p><b>un peu</b> (a bit)</p>	<p><b>sympa</b> (nice) <b>gentil(le)</b> (kind) <b>drôle</b> (funny) <b>patient(e)</b> (patient) <b>généreux/se</b> (generous)</p> <p><b>méchant(e)</b> (mean) <b>sévère</b> (strict) <b>têtu(e)</b> (stubborn) <b>énervant(e)</b> (annoying) <b>impatient(e)</b> (impatient)</p>
<p><b>Mon modèle à suivre est...</b> My role model is...</p> <p><b>J'admire...</b> I admire...</p>	<p><b>ma mère / ma soeur / mon (meilleure) amie / ma grand-mère / ma prof</b></p> <p><b>mon père / mon frère / mon (meilleur) ami / mon grand-père / mon prof</b></p>	<p><b>parce que</b> (because) <b>car</b> (because) <b>et</b> (and)</p>	<p><b>je pense que / je crois que</b> (I think that)</p> <p><b>je dirais que</b> (I would say that)</p> <p><b>selon moi</b> (according to me)</p> <p><b>à mon avis</b> (in my opinion)</p> <p><b>je trouve que</b> (I find that)</p>	<p><b>il/elle a beaucoup de talent / succès / détermination</b> (he/she has a lot of talent / success / determination)</p> <p><b>il/elle lutte contre la pauvreté / pour les droits humains</b> (he/she fights against poverty / for human rights)</p> <p><b>il/elle utilise leur célébrité pour aider les autres</b> (he/she uses their fame to help others)</p>	<p><b>Example:</b></p> <p>Je m'entends bien avec mon père parce que selon moi il est très gentil.</p> <p>(I get on well with my dad because according to me he is very kind)</p>	

# Geography | Is China the hegemonic superpower of the 21<sup>st</sup> century? | Knowledge Organiser

There have been different superpowers over time. These are the current global **superpowers**.



China



Brazil



Russia



USA



UK



India

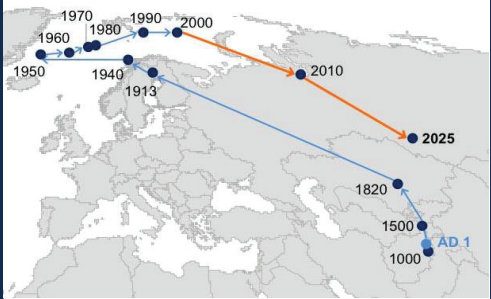


France

1

Overtime, the location of hegemonic global **superpowers** has changed.

2



Despite growing wealth, this is not spread equally. Additionally, China's environmental quality is increasingly poor due to increased air pollution

5



## Development indicators help us to measure and compare levels of development

1

**GDP** (Gross Domestic Product) The total value of goods and services produced by a country in a year.

**Life expectancy** The average age a person in a given country lives to

**Poverty** Percentage of people in a country living on less than \$1 a day.

**Infant mortality rate** The number of babies per 1000 live births, who die under the age of 1.

**Internet connection** The percentage of the population with internet access.

**Literacy rates** Percentage of adults in a country that can read and write.

Some of China's power can be attributed to the country's **physical geography**.



Trade routes



Natural resources



Natural defences

Some of China's power can also be attributed to the country's **human geography**.



Government



Population



Infrastructure

3

When nations express their influence through force, this is **hard power**.

1

When nations use cultural and economic influence, this is **soft power**.

## As a Year 9 Geographer, I know...

1. The difference between countries with soft power and hard power.

2. How overtime, the location of superpowers has moved West, but is now turning towards the East again.

3. How China's human and physical Geography has contributed to the country's growth in power.

4. The significance of trade and investment throughout China's history.

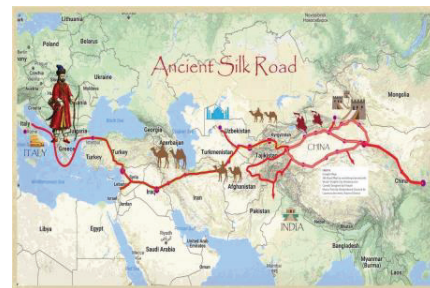
5. That China's economic growth has come with environmental and social limitations.

6. How to use graphs to interpret data (see skills section)

The ancient **Silk Road** was the first trade route that connected China with the West, carrying goods and ideas between the two civilizations of Rome and China.















4

Today, the **Belt and Road Initiative** is the new Silk Road, is a massive China-led infrastructure project that aims to stretch around the globe.





## Geography | Is China the hegemonic superpower of the 21<sup>st</sup> century? | Topic Dictionary

Image	Key word	Definition	In a sentence
	<b>debt</b>	The sum of money that is borrowed for a certain period and is to be returned.	If Mr Harvey borrowed £10 from the bank he would be in <b>debt</b> .
	<b>deficit</b>	A deficit is a shortfall or loss. A deficit can occur when a government, company, or person spends more than it receives.	If Miss Alford bought a laptop for £250 and sold it for £150, she would have a <b>deficit</b> .
	<b>exports</b>	Sending (goods or services) to another country for sale. This makes money.	China <b>exported</b> \$238.08 billion worth of smartphones in 2022.
	<b>hard power</b>	How nations express their influence through force. Force could be in the form of threats, economic sanctions, or military force.	Russia is currently exhibiting <b>hard power</b> through using military force against Ukraine to try and take over territory.
	<b>hegemony</b>	The dominance of one group over another.	The British Empire used its economic and military power to hold a <b>hegemony</b> for over 300 years .
	<b>human geography</b>	The study of where and how people live, work and travel around.	Year 9 students were learning about people who live in China in their <b>human geography</b> lesson.
	<b>imports</b>	A good or service bought in one country that was produced in another. This costs money.	The UK <b>imports</b> bananas from South America.
	<b>inequality</b>	The difference between levels of quality of life, income, health and education.	The world is <b>unequal</b> : the world's richest 1% have more than twice as much wealth as 6.9 Billion people.
	<b>physical geography</b>	The study of the natural landscapes and features of the Earth.	Year 7 students learnt about rivers in their <b>physical geography</b> lesson.
	<b>pollution</b>	The presence of a substance which has harmful or poisonous effects.	The levels of <b>pollution</b> in the air are rising.
	<b>soft power</b>	The use of a country's cultural and economic influence to persuade other countries to do something (rather than the use of military power).	The cultural attractiveness of a nation to another nation is an example of <b>soft power</b> . For example, Disney + (a US product) is now available in 107 countries around the world.
	<b>superpower</b>	A country/nation that can project its power and influence anywhere in the world and is a dominant global force.	Year 9 students are going to assess whether China is a <b>superpower</b> .
	<b>sustainable</b>	Meeting the needs of people today without compromising the needs of people in the future.	Solar energy is <b>sustainable</b> because it reduces air pollution.
	<b>trade</b>	The action of buying and selling goods and services.	There is a move to ban all <b>trade</b> in ivory.

# Geography | Is China the hegemonic superpower of the 21<sup>st</sup> century? | Skills Guide

## Interpreting graphs

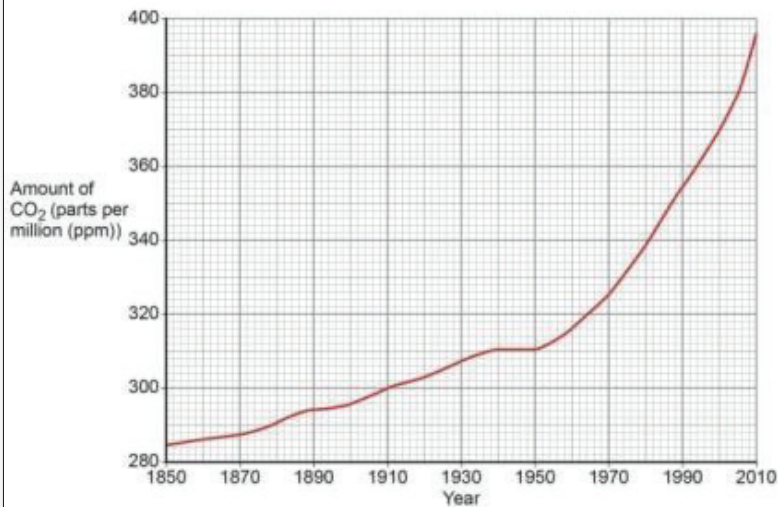
If you are asked to explain a pattern on a graph the following structure will help you.

- 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



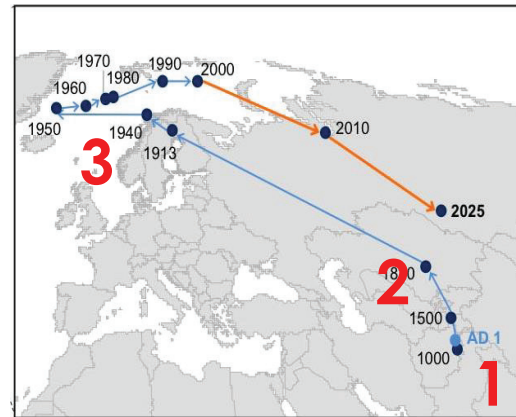
## TEA in action.

Figure 1



Describe the change in the amount of carbon dioxide in the atmosphere shown in figure 1.

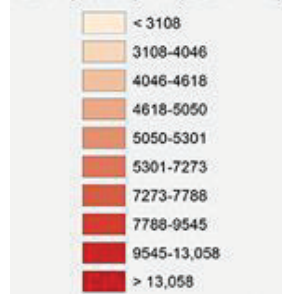
Overall, the graph shows an increase in the amount of carbon dioxide (CO<sub>2</sub>). In 1850 there was 284 ppm however the amount increases steadily until 1950 where there was 310 ppm but after that it increases rapidly 396 ppm in 2010. From 1940 to 1950 however, there was no significant increase in the amount of CO<sub>2</sub>.



Where have superpowers been located overtime?

Overall, the figure shows that overtime, the location of superpowers moved west until 1960. For example, the first superpower was location in Mesopotamia in AD 1, however by 1960, the foci of power had moved west due to the USA's rise in power. However, after 1990, the power shifts east again, with China predicted to be the central point of power by 2030.

GDP per capita (USD/PPP)

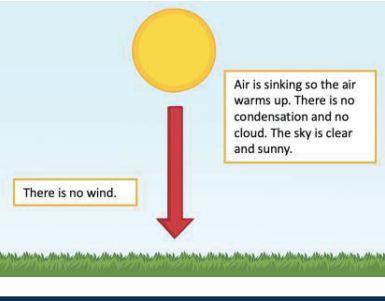


Describe the income inequality in China.

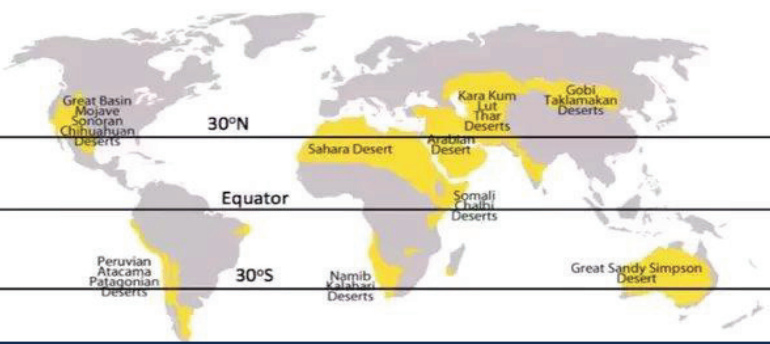
The income is higher in the east of China, for example in Beijing and Shanghai where GDP is above \$9545 per person. The income is less in the west of the country, for example in Xizang, where GDP is below \$3108 per person. However, an anomaly is Heilongjiang in the north east, where GDP is below \$5050 per person.

# Geography | Are deserts a good place to live? | Knowledge Organiser

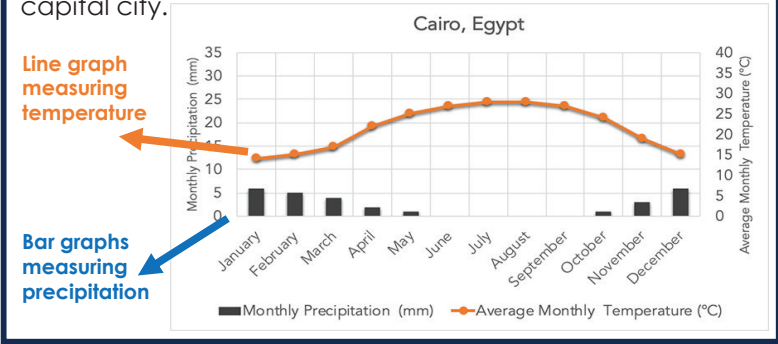
Deserts are very dry places. This is because they are part of a high- pressure weather system, where the sinking air retains heat and there is no cloud formation. **2**



Deserts are found 30°N and 30°S of the Equator along the Tropics of Cancer and Capricorn. **1**

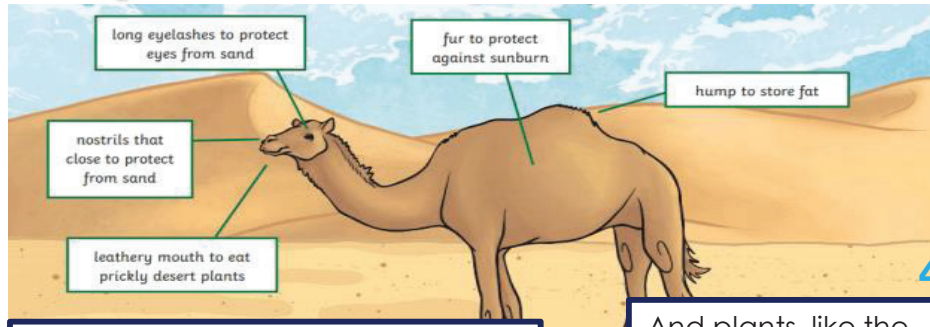


This climate graph illustrates high temperatures and low precipitation throughout the year in Cairo; Egypt's arid capital city. **3**

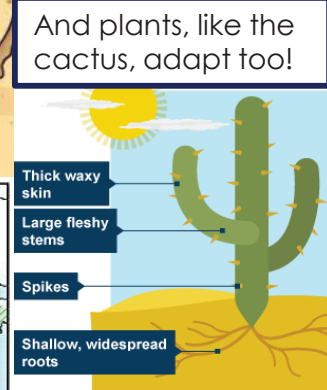


## As a Year 9 Geographer, I know...

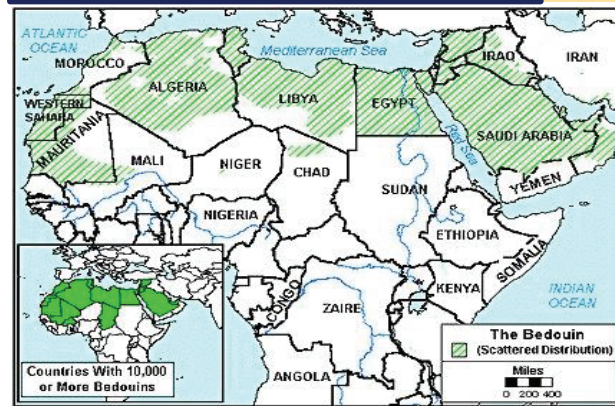
- Where deserts are located.
- Why deserts are located 30°N and 30°S of the equator.
- How to read a climate graph and describe climate patterns (see skills section).
- How animals and plants have adapted to the desert.
- The different landforms that can be found in the desert, and how they are formed.
- The opportunities of living in a desert.
- The threats of living in a desert.
- Whether Dubai is a good place to live.



To survive in a desert's harsh environment, plants and animals have adapted to better suit their environments. **4**

















And plants, like the cactus, adapt too!



This map shows the distribution of Beduin people across north Africa. The Beduin are a nomadic community who travel with their livestock. There are about 4 million Beduin in Africa and Asia, and this community have adapted to their environment. **6**

Landform	How is it formed?
<b>Wadi</b> 	Wadis are dry stream or river beds.
<b>Rock pedestal</b> 	They begin as exposed, isolated rocks made up of layers of soft and hard rocks.
<b>Barchan</b> 	These are sand dune formed by wind.
<b>Mesa</b> 	A wide, flat topped hill with very steep slopes.
<b>Butte</b> 	Tall towers of hard rock with very steep sides and flat tops.

## Geography | Are deserts a good place to live? | Topic Dictionary

Image	Key word	Definition	In a sentence
	<b>abiotic</b>	A non-living part of an ecosystem that shapes its environment.	Sand is an <b>abiotic</b> feature of a desert.
	<b>adaptation</b>	The process by which plants and animals change their characteristics to survive and thrive in desert environments.	A camel has <b>adapted</b> to the desert through certain characteristics such as having long eyelashes.
	<b>arid</b>	Having little or no rainfall; extremely dry.	The desert is an <b>arid</b> environment.
	<b>biotic</b>	A living organism.	Fennec foxes are a <b>biotic</b> presence in a desert environment.
	<b>climate</b>	The average weather conditions of a location over a long period of time.	The <b>climate</b> of a desert is hot and dry all year round.
	<b>desert</b>	A dry and barren region with little rainfall, characterized by extreme temperatures and sparse vegetation.	An example is a <b>desert</b> is the Sahara Desert in northern Africa.
	<b>drought</b>	An extended period of time with significantly reduced precipitation, leading to water scarcity and dry conditions.	Places with <b>drought</b> are difficult to live in.
	<b>dune</b>	A hill or ridge of sand that is formed and shaped by wind.	The desert is full of <b>dunes</b> , which are difficult to climb up.
	<b>ecosystem</b>	A community of living organisms (plants and animals) sharing an environment.	<b>Ecosystems</b> vary in size from a pond to a rainforest!
	<b>erosion</b>	Erosion is the geological process in which materials are worn away and transported by natural forces such as wind or water.	The landscape was shaped by <b>erosion</b> .
	<b>nomad</b>	A person or group of people who move from place to place, often in search of water and grazing land for their livestock.	The Bedouin people are a <b>nomadic</b> tribe that live in the desert.
	<b>mirage</b>	An optical illusion in which objects or bodies of water appear to be displaced or distorted due to the refraction of light in hot desert air.	People can often get tricked in the desert by thinking they see water when it is actually a mirage.
	<b>oasis</b>	A fertile area in a desert, usually surrounding a water source, where vegetation can grow.	Lots of wildlife can be spotted at an <b>oasis</b> .
	<b>threat</b>	The possibility that something unwanted will happen.	In a desert, there is a <b>threat</b> of drought.
	<b>water security</b>	The ability to access sufficient (enough) quantities of clean water to maintain adequate standards of food and goods production, proper sanitation (flushing toilets), and sustainable health care.	In hot, dry climates, there is a high level of <b>water insecurity</b> .

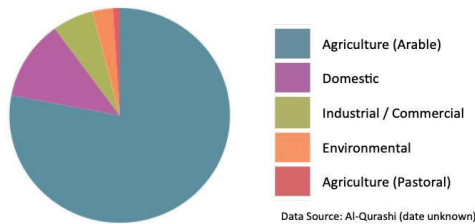
# Geography | Are deserts a good place to live? | Skills Guide

## Interpreting graphs

**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



Water Use in Oman by Sector



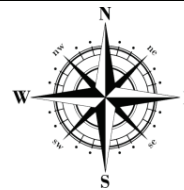
The pie chart illustrates that most of the water used in Oman is for arable agriculture. Just over ¾ of the water is used for this. The second most popular use is for domestic use. However, the least common use for water is for pastoral agriculture, contrasting with the frequent arable agriculture usage.

Describe the water usage in Oman as shown in the pie chart.

## Locating places



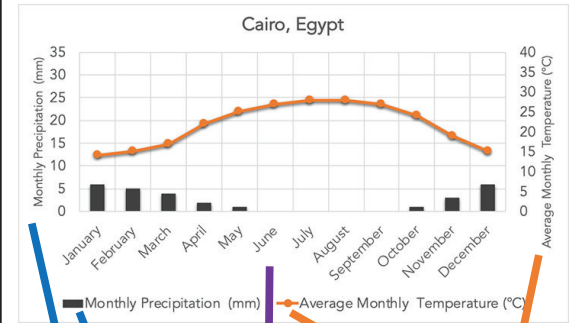
8



- ✓ Includes compass direction
- ✓ Includes place names

Dubai is a city located in the country of the United Arab Emirates (UAE). The UAE is in the Middle East, west of Saudi Arabia, and north west of Oman. Dubai is located on the south east coast of the Persian Gulf.

## 3 Using climate graphs

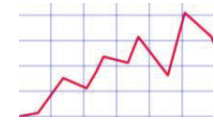


**Bar graph, plotted along the left axis (in this case), measuring precipitation**  
**Line graph, plotted along the right axis (in this case), measuring temperature**  
**Cairo's year, broken down into months, along the bottom axis**

The climate graph demonstrates a climate in Cairo with little precipitation, but a variety of temperatures. As the bar graph shows, highest amount of rain falls in January and December at 5mm, however there is no rain between June and October. The temperature has an inverse relationship with the precipitation measurements, as the line graph shows it is hottest when there is no rainfall, reaching on average 30 degrees Celsius in July and August. The lowest average temperature is 12 degrees in January.



Precipitation



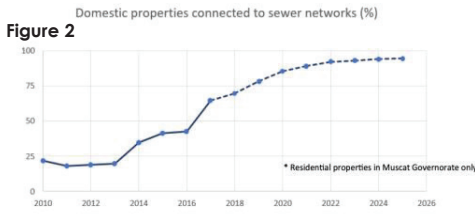
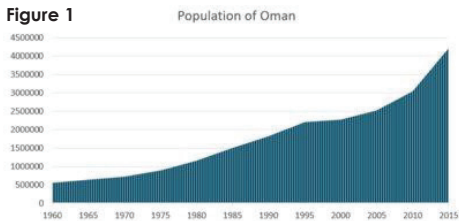
Temperature

## Explaining in Geography using CATT statements

**Explain** - Set out purposes or reasons/ Say why something happens.












**Consequently...**  
**As a result...**  
**Therefore...**  
**This means that...**

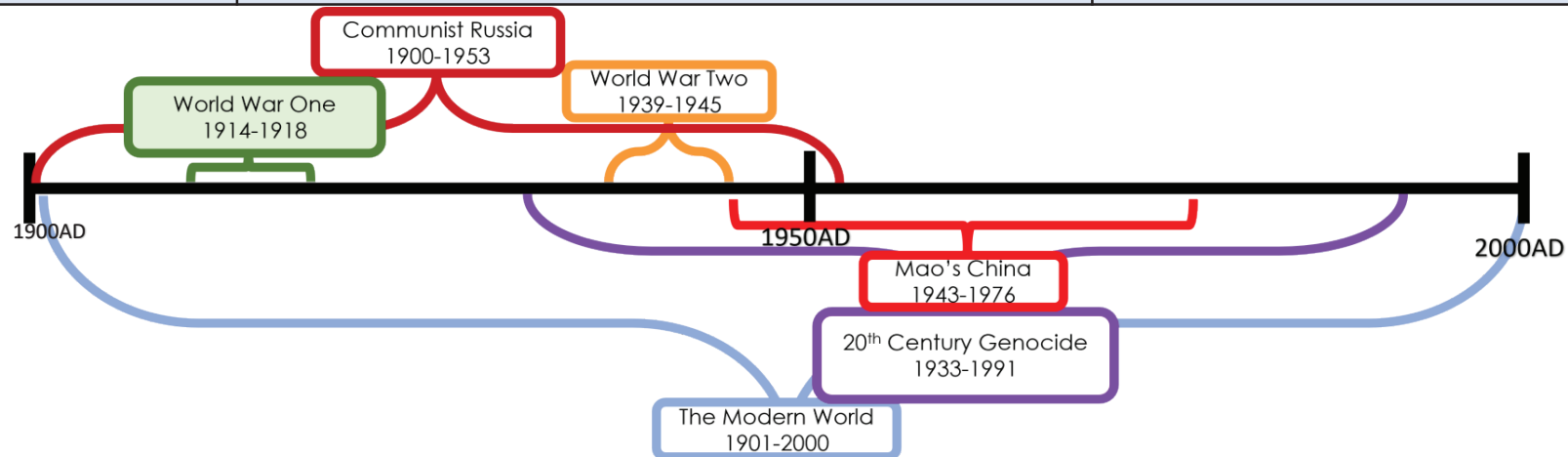


### What social problems can you see from the data presented?

Figure 1 illustrates Oman's rapidly growing population. However, figure 2 demonstrates that the number of properties with a flushing toilet is only increasing slowly. **This means that** many houses will be without proper sanitation, and **consequently** the standard of living will be reduced. **As a result of** not having a proper sewage system, people are more likely to catch diseases, increasingly the chance of health-related death.

# History | Why is World War One known as the Great War? | Topic Dictionary

Image	Key Word	Definition	In a sentence...
	alliance	(noun) an agreement for protection	The countries formed an <b>alliance</b> .
	conscientious objector	(noun) someone who refused to fight for moral reasons	<b>Conscientious objectors</b> were given white feathers to mark them out as cowards.
	conscription	(noun) the compulsory order for all men aged 18-41 to join the army	<b>Conscription</b> was introduced in Britain in 1916.
	imperialism	(noun) extending the power of a country by colonising others	Countries built up empires because of <b>imperialism</b> .
	kaiser	(noun) the emperor of Germany	<b>Kaiser</b> Wilhelm II abdicated in 1918.
	militarism	(noun) the belief a country should keep a strong military for defence	<b>Militarism</b> meant countries invested in their armies and new weapons.
	nationalism	(noun) the belief that your country is superior to others	<b>Nationalism</b> led to competition between the powers.
	No Man's Land	(noun) the dangerous area between the trenches	Soldiers went over the top into <b>No Man's Land</b> .
	propaganda	(noun) Information used to promote a political cause or point of view.	The government used <b>propaganda</b> to convince people to join the war effort.



**LONG TERM CAUSES**

**Militarism**

Countries built up their armies and navies to compete.

**Nationalism**

Different countries were certain their way of life was best, and leaders were convinced the best way to prove this was to go to war with each other.

**Imperialism**

Nations wanted big empires, and control of Africa in particular. Meanwhile, Austria-Hungary did not want the countries it ruled to claim independence.

**Alliances**

Powerful countries allied with each other to dissuade attack.

1.

**Number of soldiers**

	1880	1914
Germany	1.3 million	5.0 million
France	0.73 million	4.0 million
Russia	0.40 million	1.2 million



The **Black Hand** were young Serbian army officers who wanted to unite all Serbs in Bosnia under Serbian rule.

**Archduke Franz Ferdinand** was the heir to the empire of Austria-Hungary, and visited Sarajevo in Bosnia. He and his wife were assassinated by Gavrilo Princip, a member of the Black Hand.

2.

This triggered the system of **alliances**; Austria-Hungary declared war on Serbia, which Russia had mobilised its army to help. Germany declared war on Russia to help its ally Austria-Hungary. Then France mobilised to help its ally Russia, and Germany declared war on France.

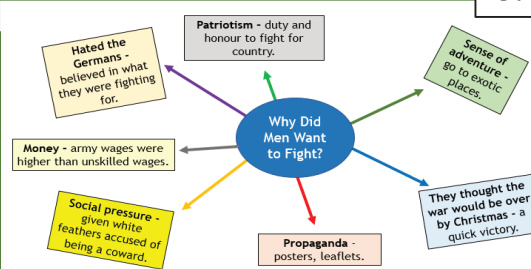
When war broke out in 1914, the British government asked for volunteers aged 19-30. Some signed up with friends in Pals Battalions. By September 1914, 736,000 men had signed up. By 1916, the number was 2.5 million.

Inspired by the same **propaganda** as was shown in Britain, many soldiers from the empire signed up to defend the "mother country".

3.

**Number of soldiers**

- Britain: 5,000,000
- India: 1,440,437
- Canada: 628,964
- Australia: 412,953
- South Africa: 136,070
- New Zealand: 128,825
- Other colonies: 134,837

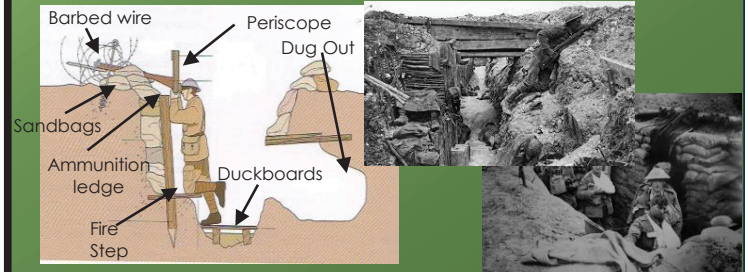


**Trenches** were dug to protect soldiers from machine gun fire and artillery. Soldiers would live and fight in them, and sleep in dug-outs in the side of the trench.

4.

Conditions were very **dangerous**; soldiers got **sick** from the constant damp, **infections** were common, and clouds of deadly **gas** might drift in. **Men** were sent "**over the top**" across **No Man's Land**- miles of mud, shrapnel and barbed wire- to try and reach the other side.

By the end of 1914, after only 5 months of fighting, there were **4 million dead and wounded**.



In Britain, women worked to produce food in the **Women's Land Army**, and in factories producing weapons and explosives. Women who worked in munitions factories were known as "**canary girls**" because working with sulphur and TNT turned their skin yellow and made them sick.

On the front, women worked in the army as part of **Queen Mary's Army Auxiliary Corps**, doing jobs in offices, canteens, transport, stores and army bases. Most famously, women worked as **nurses** in the Voluntary Aid Detachment and First Aid Nursing Yeomanry. These women worked behind the front lines of battle in army hospitals, on troop trains and on transport ships.

5.

In December 1914, British and German soldiers decided to stop fighting to exchange gifts, bury their dead, and play football.

6.



**As a Year 9 Historian I know ...**

1. the long-term causes of WW1.	
2. the short-term causes of WW1.	
3. who fought in WW1.	
4. what life was like for soldiers on the front.	
5. what life was like for women in the war.	
6. what the Christmas Truce was.	

# History Causation Skills Guide

Historians use the term 'causes' – or reasons – to describe the **things that made events happen**. When historians try to work out **different causes** of historical events, they need to be able to **justify** why they think **one cause (or reason) is more important than another**.



## What was the main cause of World War One?

### 1. Plan

Study the question. What do you know about the topic? What other causes led to the event?

### 2. Judge

Decide which cause you think was **the most important one**. List the reasons for your choice.

### 3. Answer

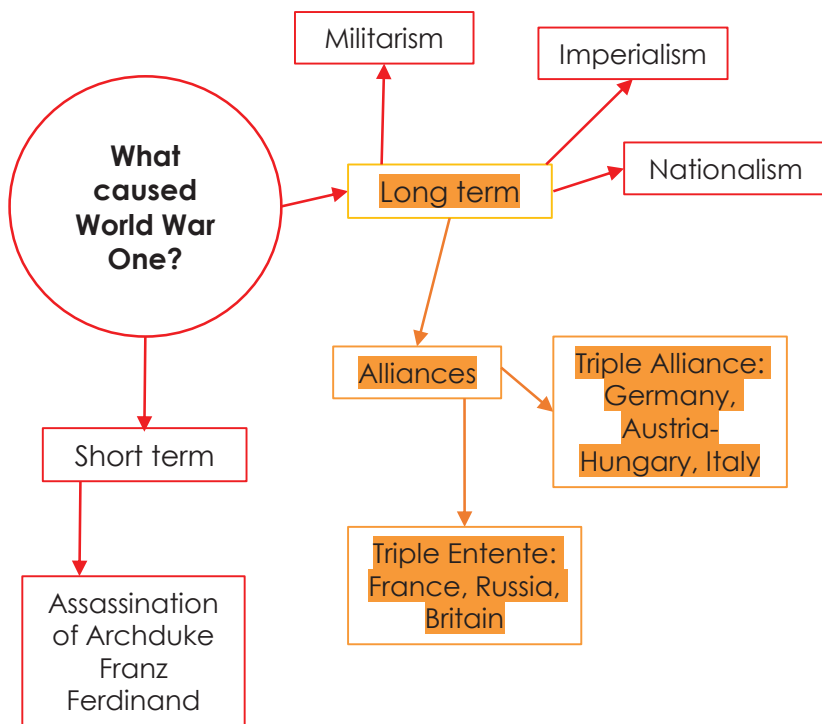
Make sure you **respond directly to the statement** – what was the main cause?

### 4. Explain

Add details to support your response and explain your view. Use your plan to help you add detail, and refer to the other causes. You might even be able to link them!

### 5. Conclude

Write a **concluding sentence**, stating your overall view clearly.



In my opinion, the main cause of World War One was the system of alliances that had developed across Europe.







For example, Germany, Austria-Hungary and Italy had formed the Triple Alliance, while France, Russia and Britain had formed the Triple Entente. This guaranteed that, when one power was attacked, the conflict would escalate across the continent. Indeed, this was why the assassination of Archduke Franz Ferdinand had such wide-ranging consequences; it triggered the system of alliances because Austria-Hungary attacked Russia's ally, Serbia. This then led to Russia declaring war, and then Germany declared war on Russia to protect its ally. This led to the whole continent, and, through empire, the world, being pulled into a conflict sparked by an assassination in the Balkans.

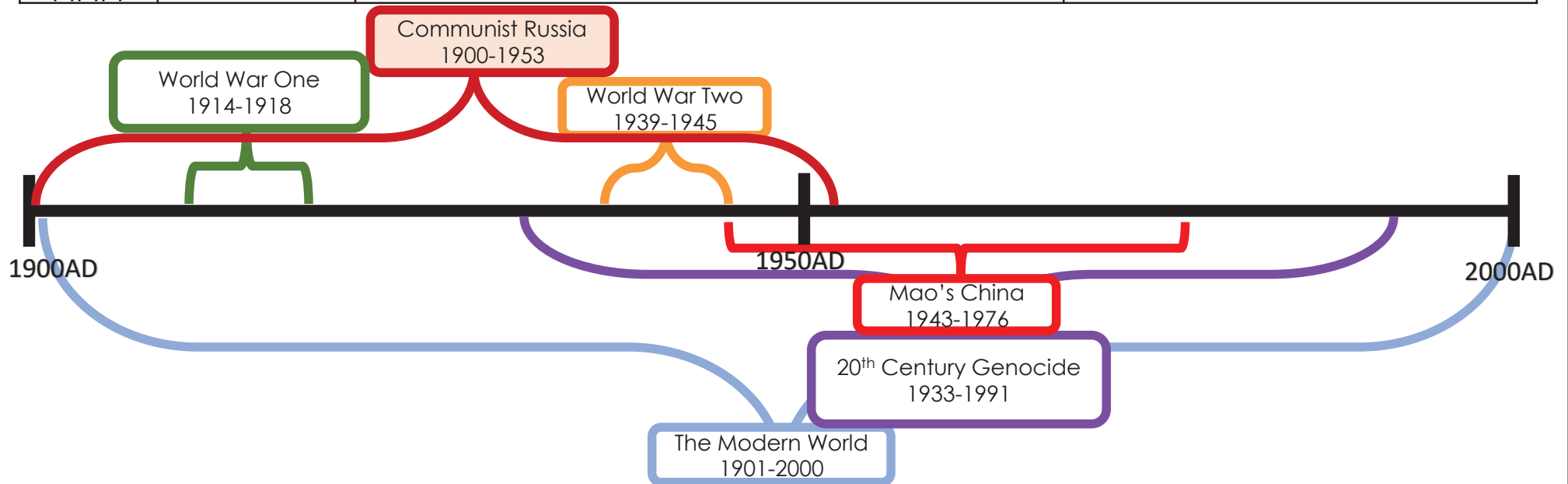
Some people might argue that nationalism was the main cause of World War One, and certainly nationalism meant that countries were keen to prove themselves best through war and developed the alliance system. The build-up of armies and navies because of militarism also meant that the war was damaging on a significant scale. However, it was the alliance system that ensured World War One was a "world" war, as countries have always competed, but without specifically military alliances, they might have competed on other levels, like technology or religion.

Overall, I strongly believe that alliances were the main cause of World War One, because that meant that the whole world was pulled into war, as opposed to keeping it localised.



# History | What was the impact of the Russian Revolution? | Topic Dictionary

Image	Key Word	Definition	In a sentence...
	<b>collectivisation</b>	(noun) the act of joining several private farms together so they are owned and run by the government	Stalin's key agricultural policy was <b>collectivisation</b> .
	<b>communism</b>	(noun) an economic system in which the government or whole community owns things together, and shares their wealth.	Some opponents of the tsar turned to <b>communism</b> .
	<b>democracy</b>	(noun) a form of government in which the people control the creation of laws	The general election is an example of <b>democracy</b> in action.
	<b>dictatorship</b>	(noun) a form of government where the leader has total power and will disregard the rights of individual citizens	Stalin arrested and executed many opponents during his <b>dictatorship</b> .
	<b>peasantry</b>	(noun) the class of people who work on farms and have very little	The average life expectancy for a member of the <b>peasantry</b> was 40.
	<b>revolution</b>	(noun) the usually violent attempt by many people to end the rule of one government and start a new one	Lenin and the Bolsheviks led a communist <b>revolution</b> in Russia in 1917.



**1 Dictatorship Democracy**

There are no free elections to change the government.	People can follow any religion they wish.
The government controls the media allowing people to see and hear only what it wants them to.	Everyone can vote and help to choose the government in a secret ballot.
People who criticise the government may be imprisoned or tortured.	A government has a limited time in power, after which voters can choose a different government.
Protests and demonstrations are banned and anyone who tries to protest is arrested.	Government is by the people, for the people, without one person having control over everything.
One person has absolute power to rule over a country or a state.	Students are taught to think for themselves and to discuss and have their own points of view.

**Karl Marx** said the history of the world is a history of class struggle. He said there would one day be a revolution where the working classes overthrew the upper classes that exploited them and developed a fairer world.

**Communism means that everything is shared— food, jobs, belongings. No-one owns land.** The workers take control of the country to produce things for everyone. Because nothing is made for profit, all people benefit from education and health.



2



About 80% of Russians in 1900 were peasants who worked the land. Meanwhile Tsar Nicholas II and the ruling class of aristocrats lived in luxury. Tsar Nicholas had absolute power, and believed God had given it to him... but so did most peasants, because they were so religious!

**Tsar Nicholas became less popular because...**

- The tsar's soldiers opened fire on people delivering a petition in 1905.
- Nicholas ignored the Duma (elected parliament).
- Rasputin, welcomed as a miracle worker by the tsarina in 1908, was unpopular.
- Pyotr Stolypin, the PM who tried to introduce reforms, was assassinated in 1911.
- In WW1 Russia ran out of supplies, and suffered over 9 million casualties by 1917.

3



5

**Lenin** redistributed land amongst the peasantry, and nationalised the banks and industry. It also withdrew from WW1, and killed or imprisoned tens of thousands of opponents in the **Red Terror**.

After Lenin died in January 1924, **Josef Stalin** took over. His **Five Year Plan** involved **collectivisation** of agriculture, the government setting industries very high targets, and over 1500 new factories and 100 new industrial towns being built. Stalin had a huge police force, and anyone who criticised him was tortured, arrested, and either executed or sent to a labour camp. In **1934**, the **Stalinist Purges** began, killing about 10 million people perceived to be enemies of the regime, including teachers and miners. The government controlled all newspapers, books and films. Religion was banned, and propaganda was designed to convince everyone Stalin was great.

6

The **Red Scare**, a fear that immigrants from Eastern Europe would bring communism with them, was fuelled in America. Two Italian immigrants, Sacco and Vanzetti, were arrested in 1921 and executed in 1927 for robbery and murder. They were unlikely to be guilty, but were still killed because they were anarchists.

**As a Year 9 Historian I know ...**

1. The difference between a dictatorship and a democracy.
2. What communism is.
3. Why Tsar Nicholas II was unpopular.
4. The events of the March Revolution.
5. The consequences of the revolution for Russia.
6. The consequences of the revolution abroad.

**The Bolsheviks were a group of communist revolutionaries, led by a man called Vladimir Lenin.**

4

**March 1917-** The tsar abdicates and the Provisional Government takes over. Prices continue to rise, food gets more expensive, and peasants still don't own land.

**April 1917-** Lenin publishes his "April Theses", offering people "Peace, Land and Bread."

**August 1917-** General Kornilov tries to restore the tsar by violent revolution and the Provisional Government has to ask the Bolsheviks to step in. The Bolsheviks make an army, the Red Guard, and become very popular.

**November 1917-** Because the Prime Minister Kerensky has arrested Red Guard leaders, Bolsheviks, led by Lenin's right hand man Trotsky, take over government buildings, banks and the railway station. Then, they move to take over the Winter Palace, HQ of the Provisional Government, with 800,000 members. There was no resistance.

**July 1918-** Tsar Nicholas and his family are shot and killed in the cellar of the house in which they were being held captive.

# History Interpretations Skills Guide

Historians study different kinds of evidence to help them understand the past. Sources are evidence from the period you are studying, and provide the information to create **interpretations**. An interpretation is created after the event or period being studied, and expresses a particular opinion about it. For example, a historian might write their view about a particular moment in history, or a writer might create a movie to show a particular viewpoint.

**It is important to work out what message the person who created the interpretation is trying to get across before comparing it to others.**

## To what extent do you agree with Interpretation A about the role of Lenin in the Russian Revolution?

Lenin was a figurehead of the revolution, but he was not its creator. The once near-godlike devotion evoked by the tsar was shattered by the bloody treatment of the petitioners of 1905, and once that perception was broken, there was no way for it to be restored.

From then, a thread of distrust and anxiety wound through Russian society, and the tsar had neither the skill nor the motivation to unpick it. From trusting the "Mad Monk" over the elected Duma, to riding to the front in 1914 and leaving his German tsarina in charge, Nicholas fumbled at every point. By the time Russian society creaked under supply shortages and the weight of 9 million war dead in 1917, the revolution that started was not for Lenin, or communism. It was simply against the tsar.

### INTERPRETATION A

*Written by a History teacher in London, 2024*

**STEP ONE:** What does the interpretation say about Lenin?

**STEP TWO:** What is the overall message of the source?

**STEP THREE:** Do you agree with the source?

- What evidence can you find to support its view?
- What evidence can you find to challenge its view?
- Overall, how far do you agree?

**STEP FOUR:** Explain with a PEEL paragraph.

To some extent I agree with Interpretation A, which argues that Lenin was not the main cause of the Russian Revolution in 1917, and that the tsar's incompetence was the real reason for the revolution. Nicholas certainly lost the trust of his people, as proven by the increase in rebellions after 1905, and during the war. However, I do not entirely agree that Lenin's presence was inconsequential; if Russians had simply wanted the tsar out, finding 800,000 Bolsheviks keen to storm the Winter Palace and take control from the Provisional Government in November 1917 would have been impossible. Lenin also gained huge support after publishing his April Theses, which promised "peace, land and bread"- so significant was this support that the government had to ask the Bolsheviks to put down Kornilov's revolt. The continuation of the revolution after March, and the undeniable impact of the April Theses, challenge Interpretation A. Therefore, while I agree to some extent that the tsar's conduct was a more significant cause, Lenin's ability to crystallise support, and turn that support into a specifically communist movement, made him undeniably more impactful than this interpretation suggests.

# IT | Big Data | Knowledge Organiser

## As a Y9 IT student I can...

### Format a spreadsheet using:

Borders	
Background colour	
Currency formatting	
Conditional formatting	

### Use **formulas** involving:

Addition	
Subtraction	
Multiplication	
Division	

### Use the **functions**:

COUNTIF	
MODE	
MAX	
MIN	
AVERAGE	
SUM	
COUNTA	

### Insert a **graph** and change:

Chart title	
Axis titles	
Colour	

This is cell C4

	A	B	C	D
1				
2				
3				
4				
5				
6				

Number 1	Times	Number 2	3 x	wer
3	*	1		=C20*E20

### Formulas

Starts with =  
To add: +  
To subtract: -  
To multiply: \*  
To divide: /

### Functions

Starts with =  
Use brackets ( )  
Write the first cell, and last cell in the range  
Use colons :



## Microsoft Excel

### Big Data

Due to increase in internet usage, the volume of data is growing at a very fast rate. Big data is a collection of data so huge and complex that traditional management tools cannot store or process it efficiently. We see big data at work when Netflix recommends films. Because of the increasing amount of data being collected, there is a rising demand for data scientists and analysts.

### Functions

Name	What it does	Example
MAX	Finds biggest number	=MAX(A1:A8)
MIN	Finds smallest number	=MIN(B3:F3)
SUM	Adds up all the numbers	=SUM(A2:C9)
COUNTA	Counts the cells which aren't empty	=COUNTA(D2:D10)
AVERAGE	Finds the mean average	=AVERAGE(C3:H3)
MODE	Finds the modal (most common) number	=MODE(J2:J12)
COUNTIF	Counts the cells if they meet are certain condition	=COUNTIF(E3:E7, 200)

## IT | Big Data | Topic Dictionary

Word	Definition	In a sentence...
<b>average</b>	The result when numbers in a list are added together, and then divided by the amount of numbers there are.	I used the <b>AVERAGE function</b> to work out the <b>average</b> on a list of numbers.
<b>axis titles</b>	The labels for the 2 lines (axis) on a bar chart.	So I can know what my graph is showing, it will need to have <b>axis titles</b> .
<b>bar chart</b>	A graph that uses rectangles to show data.	I created a <b>bar chart</b> to present my <b>data</b> .
<b>big data</b>	A collection of a large amount of <b>data</b> .	Netflix uses <b>big data</b> about viewing history to give personalised recommended films.
<b>cell reference</b>	The letter and number that describes a <b>cell's</b> position on a <b>spreadsheet</b> .	I am looking at the <b>cell reference</b> B2.
<b>cell</b>	A box on a <b>spreadsheet</b> .	I selected a <b>cell</b> on the <b>spreadsheet</b> .
<b>data</b>	Facts and figures.	I collected <b>data</b> about student's favourite subject.
<b>format</b>	The presentation and layout of work.	I am working to improve the <b>format</b> of my <b>data</b> .
<b>formula</b>	A mathematical calculation.	To complete calculations on my <b>spreadsheet</b> I will type in a <b>formula</b> .
<b>function</b>	Words used on a <b>spreadsheet</b> to complete maths calculations.	I can type in a <b>function</b> to find the total of my numbers.
<b>information</b>	Facts and figures that have been organised, so they have context and meaning.	I am organising my <b>data</b> so it can become <b>information</b> .
<b>maximum</b>	The highest number in a list.	The <b>maximum</b> (highest) value in my list is 15, which I found using the <b>MAX function</b> .
<b>minimum</b>	The lowest number in a list.	I know I can use the <b>MIN function</b> to find the lowest number in a list – the <b>minimum</b> .
<b>mode</b>	The most common number in a list.	The <b>MODE function</b> has given the value 7, so I know 7 is the most common number in my list.
<b>pie chart</b>	A graph that is a circle (like a pie), divided up into sections to show <b>data</b> .	I can understand <b>data</b> by viewing it in a <b>pie chart</b> .
<b>spreadsheet</b>	A grid on <b>Excel</b> that is used to work with data.	I plan out my money on a <b>spreadsheet</b> .
<b>sum</b>	The total when numbers are all added together.	I need to find out the total cost of some items, so I will use the <b>SUM function</b> .

# IT | Big Data | Skills Guide

## Formatting

Charges for voting	
Telephone	1.2
Text	0.5

A screenshot of the Excel 'Number' format dropdown menu. The 'Currency' option is selected and highlighted. Other visible options include 'General', 'Number', and 'Percentage'.

Charges for voting	
Telephone	£ 1.20
Text	£ 0.50

## Formulas

### Add

A	B	C	D	E	F	G	H
16	5	Add	5				=B16+F16
17							

### Subtract

A	B	C	D	E	F	G	H
22	50	-	40				=B22-F22
23							

### Multiply

A	B	C	D	E	F	G	H
26	10	x	20				=B26*F26
27							

### Divide

A	B	C	D	E	F	G	H
30	100	Divide	2				=B30/F30
31							

## Functions

1. Type =
2. Type the name of your function
3. Type (
4. Click and drag on the numbers you want

	D	E
16	£ 150.00	
17	£ 60.00	
18	£ 200.00	
19	£ 40.00	
20	=SUM(D16:D19)	

- =COUNTA(E12:I15)
- =MIN(B4:B15)
- =MAX(B4:B15)
- =AVERAGE(B4:B15)
- =MODE(B4:B15)
- =COUNTIF(E12:I15, "A")
- =SUM(B6:B10)

## Making graphs

Player	Goals
Alexander Isak	21
Bukayo Saka	16
Cole Palmer	22

Insert

A screenshot of the 'Insert' > 'Charts' menu in Excel, showing options for Column, Line, Pie, and other chart types.

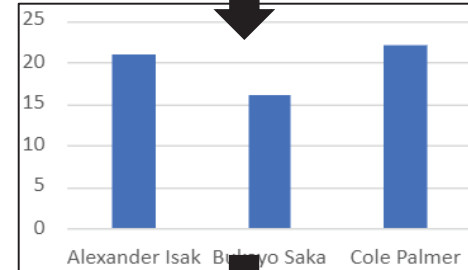
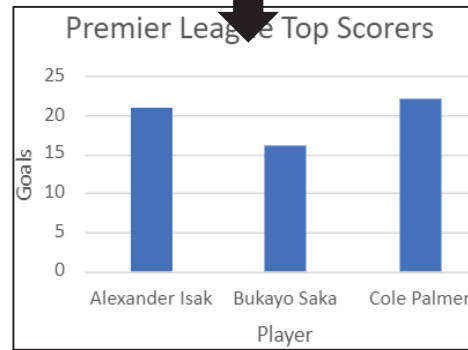


Chart Title Axis Titles

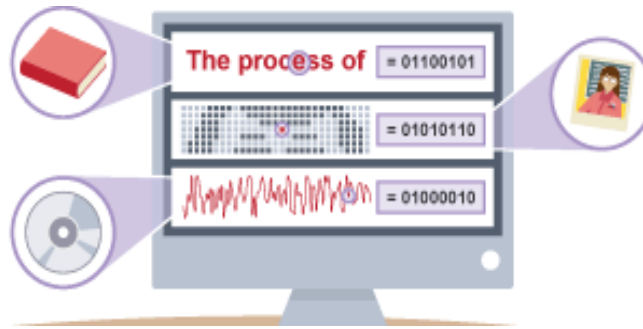


A screenshot of the 'Conditional Formatting' menu in Excel. The 'Greater than' rule is selected. The configuration shows 'Input value or select a cell' with a red border. Below it, the 'Format Style' section shows a color palette with five color options.

# IT | E-Safety, Binary & Bebras | Knowledge Organiser

## Representing data

All data inside a computer is transmitted as a series of electrical signals that are either **on** or **off**. Therefore, in order for a computer to be able to process any kind of data, including text, images and sound, they must be converted into **binary** form.



## Binary to denary

128	64	32	16	8	4	2	1
0	1	1	0	0	1	1	0

$$64 + 32 + 4 + 2 = 102$$

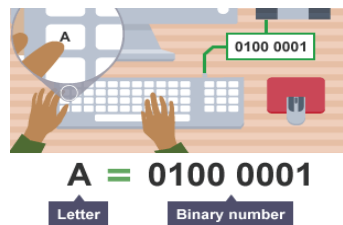
## Denary to binary

Make 135 with top row numbers  
 $135 = 128 + 4 + 2 + 1$

128	64	32	16	8	4	2	1
1	0	0	0	0	1	1	1

## Representing text

When any key on a keyboard is pressed, it is converted into a binary number.

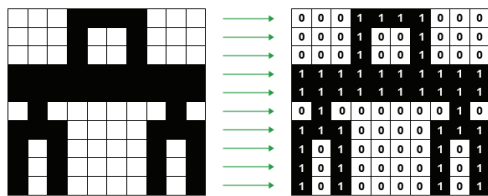


## E-safety: top 5 tips

1. Think before you post.
2. Don't share personal details.
3. Think about who you're talking to.
4. Never give out your password.
5. Cover your webcam.

## Representing images

The colour at each pixel on an image can be written as a binary number.



## As a Y9 IT student I can...

Convert binary to denary	
Convert denary to binary	
Understand how text converts into binary	
Understand how images convert into binary	
Protect myself online	
Use Outlook, Bromcom, Teams & Office	

**Outlook** – check your school emails.



**Bromcom** - check behaviour, timetable and homework.



**Teams** - complete your IT classwork.



**Office 365** – access lots of different Microsoft software.



Practice for Bebras  
 Go to [bebras.uk](http://bebras.uk)



Difficulty	Correct	Incorrect
A	+6 points	0 points
B	+9 points	-2 points
C	+12 points	-4 points

## IT | E-Safety, Binary & Bebras | Topic Dictionary

Word	Definition	In a sentence...
<b>ASCII</b>	American Standard Code for Information Interchange. A 7-bit character set used for representing English keyboard characters.	The <b>ASCII</b> code takes each character on the keyboard and assigns it a <b>binary</b> number.
<b>bias</b>	Favour shown for one person, group, thing or opinion over another.	When we write, we often – either purposefully or accidentally – introduce <b>bias</b> .
<b>binary</b>	A number system that contains two symbols, 0 and 1. Also known as base 2.	2 converted into <b>binary</b> is 10.
<b>bit</b>	The smallest unit of data in computing represented by a 1 in <b>binary</b> .	The <b>denary</b> number 3 is represented using two <b>bits</b> in <b>binary</b> - 11.
<b>colour depth</b>	The number of <b>bits</b> available for colours in an image.	This image has lots of different shades of colours – it has great <b>colour depth</b> .
<b>cyberbullying</b>	The bullying of another person using the internet, mobile phones and other digital devices.	<b>Cyberbullying</b> can take the form of posts on forums or social media, text messages or emails, all with the aim of hurting the victim.
<b>data</b>	Facts and figures.	I collected <b>data</b> about students' favourite subjects.
<b>data representation</b>	The way data, like text, is presented and stored.	For a computer, its <b>data representation</b> is in <b>binary</b> .
<b>denary</b>	The number system most commonly used by people. It contains 10 unique digits 0 to 9. Also known as decimal or base 10.	'a' has the <b>binary</b> number 0110 0001 which is the <b>denary</b> number 97.
<b>metadata</b>	Data about data	Computers need <b>metadata</b> to know the size of an image.
<b>pixel</b>	Picture element - a single dot of colour in a digital image or on a computer screen.	The downside of having more <b>pixels</b> is that the image's file size will be bigger.
<b>resolution</b>	The fineness of detail that can be seen in an image - the higher the <b>resolution</b> of an image, the more detail it holds. In computing terms, resolution is measured in dots per inch (dpi).	An image with a high <b>resolution</b> has more <b>pixels</b> , so it looks a lot better.
<b>Unicode</b>	A system of encoding text in computing widely used on the internet.	<b>Unicode</b> , was created so that computers could be used by people using different languages.



# IT | E-Safety, Binary & Bebras | Skills Guide

## Binary to denary conversion

### Example

Convert 01100110 to denary

128	64	32	16	8	4	2	1
0	1	1	0	0	1	1	0

$$64 + 32 + 0 + 0 + 4 + 2 + 0 = 102$$

Convert 10100100 to denary

128	64	32	16	8	4	2	1
1	0	1	0	0	1	0	0

$$128 + 0 + 32 + 0 + 0 + 4 + 0 + 0 = 164$$

### Method

1. Draw the table
2. Fill in the top row (start with 1 and then keep doubling)
3. Write in the binary number
4. Add up the numbers with a 1 below them

## Denary to binary conversion

### Example

Convert 134 into binary

134 is bigger than 128 so put a 1 below 128.  $134 - 128 = 6$   
 There is 6 leftover. 6 is smaller than 32, 16 and 8 so put 0s below them. 6 is bigger than 4 so put a 1 below 4.  $6 - 4 = 2$   
 Now there is 2 leftover. Put a 1 below 2.  $2 - 2 = 0$ .  
 Finished so fill 0 into empty spaces in the table.

128	64	32	16	8	4	2	1
1	0	0	0	0	1	1	0

### Method

1. Draw the table
2. Fill in the top row (you can start with 1 and then keep doubling)
3. Look at the table. Which numbers add up to my number?
4. Write a 1 below the numbers you use

To Patricia Kelly (St Marks) ×

Who are you sending the email to?

Cc Moses Techie Mensah (St Marks) ×

Who else needs a copy of the email?

Bcc Lily Hart Dyke (St Marks) ×

Who can see the email without "To" & "Cc" knowing?

Microsoft Trip

The subject title for the email

Afternoon Ms Kelly,

An opening greeting of who you are

Thank you for your co-operation on the trip to the Microsoft centre with year 9 students.  
 Can you confirm that we received all the certificates for the students in the programming project?

The message of the email

Regards

Closing greeting

Chris Gyebi-Ababio (St Marks)

Your email: [username@stmarks.anthemtrust.uk](mailto:username@stmarks.anthemtrust.uk)  
 Example: [22pkelly@stmarks.anthemtrust.uk](mailto:22pkelly@stmarks.anthemtrust.uk)

**Lifeology | Discrimination and Prejudice:  
What are types of  
discrimination? | Knowledge Organiser**

**Year 9  
Autumn 1**

**Big Idea: Community**  
How do we all live together?



What are discrimination and prejudice?

**Key learning points**

- Prejudice is an opinion held in the mind without evidence to support it
- Discrimination occurs when individuals act on their prejudices and treat others differently as a result

**discrimination**



What is ableism?

**Key learning points**

- Ableism is discrimination against people with disabilities
- It takes many forms, including lack of step-free access, derogatory language and stereotypes that people with disabilities are less mentally capable than others

**ableism**



What is sexism?

**Key learning points**

- Sexism is discrimination against people on the basis of their sex
- This is often through harassment or stereotypes held about the role of women
- It is often invisible and happens more than people realise

**sexism**



What is racism?

**Key learning points**

- Racism is discrimination against people on the basis of their sex
- Often racism is not shown through language but through hostile attitudes or suspicion shown to people from ethnic minority backgrounds

**racism**



What is homophobia?

**Key learning points**

- Homophobia is discrimination against people on the basis of their sexuality
- Despite a lot of progress in society it is still fairly normal and needs to be stopped
- Same sex relationships are legal, simple as that

**homophobia**



What are the types of discrimination?







**Key learning points**

- Discrimination occurs when someone acts on their prejudice and treats others badly because of who they are
- It can be ableism, sexist, racist, homophobia or others
- It is not acceptable and must be stopped

**prejudice**



Lifeology | Discrimination and Prejudice: What are the Types of Discrimination? | Topic Dictionary

<u>Image</u>	<u>Word*</u>	<u>Definition</u>	<u>In a sentence . . .</u>
	ableism	Discrimination against people with disabilities.	A lot of people have heard of racism and sexism, but they haven't heard of <b>ableism</b> .
	<b>discrimination</b>	Treating someone badly because of who they are.	Unfortunately, <b>discrimination</b> still exists in the world today, despite people trying to stop it.
	homophobia	Fear or hatred of people who are gay.	Clubs including QPR, Spurs and Sheffield United are all taking part in campaigns to get rid of <b>homophobia</b> in football.
	<b>prejudice</b>	An unreasonable dislike of a group of people, without evidence.	People can actually have <b>prejudice</b> without knowing it, because they learn it from other people and think it's okay.
	<b>racism</b>	To treat someone badly because of their race.	If you see signs of <b>racism</b> here in school, you should tell a teacher and help the person it's happening to.
	sexism	The belief that members of one sex, particularly women, don't need to be treated equally.	Most people don't realise that <b>sexism</b> is bad for everyone, since it stops people from realising their potential.

*\*Key Lifeology words are in **bold***

# Lifeology | How do I Pick a Career? | Knowledge Organiser

Year 9  
Autumn 2

**Big Idea: Character**  
How do I grow as a person?



What skills do I have?

**Key learning points**

- Employability is how likely you are to get a job, based on your skills and qualifications
- At your age, you don't have experience, so you'll need to focus on skills: things you can do or achieve
- E.g. teamwork, communication

**employability**



What are STEM jobs?

**Key learning points**

- STEM jobs are jobs in science, technology, engineering and maths
- They pay higher than average but require more qualifications to get
- Ideal skills are quick thinking, curiosity, intelligence, communication

**STEM jobs**



What's the creative industry?

**Key learning points**

- Creative industry jobs are jobs in fields like art, music, writing
- They can be very rewarding but also unreliable and based on what you put in
- Ideal skills are natural talent, determination, independence

**creative industry**



What's the public sector?

**Key learning points**

- Public sector jobs are jobs where your salary is paid by taxes
- Their pay is average but they are very stable and help the community run well
- Ideal skills are planning, time management, teamwork, patience

**public sector**



What's the private sector?

**Key learning points**

- Private sector jobs are jobs where you work for a business designed to make money
- Pay is great but they are very competitive
- Ideal skills are resilience, drive, passion and determination

**private sector**



How do I pick a career?







**Key learning points**

- When picking a career, consider the field you want to work in, the pay of that field and how well suited you are to it depending on your own skills
- You can use training and hard work to improve your skills and qualifications

**CV**



## Lifeology | How do I Pick a Career? | Topic Dictionary

<u>Image</u>	<u>Word*</u>	<u>Definition</u>	<u>In a sentence . . .</u>
	creative industry	Jobs where people use their creativity to succeed.	Working in the <b>creative industry</b> is perfect for you if you have really strong artistic hobbies and passions.
	CV	A document you create that lists all your experience and qualifications.	Your <b>CV</b> is never really finished because you keep adding to it throughout your life.
	employability	How likely you are to get a job, based on your skills and qualifications.	You can do extra training and get more qualifications to raise your <b>employability</b> .
	private sector	Jobs where you work for, or own, a business that exists to make money.	Working in the <b>private sector</b> can be stressful because there's a lot of pressure on you to do well.
	public sector	Jobs where the employee is paid with money from taxes.	There are always debates in politics about how much money should go to <b>public sector</b> jobs.
	STEM jobs	Science, technology, engineering and maths related jobs.	More men than women have <b>STEM jobs</b> , but the gap is closing over time.

\*Key Lifeology words are in **bold**

## Skills Guide: Lifeology Assessments

This is your chance to show off **as much of your knowledge as possible** from the **last five lessons**.

1. When the teacher instructs you, use **10 minutes** to **fill in the planning worksheet**. This is your chance to **look back through your book** and gather all the right answers. The sheet is for you to refer to during your assessment, so you don't need to use full sentences. The work only has to make sense to you! Look back at your **last assessment** and check the feedback here!
2. Complete the **assessment**. You will have **15 minutes** to produce a **piece of writing** to answer the question you've been studying for the last five weeks. Write like you're in an English lesson - **full sentences, proper spelling and grammar, and paragraphs**. Make sure to mention **as much as you can** from your **planning sheet**. The order you mention it in doesn't matter, **so long as it's all there**.
3. Use a **green pen** to **self-assess** your work. Compare the **assessment** you just did with the **success criteria** on the **feedback sheet**. Remember to **tick your work** wherever you're awarding a mark!

## As a Year 9 Lifeology Student, I know...

### By the end of Autumn 1

1. Prejudice is a thought held in the mind and it can lead to discrimination, which is an action based on prejudice.
2. Ableism is discrimination against people with disabilities, on the basis of assumptions on what they can and can't do.
3. Sexism is discrimination against people because of their sex. It often happens through harassment and stereotypes.
4. Racism is discrimination against people because of their race. It can be shown through language or hostile attitudes.
5. Homophobia is discrimination against people because of their sexuality. It must be challenged and stopped.
6. Discrimination takes many forms but it should always be stopped. It keeps us from achieving true equality as a society.

### By the end of Autumn 2

1. Employability is how likely you are to get a job based on your skills and qualifications. You can improve it through training.
2. STEM jobs in science, technology, engineering and maths are harder to get but pay better than average.
3. Creative industry jobs in art and music can be very rewarding but often unreliable. It's all about what you're willing to put in.
4. Public sector jobs, where you're paid from taxes, are stable and pay well, and they help the community too.
5. Private sector jobs for businesses pay the best on average but they're very fast paced and competitive.
6. When picking a career, you should consider who you are as a person, what you can do and what you care about.

**Previous Block:**  
Measures of location

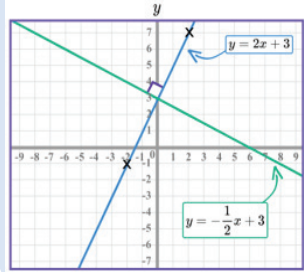
# Yr9 Autumn Term 1: Block 1 – Straight line graphs

**Next Block:**  
Forming and solving equations

## Stretch

(5) I know about perpendicular lines (H)

Perpendicular lines have gradients that multiply to give  $-1$ .  
The gradients of perpendicular lines are the **negative reciprocals** of each other.



The line  $y = 2x + 3$  has a gradient of  $2$   
The line  $y = -\frac{1}{2}x + 3$  has a gradient of  $-\frac{1}{2}$   
 $2 \times -\frac{1}{2} = -\frac{2}{2} = -1$   
The gradients multiply to give  $-1$



## Stretch

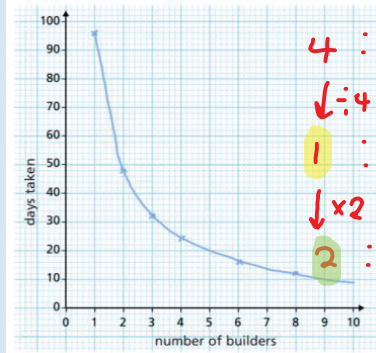
(4) I know about inverse proportion in real-life situations (H)

It takes 4 builders 24 days to build a hotel.

a) Assuming that all builders work at the same rate, complete the table of values.

Number of builders	1	2	3	4	6	8
Days taken	96	48	32	24	16	12

b) Draw a graph to represent this information.



(3) I know how to interpret the gradient and y-intercept of a straight line

The general equation of any straight line is:

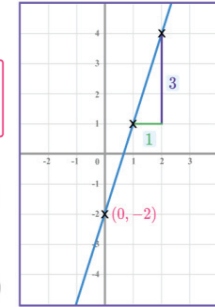
$$y = mx + c$$

$m$  is the gradient (steepness) of the line  
 $c$  is the y-intercept (where the line crosses the y-axis)

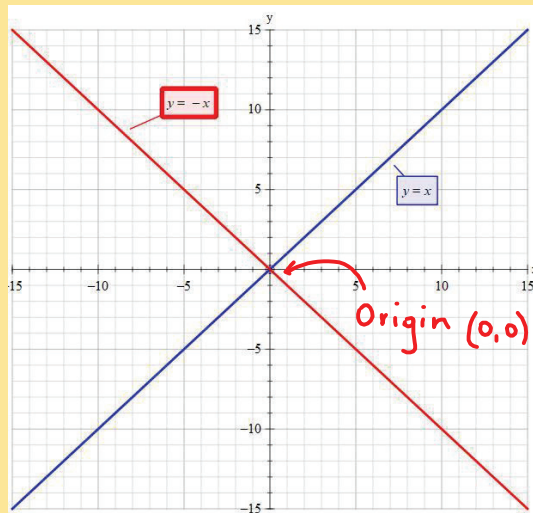
The graph of the line  $y = 3x - 2$

The gradient is  $3$

The y-intercept is  $-2$ , the coordinate  $(0, -2)$



(1) I know the graphs of  $y = x$  and  $y = -x$

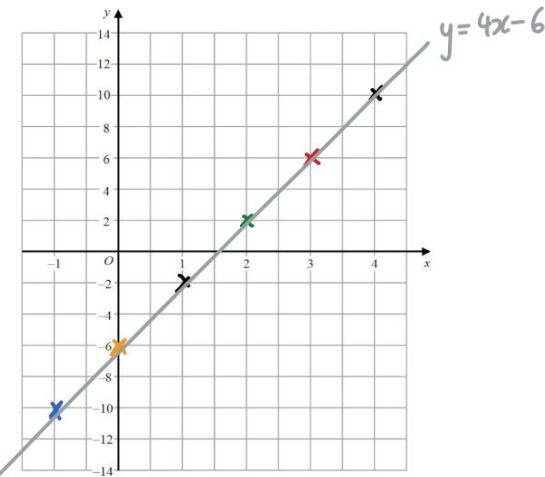


(2) I know how to plot graphs from a table

(a) Complete the table of values for  $y = 4x - 6$

$x$	-1	0	1	2	3	4
$y$	-10	-6	-2	2	6	10

(b) On the grid, draw the graph of  $y = 4x - 6$  for values of  $x$  from  $-1$  to  $4$



Start here

# Maths | Straight line graphs | Topic Dictionary

Key Word	Definition	In a sentence...
asymptote	An asymptote is a line to which the graph of a curve is very close but never touches it.	Some graphs have both a vertical and a horizontal <b>asymptote</b> .
co-ordinate	A set of values that show an exact position on a graph.	(1,2) is a <b>co-ordinate</b> that would be in the first quadrant of the Cartesian plane.
gradient	The steepness of a line	The line $y = 4x + 3$ has a positive <b>gradient</b> .
intercept	Where two lines cross. The y-intercept: where the line meets the y-axis.	In the line $y = 4x + 3$ , 3 is the <b>y-intercept</b> .
linear	Linear graphs (straight line) – linear common difference by addition/ subtraction	The sequence 3, 5, 7, 9... is <b>linear</b> .
parallel	Two lines that never meet with the same gradient.	The line $y = 4x + 3$ and $y = 4x - 4$ are <b>parallel</b> .
perpendicular	Two lines that meet at a right angle.	The radius and tangent of a circle are <b>perpendicular</b> .
reciprocal	A pair of numbers that multiply together to give 1.	If two lines are perpendicular 1 gradient is the negative <b>reciprocal</b> of the other.



# Maths | Straight line graphs | Skills Guide

Here are the equations of four straight lines.

Line A  $y = 2x + 4$   
 Line B  $2y = x + 4$   
 Line C  $2x + 2y = 4$   
 Line D  $2x - y = 4$

} Rearrange into  
 the form  
 $y = mx + c$

Two of these lines are parallel.  
 Write down the two parallel lines.

A:  $y = 2x + 4$

B:  $y = \frac{1}{2}x + 2$

C:  $2y = -2x + 4$   
 $y = -x + 2$

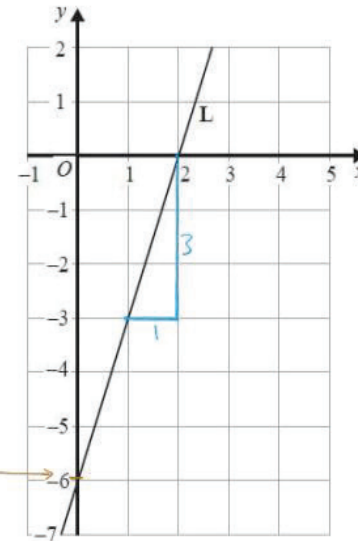
D:  $2x = y + 4$

$2x - 4 = y$

A and D have the same gradient, so are parallel

Line A and line D

The line L is shown on the grid.



$m = \frac{3}{1} = 3$

$c = -6$

Find an equation for L.

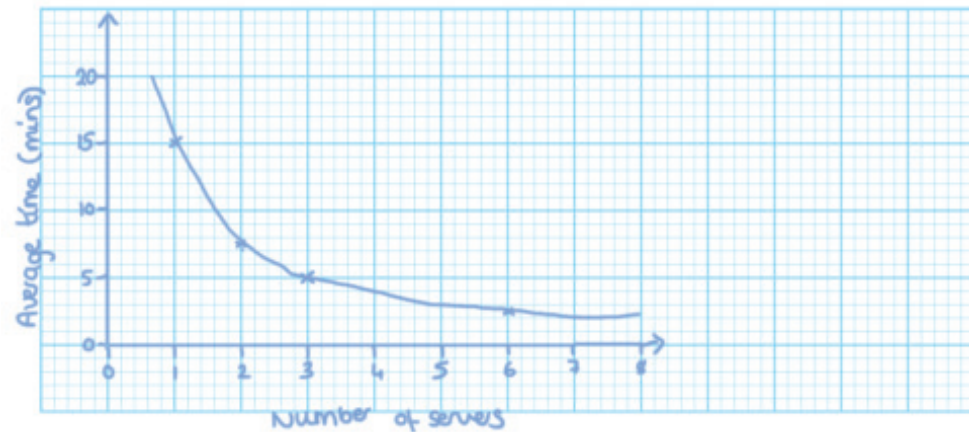
$y = mx + c$

$y = 3x - 6$

The average time taken to be served lunch in a canteen is inversely proportional to the number of servers.

When there are 3 servers working, the average time taken to be served is 5 minutes.

a) Draw a graph to represent this information.



# Yr9 Autumn Term 1: Block 2 - Forming & solving equations

**Previous Block:**  
Straight line graphs

**Next Block:**  
Testing conjectures

**Stretch**

(7) I can rearrange formulae

$$v = u + at$$

$$-u \quad \left( \right) \quad -u$$

$$\div a \quad \left( \right) \quad \div a$$

$$t = \frac{v - u}{a}$$

**Stretch**

(8) I can rearrange complex formulae

$$y = 5a^2 - 1$$

$$+1 \quad \left( \right) \quad +1$$

$$\div 5 \quad \left( \right) \quad \div 5$$

$$a^2 = \frac{y + 1}{5}$$

$$\text{Square root} \quad \left( \right) \quad \text{Square root}$$

$$a = \sqrt{\frac{y + 1}{5}}$$

(6) I can use formulae and equations

**Substitute**

$$v = u + at$$

$$v = 24 \quad u = 4 \quad a = 2$$

$$24 = 4 + 2t$$

(5) I can solve equations and inequalities in other mathematical contexts

**vertically opposite angles are equal**

$$2x + 4^\circ = 24^\circ$$

(4) I can solve equations and inequalities with unknowns on both sides

$$5x + 4 = 24 + 3x$$

$$-3x \quad \left( \right) \quad -3x$$

$$2x + 4 = 24$$

(1) I can solve one and two-step equations and inequalities (R)

$$2x + 4 = 24$$

$$-4 \quad \left( \right) \quad -4$$

$$2x = 20$$

$$\div 2 \quad \left( \right) \quad \div 2$$

$$x = 10$$

(2) I can solve equations and inequalities with brackets (R)

$$2(x + 2) = 24$$

$$\text{Expand} \quad \left( \right)$$

$$2x + 4 = 24$$

(3) I can solve inequalities with negative numbers

$$4 > 24 - 2x$$

$$+2x \quad \left( \right) \quad +2x$$

$$2x + 4 > 24$$

Start here

# Maths | Forming & solving equations | Topic Dictionary

Key Word	Definition	In a sentence...
equation	A mathematical statement that shows that two mathematical expressions are equal.	We can solve <b>equations</b> by rearranging using inverse operations.
expression	A statement having two or more numbers/ variables/ both and an operator connecting them.	An <b>expression</b> cannot be solved, as it does not have an equals sign.
inequality	An inequality compares two values showing if one is greater than, less than or equal to another.	Solve the <b>inequality</b> $2x + 4 > 24$ .
inverse operation	The operation that reverses the action.	The <b>inverse operation</b> of addition is subtraction.
rearrange	Change the order.	<b>Rearrange</b> the formula, so that x is the subject.
solve	Find a numerical value that satisfies an equation.	We can <b>solve</b> an equation to find the value of x.
substitute	Replace a variable with a numerical value.	We can <b>substitute</b> a value into a formula.
term	Either a single number or variable, or the product of several numbers or variables e.g. $3x$ , $5$ , $7x^3y^8$ .	Collect like <b>terms</b> to simplify $3x + 5 - 2x + 8$ .
variable	A quantity that may change within the context of the problem.	When conducting a scientific experiment, you must measure the dependant <b>variable</b> to collect the data.

# Maths | Forming & solving equations | Skills Guide

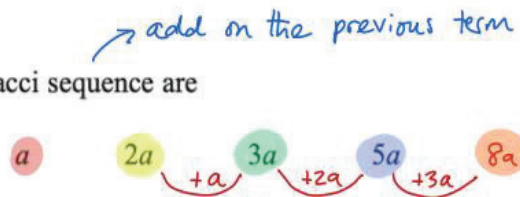
Make  $s$  the subject of  $v^2 = u^2 + 2as$

$$u^2 + 2as = v^2$$

$$2as = v^2 - u^2$$

$$s = \frac{v^2 - u^2}{2a}$$

The first four terms of a Fibonacci sequence are



The sum of the first five terms of this sequence is 228

Work out the value of  $a$ .

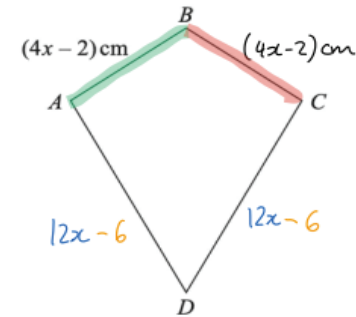
$$a + 2a + 3a + 5a + 8a = 19a$$

$$19a = 228$$

$$\div 19 \quad \downarrow \quad \div 19$$

$$a = 12$$

$ABCD$  is a kite.



$$AB = (4x - 2) \text{ cm} = BC$$

Jasper says that  $x$  could be 0.5

(a) Explain why Jasper cannot be correct.

If  $x = 0.5$   $4x - 2 = 0$   $AB$  would then be zero.  
Which isn't possible.

(1)

$$AD = 3AB$$

The kite has a perimeter of 64 cm.

(b) Find the value of  $x$ .

$$AD = 3(4x - 2) = 12x - 6$$

$$P = (4x - 2) + (4x - 2) + (12x - 6) + (12x - 6) = 32x - 16$$

$$32x - 16 = 64$$

$$32x = 80$$

$$x = \frac{80}{32} = 2.5$$

$$x = 2.5$$

(3)

# Yr9 Autumn Term 1: Block 3 – Testing Conjectures

**Previous Block:**  
Form and Solve Equations

**Previous Block:**  
Three Dimensional Shapes

**Stretch**

(5) I can expand three binomials.

Expand  $(x + 3)(x + 4)(x + 5)$

$(x + 3)(x + 4) \equiv x^2 + 4x + 3x + 12$   
 $\equiv x^2 + 7x + 12$

$(x^2 + 7x + 12)(x + 5)$

$(x^2 + 7x + 12)(x + 5)$

×	$x$	$5$
$x^2$	$x^3$	$5x^2$
$7x$	$7x^2$	$35x$
$12$	$12x$	$60$

$x^3 + 12x^2 + 47x + 60$

(4) I can use algebra to look for patterns.

For all values of  $a$ ,  $a^2 > a$

This conjecture is false.  
Use a counterexample to show this.

When  $a = 1$ ,  $a^2 = 1 \times 1$   
 $a^2 = 1$   
 So,  $a^2 = a$

1 is a counterexample.

(3) I can prove conjectures about numbers using diagrams and symbols.

Use diagrams to prove this conjecture.

When you add two even numbers, the answer is **always** even.

(1) I can work out factors, multiples and primes.

Find the highest common factor of 18 and 30.

18: 1, 2, 3, 6, 9, 18

30: 1, 2, 3, 5, 6, 10, 15, 30

(2) I can test conjectures.

Decide if the statement is always, sometimes, or never true.

When you add 1 to a prime number, the answer is odd

$2 + 1 = 3$     3 is odd, so the statement is true

$7 + 1 = 8$     8 is even, so the statement is false

The statement is **sometimes** true.

Start here →

# Maths | Place Value | Topic Dictionary

Key Word	Definition	In a sentence...
binomial	A polynomial with two terms	Expand the pair of <b>binomials</b> , $(x + 2)(x + 3)$ .
factor	Integers that multiply together to get another number.	Write down all the <b>factors</b> of 26.
highest common factor	The biggest factor that two or more numbers share.	Find the <b>highest common factor</b> (HCF) of 24 and 36.□
lowest common multiple	The least common multiple is defined as the smallest multiple that two or more numbers have in common.	Find the <b>lowest common multiple</b> (LCM) of 6 and 8.□
multiples	An integer that is in the multiplication table of a specific number	Write down two <b>multiples</b> of 4.
prime	A prime number is a whole number greater than 1 with only two factors – itself and 1.	Write down all the <b>prime</b> numbers between 10 and 20.
prove	Logical mathematical arguments used to show the truth of a statement	<b>Prove</b> that the product of two consecutive even numbers is a multiple of 4.
quadratic	A a polynomial where the highest power of the variable is 3.	A <b>quadratic</b> graph is also known as a parabola.
verify	The process of making sure a solution is correct.	The math teacher will <b>verify</b> your eligibility to join the math club.

## Maths | Testing Conjectures | Skills Guide

Show that

$$(3x - 1)(x + 5)(4x - 3) = 12x^3 + 47x^2 - 62x + 15$$

for all values of  $x$ .

$$(3x - 1)(4x^2 - 3x + 20x - 15)$$

$$= (3x - 1)(4x^2 + 17x - 15)$$

$$= 12x^3 + 51x^2 - 45x - 4x^2 - 17x + 15$$

$$= 12x^3 + 47x^2 - 62x + 15$$

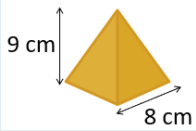
# Yr9 Autumn Term 2: Block 4 – Three Dimensional Shapes

**Previous Block:**  
Testing  
Conjecture

**Stretch**

**(7) I can find the volume of pyramids**

Work out the volume of the square-based pyramid.



Area of base =  $8 \times 8 = 64 \text{ cm}^2$

$V = \frac{1}{3} \times \text{base area} \times \text{height}$


$= \frac{1}{3} \times 64 \times 9$

$= 192 \text{ cm}^3$

**Stretch**

**(8) I can find the volume and surface area of spheres**

A sweet is in the shape of a sphere with diameter 6 mm. Work out the volume of the sweet, giving your answer in terms of  $\pi$ .



$V = \frac{4}{3} \pi r^3$

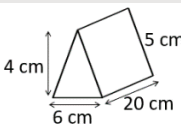
$V = \frac{4}{3} \times \pi \times 3^3$

$V = 36\pi \text{ mm}^3$

**Next Block:**  
Construction  
&  
congruency

**(6) I can find the volume of prisms and cylinders**

Find the volume of the solid.



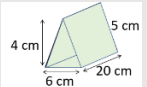
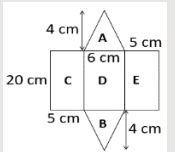
Volume of a prism = Area of cross-section  $\times$  length

Area of cross-section =  $\frac{1}{2} \times 6 \times 4 = 12 \text{ cm}^2$

Volume of prism =  $12 \text{ cm}^2 \times 20 \text{ cm} = 240 \text{ cm}^3$

**(5) I can find surface area of cubes, cuboids, triangular prisms & cylinders**

What is the total surface area of the triangular prism?

$A = \frac{1}{2} \times 6 \times 4 = 12 \text{ cm}^2$

$B = \frac{1}{2} \times 6 \times 4 = 12 \text{ cm}^2$

$C = 5 \times 20 = 100 \text{ cm}^2$

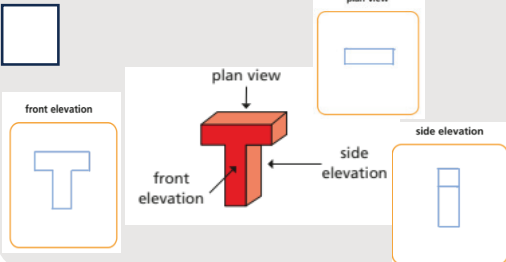
$D = 6 \times 20 = 120 \text{ cm}^2$

$E = 5 \times 20 = 100 \text{ cm}^2$

Total area =  $344 \text{ cm}^2$

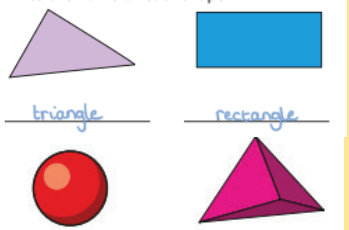
**(4) I can draw plans and elevations**

Sketch the front and side elevations and the plan view of the 3D shapes.



**(1) I can name 2D and 3D shapes**

Write the name of each shape.

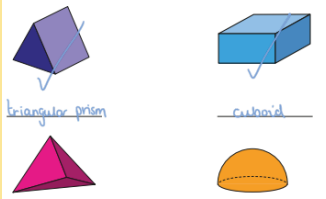


triangle      rectangle

sphere      tetrahedron

**(2) I can recognise prisms**

Here are some 3D shapes. Tick the shapes that are prisms.

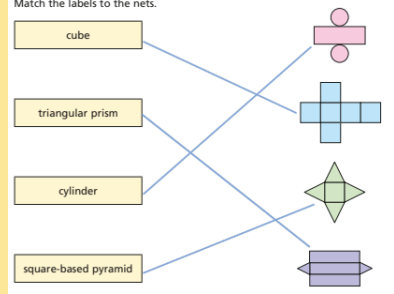



triangular prism      cuboid

tetrahedron      hemisphere

**(3) I can sketch and recognise nets**

Match the labels to the nets.



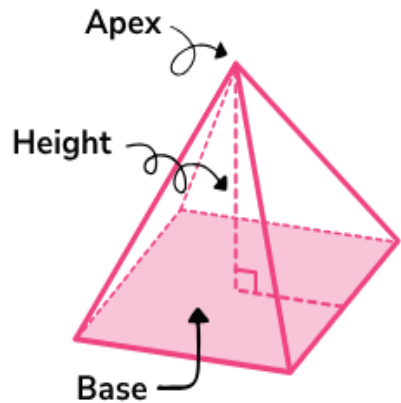
Start here 



# Maths | Three Dimensional Shapes | Topic Dictionary

Key Word	Definition	In a sentence...
2D	Two dimensions to the shape e.g. length and width.	A rectangle is a <b>2D</b> shape.
3D	Three dimensions to the shape e.g. length, width and height.	A cuboid is a <b>3D</b> shape.
cross-section	A view inside a solid shape made by cutting through it.	The <b>cross-section</b> of a cuboid is a rectangle
edge	A line on the boundary joining two vertices.	A cuboid has 12 <b>edges</b> .
face	A flat surface on a solid object.	The opposite <b>faces</b> of dice have a sum of 7
perspective	A way to give illustration of a 3D shape when drawn on a flat surface.	The side elevation gives a different <b>perspective</b> of a 3D shape to the front elevation.
plan	A way to give illustration of a 3D shape when drawn on a flat surface.	The photo shows a <b>plan</b> view of a theater, with the stage, boxes, and seats
vertex	A point where two or more line segments meet.	My cousin built his house on the <b>vertex</b> of the highest hill in town.

# Maths | Three Dimensional Shapes | Skills Guide



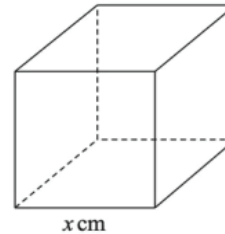
To calculate the **volume** of a pyramid, we use the formula:

$$V = \frac{1}{3}Bh$$

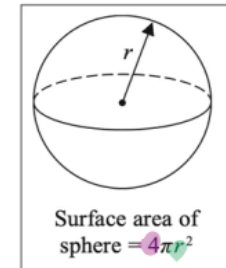
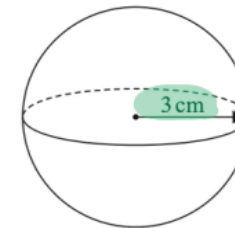
where:

- $V$  represents the **volume** of the pyramid,
- $B$  represents the **area of the base** of the pyramid,
- $h$  represents the **perpendicular height** of the pyramid.

The diagram shows a cube with edges of length  $x$  cm and a sphere of **radius 3 cm**.



$$\text{Area of face} = x^2$$



The surface area of the cube is equal to the surface area of the sphere.

Show that  $x = \sqrt{k\pi}$  where  $k$  is an integer.

$$\text{Surface Area of sphere} = 4 \times \pi \times 3^2 = 4 \times 9 \times \pi = 36\pi$$

$$\text{Surface Area of cube} = 36\pi$$

$$\text{Area of one square face of cube} = 36\pi \div 6 = 6\pi$$

$$x^2 = 6\pi \quad x = \sqrt{6\pi}$$

# Yr9 Autumn Term 1: Block 5 – Constructions & Congruency

**Previous Block:**  
3D Shapes

**Use congruency in Triangles for problem solving questions**

**Stretch**

James and Chris each draw a triangle with one side of 10cm, one angle of  $45^\circ$  and one angle of  $85^\circ$ .

James says their triangles are congruent.

Explain why James is incorrect.

**Next Block:**  
Congruence, Similarity and Enlargement

**(4) Construct angle bisector**

Use a ruler and pair of compasses to construct the angle bisector

**(5) Identify Congruence**

**(6) Identify congruence in triangles**

State whether the pairs of triangles are congruent, not congruent or if there is not enough information.

**(1) Locus of a distance from a point**

Draw the locus of all points that are 3 cm from X.

Circle of radius 3 cm drawn.

**(2) Locus of a distance from a straight line & from two points**

Draw the locus of all points that are 3 cm away from the line segment.

All points in the locus should be 3 cm away from the line segment.

**(3) Construct perpendicular bisector**

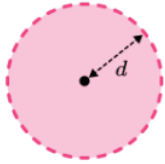
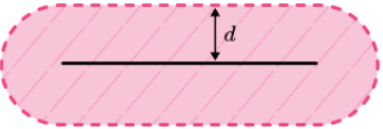

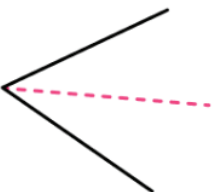
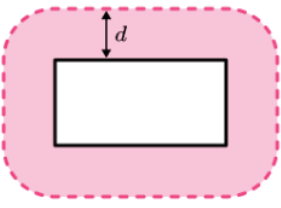
Use a ruler and pair of compasses to bisect the line segment AB.

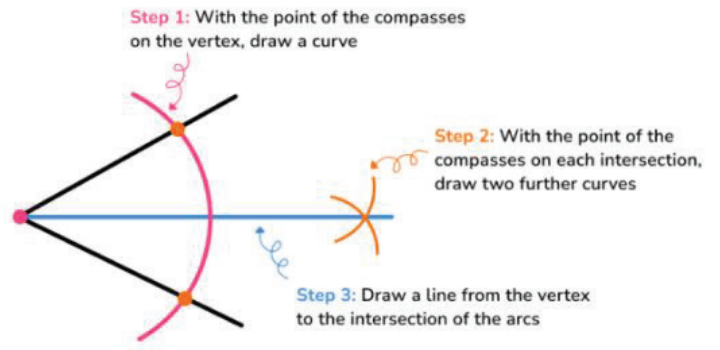
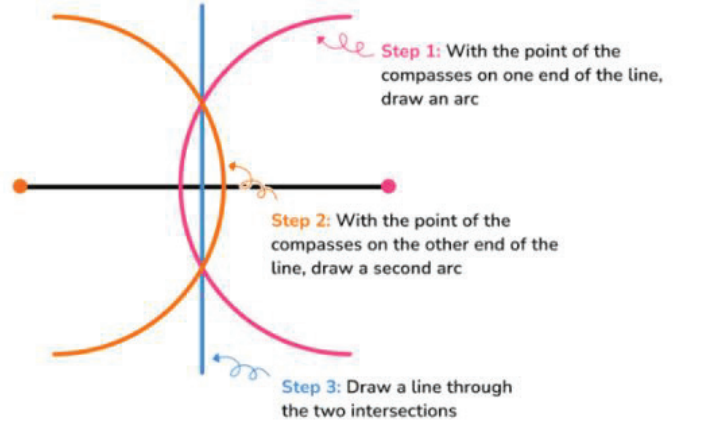
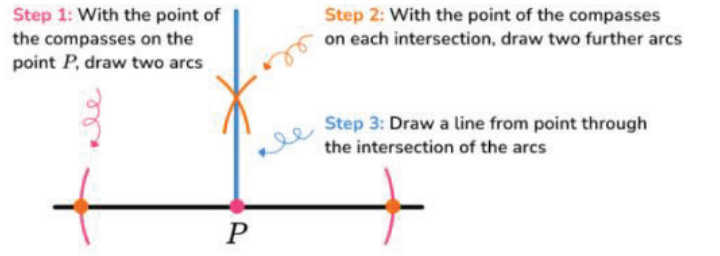
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# Maths | Constructions & Congruency | Topic Dictionary

Key Word	Definition	In a sentence...
arc	part of curve	The rainbow formed a beautiful <b>arc</b> across the sky.
bisector	a line that divides something into two equal parts	The architect used a <b>bisector</b> to evenly divide the room into two parts.
congruent	the same shape and size	The two triangles are <b>congruent</b> , meaning they have the same size and shape.
discorectangle	(a stadium) - a rectangle with semi circles at either end	The new playground features a <b>discorectangle</b> -shaped sandbox that the kids love.
equidistant	the same distance	The park is <b>equidistant</b> from both schools, making it a convenient meeting place.
locus	set of points with a common property	The circle's edge is the <b>locus</b> of all points equidistant from its center.
perpendicular	lines that meet at 90 degrees	The builder made sure the walls were <b>perpendicular</b> to the floor.
protactor	piece of equipment used to measure and draw angles	She used a <b>protactor</b> to measure the angle of the triangle.

# Maths | Constructions & Congruency | Skills Guide

<p>The locus of points that are a given distance, <math>d</math>, from a point.</p>	
<p>The locus of points within a given distance, <math>d</math>, of a line.</p>	
<p>The locus of points equidistant between two points (perpendicular bisector).</p>	
<p>The locus of points equidistant between two lines (angle bisector).</p>	
<p>The locus of points a given distance, <math>d</math>, from a polygon.</p>	

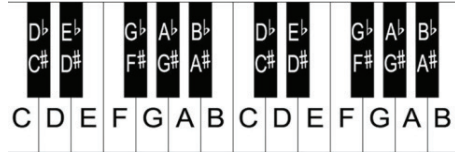
<p>Angle bisector</p>	 <p><b>Step 1:</b> With the point of the compasses on the vertex, draw a curve</p> <p><b>Step 2:</b> With the point of the compasses on each intersection, draw two further curves</p> <p><b>Step 3:</b> Draw a line from the vertex to the intersection of the arcs</p>
<p>Perpendicular bisector</p>	 <p><b>Step 1:</b> With the point of the compasses on one end of the line, draw an arc</p> <p><b>Step 2:</b> With the point of the compasses on the other end of the line, draw a second arc</p> <p><b>Step 3:</b> Draw a line through the two intersections</p>
<p>Perpendicular from a point on a line</p>	 <p><b>Step 1:</b> With the point of the compasses on the point <math>P</math>, draw two arcs</p> <p><b>Step 2:</b> With the point of the compasses on each intersection, draw two further arcs</p> <p><b>Step 3:</b> Draw a line from point <math>P</math> through the intersection of the arcs</p>



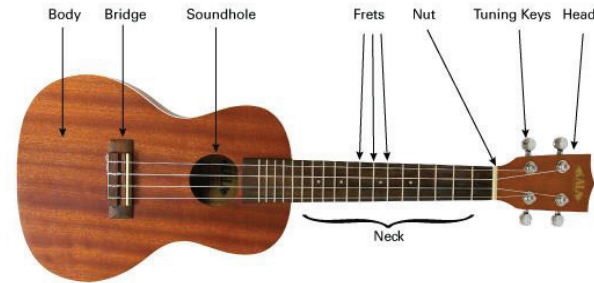
# Four Chords | How to play a Four-Chord Progression | Knowledge Organiser

Here is a guide to all you need to know when learning to play the chord progression C, F, Am G

1

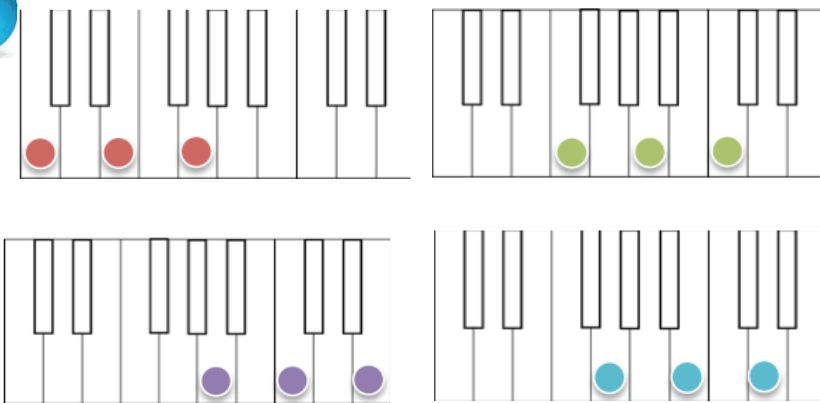


3



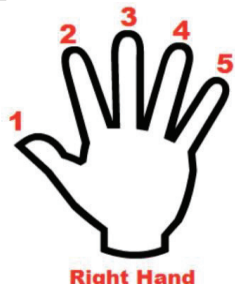
You will need to recognise the notes of the keyboard! Use the Black keys to navigate (note that there are groups of 3 and 2 Black keys all the way up the keyboard)

2



Red=C major  
Green=F Major  
Purple=A Minor  
Blue=G Major

Play with fingers 1, 3, 5 in the Right Hand

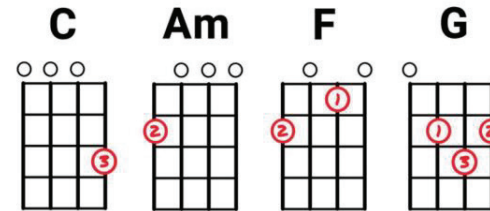


Right Hand

5

The Ukelele has 4 Strings. From top to bottom they go G, C, E, A

4



Here is the chord progression you will need to learn on the Ukelele. The chords are labelled with stickers: Red=C, Yellow=F, Yellow (top sticker) =Am, Green=G

Once you have learnt your chord progression, ask yourself: Am I playing fluently and in time? Am I playing with expression? Are there any Dynamics in my performance?



# Skills Guide | What will I be assessed on in Music?



## Practising and Performing

This is your opportunity to show that you can **sing/play** a 4-chord progression that you have learnt in front of your teacher and peers on the keyboard or Ukelele. You will need to think carefully about what makes a successful and convincing performance! Below are some things to consider:

Performing skills: You will learn to perform as

- A whole class
- In groups
- As a soloist

You should try to perform with:

- Accuracy
- Fluency
- Expression (Dynamics, articulation, phrasing, sense of ensemble)
- A sense of style

Rehearsing skills: You will learn to

- Work independently
- Set up your equipment and space swiftly and safely
- Organise your time effectively
- Listen to and support people in your group
- Respond to feedback, setting goals for improvement
- Evaluate yours and others' work using key words



## Composing and arranging

**Composing** means **creating** music from scratch. In popular music composers are usually song-writers and record producers. They write lyrics, arrange the instruments and mix the sounds using recording/production techniques. Some pop songs are covered by different artists who arrange the music into their own version

Composing and arranging skills: You will learn to create a song arrangement of a popular song using the four-chord progression C, F, Am, G. During the creation process you will consider:

- Texture (How the different parts are organized, for example melody plus accompaniment, unison, call and response, in harmony)
- Instrumentation (the names of the instruments and their roles eg melody line, chordal accompaniment, rhythm section, bass line)
- Structure (Introduction, Verse, Chorus, Outro/ending)

You will also consider how musical elements such as melody, rhythm and tempo are combined in your creation.



## Listening to and identifying music

You need to listen to a range of songs and spot the chord changes in them. Many popular songs use the same chord progressions. You will need to identify chords C, F G and Am by ear and be able to recognize different sections within a pop song

Listening skills: You will learn to use your listening skills during independent practice/ rehearsal sessions to monitor your strengths and areas for development. Your ears are your most important tool and you will need to listen critically every time you play your instrument. Is your Ukelele in tune? How can you use your ears to tune each string?

<https://www.youtube.com/watch?v=ggXJfggg0o>

Is your Keyboard-playing in time and are you playing each chord with an even tone so that all the keys go down together at the same time?

Finally, can you hear the difference between each of the four chords? Can you tell the difference between Major and Minor chords?



## Exploring your thinking

Chord progressions are important in popular music and they are very easy to play once you know how. You will understand that they are just part of what makes a pop song great or catchy and when combined with elements such as melody, rhythm and instrumentation they can sound very different, even when the underlying chords are the same!

Exploring and researching skills: You will explore a range of different popular songs from different periods in music history. You will explore the difference between them and describe these using key terms from year 7 and 8 as well as new words from this term. You will be tested on your ability to describe what you hear using words from the glossary, expressing your opinion about whether you think the song is successful and why.

Examples are:

Shotgun-George Ezra

<https://www.youtube.com/watch?v=aAiVsqfbn5g>






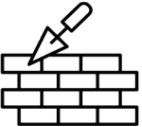


Can't Stop the feeling-Justin Timberlake

<https://www.youtube.com/watch?v=wWPY-Qi0aVQ>

If I were a boy: Beyonce

<https://www.youtube.com/watch?v=KRCj8-8rdT4>





## Music | Four Chords | Topic Dictionary

Image	Key term	Definition	In a sentence...
	<b>Chord progression</b> C, F, G, Am	A pattern of <b>chords</b> , played one after the other	The same <b>chord progression</b> is used in hundreds of songs
	<b>Root note</b>	The <b>root</b> note is the bottom (key) note of the chord, upon which the chord is named	The <b>root note</b> of a C major chord is C
	<b>Keyboard notes</b>	The notes of the <b>keyboard</b> and <b>piano</b> , which follow the pattern A, B, C, D, E, F, G	The <b>keyboard</b> notes can be identified via the pattern of black keys, grouped in 2s and 3s
	<b>Ukelele</b>	A <b>Ukelele</b> is a stringed instrument, originally from Hawaii and Portugal. It has four strings, G, C, E, A	The <b>Ukelele</b> looks like a small guitar and is played by strumming or plucking the strings
	<b>Popular song</b>	A song that is commercial and popular in style. <b>Popular</b> music has evolved over the last century from Blues into R and B, Hip-Hop, Rock, Soul, Disco and more!	Taylor Swift, George Ezra, Olivia Rodrigo, Dua Lipa, Sam Smith and Beyonce are all <b>Popular (pop)</b> song singers!
	<b>Structure</b>	The <b>structure</b> of the music is the way in which the sections are arranged. In pop music this usually follows Verse/Chorus format	The structure of pop songs is important because it makes them more interesting
	<b>Verse</b>	This is usually at the start of the song, straight after the introduction (if there is one). <b>Verses</b> are repeated with different lyrics several times	Straight after the <b>verse</b> comes the <b>chorus</b> (usually)
	<b>Chorus</b>	The <b>chorus</b> is usually the main section of the music, which contains the hook/catchiest bit of the song	People usually love singing along to the <b>chorus</b>



# Music | Four Chords | Assessing Progress

## Developing my skills in Music

	<ul style="list-style-type: none"> <li><input type="checkbox"/> I can play the chords C, F, G, A minor CONFIDENTLY and with EXPRESSION on my Keyboard/Ukelele with the CORRECT FINGERS and in time with a backing track or beat</li> <li><input type="checkbox"/> I can take a leading role in my group and help others</li> <li><input type="checkbox"/> I know how to overcome challenges when practising</li> </ul>
	<ul style="list-style-type: none"> <li><input type="checkbox"/> I can play the chords C, F, G, A minor CONFIDENTLY on my Keyboard/Ukelele with the CORRECT FINGERS and in time with a backing track or beat</li> <li><input type="checkbox"/> I can take a supporting role in my group and am always focussed in rehearsals</li> </ul>
	<ul style="list-style-type: none"> <li><input type="checkbox"/> I can play the chords C, F, G, A minor STEADILY on my Keyboard/Ukelele with the CORRECT FINGERS and in time with a backing track or beat</li> <li><input type="checkbox"/> I can explain the task using key words</li> <li><input type="checkbox"/> I understand how to practise calmly and sensibly</li> </ul>
	<ul style="list-style-type: none"> <li><input type="checkbox"/> I am MOSTLY focused during the task.</li> <li><input type="checkbox"/> I can play most of the chords C, F, G and A minor on my keyboard and/or Ukelele</li> <li><input type="checkbox"/> I am learning to find the notes of the keyboard without help</li> </ul>

**This is where you and your teacher can agree on a personalised target. This could include:**

- Performing a solo in front of the class
- Composing an extended piece using music software
- Presenting some research on four chords songs in class

## As a year 9 musician I know how to:

Perform a chord progression confidently and fluently on my chosen instrument	
Work independently in groups to create an arrangement of a given song	
Recognise all the notes of the keyboard and all the strings of the Ukelele	
Identify Major and Minor chords by sound	
Evaluate own and others' work and respond to feedback positively	
Identify sections of a popular song as Intro/Verse/chorus/Middle 8/ outro	

# PE | Physical Training | Topic Dictionary

Key word	Definition	Question
<b>agility</b>	The ability to move and change direction quickly whilst maintaining control.	When would a basketball player need good <b>agility</b> in a match?
<b>cardiovascular endurance</b>	The ability of the heart and lungs to supply the oxygen to the working muscles.	Which type of runner would need to have good <b>cardiovascular endurance</b> ? Why?
<b>continuous training</b>	Any activity that can be sustained without rest and repeated over and over, such as running, walking, rowing, cycling and swimming.	Which kind of athlete would use <b>continuous training</b> to improve their performance? Why?
<b>FITT</b>	Stands for frequency, intensity, time and type. Relates to how you are training.	How can we apply the <b>FITT</b> principle to improve fitness?
<b>progressive overload</b>	Gradually increasing the workload to improve performance level over time.	What is a way we can use <b>progressive overload</b> to improve cardiovascular endurance?
<b>reaction time</b>	<b>Reaction time</b> is the time taken to initiate a response to a stimulus.	Why would <b>reaction time</b> be important for a badminton player?
<b>speed</b>	The maximum rate at which an individual is able to perform a movement or cover a distance in a period of time.	Why is <b>speed</b> important for a basketball player?

# Badminton Knowledge Organiser



**Flick serve** - the flick serve is played upward but much more shallowly than the high serve. Idea is to deprive the opponent of time and force them to hit shuttle when it is behind their body.

**Drive serve** - the drive serve is played fast and flat towards the receivers back court, passing low over the net. Idea is to force a mishit of your opponent by catching them unaware.

**Net shot** - This is where the shuttle glides just over the net, almost in touching distance. This is a hard shot to return as it is very low to the floor when it goes over the net so the player must be quick to get low and return this.



## As a Year 9 Sports Person I should...

Be able to perform different types of serves	
Understand the benefits of the different types of serves	
Alternate between drop shots and clears.	
Be able to use different fitness components to enhance your performance	
Know the rules and regulations of the game	
Be able to outwit my opponent in competitive situations	

## Big Questions

1. What are the factors that enable us to rally effectively in badminton?
2. How do we perform the underhand lifting shots correctly for maximum consistency?
3. How can we perform different serves to gain advantage in a rally?
4. How do we perform overhead shots?
5. How can we perform attacking shots including drop shot and smash?



# Basketball Knowledge Organiser

## Referee signals



3 point shot



Travelling



Personal foul



Double dribble

## Key Skills

- Dribbling
- Chest pass
- Bounce pass
- Set shot
- Lay up
- Jump shot
- Pivot



## Main Rules

1. The game consists of 2 teams with 5 players on court.
2. Aim to score as many hoops, shooting through the hoop, as you can in the time allocated.
3. Players cannot travel with the ball or perform a double dribble.
4. Players cannot hold the ball for longer than 5 seconds.
5. If ball goes out of play then a side line ball is taken from the opposite team.
6. Once the offense (attacking team) has brought the ball across the mid-court line, they cannot go back across the line during possession.
7. Fouls are given for hitting, holding or pushing an opponent.
8. If a player fouls the shooter, then 1-3 free throws can be awarded (each 1 point).

## As a Year 9 Sports Person I should...

Know the difference between half court and full court press	
Be able to dribble past my opponents	
Know the correct shooting technique	
Be able to perform a lay up	
Be able to rebound and box out	

# PE | Physical Training | Skills Guide

## DEFINE

### I am able to:

- Define 5 key words from my dictionary, such as:
- Speed
- Reaction time
- Cardiovascular endurance
- Agility
- Progressive overload

## APPLY

### I am able to:

- Describe how key words from my dictionary relate to the chosen sport, for example, which kind of athlete would require high levels of agility.
- Describe how the principles of training can improve an athlete's performance in a certain sport.

## EVALUATE

### I am able to:

- Explain why certain methods of training would benefit certain sports specifically, such as a plyometric training for a basketball player.
- Explain how the principles of training can improve certain components of fitness for different athletes, such as progressive overload to improve cardiovascular endurance for a badminton player



### Challenge:

If an athlete gets injured, what can happen to their fitness levels? What can they do to help prevent/mitigate this?

## RE | Modern Theology | Topic Dictionary

Image	Keyword	Definition	Sentence
	<b>black theology</b>	A set of distinctive religious beliefs belonging to the Black African American community following 300 years of slavery.	" <b>Black theology</b> addresses racial injustices found in the history of Christianity."
	<b>capitalism</b>	An economic system in which the means of production are privately owned and operated for profit, in contrast with socialism where trade and industry is controlled by the state.	<b>Capitalism</b> promotes private ownership and profits.
	<b>emancipation</b>	Any effort to gain economic and social rights, political rights or equality, often for an oppressed group.	They dreamt of <b>emancipation</b> and gaining freedom.
	<b>feminist theology</b>	A movement to reconsider the traditions, practices, scriptures, and theologies of those religions from a feminist perspective.	<b>Feminist theology</b> focuses on women's roles in religion.
	<b>invisible churches</b>	Informal Christian groups where slaves listened to preachers that they chose without their master's knowledge.	<b>Invisible churches</b> were secret worship gatherings where the enslaved connected to God.
	<b>liberation theology</b>	A movement in Christian theology, developed mainly by Latin American Roman Catholics, which attempts to address the problems of poverty and social injustice as well as spiritual matters.	<b>Liberation theology</b> fights for social justice of the poor.
	<b>oppression</b>	Prolonged cruel or unjust treatment or exercise of authority.	In Exodus, the Israelites are <b>oppressed</b> by the Egyptians.
	<b>pantheistic</b>	The belief that everything composes an all-encompassing, immanent God.	Those who agree with <b>pantheistic</b> beliefs see God in everything.
	<b>patriarchal society</b>	Patriarchy is a social system in which men hold primary power and predominate in roles of political leadership, moral authority, social privilege, and control of property.	A <b>patriarchal society</b> favours men over women.
	<b>preferential option of the poor</b>	The idea that Jesus Christ stood for the poor and oppressed and that the Church should focus on the poor and oppressed and stand in solidarity with them.	<b>Preferential option for the poor</b> is shown by God's Upside Down Kingdom.
	<b>socialisation</b>	The process of learning to behave in a way that is acceptable to society.	School is important for our <b>socialisation</b> as it is where we learn to interact with others.
	<b>socialism</b>	A theory or system of social organization in which all property is owned by the community and each person contributes and receives according to their ability and needs.	<b>Socialism</b> promotes equal sharing of resources.
	<b>structural sin</b>	Sin that is the result of institutions such as governments or multi-national corporations.	John Paul II argues that <b>structural sin</b> is to blame for injustices.
	<b>The Upside Down Kingdom</b>	The idea that God will make good all the suffering on earth, the poor will become rich and the rich will become poor.	" <b>The Upside Down Kingdom</b> values the humble and meek."

# RE | Modern Theology

## As a Year 9 RE theologian I know ...

1. Christians views on oppression	
2. The usefulness of a Liberation Theology approach to modern social issues such as poverty.	
3. How the study of theology evolved to include movements such as Liberation Theology, Black Theology and Womanist Theology	
4. James Cone's approach to theology	
5. Explain Alice Walker's approach to theology	

1

### Preferential option for the Poor



The option for the poor is simply the idea that faithful Christians are obliged to promote social justice and assist the poor. It points to an obligation, on the part of those who would call themselves Christian, first and foremost to care for the poor and vulnerable.

### THE UPSIDE-DOWN KINGDOM

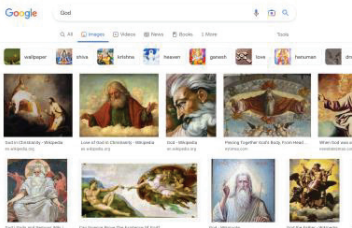


It's a place where the poor and humble, the outcasts of society, are elevated to places of honor. Luke emphasizes this through a series of parables about banquets, where Jesus illustrates that all are welcome in the family of God.

### Jesus at the Temple Matthew 21:12-14



<sup>12</sup> Jesus entered the temple courts and drove out all who were buying and selling there. He overturned the tables of the money changers and the benches of those selling doves. <sup>13</sup> "It is written," he said to them, "'My house will be called a house of prayer,' but you are making it 'a den of robbers.'"



Modern Theology Asks: Who depicted God as white and male?

2

3

### Capitalism

In a capitalist country, citizens, not governments, own and run companies.

### Socialism

Most have agreed that the government, not individuals, should control at least some businesses and property.

### Case Study: El Salvador

In the 1960s and 1970s, liberation theology emerged in El Salvador as a response to severe social inequalities and oppressive political conditions. The country was plagued by military dictatorships and widespread human rights abuses. Theologians and religious leaders in the country responded to this by emphasising liberation from oppression and preaching biblical teachings.

Saint Oscar Romero spoke up for poor communities in El Salvador during a period of terrible violence. He was committed to social justice during the suffering that resulted because of the civil war and human rights violations.

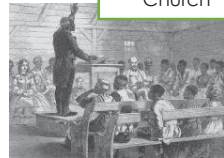


LIBERATION THEOLOGY

3

4

### The Invisible Church



Enslaved African Americans discussed escape from slavery on the Underground Railroad and planned slave revolts inside the invisible church.

### James Cone's Theology

James Cone reads the Bible from the perspective of Black Liberation. Alongside scripture he also researched slave scriptures, the blues and works of prominent African-American thinkers such as W.E.B. Du Bois. Not only is Jesus the Son of God, he is also the Black Messiah. Cone acknowledged that Jesus is not literally black. Jesus is 'black' because he sides with the oppressed.

**James Cone:** How is it that Christians perpetrated lynchings, enjoyed the spectacle, and never noticed that they were mimicking Pontius Pilate, the screaming mob, and the Romans who nailed Jesus to the cross?

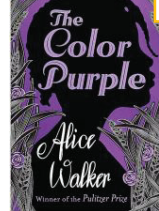


BLACK THEOLOGY

3

5

### The Colour Purple



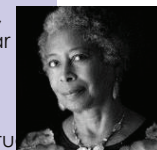
This novel written by Alice Walker focuses on experiences of Celie, a black woman living in rural Georgia. Written as a series of letters from Celie to God the book explores Celie's lived experience.

### Alice Walker's Theology

Womanist theology offers the postmodern idea that truth is not to be found in historical facts but in narratives. Black literature especially novels by black women, provide how the Spirit may be encountered, reflected upon and used as inspiration. The most important novel for formulating womanism, was Alice Walker's 1982 novel The Color Purple.

### Alice Walker:

The final letter of the book begins, 'Dear God. Dear stars, dear trees, dear sky, dear peoples. Dear everything. Dear God....' Walker clearly holds a pantheistic, or at least panentheistic, view of God in which the divine is deeply immanent within everything, a faithful creator and life-giving, life-affirming Spirit. She revolts against the intellectual idolatry that reduces God to the white, to the male, to the human.



WOMANIST THEOLOGY

# Skills – Narrating developments in theology

**1** I can describe a development in Modern Theology

What is the development?

Liberation Theology    Feminist Theology  
Black Theology        Womanist Theology

How to describe it?

**Describe how the development took place.**

Answer these questions to describe this development in full detail.

*When did this development start?  
Who started it? Where did it start?  
Why is this development important?  
What issues was it aiming to solve?  
Who supported this development?*

**2** "I can explain Modern approaches to Theology

What is the idea behind the development?

Why did this development start?

**Example:** *Black Theology fought against racial oppression justified by traditionally white ideas about God.*

How to explain it?

**Explain how the development took place.**

Answer these questions to describe this development in full detail.

Who led this development? What ideas about Christianity did they share? What inspired them to write about this? What change were they hoping for?

**3** I can evaluate the importance of approaches to Modern Theology

Why is this development important?

What impact did this development have?

Consider both positive and negative impacts such as

- |   |   |
|---|---|
| <b>Positive Impact</b>                    | <b>Negative Impact</b>                                |
| - Approach that worked towards justice    | - Caused disagreements within the Christian Community |
| - Showed the inclusive teachings of Jesus | - Did not help resolve an issue                       |

How does this influence me as a St Mark's Student?

To what extent do you support this development in theology?

What does this development teach us about how we should show our values?

## Model Paragraph

One development of modern theology was the creation of Liberation Theology. **This development started in the 1950s in South America and it was led by religious leaders who had a new approach to interpreting the gospel. This approach to theology focused on helping the poor, especially those living in unjust societies such as the dictatorship of El Salvador.**

**2** One important figure in this development was Oscar Romero. Saint Oscar Romero spoke up for poor communities in El Salvador during a period of terrible violence. **He was committed to social justice during the suffering that resulted because of the civil war and human rights violations.**

**3** Although Oscar Romero was assassinated his approach to theology encourages others to fight injustice. El Salvador is no longer under military dictatorship. **Although not all Christians support the economic idea of socialism which was supported by many Liberation Theology advocates the movement did work towards justice for all people.**

*The life and work of Oscar Romero show the importance of hope. True justice cannot be achieved by one person, however, by never giving up on his mission of preaching Romero was able to educate the people of El Salvador about the true meaning of the Gospel.*

**Case Studies**

When?

Why?

What happened?

Who?

Where?

What are the causes?

What are the effects?


**How to write a case study?**

When writing a case study read over information to answer the key questions.

To write a case study about a development in Modern Theology follow Step **1**.



## RE | Evil and Responsibility | Topic Dictionary

Image	Key Word	Definition	In a sentence
	<b>argument</b>	A persuasive way of writing which explains a point of view and reasons to believe it.	The <b>argument</b> was based on a range of religious and scientific evidence.
	<b>criminal responsibility</b>	The age from which someone is deemed capable of having committed a criminal offence. In England and Wales it is 10 years old.	If you are in secondary school you are above the age of <b>criminal responsibility</b> .
	<b>devil</b>	The personification of evil as it is conceived in many and various cultures and religious traditions.	There are ideas about the <b>devil</b> in every culture.
	<b>evil</b>	Something immoral and wicked and is usually seen as malicious.	We cannot appreciate goodness in a world without first seeing <b>evil</b> .
	<b>free will</b>	Having free choice. Not being constraint by fate.	As a libertarian, I have <b>free will</b> and will choose my own future.
	<b>hard determinism</b>	Belief that we can figure out exactly what someone is going to do if we have all the necessary information about them.	Some scientists are <b>hard determinists</b> and believe we will one day be able to predict everything.
	<b>inconsistent triad</b>	The Problem of Evil. Argument that the existence of God is incompatible with the existence of evil.	Atheists use the <b>inconsistent triad</b> to prove God does not exist.
	<b>nature vs nurture</b>	An expression used to talk about what shapes us to become who we are.	We can argue about whether it was <b>nature vs nurture</b> that led to them becoming a criminal.
	<b>rebuttal</b>	Acknowledging a different point of view and arguing against it.	Theists can offer <b>rebuttal</b> to the Problem of Evil.
	<b>responsibility</b>	Having a duty to deal with something or having control over someone.	We have <b>responsibility</b> for our actions.
	<b>soft determinism</b>	Belief that we can make predictions about what someone will do, but that human free will exists.	Many are <b>soft determinists</b> because it is hard to give up on the idea of human free will.
	<b>spiritual Warfare</b>	The Christian concept of fighting against the work of evil forces. It is based on the biblical belief in evil spirits, or demons, that are said to intervene in human affairs in various ways.	Christians deal with <b>spiritual warfare</b> by staying connected to scripture.
	<b>St Augustine</b>	A 4th century Christian theologian who developed a response to the Inconsistent Triad.	<b>St Augustine</b> offers rebuttal to the Inconsistent Triad.
	<b>temptation</b>	The desire to do something, especially something wrong or unwise.	The Devil failed at <b>tempting</b> Jesus in the desert.

# RE | Evil and Responsibility | Knowledge Organiser

**1**

Evil Exists

God is omnipotent      God is omnibenevolent

**The Inconsistent Triad**


**PROBLEM OF EVIL**

Atheists: If God is all-loving and all-powerful why does he not stop evil in the world? Does he not love us enough to end all natural disasters, or is he not powerful enough stop humans from committing murders?

Christian response:  
Evil does not come from God, but from human free will and the devil. We live in an imperfect world. Only by fighting against temptation can we return to living with God.

**2**

Genesis 2:16-17  
And the LORD God commanded the man, **"You are free to eat from any tree in the garden;**<sup>17</sup> but you must not eat from the tree of the knowledge of good and evil, for when you eat from it you will certainly die."



**The devil also appears in the Gospels where he tries and fails to tempt Jesus into betraying God.**



Christians believe free will is a gift from God. Due to original sin all humans are imperfect and struggle to resist temptation from sin. As Jesus was God incarnate the Devil attempted to tempt him when Jesus and failed. Stories which show Jesus had free will teach Christians that He sacrificed his life out of love.

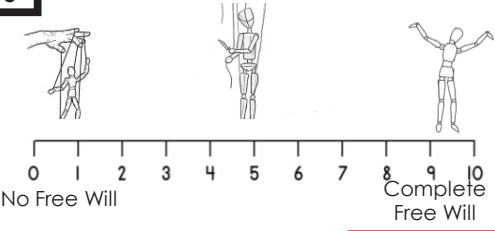
Matthew 26:36-46  
Going a little farther, he fell with his face to the ground and prayed, "My Father, if it is possible, may this cup be taken from me. **Yet not as I will, but as you will.**"

**Before his arrest and crucifixion Jesus prays to God for strength as he is overwhelmed with feeling.**



**The devil first appears in Genesis 3, where he successfully tempts Adam and Eve to abuse their free will**

**3**



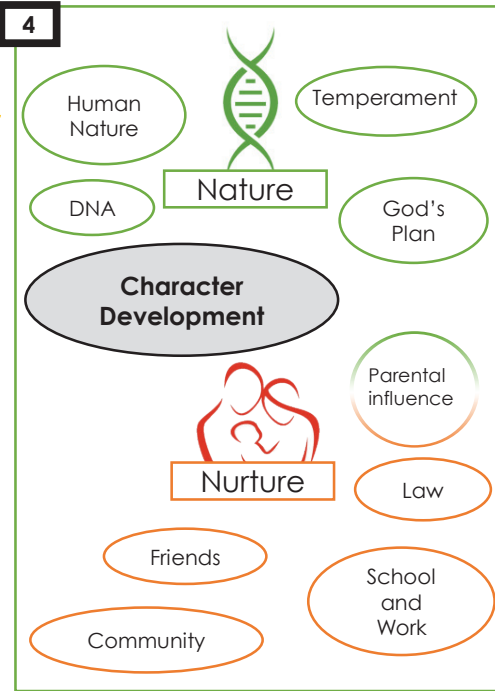
**Hard Determinists**  
could argue:  
-God controls all our actions  
-Free will is an illusion, we are controlled by our nature

**Soft Determinists**  
could argue:  
-God has a plan but we have free will  
-Both nature and nurture affect our development

**Libertarians**  
could argue:  
-God has given us free will  
-There is no God  
-Nurture is more powerful than nature.

As a Year 9 RE philosopher, I know ...

1. The Problem of Evil	
2. How to interpret Biblical Teachings about Free Will	
3. Contrast Libertarian, Soft Determinist and Hard Determinist views on Free Will.	
4. The role nature and nurture plan in our character development.	
5. Key arguments about the Problem of Evil	
6. Key arguments about the Free Will Debate.	



**5**


**PROBLEM OF EVIL**

Atheists: If God is all-loving and all-powerful why does he not stop evil in the world?

Christian response:  
Evil does not come from God, but from human free will and the devil.

**St Augustine:**  
In *The Enchiridion*, Augustine stated that the definition of evil is the 'privation of good'. This means that evil does not exist in the same way that good exists, but rather that evil is the absence of good. Evil does not have to exist in order for good to exist. There does not need to be an opposite.

**6**



**Hard determinists** use Libet's experiments to prove Free Will is an illusion.

**Determinists** point to the impossibility of choice. Everything is ruled by God or physical forces outside of our control we can only try to understand.

**Determinists** point to nature as a source of our character. They argue that our human nature is predetermined by our DNA

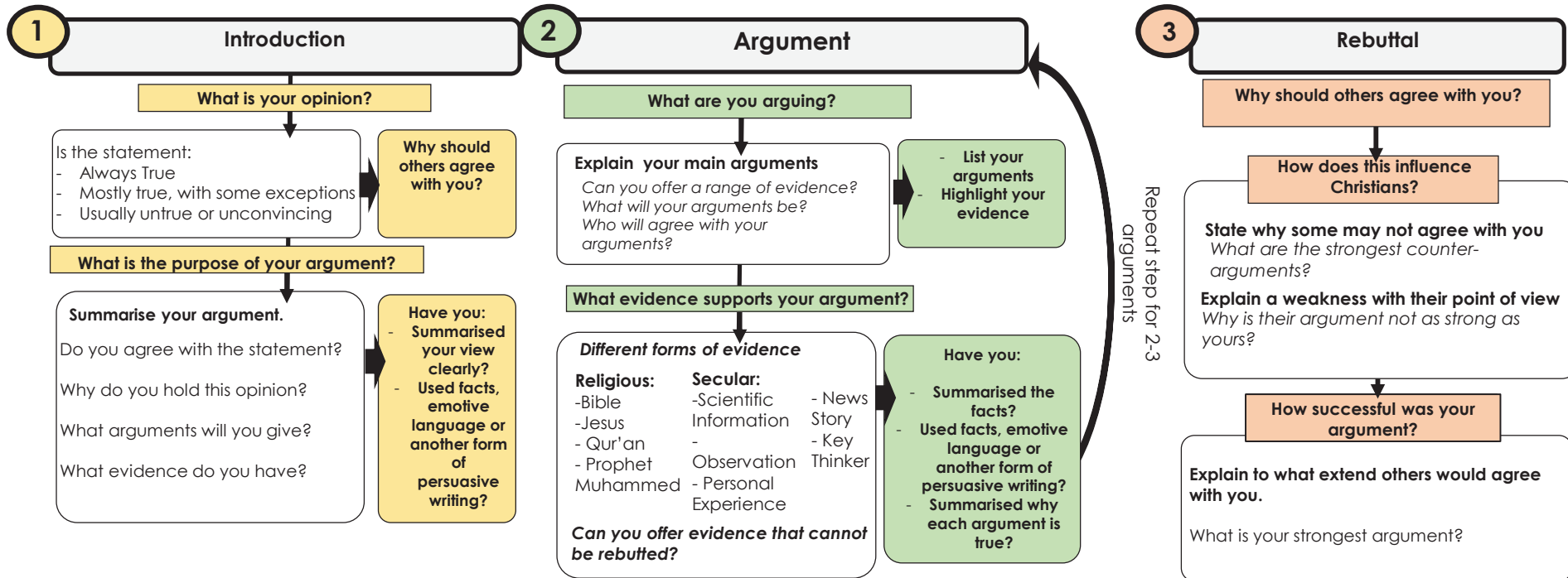
**Libertarians** show that humans are led by emotions, reasons and instinct. This shows humans have choice over how they act.

**Libertarians** argue that both nature and nurture play a role in our development, but there are examples of people transcending their circumstances through strong will.

**Christians** would argue Free Will is a gift from God. Without Free Will Jesus' sacrifice and our salvation is meaningless.

Determinists and Libertarians use a range of evidence to support their point of view

# RE | Debating Evil and Responsibility | Skills Guide



## Model Paragraph: "Humans are not always responsible for evil they cause" To what extent do you agree?

- 1** I believe this statement to be untrue as in most cases humans are responsible for the evil they cause. This is a belief which allows us to hold each other accountable and ensure victims of crime and injustice can one day get what they deserve. I will present a range of religious and secular reasons why this statement is dangerous to believe.
- 2** Firstly, Christianity teaches that free will is a gift from God. This gift can lead us to sin or to salvation, but it is undeniable that in Christianity God will judge humans for how they used their free will. Therefore, if God will hold humans responsible for their actions, it follows we can should do the same. This does not mean we can judge others, but rather that we are aware we are responsible for our own behaviour.  
 Secondly, just by observing those around us we can see how untrue this statement is. The age of criminal responsibility is 10 as that is when as humans were become aware that our actions affect others. This is why one part of our education focuses on what behaviours are good and which are not welcome in a classroom or society. Therefore, we should hold others responsible for the evil they cause as from an early age we are all taught what behaviour is acceptable in society.
- 3** Some will argue that young children can cause evil and not be responsible for it. Whilst I agree with that belief it is important to keep in mind that the majority of moral evil is not caused by young children but by misguided adults. Therefore, I suggest that even in cases of a young child committing an evil act we should hold their carer responsible as they failed in their duty to protect their child.  
 In conclusion I believe to have the strongest argument because it can be supported by a range of people as my argument as a theological and a secular source of evidence.

# Skills Guide: Using Standard form

- You can use **standard form** to represent **very large** or **very small** numbers.
- Standard form makes use of the **laws of indices** but numbers are only expressed in one base, **base 10**.

We use standard form to easily write very, very large numbers and very, very small numbers. A number is in standard form when it is written in the form:  $a \times 10^n$   $a$  is a number greater than, or **equal to 1, and less than 10**.

$n$  is an integer (whole number). **If  $n$  is positive**, we are dealing with a large number. **If  $n$  is negative**, we have a small number (less than 1).

The power of  $n$  tells us how many times we multiply by 10 (if  $n$  is positive) or divide by 10 (if  $n$  is negative). Informally, we can say that  $n$  tells us how many places the digits have moved in relation to the decimal point.

**$13 \times 10^5$  is not in standard form because 13 is larger than 10**

**$0.75 \times 10^4$  is not in standard form because 0.75 is less than 1.**

**Examples:**

$$2.5 \times 10^3$$

$$4.62 \times 10^5$$

## Converting to Standard Form:

When changing **large** numbers into standard index form. The index notation will be **positive**.

$$24\,900 = 2.49 \times 10^4$$

$$7\,800\,000\,000 = 7.8 \times 10^9$$

$$543 \times 10^5 = 5.43 \times 10^7$$

$$17\,000 \times 10^{-8} = 1.7 \times 10^{-5}$$

When changing **small** numbers into standard index form. The index notation will be **negative**.

$$0.049 = 4.9 \times 10^{-2}$$

$$0.00000000821 = 8.21 \times 10^{-9}$$

$$0.0033 \times 10^7 = 3.3 \times 10^4$$

$$0.071 \times 10^{-11} = 3.3 \times 10^{-13}$$

## Skills Guide: Planning an Experiment: Enzymes

When planning an experiment, you must identify your **variables**:

- **Independent variable**- the factor you change
- **Dependent variable**- the factor you are measuring (think about the results you are collecting and how you will collect it)
- **Control variable**- The factors you will keep the same, to get reliable results.

**Planning an experiment on the effect of temperature on the reactivity of amylase.**

**Things to consider:**

What equipment will you use?

Water bath

Amylase

Starch

Boiling tube



**What range of temperature will you investigate?**

i.e between 10°C- 50°C

At what intervals will you carry out your experiment?

i.e 'I will investigate the temperatures between 10°C- 50°C at 10°C intervals.

*This means you will investigate the following temperature: 10°C, 20°C, 30v, 40°C and 50°C.*

**Method: Making the method reliable**

- You must repeat your experiments at least 3 times.
- Control variables- using the same volumes. i.e same volumes of starch and amylase for each temperature, using the same concentration of amylase.

**How will you present the data?**

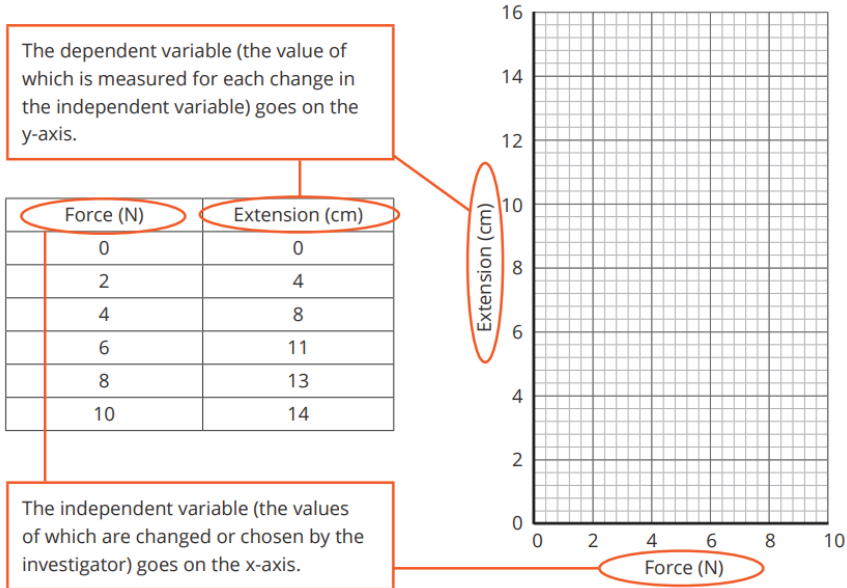
When drawing the table of results, do not forget that the independent variable goes in the left column whilst the dependent variable goes into the right column. **The units must always be included and written in brackets.**

Temperature (°C)	Time taken until there is no starch present in the sample (mins)			
	Trial 1	Trial 2	Trial 3	Mean
10				
20				
30				
40				
50				

# Skills Guide: Graph Skills

## Using Data to Draw a Graph

The table below shows some data collected in a Hooke's law investigation.

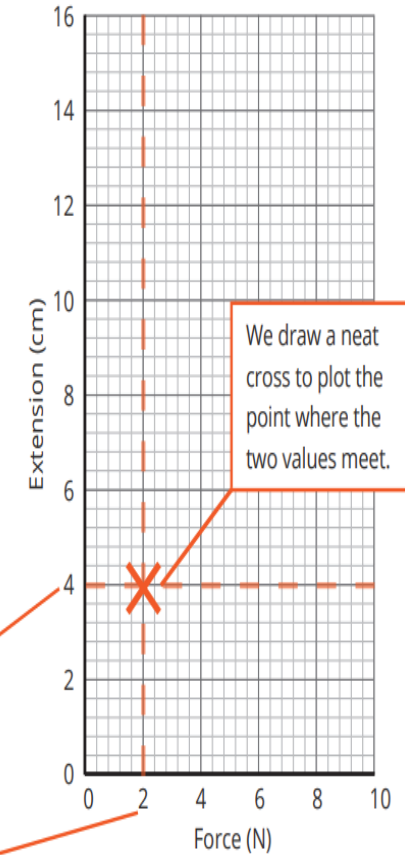


Force (N)	Extension (cm)
0	0
2	4
4	8
6	11
8	13
10	14

This row tells us that when a force of **2N** is applied to the spring, the extension is **4cm**.

The value on the y-axis is 4cm.

The value on the x-axis is 2N.



# Science | Atoms and the Periodic Table | Knowledge Organiser

## History of the Atom

Scientist	Year	Discovery
John Dalton	Start of 1800's	Atoms as 'indivisible; solid spheres'
JJ Thomson 'Plum pudding'	1897	<b>Plum pudding model</b> – the atom is a ball of charge with electrons scattered
Ernest Rutherford 'Nuclear Model'	1909	<b>Alpha scattering/gold foil experiment</b> – mass concentrated at the centre; the <b>nucleus</b> is charged. Most of the mass is in the nucleus. Most atoms are <b>empty space</b> .
Niels Bohr 'Electron orbits'	around 1911	Electrons are in <b>shells</b> orbiting the nucleus
James Chadwick 'The neutron'	around 1940	Discovered that there are neutrons in the nucleus

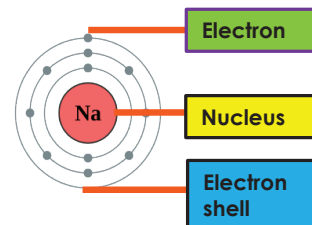
## The Modern Periodic Table

Elements are in order of atomic mass/ proton number. It shows where the **metals and non-metals** are. Metals are on the left and non-metals on the right



**Groups and Periods**  
The columns show the groups. The group number of electrons in the outer shell. The rows are periods- each period show another full shell of electrons

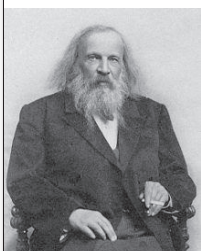
### Structure of the Atom



**Electron Structure:**  
Electrons are found in shells that orbit the nucleus.  
1<sup>st</sup> shell = 2  
2<sup>nd</sup> shell = 8  
3<sup>rd</sup> shell = 8  
  
Sodium – 11 electrons  
Electron structure = 2.8.1

**Noble Gases**  
The atoms of noble gases have eight electrons in their outermost shell, making the atoms very stable. The exception is the first of the noble gases, helium, which has just two electrons but this complete its first shell is also a very stable electronic structure.

## The Development of the Periodic Table



In the early 1800s, elements were arranged by **atomic mass**. The periodic table was not complete because some of the elements had not been found. Some elements were put in the wrong group.

Dimitri Mendeleev (1869) left **gaps** in the periodic table. He put them in order of **atomic mass**. The gaps show that he believed there was some undiscovered elements. He was right! Once found, they fitted in the pattern.

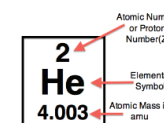
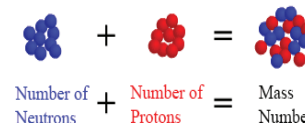
## Atoms and Sub-Atomic Particles

Contained in the nucleus are the protons and neutrons. Moving around the nucleus are the electrons which are negatively charged. Overall they have the same number of protons as electrons.

**Ions:** Have a different number of protons and electrons.

**Atomic number** = no. of protons

**Mass number** = no. of protons + no. of neutrons



Particle	Relative Mass	Charge
proton	1	+1
neutron	1	0
electron	Very small	-1

### Explaining Trends

Getting more reactive

↓

Li
Na
K
Rb
Cs

Trends in reactivity as you go down the group can be explained in terms of the **attraction** between electrons in the **outermost shell** and the **nucleus**.

In deciding how easy it is for **atoms to lose or gain electrons** from their outermost shell depends on three factors:

- The size of the atom
- The shielding effect of inner electrons, and
- The nuclear charge

F
Cl
Br
I
At

Getting less reactive

↓

### Group 7 - Halogens

<b>Consist of molecules made of a pair of atoms</b>	Have seven electrons in their outer shell. Form -1 ions.
<b>Melting and boiling points increase down the group (gas → liquid → solid)</b>	Increasing atomic mass number.
<b>Reactivity decreases down the group</b>	Increasing proton number means an electron is more easily gained

### Group 1 – Alkali Metals

The alkali metals (group 1 elements) are soft and **very reactive** metals.

- They all have **one electron** on their **outer shell**, making them very reactive.
- They are low density.
- As you go down the group, they become more reactive
- They get bigger and it is easier to **lose** an electron that is further away from the nucleus.
- They form ionic compounds with non-metals.
- They react with water to produce hydrogen.

#### Reactions of Alkali Metals

With oxygen	Forms a metal oxide	Metal + oxygen → metal oxide	e.g. $4\text{Na} + \text{O}_2 \rightarrow 2\text{Na}_2\text{O}$
With water	Forms a metal hydroxide and hydrogen	Metal + water → metal hydroxide + hydrogen	e.g. $2\text{Na} + 2\text{H}_2\text{O} \rightarrow 2\text{NaOH} + \text{H}_2$
With chlorine	Forms a metal chloride	Metal + chlorine → metal chloride	e.g. $2\text{Na} + \text{Cl}_2 \rightarrow 2\text{NaCl}$

#### ISOTOPES and Relative Atomic Mass Calculation

<b>Atoms of the same element with the same number of protons and different numbers of neutrons</b>	<p><b><math>^{35}\text{Cl}</math> (75%) and <math>^{37}\text{Cl}</math> (25%)</b></p> <p>Relative abundance =</p> <p>(% isotope 1 x mass isotope 1) + (% isotope 2 x mass isotope 2) ÷ 100</p> <p>e.g. <math>(25 \times 37) + (75 \times 35) \div 100 = 35.5</math></p>
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#### As a Year 9 Scientist, I know...

1. Describe the early attempts to classify elements	
2. Explain the creation and attributes of Mendeleev's periodic table	
3. Identify metals and non-metals on the periodic table, compare and contrast their properties	
4. Explain how the atomic structure of metals and non-metals relates to their position in the periodic table	
5. Describe noble gases (group 0) and explain their lack of reactivity	
6. Describe the properties of noble gases, including boiling points, predict trends down the group and describe how their properties depend on the outer shell of electrons	
7. Describe the reactivity and properties of group 1 alkali metals with reference to their electron arrangement and predict their reactions	



## Science | Atomic structure and the Periodic Table | Topic Dictionary

Word	Definition	In a sentence...
<b>alkali metals</b>	These are elements in group 1 of the periodic table and they all have 1 electron in their outermost shell.	Sodium is an example of an <b>alkali metal</b> .
<b>atomic model</b>	A model to represent the structure of the atom. This model has been revised over time as new evidence has become available.	A number of scientists have come up with different <b>atomic models</b> over the years.
<b>atomic number</b>	The number of protons in each atom of an element.	The <b>atomic number</b> of sodium is 11.
<b>atoms</b>	Tiny particles that make up all substances	A gold bar is made up of gold <b>atoms</b> .
<b>displace</b>	A more reactive halogen will displace a least reactive halogen from an aqueous solution containing it's salt.	magnesium + copper sulfate → copper + magnesium sulfate The magnesium <b>displaces</b> the copper, and the products are copper and a solution of magnesium sulfate.
<b>electron</b>	A negatively charged particle with a charge of -1 that orbits the nucleus of an atom.	An <b>electron</b> is the negatively charged subatomic particles found in atoms.
<b>element</b>	A substance made of only one type of atom.	An oxygen molecule is an example of an <b>element</b> as it contains the same type of element.
<b>energy level</b>	The distance that an electron is orbiting from the nucleus.	Sodium has 2 <b>energy levels</b> .
<b>halogens</b>	These are group 7 elements which have 7 electrons in their outermost shell.	Chlorine is an example of a <b>halogen</b> .
<b>alkali metals</b>	These are elements in group 1 of the periodic table and they all have 1 electron in their outermost shell.	Sodium is an example of an <b>alkali metal</b> .

## Science | Atomic structure and the Periodic Table | Topic Dictionary

Word	Definition	In a sentence...
<b>ion</b>	A charged atom. The atom has either lost or gained one or more electrons.	When sodium loses its outer shell electron it forms a positively charged <b>ion</b> .
<b>isotope</b>	Atoms of the same element with different numbers of neutrons.	Caesium 137 is an <b>isotope</b> used for the irradiation of food.
<b>mass number</b>	The number of protons plus the number of neutrons in the nucleus of an atom.	Carbon has a <b>mass number</b> of 12.
<b>Mendeleev</b>	Mendeleev's periodic table left gaps for the unknown elements which when discovered matched his predictions	<b>Mendeleev</b> published his first periodic table of the elements in 1869.
<b>neutron</b>	Particles with no charge that are found in the nucleus of the atom. They have the same mass as a proton.	A <b>neutron</b> has no charge.
<b>noble gases</b>	The noble gases in Group 0 are unreactive because of their very stable electron arrangements.	Argon is an example of a <b>noble gas</b> .
<b>nuclear model</b>	The model of the atom suggested by Rutherford when they discovered the nucleus. This model has a central positive nucleus with electrons orbiting around the outside.	A number of scientists have come up with different <b>nuclear models</b> over the years.
<b>nucleus</b>	The centre of the atom, containing protons and neutrons.	Lithium contains 3 protons and 4 neutrons in its <b>nucleus</b> .
<b>outer shell</b>	The outermost energy level of an atom.	Lithium has 1 electron in its <b>outer shell</b> .
<b>proton</b>	Particles with a charge of +1 that are found in the nucleus of the atom. They have the same mass as a neutron.	Sodium has 11 <b>protons</b> .

# Science | Cell structure and transport | Knowledge Organiser

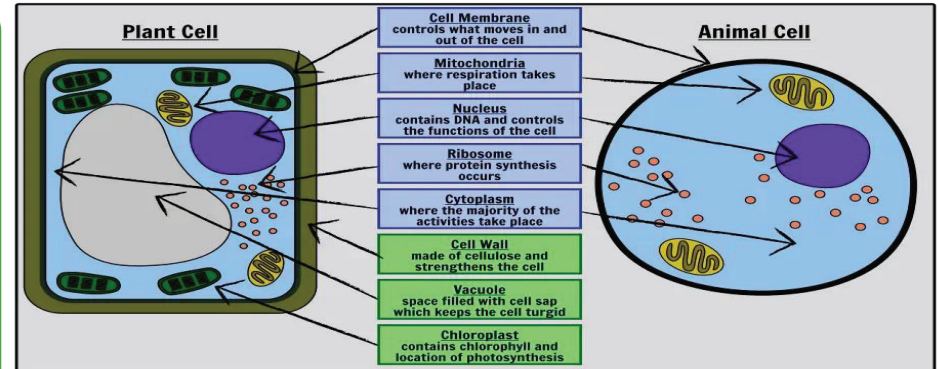
HT only	Core focus
Triple science only	All learners

Organelles	Animal cell	Plant cell	Bacteria cell
Nucleus	X	X	
Cytoplasm	X	X	X
Cell membrane	X	X	X
Mitochondria	X	X	
Ribosome	X	X	X
Cell wall		X	X
Chloroplast		X	
Permanent vacuole		X	
DNA loop			X
Plasmid			X
Flagellum	ONLY SPERM		X

- Plant and animal cells (eukaryotic cells) have a cell membrane, cytoplasm and genetic information enclosed in a nucleus.
- Bacteria cells (prokaryotic cells) are much smaller in comparison.
- They have cytoplasm and a cell membrane surrounded by a cell wall.
- The genetic information is not enclosed in a nucleus.
- it is a single DNA loop and there may be one (or more) small rings of DNA called plasmids.

### Orders of magnitude

- Are used to make approximate comparisons of objects
  - Comparisons can be shown as a number or in standard form
- Example:  
A small animal cell has a length of 10µm. A large plant cell has a length of 100µm.
- $$\frac{100}{10} = 10 \text{ or } 10^1$$
- So a large plant cell is an order of magnitude or 10<sup>1</sup> bigger than a small animal cell.



Cell	Function	Adaptations
Sperm cell	To fertilise the female gamete (egg cell)	(1) Long tail to swim. (2) lots of mitochondria to release energy. (3) enzyme (acrosome) to breakdown outer cell membrane of egg cell (4) large nucleus containing genetic information
Nerve cell	To carry electrical impulses around the body	(1) Many dendrites to make connections with other nerve cells. (2) A axon to carry impulses. (3) Synapses, to pass impulse onto next nerve cell
Muscle cell	To contract to bring about movement	(1) Special proteins that slide over each other. (2) many mitochondria to transfer energy to move. (3) Large glycogen store to store glucose for respiration
Root hair cell	To absorb water and mineral ions	(1) Large surface area (projection) (2) large permanent vacuole to speed up movement of water (by osmosis). (3) many mitochondria, to transfer energy for active transport.
Xylem	To transport water and mineral ions	(1) Hollow tubes to allow water to move upwards. (2) Contain spirals of lignin, to make the tubes strong.
Phloem	To transport food around the plant	(1) Contain sieve plate to allow movement of dissolved food. (2) companion cells contain many mitochondria, to move substances into and out of phloem vessel.
Palisade cell	To absorb light for photosynthesis to make glucose	(1) Lots of chloroplast to absorb sunlight for photosynthesis. (2) large permanent vacuole, to store water for photosynthesis and to keep cell rigid.

## Types of microscopes

Microscopes are used to **enlarge** an object

	Light microscope	Electron microscope
<b>Developed?</b>	First developed in the early 17 <sup>th</sup> century	First developed in the 1930s
<b>How do they work?</b>	Use a beam of light to form an image	Use a beam of electrons to form an image
<b>magnification</b>	Up to 2000x (school microscope = 400x)	Up to 2,000,000x
<b>Resolving power</b>	See objects that are 200nm apart	See objects that are 0.2nm apart
<b>Other information</b>	Can observe living specimen, cheap and portable	Specimen must be dead to observe, expensive, need to be kept in special conditions

### Substances that move by diffusion:

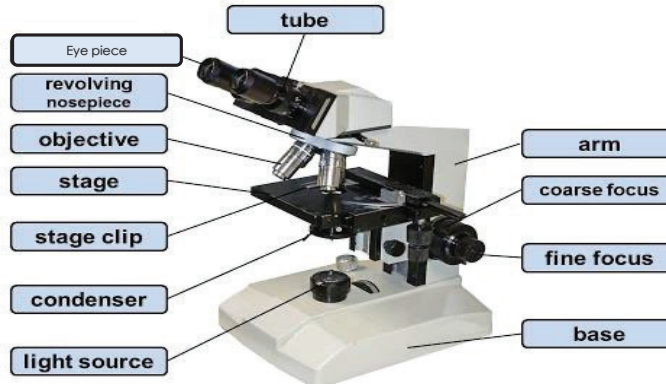
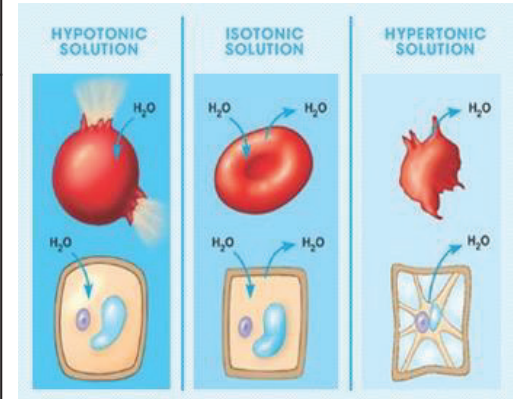
- Oxygen (alveoli→blood and blood→cells)
- Carbon dioxide (cells→blood and blood→alveoli)
- Urea (cells→blood and blood→kidneys)
- Glucose (blood→cells)

### Factors that affect diffusion:

- Concentration gradient
- Temperature (↑temp=↑kinetic energy)
- Surface area (↑Surface area=more surface for particles to diffuse through)

	<b>Small intestine (villi)</b>	<b>Lungs (alveoli)</b>	<b>Fish gills</b>	<b>Roots (root hair cells)</b>	<b>Leaf</b>
<b>Adaptations</b>	<ul style="list-style-type: none"> <li>➤ Efficient blood supply</li> <li>➤ Large SA</li> <li>➤ Thin cell membrane</li> </ul>	<ul style="list-style-type: none"> <li>➤ Efficient blood supply</li> <li>➤ Large SA</li> <li>➤ Thin cell membrane</li> <li>➤ Ventilated</li> </ul>	<ul style="list-style-type: none"> <li>➤ Efficient blood supply</li> <li>➤ Constant flow of water</li> <li>➤ Large SA</li> </ul>	<ul style="list-style-type: none"> <li>➤ Large SA</li> <li>➤ Thin cell wall</li> <li>➤ Water constantly moved away (Large PV)</li> </ul>	<ul style="list-style-type: none"> <li>➤ Flat and thin (large SA)</li> <li>➤ Contain air spaces</li> <li>➤ Stomata</li> </ul>

## Osmosis (see key vocabulary table)



- **Active transports** allows mineral ions to be into root hair cells from very dilute solutions in the soil.
  - Plants require ions for healthy growth
- Active transport allows **sugar (glucose)** to be transported from low concentration (in the gut) to high concentration (in the blood)
  - Used for respiration

### As a Year 9 Scientist, I know...

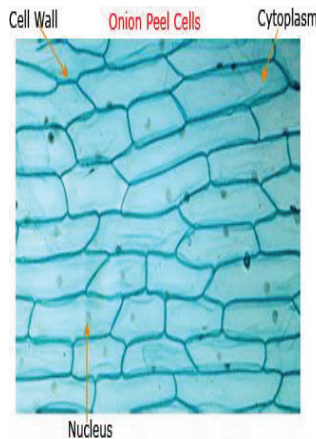
1. Use the terms 'eukaryotic' and 'prokaryotic' to describe types of cells	
2. Describe the features of bacterial (prokaryotic) cells	
3. Describe the functions of the structures in animal and plant (eukaryotic) cells	
4. Describe what a specialised cell is, including examples for plants and animals	
5. Demonstrate an understanding of the scale and size of cells and be able to make order of magnitude calculations, inc standard form	
6. Define the terms magnification and resolution	
7. Compare the electron and light microscopes in terms of magnification and resolution.	
8. Carry out calculations involving magnification using the formula: magnification = size of image / size of real object -inc standard form	

## Onions slide practical

### Method

1. Cut open an onion
2. Use forceps to peel a thin layer of *epidermis* from the inside
3. Lay the layer of epidermis on a microscope slide
4. Add a drop of iodine solution to the layer
5. Carefully place a cover slip over the layer (to avoid air bubbles)
6. Examine the slide under a microscope
7. Draw what you can see

- Iodine – stains organelles
- Can see:
  - Nucleus
  - Cell wall
  - cytoplasm
- Other organelles are too small to observe



## Osmosis vegetable practical

### Method

1. Prepare solutions of sugar/salt (0.0-1 mole)
2. Cut cylinders of vegetable using borer and scalpel
3. Weigh each cylinder and record starting mass
4. Place vegetable cylinders into the correct solution and leave for set time
5. Bung placed on test tubes to stop evaporation (solutions would become more concentrated)
6. Dry each vegetable cylinder (to get rid of excess liquid) and weigh and record end mass.
7. Calculate percentage change
8. Draw line graph (with line of best fit)

**Independent:** concentration of solution

**Dependent:** change in mass of vegetable cylinder

**Control:** volume of solution, time left in solution, length of vegetable (as starting mass would be different), used the same vegetable for cylinders

## Surface area:volume ratio

**surface area** ( $cm^2$ ) = (base  $\times$  height)  $\times$  number of sides

**volume** ( $cm^3$ ) = base  $\times$  width  $\times$  height

1cmx1cmx1cm cube



$$SA = (1 \times 1) \times 6 = 6cm^2$$

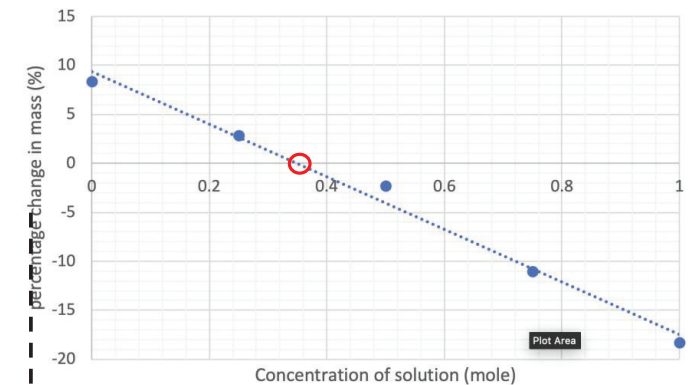
$$V = 1 \times 1 \times 1 = 1cm^3$$

$$SA:V = 6:1$$

A single celled organism has a large SA to Volume ratio. This allows sufficient transport of molecules into and out of the cell. Larger organisms need specialised surfaces to exchange substances.

Solution conc. (mole)	Starting mass (g)	End mass (g)	Change in mass (g)	Percentage change (%)
0.0	5.98	6.48	0.5	<b>8.4%</b>
0.25	5.92	6.09	0.17	<b>2.9%</b>
0.5	6.1	5.96	-0.14	<b>-2.3%</b>
0.75	5.97	5.31	-0.66	<b>-11.1%</b>
1	6.08	4.97	-1.11	<b>-18.3%</b>

$$\text{percentage change} = \left( \frac{\text{end mass} - \text{starting mass}}{\text{starting mass}} \right) \times 100$$



### Results and analysis:

Where the line crosses the X-axis, is the concentration of solution inside the vegetable as there is no gain or loss in mass.

**In the example the concentration of sugar/salt inside the vegetable is ~0.38 mole.**

## Science | Cells | Topic Dictionary

Word	Definition	In a sentence...
<b>active transport</b>	The movement of substances from a low concentration to high concentration against the concentration gradient. Requires energy from respiration.	The mineral ions entered the roots by <b>active transport</b> .
<b>differentiate</b>	The process where cells become specialised for a particular function	When stems cells develop special features that enables them to perform a function, we say they have become <b>differentiated</b> .
<b>diffusion</b>	The movement of particles (in a solution or of gas particles) from an area of high concentration to an area of low concentration, down the concentration gradient.	The oxygen molecules entered the capillary by <b>diffusion</b> .
<b>eukaryotic cells</b>	Cells that have a true nucleus and membrane-bound organelles (animal and plant cells)	Animal cells are examples of <b>eukaryotic cells</b> .
<b>hypertonic</b>	A solution that is more concentrated than the cells contents. Water moves out of cell. Animal cells will shrink. Plant cells will become plasmolysed (cell membrane moves away from cell wall).	<b>Hypertonic</b> saline solution-Fluid is a fluid that contains salt in a concentration higher than that of healthy blood.
<b>hypotonic</b>	A solution that is less concentrated than the cells contents. Water moves into cells. Animal cells will grow and burst (lysis). Plant cells become turgid (cell membrane pushes against cell wall).	A <b>hypotonic</b> solution has less solute and more water than other solution.
<b>isotonic</b>	A solution that is the same concentration as the cells contents. No net movement of water.	An <b>isotonic</b> drink contains the liquid and minerals your body needs after physical exercise.
<b>osmosis</b>	Diffusion of water from a high concentration (dilute solution) to an area of low concentration (concentrated solution) through a partially permeable membrane.	The roots absorbed water by <b>osmosis</b>
<b>partially permeable membrane</b>	A membrane that only allows certain substances to pass through, for example, a cell membrane.	Sucrose diffused across the <b>partially permeable membrane</b> .
<b>plasmolysis</b>	The state of plant cells when so much water is lost from the cell by osmosis that the vacuole and cytoplasm shrinks and the cell membrane pulls away from the cell wall.	Prolonged periods of dehydration, however, can lead to permanent wilting, cell <b>plasmolysis</b> , and subsequent death.
<b>prokaryotic cells</b>	Cells that have no true nucleus or membrane-bound organelles (bacteria cells)	Bacterial cells are examples of <b>prokaryotic cells</b> .
<b>resolving power</b>	A measure of the ability to distinguish between two separate points that are very close together	Electron microscopes have a high <b>resolving power</b> , 250 times that of light microscopes.
<b>turgor</b>	The pressure inside a plant cell exerted by the cell contents pressing against the cell wall.	Water will be lost through transpiration or just used for maintaining <b>turgor</b> in cells.

Core focus

All learners

# Science | Conservation and dissipation | Knowledge Organiser

## Energy stores

- **Chemical energy store** – energy transferred from chemical bonds during chemical reactions (e.g. fuels, batteries, food)
- **Kinetic energy store** – energy a moving object has (e.g. a turbine spinning)
- **Gravitational potential energy store** – energy stored in an object that has been raised above the ground (e.g. a book on a shelf)
- **Elastic potential energy store** – the energy stored in an object that can be stretched or squashed (e.g. an elastic band)
- **Thermal energy store** – energy a substance has because of its temperature (e.g. a candle)

## Work done

When an object is moved by a force, work is done on the object by the force. The amount of energy transferred to the object is equal to the work done on it.

- The greater the force applied, the more work is done.
- The greater the distance moved, the more work is done.

$$\begin{aligned} \text{work done } W \text{ (J, joules)} \\ = \text{force applied, } F \text{ (N, newtons)} \\ \times \text{distance moved, } s \text{ (m, metres)} \end{aligned}$$

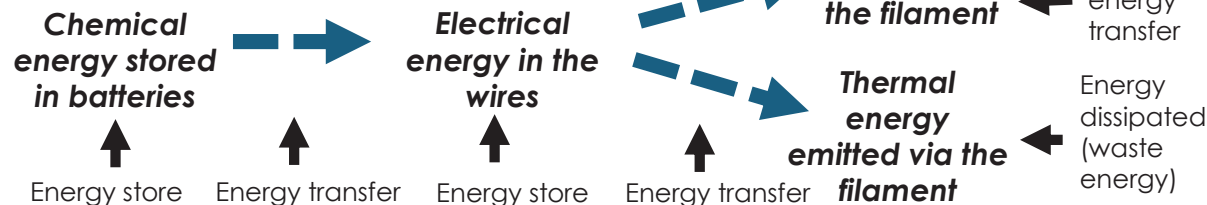
## Energy transfers

Energy cannot be created or destroyed, only transferred. In a **closed system** the total energy input is accounted for in the energy transferred.

Not all energy transferred is useful, some energy transfers are wasted.

Example:

Switching on a torch (closed system)



## As a Year 9 Scientist, I know...

1. State that energy can be transferred usefully, stored or dissipated, but cannot be created or destroyed and so the total energy in a system does not change	
2. Explain that only some of the energy in a system is usefully transferred, with the rest 'wasted', giving examples of how this wasted energy can be reduced	
3. Explain ways of reducing unwanted energy transfers and the relationship between thermal conductivity and energy transferred	
4. Describe how the rate of cooling of a building is affected by the thickness and thermal conductivity of its walls	
5. Calculate efficiency by recalling and applying the equation: [ $\text{efficiency} = \frac{\text{useful power output}}{\text{total power input}}$ ]	
6. HT ONLY: Suggest and explain ways to increase the efficiency of an intended energy transfer	

### Gravitational potential energy ( $E_p$ )

$$\text{weight} = \text{mass}, m \text{ (kg)} \times \text{gravitational field strength}, g \text{ (N/kg)}$$

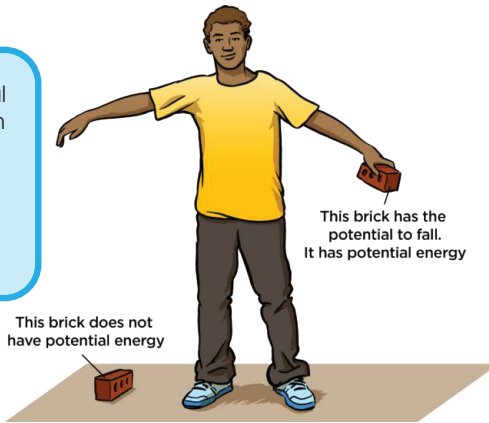
$$\Delta E_p = \text{weight}, F \text{ (N)} \times \text{gravitational field strength}, g \text{ (N/kg)}$$

$$\Delta E_p = \text{mass}, m \text{ (kg)} \times \text{gravitational field strength}, g \text{ (N/kg)} \times \Delta \text{height}, \Delta h \text{ (m)}$$

Gravitational potential energy is the energy stored in an object when it is lifted above the ground. Work is done to lift the object, so energy is transferred to the gravitational potential energy store.

**Note:**

Gravitational field strength is 9.81 N/kg. however, in exams this can be simplified to 10N/kg)



**Example:**

A boy lifts a brick off the floor  
 $E_p = ? \text{ J}$   
 $m = 2 \text{ kg}$   
 $g = 9.81 \text{ N/kg}$   
 $h = 1.2 \text{ m}$

$$E_p = mgh$$

$$E_p = 2 \times 9.81 \times 1.2$$

$$E_p = 23.5 \text{ J}$$

### Kinetic energy ( $E_k$ )

$$E_k = 0.5 \times \text{mass}, m \text{ (kg)} \times \text{speed}^2, v^2 \text{ (m/s}^2\text{)}$$

The energy an object has because of its motion depends on two factors. (1) the mass of the object, (2) the speed of the object.

### Elastic potential energy ( $E_e$ )

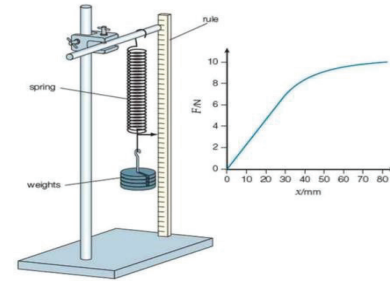
$$E_e = 0.5 \times \text{spring constant}, k \text{ (N/m)} \times \text{extension}^2, e^2 \text{ (m}^2\text{)}$$

When a rubber band is stretched, the work done (energy transferred) to the rubber band is stored as elastic potential energy. When the rubber band is released, the energy is transferred back to kinetic energy, and the rubber band will go back to its original length.

Elastic materials follow **Hooke's law**

**Note:** Elastic potential energy can be applied to any material that can be stretched or squashed.

In an exam, you may be asked to apply the equation to a bow string.



### Energy and efficiency

$$\text{Efficiency} = \frac{\text{useful output energy transferred by a device (J)}}{\text{total input energy supplied to the device (J)}}$$

No device can be more than 100% efficient, because you can never get more energy from the machine than you put into it.

**Improving efficiency (wasted energy source / reducing wasted energy)**

Friction between moving parts causing heating / lubricate moving parts to reduce friction. Air resistance causing a force in the opposite direction / use a streamlined shape to reduce air resistance. Sound produced by moving machinery / tighten loose parts to reduce vibrations. Resistance causing wires to heat up / use wires with minimal resistance

### Energy and Power

$$\text{Power}, P \text{ (watts)} = \frac{\text{energy transferred to the appliance}, E \text{ (J)}}{\text{time taken for energy to be transferred}, t \text{ (seconds)}}$$

### Efficiency and power

$$\text{efficiency} = \frac{\text{useful power out}}{\text{total power in}} (\times 100)$$

$$\text{power wasted} = \text{total power in} - \text{use power out}$$

- 1 kJ = 1000 J
- 1 kW = 1000 W
- 1 mega Watt (MW) = 1,000,000 W
- 1 kg = 1000 g
- 1 m = 100 cm



## Science | Conservation of Energy | Topic Dictionary

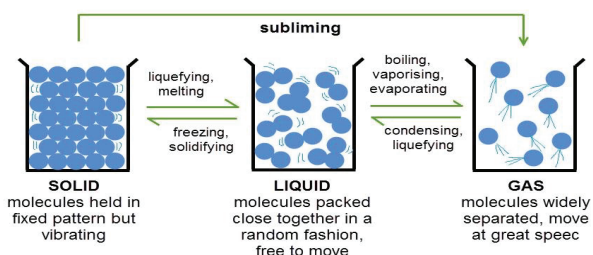
Word	Definition	In a sentence...
<b>closed system</b>	An object or a group of objects for which the total energy is constant	No substances can enter or leave a <b>closed system</b> , such as a stoppered flask.
<b>conservation of energy</b>	Energy cannot be created or destroyed, energy can only be transferred from one form to another	The law of <b>conservation of energy</b> is a science law that says energy cannot be created or destroyed.
<b>dissipated energy</b>	The energy that is not usefully transferred or stored in less useful ways	For a tumble dryer, the electrical work is transferred into useful internal (thermal) energy which helps to dry clothes - energy is <b>dissipated</b> by sound waves
<b>energy</b>	The ability to do work	Sound is an example of an <b>energy</b> .
<b>energy store</b>	Capture of energy produced to be used at another time	Chemical energy is the <b>energy store</b> in an apple.
<b>Hooke's law</b>	The extension of a spring is directly proportional to the force applied, as long as the limit of proportionality is not exceeded	<b>Hooke's law</b> is a principle in physics that states that the force needed to extend or compress a spring by a certain distance is directly proportional to that distance.
<b>input energy</b>	Energy supplied to a device	Electrical energy is the <b>input energy</b> of a television.
<b>mass</b>	The amount of matter that makes up an object (kg)	The <b>mass</b> of the potato is 0.5kg.
<b>power</b>	The energy transformed or transferred per second. Measured in watt (W)	The light bulb has a <b>power</b> of 24 watts.
<b>useful energy</b>	Energy that is transferred where it is wanted in the way it is wanted	Sound energy is the main <b>useful energy</b> of a radio.
<b>waste energy</b>	Energy that is not usefully transferred	Heat energy is an example of the <b>waste energy</b> transferred from a light bulb.
<b>weight</b>	The force on a mass due to gravity (newtons)	The <b>weight</b> of the apple on earth is 2N.
<b>work done</b>	When a force makes an object move (Joules)	<b>Work done</b> is measured in joules.

# Science | Structure and bonding | Knowledge Organiser

All learners	Core focus
Triple science only	HT only

## 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)

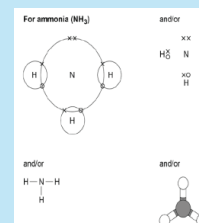
- Limitations of the simple model above include that in the model there are no forces, that all particles are represented as spheres and that the spheres are solid.
- We know atoms are not all spheres and are mostly empty space.

## 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.

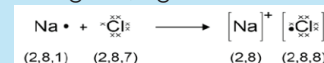
## Covalent Bonding – SHARING Electrons

- 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:



## 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, eg for sodium chloride.



## As a Year 9 Scientist, I know...

1. Name the three States of matter, identify them from a simple model and state which changes of state happen at melting and boiling points	
2. Explain changes of state using particle theory and describe factors that affect the melting and boiling point of a substance	
3. Describe covalent bonds and identify different types of covalently bonded substances, such as small molecules, large molecules and substances with giant covalent structures	
4. Explain how the structure of small molecules affects their properties	
5. Explain how the structure of metals and alloys affects their properties, including explaining why they are good conductors	
6. Explain how the structure of giant covalent structures affects their properties	

Core focus

All learners

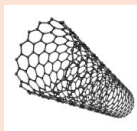
**State Symbols:** Solid (s) Liquid (l) Gas (g)  
Aqueous (aq) – this is a **solution**

**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 (C<sub>60</sub>) 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.



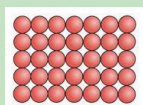
Bucky ball



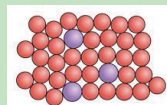
Carbon nanotube

**Alloys**

- Alloys are mixtures of 2 or more elements, one of which has 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

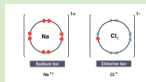


alloy

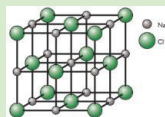
**Ionic Bonding**

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**

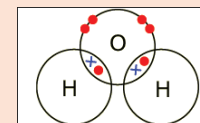
Conducts as LIQUID and in SOLUTION (ions are mobile)  
Does not conduct as SOLID (ions are fixed)

**High Melting Point**

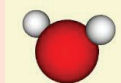
Strong electrostatic forces between ions require high energy (heat) to separate.

**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*

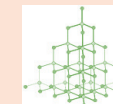
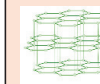
**STRUCTURE Large Molecule**



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

**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.

**High Melting Point**

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

**PROPERTIES Conductivity**

Does not conduct because there are no ions or delocalised electrons.  
EXCEPTION: Graphite and FULLERENES conduct.

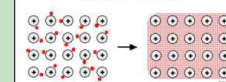
**High Melting Point**

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.

## Science | Conservation of Energy | Topic Dictionary

Word	Definition	In a sentence...
<b>giant ionic lattice</b>	An ionic compound held together by electrostatic forces between oppositely charged ions	An example of a <b>giant ionic lattice</b> is sodium chloride.
<b>ionic bonding</b>	Electrostatic attraction between negative and positive ions	<b>Ionic bonding</b> occurs between metals and non-metals.
<b>electrostatic forces</b>	The force of attraction between opposite charged particles.	The positive sodium ions and negative chloride ions in sodium chloride are held together by <b>electrostatic forces</b> .
<b>molecule</b>	Covalent bonds joining atoms together to make a particle	An oxygen <b>molecule</b> contains 2 oxygen atoms that are held together by a chemical bond.
<b>intermolecular forces</b>	The weak forces holding molecules together	Graphite has weak <b>intermolecular forces</b> .
<b>delocalised</b>	Moves around freely	Metals have <b>delocalised</b> electrons within their structure.

# Spanish | School uniform | Topic Dictionary

Image	Key Word	Definition	In a Sentence
	un abrigo	a coat	No tengo <b>un abrigo</b> .
	una camisa	a shirt	Llevo <b>una camisa</b> blanca.
	una chaqueta	a jacket	Se debe llevar <b>una chaqueta</b> .
	unos calcetines	socks	Mis <b>calcetines</b> son blancos.
	una corbata	a tie	No me gusta llevar <b>una corbata</b> .
	una falda	a skirt	Las chicas puede llevar <b>una falda</b> .
	un jersey	a jumper	Si hace frío, llevo <b>un jersey</b> .
	unos pantalones	trousers	A veces llevo <b>unos pantalones</b> .
	un vestido	a dress	No se puede llevar <b>un vestido</b> .
	unas zapatillas de deporte	trainers	Prefiero llevar <b>unas zapatillas de deporte</b> .
	unos zapatos	shoes	Mis <b>zapatos</b> son negros.

# Spanish | My school | Knowledge Organiser

## Check for knowledge:

- I can say what subjects I like (Steps 1+4)
- I can describe my uniform and give my opinion (Steps 2+4)
- I can describe the rules in my school (Steps 3+4)
- I can give justified opinions (Step 4)

## Step 1: Say what subjects you like

<b>Me encanta(n) / Odio</b>	<i>I love / I hate</i>
<b>Me gusta(n) / No me gusta(n)</b>	<i>I like / I don't like</i>
<b>el español / el francés / el inglés</b>	<i>Spanish / French / English</i>
<b>la historia / la geografía</b>	<i>History / Geography</i>
<b>las matemáticas / las ciencias</b>	<i>Maths / Science</i>
<b>el dibujo / la informática</b>	<i>Art / IT</i>
<b>porque es / son...</b>	<i>because it is / they are...</i>
<b>divertido/a(s)</b> <i>fun</i>	<b>aburrido/a(s)</b> <i>boring</i>
<b>fácil(es)</b> <i>easy</i>	<b>difícil(es)</b> <i>difficult</i>
<b>interesante(s)</b> <i>interesting</i>	<b>inútil(es)</b> <i>useless</i>
<b>útil(es)</b> <i>useful</i>	<b>fatigante</b> <i>tiring</i>
<b>el/la profe es amable/estricto/a</b>	<i>The teacher is kind/strict</i>

## Step 2: Describe your uniform

<b>Llevo...</b>	<i>I wear</i>
<b>Se debe llevar...</b>	<i>You must wear...</i>
<b>una camisa</b> <i>a shirt</i>	<b>una corbata</b> <i>a tie</i>
<b>una chaqueta</b> <i>a jacket</i>	<b>una falda</b> <i>a skirt</i>
<b>unos pantalones</b> <i>trousers</i>	<b>unas zapatillas</b> <i>trainers</i>
<b>unos zapatos</b> <i>shoes</i>	<b>unos calcetines</b> <i>socks</i>

## Step 3: Discuss school rules

<b>(No) se debe...</b>	<i>You must (not)...</i>
<b>(No) se puede...</b>	<i>You can(not)...</i>
<b>Está prohibido...</b>	<i>It is forbidden...</i>
<b>escuchar a los profes</b>	<i>listen to the teachers</i>
<b>comer chicle</b>	<i>chew gum</i>
<b>hacer los deberes</b>	<i>do homework</i>
<b>llevar uniforme</b>	<i>wear uniform</i>
<b>correr en el pasillo</b>	<i>run in the corridor</i>
<b>charlar en clase</b>	<i>chat in class</i>
<b>usar el móvil</b>	<i>use your phone</i>

## Step 4: Elevate your sentences with opinions

<b>Pienso que / Creo que</b>	<i>I think that</i>
<b>Diría que</b>	<i>I would say that</i>
<b>Según yo</b>	<i>According to me</i>
<b>A mi modo de ver</b>	<i>In my opinion</i>
<b>Es...</b>	<i>It is...</i>
<b>cómodo</b> <i>comfortable</i>	<b>incómodo</b> <i>uncomfortable</i>
<b>elegante</b> <i>stylish</i>	<b>feo</b> <i>ugly</i>
<b>justo</b> <i>fair</i>	<b>injusto</b> <i>unfair</i>
<b>bonito</b> <i>pretty</i>	<b>ridículo</b> <i>ridiculous</i>
<b>importante</b> <i>important</i>	<b>molesto</b> <i>annoying</i>
<b>necesario</b> <i>necessary</i>	<b>frustrante</b> <i>frustrating</i>

# Spanish | My School | 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?
<p><b>Me encanta(n)</b> (I love)</p> <p><b>Me gusta(n)</b> (I like)</p> <p><b>No me gusta(n)</b> (I don't like)</p> <p><b>Odio</b> (I hate)</p>	<p><b>el inglés</b> (english) <b>el español</b> (spanish) <b>el francés</b> (french) <b>la historia</b> (history) <b>la geografía</b> (geography) <b>la informática</b> (it) <b>el dibujo</b> (art) <b>la educación física</b> (pe) <b>el teatro</b> (drama) <b>la música</b> (music)</p> <hr/> <p><b>las matemáticas</b> (maths) <b>las ciencias</b> (science)</p> <hr/> <p><b>mi profe de ...</b> (my ... teacher)</p>	<p><b>porque</b> (because) <b>pero</b> (but) <b>y</b> (and) <b>sin embargo</b> (however)</p>	<p><b>pienso que / creo que</b> (I think that)</p> <p><b>diría que</b> (I would say that)</p> <p><b>según yo</b> (according to me)</p> <p><b>a mi modo de ver</b> (in my opinion)</p> <p><b>encuentro que</b> (I find that)</p>	<p><b>es</b> (it is)</p> <hr/> <p><b>son</b> (it is/they are)</p> <hr/> <p><b>es</b> (he/she is)</p>	<p><b>muy</b> (very) <b>bastante</b> (quite) <b>realmente</b> (really) <b>un poco</b> (a bit)</p>	<p><b>divertido/a(s)</b> (fun) <b>entretenido/a(s)</b> (entertaining) <b>interesante(s)</b> (interesting) <b>fácil(es)</b> (easy) <b>difícil(es)</b> (difficult) <b>útil(es)</b> (useful) <b>inútil(es)</b> (useless)</p> <hr/> <p><b>estricto/a</b> (strict) <b>amable</b> (kind) <b>gracioso/a</b> (funny)</p>
<p><b>En mi colegio</b> (At my school)</p> <p><b>En nuestro colegio</b> (at our school)</p> <p><b>En mi opinión es</b> (In my opinion it is)</p> <p><b>Lo encuentro</b> (I find it)</p>	<p><b>se debe</b> (you/one must)</p> <p><b>se puede</b> (you/one can)</p> <hr/> <p><b>muy</b> (very) <b>un poco</b> (a little) <b>bastante</b> (quite) <b>demasiado</b> (too) <b>realmente</b> (really)</p>	<p><b>traer el material escolar</b> (bring your equipment) <b>charlar en clase</b> (chat in class) <b>beber en clase</b> (drink in lessons) <b>correr en el pasillo</b> (run in the corridors) <b>decir palabrotas</b> (swear) <b>escuchar a los profes</b> (listen to the teachers) <b>ser puntual</b> (be on time)</p> <hr/> <p><b>justo</b> (fair) / <b>logico</b> (logical) / <b>necesario</b> (necessary) / <b>razonable</b> (reasonable)</p> <p><b>molesto</b> (annoying) / <b>frustrante</b> (frustrating) / <b>injusto</b> (unfair) <b>ridiculo</b> (ridiculous) / <b>inútil</b> (pointless)</p>			<p style="text-align: center;"><b>Example:</b> Me <b>encantan</b> <b>las ciencias</b> <b>porque</b> <b>según yo</b> <b>son</b> <b>muy</b> <b>entretenidas.</b></p> <p style="text-align: center;">(I love Science because according to me it's very entertaining)</p>	

# Spanish | My school | Skills Guide

## Success Criteria:

- Have you **introduced yourself**?
- Can you give **opinions and reasons** about **school subjects**? Have you used the correct **word order** and **adjective endings**?
- Can you describe your **school uniform**? Can you express your opinion about it?
- Can you describe your **school rules**? Can you give your opinion using an **opinion phrase**? Could you add an **intensifier**?

## Simple answer:

Buenos días, me llamo Elena y mi colegio se llama St Mark's. Me gusta el inglés porque es divertido. No me gustan las ciencias porque son difíciles. Llevo una camisa blanca y una chaqueta roja. En mi colegio se debe hacer los deberes.

**Connectives**  
used to link ideas

Variety of  
**adjectives**

**Intensifiers**  
used to add detail

**Opinion phrases** used to upgrade answer.

## Extended answer:

**Examples/Complex reasons**  
given to justify opinions

Buenos días, me llamo Elena y mi colegio se llama St Mark's. Me chifla el inglés porque me interesa y es realmente útil porque me gustaría ser periodista. Sin embargo, no me gustan las ciencias ya que son difíciles y el profe puede ser muy estricto y antipático. Mi uniforme consiste en una camisa blanca y una chaqueta roja aunque lo encuentro un poco incómodo. También, en mi colegio se debe hacer los deberes y escuchar a los profes pero creo que es bastante lógico y justo.



# 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**?

## 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...)

- |   |                 |
|---|-----------------|
| <input type="checkbox"/> <b>Who?</b>  | <b>People</b>   |
| <ul style="list-style-type: none"> <li>• <b>una mujer/una chica</b> (a woman/girl)</li> <li>• <b>un hombre/un chico</b> (a man/boy)</li> <li>• <b>una familia/un grupo</b> (a family / group)</li> <li>• <b>unos estudiantes</b> (some students)</li> </ul>                                   |                 |
| <input type="checkbox"/> <b>What are they doing?</b>  | <b>Action</b>   |
| <ul style="list-style-type: none"> <li>• <b>están caminando</b> (they are walking)</li> <li>• <b>están hablando</b> (they are talking)</li> <li>• <b>está(n) sonriendo</b> (they are smiling)</li> </ul>  |                 |
| <input type="checkbox"/> <b>Where?</b>  | <b>Location</b> |
| <b>Están en ... (They are in...)</b>  |                 |
| <ul style="list-style-type: none"> <li>• <b>la ciudad</b> (the city)</li> <li>• <b>la playa</b> (the beach)</li> <li>• <b>las montañas</b> (the mountains)</li> <li>• <b>un restaurante</b> (a restaurant)</li> <li>• <b>el parque</b> (the park)</li> <li>• <b>casa</b> (at home)</li> </ul> |                 |
| <input type="checkbox"/> <b>What is the mood?</b>   | <b>Mood</b>     |
| <ul style="list-style-type: none"> <li>• <b>son felices</b> (they are happy)</li> <li>• <b>hace buen tiempo</b> (it is good weather)</li> <li>• <b>hace mal tiempo</b> (it is bad weather)</li> </ul>   |                 |

**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 salir con amigos porque es entretenido y me hace reír, aunque a veces es un poco agotador.

## Step 2: Give an opinion about the activity

- |  |
|--|
| <input type="checkbox"/> <b>Start with an opinion phrase</b>   |
| <ul style="list-style-type: none"> <li>• <b>En mi opinión</b> (In my opinion)</li> <li>• <b>A mi modo de ver</b> (In my opinion)</li> <li>• <b>Pienso que / Creo que</b> (I think that)</li> <li>• <b>Según yo</b> (according to me)</li> </ul>              |
| <input type="checkbox"/> <b>Give a positive opinion</b>  |
| <ul style="list-style-type: none"> <li>• <b>es divertido / entretenido</b> (it is fun / entertaining)</li> <li>• <b>es relajante / emocionante</b> (it is relaxing / exciting)</li> <li>• <b>me hace feliz / reír</b> (it makes me happy / laugh)</li> </ul> |
| <input type="checkbox"/> <b>Link with a connective(s)</b>  |
| <ul style="list-style-type: none"> <li>• <b>también / aunque</b> (also / although)</li> <li>• <b>sin embargo / pero</b> (however / but)</li> </ul>   |
| <input type="checkbox"/> <b>Give a negative opinion</b>  |
| <ul style="list-style-type: none"> <li>• <b>es aburrido / desagradable</b> (it is boring / unpleasant)</li> <li>• <b>es agotador / monotonó</b> (it is tiring / dull)</li> <li>• <b>me hace triste</b> (it makes me sad)</li> </ul>                          |

# Spanish | Relationships | Topic Dictionary

Image	Key Word	Definition	In a Sentence
	me llevo bien	I get on well	<b>Me llevo bien</b> con mi hermana porque es simpática.
	discuto	I argue	A veces <b>discuto</b> con mi hermano porque es molesto.
	me peleo	I bicker	De vez en cuando <b>me peleo</b> con mis padres.
	me divierto	I have fun	Los fines de semana, <b>me divierto</b> con mis amigos.
	me hace reír	He/She makes me laugh	Me encanta mi mejor amigo porque <b>me hace reír</b> .
	escucha mis problemas	He/She listens to my problems	Mi madre siempre <b>escucha mis problemas</b> .
	cree en mí	He/She believes in me	Mi abuela <b>cree en mí</b> .
	ayuda a todos	He/She helps everyone	Admiro a Michelle Obama porque <b>ayuda a todos</b> .

# Spanish | My family & friends | Knowledge Organiser

## Check for knowledge:

- I can describe my appearance & personality (Steps 1+2)
- I can describe others' appearance and personality (Steps 1+2)
- I can say what makes a good friend (Step 3)
- I can say who my role model is (Step 4)

## Step 1: Describe your own and others' appearance

<b>Tengo...</b> <b>Mi madre / padre / amigo/a tiene</b>	<i>I have</i> <i>My mum / dad / friend has</i>
<b>los ojos azules / verdes / marrones</b> <b>el pelo castaño / rubio / negro</b> <b>el pelo rizado / liso / ondulado</b> <b>el pelo largo / corto</b>	<i>blue / green / brown eyes</i> <i>brown / blond / black hair</i> <i>curly / straight / wavy hair</i> <i>long / short hair</i>
<b>Soy...</b> <b>Mi madre / padre / amigo/a es...</b> <b>alto/a / pequeño/a</b> <b>gordo/a / delgado/a</b> <b>fuerte / débil</b>	<i>I am</i> <i>My mum / dad / friend is</i> <i>tall / short</i> <i>fat / thin</i> <i>strong / weak</i>

## Step 2: Describing your own and others' personality

<b>Soy...</b> <b>Mi madre / padre / amigo/a es...</b>	<i>I am</i> <i>My mum / dad / friend is</i>
<b>Me llevo bien con mi madre / mi hermana porque es...</b>	<i>I get on well with my mum / sister because she is...</i>
<b>Discuto con mi padre / mi hermano porque es...</b>	<i>I argue with my dad / brother because he is...</i>
<b>simpático/a</b> <i>nice</i>	<b>antipático/a</b> <i>mean</i>
<b>amable</b> <i>kind</i>	<b>estricto/a</b> <i>strict</i>
<b>gracioso/a</b> <i>funny</i>	<b>terco/a</b> <i>stubborn</i>
<b>paciente</b> <i>patient</i>	<b>impaciente</b> <i>impatient</i>
<b>generoso/a</b> <i>generous</i>	<b>molesto/a</b> <i>annoying</i>

## Step 3: Saying what makes a good friend

<b>Un(a) buen(a) amigo/a...</b>	<i>A good friend...</i>
<b>Ayuda a todos</b>	<i>Helps everyone</i>
<b>Escucha mis problemas</b>	<i>Listens to my problems</i>
<b>Cree en mí</b>	<i>Believes in me</i>
<b>Acepta mis imperfecciones</b>	<i>Accepts my imperfections</i>
<b>Me cuida</b>	<i>Takes care of me</i>
<b>Me da consejos</b>	<i>Gives me advice</i>
<b>Me hace reír</b>	<i>Makes me laugh</i>
<b>Respecta mis opiniones</b>	<i>Respects my opinions</i>

## Step 4: Say who your role model is

<b>Mi modelo a seguir es...</b>	<i>My role model is</i>
<b>Admiro a...</b>	<i>I admire...</i>
<b>Tiene mucho talento</b>	<i>he/she has a lot of talent</i>
<b>Tiene mucho éxito</b>	<i>he/she has a lot of success</i>
<b>Tiene mucha determinación</b>	<i>he/she has a lot of determination</i>
<b>Lucha contra la pobreza</b>	<i>he/she fights against poverty</i>
<b>Lucha para los derechos humanos</b>	<i>he/she fights for human rights</i>
<b>Usa su fama para ayudar a otros</b>	<i>he/she uses their fame to help others</i>

# Spanish | My family & friends | 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?
<p><b>Me llevo bien con</b> (I get on well with)</p> <p><b>Discuto con</b> (I argue with)</p> <p><b>Me peleo con</b> (I bicker with)</p> <p><b>Me divierto con</b> (I have fun with)</p>	<p><b>Mi madre</b> (mum) <b>Mi hermana</b> (sister) <b>Mi (mejor) amiga</b> (best friend - f) <b>Mi abuela</b> (grandmother) <b>Mi profesora</b> (my teacher -f)</p> <p><b>Mi padre</b> (father) <b>Mi hermano</b> (brother) <b>mi (mejor) amigo</b> (best friend - m) <b>Mi abuelo</b> (grandfather) <b>Mi profesor</b> (my teacher - m)</p>	<p><b>porque</b> (because) <b>pero</b> (but) <b>y</b> (and) <b>sin embargo</b> (however)</p>	<p><b>pienso que / creo que</b> (I think that)</p> <p><b>diría que</b> (I would say that)</p> <p><b>según yo</b> (according to me)</p> <p><b>a mi modo de ver</b> (in my opinion)</p> <p><b>encuentro que</b> (I find that)</p>	<p><b>es</b> (he/she is)</p>	<p><b>muy</b> (very)</p> <p><b>bastante</b> (quite)</p> <p><b>realmente</b> (really)</p> <p><b>un poco</b> (a bit)</p>	<p><b>simpático/a</b> (nice) <b>amable</b> (kind) <b>gracioso/a</b> (funny) <b>paciente</b> (patient) <b>generoso/a</b> (generous)</p> <p><b>antipático/a</b> (mean) <b>estricto/a</b> (strict) <b>terco</b> (stubborn) <b>énervant(e)</b> (annoying) <b>impatient(e)</b> (impatient)</p>
<p><b>Mi modelo a seguir es...</b> My role model is...</p> <p><b>Admiro a...</b> I admire...</p>	<p><b>Mi madre / mi hermana / mi (mejor) amigo / mi abuela</b></p> <p><b>Mi padre / mi hermano/ mi (mejor) amigo / mi abuelo</b></p>	<p><b>porque</b> (because) <b>ya que</b> (because) <b>y</b> (and)</p>	<p><b>pienso que / creo que</b> (I think that)</p> <p><b>diría que</b> (I would say that)</p> <p><b>según yo</b> (according to me)</p> <p><b>a mi modo de ver</b> (in my opinion)</p> <p><b>encuentro que</b> (I find that)</p>	<p><b>tiene mucho talento / éxito</b> (he/she has a lot of talent / success)</p> <p><b>tiene mucha determinación</b> (he/she has a lot of determination)</p> <p><b>lucha contra la pobreza / por los derechos humanos</b> (he/she fights against poverty / for human rights)</p> <p><b>usa su fama para ayudar a otros</b> (he/she uses their fame to help others)</p>	<p><b>Example:</b></p> <p><b>Me llevo bien con mi padre porque según yo es muy amable.</b></p> <p>(I get on well with my dad because according to me he is very kind)</p>	

# 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**?

## 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? People

- **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? Action

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

### Where? Location

Ils sont... (They are..)

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

### What is the mood? Mood

- **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. amigos. También hay tres chicas y dos chicos. Je peux voir qu'ils sont en train de parler et je pense qu'ils sont à la plage. Finalement, ils sont contents.

**Opinion:** A mon avis, j'adore sortir 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/ désagréable** (it is boring / unpleasant)
- **c'es fatigant / monotone** (it is tiring / dull)
- **ça me fait triste** (it makes me sad)

**anthem**

