



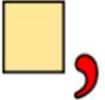
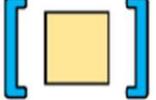
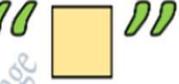
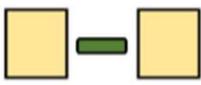
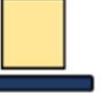
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Literacy Knowledge Organiser

Word classes	
Proper noun	Capital letter noun (person, place etc)
Abstract noun	Something abstract, cannot be touched (anticipation, love, etc)
Concrete noun	Something you can touch (like table, cloud, sheep, etc)
Collective noun	a count noun that denotes a group of individuals (e.g. assembly, family, crew)
verb	Doing word (beckoned, shouted, etc)
Adverb	a word or phrase that modifies the meaning of an adjective, verb, or other adverb, expressing manner, place, time, or degree (e.g. gently, here, now, very)
Pronoun	defined as a word or phrase that may be substituted for a noun or noun phrase. (I, he, they)
Preposition	Describes position of an noun (on, over, near, to, etc)
Adjective	Describing word (fluffy, cold, blue, etc)
Conjunction	a word used to connect clauses or sentences or to coordinate words in the same clause (e.g. and, but, if)

PUNCTUATION MARKS

	Full Stop or Period		Round Brackets
	Comma		Square Brackets
	Semi-colon		Quotation Marks
	Colon		Ellipsis Marks
	Question Mark		Slash
	Exclamation Mark		Underscore
	Apostrophe		Hyphen
	Underline		Dash

Sentences

Key terminology	Definition
Main clause	A group of words which contains a verb and makes sense on its own.
Subordinate/ dependent clause	A clause which does not make sense on its own (it is reliant on the main clause).
Co-ordinating conjunction	Link words or phrases that join two equal clauses.
Subordinating conjunction	Link words or phrases that join clauses where one is dependent on the other.

Sentence Types	Definition
Simple	A sentence containing one main clause.
Complex	A sentence containing a main clause and at least one subordinate/dependent clause.
Compound	A sentence containing two main clauses joined by a conjunction.
Complex compound	A sentence containing two main clauses and one or more subordinate or dependent clauses.
Minor	A word, phrase or a clause which is an incomplete sentence but functions as a sentence.

100 most commonly misspelled words

acceptable
 accidentally
 accommodate
 acquire
 acquit
 a lot
 amateur
 apparent
 argument
 because
 believe
 calendar
 category
 cemetery
 changeable
 collectible
 committed
 conscience
 conscientious
 conscious
 definite(ly)
 disappear
 disappoint
 drunkenness
 embarrass

equipment
 exhilarate
 exceed
 existence
 experience
 February
 foreign
 fourth
 gauge
 generally
 grammar
 grateful
 guarantee
 harass
 height
 hierarchy
 ignorance
 immediate
 independent
 indispensable
 intelligence
 its / it's
 judgement
 knowledge
 leisure

library
 lightning
 maintenance
 manoeuvre
 memento
 millennium
 miniature
 mischievous
 noticeable
 occasion
 occasionally
 occur / occurred
 occurrence
 official
 parallel
 parliament
 pastime
 pigeon
 possession
 preferable
 principal / principle
 privilege
 questionnaire
 receive
 recommend

referred
 reference
 relevant
 religious
 restaurant
 ridiculous
 rhythm
 sandal
 schedule
 scissors
 sensible
 separate
 special
 success
 to / too / two
 tomorrow
 their / they're / there
 twelfth
 tyranny
 until
 vacuum
 vicious
 weather
 weird
 you're / your

Building cohesion within and across a paragraph

Transitional phrases and fronted adverbials allows us to show relationships between ideas, logically connect sentences and paragraphs. It signals how the reader should process the information and makes writing more readable and engaging. Fronted adverbials can create cohesion when changing paragraph.

Transitional phrases		
1A. Time and sequence	1B. Time and sequence	2. Conclusion
After	Meanwhile	Consequently
Next	During	Therefore
Finally	Ultimately	In the end
3. Illustration	4. Change of direction	5. Emphasis
As an illustration	Although	Notably
Such as	But	Moreover
Including	Instead	Most important

Using hyphens

Hyphens are used to avoid confusion being caused by certain words or phrases::



Man eating shark



Man-eating shark

Vocabulary

Adjective	A word that adds more information about a noun.
Adverb	A word that adds more information about verbs, adjectives or other adverbs
Adverbial	A group of words that can function as an adverb
Antonym	A word that has the exact opposite meaning of another word
Bullet points	Organisation device used to list short phrases or items.
Ellipsis	Punctuation (...) that shows where words are left all or to create a cliff-hanger.
Noun	Names of things that we can touch (concrete) and abstract (ideas, emotions).
Synonym	a word that means the same thing as another word.
Verb	A verb is the part of speech that indicates what something does, or what it is

Using punctuation to separate clauses

Semi Colons (;), colons (:), and dashes (-) can be used to separate the boundary between two clauses.

Description: detail sentences.

Bats are excellent hunters: they track small insects using echo-location.

The first section describes the subject and the second adds extra detail.

A semi colon can be used in place of a conjunction where we want the writing to flow where the clauses are closely related.

We lost the ball too many times and we lost the game

Becomes:

We lost the ball too many times; we lost the game.

A dash is often best used to summarise:

The use of nuclear weapons during World War 2 is much debated and discussed—in short it was a divisive event.

Colons and semi-colons within lists.

If you want to list items in a list when the items are longer than one word.

CV Raman was an Indian scientist whose achievements included: becoming the first non-white winner of the Noble prize for physics; understanding the way acoustics work in instruments and the way light scatters (known as the Raman Effect).

English Literature: Macbeth KO

Plot summary

Act I scene i – The three witches gather to in a thunder storm to meet Macbeth

Act I scene ii – Duncan hears reports of the battle in which Macbeth proves himself a hero and also of the treachery of the Thane of Cawdor.

Act I scene iii – Macbeth & Banquo meet the witches and hear the predictions that he will be Thane of Cawdor and the next king. Ross arrives to confirm that Macbeth is the new Thane of Cawdor.

Act I scene iv – Duncan decides to make his son Malcolm the heir to his throne and tells Macbeth that he will visit his castle.

Act I scene v – Lady Macbeth reads a letter from her husband about the events so far and makes up her mind to murder Duncan.

Act I scene vi – Duncan arrives at Macbeth's castle and is welcomed by Lady Macbeth.

Act I scene vii – Macbeth decides he cannot go through with the plot but Lady Macbeth persuades him to change his mind.

Act II scene i – Banquo feels uneasy about what might happen in the night. Macbeth makes his way to Duncan's room to kill him and sees a ghostly dagger floating in the air before him.

Act II scene ii – Macbeth forgets to leave the bloody daggers in Duncan's room after the murder and Lady Macbeth is forced to take charge and put them back.

Act II scene iii – The next morning Duncan's body is discovered by Macduff; Macbeth conveniently kills the servants in pretend rage; Duncan's sons, Malcolm & Donalbain, flee the castle.

Act II scene iv – Macduff reports that suspicion for the murder has fallen on the king's sons; Macbeth has travelled to Scone to be crowned.

Act III scene i – Macbeth is now king, but Banquo is suspicious about how the witch's predications have come true. Macbeth arranges to have him murdered.

Act III scene ii – Lady Macbeth tries to get her husband to talk to her about his plans but he refuses.

Act III scene iii – Banquo is murdered but his son, Fleance, escapes.

Act III scene iv – At a feast that night, Macbeth sees the ghost of Banquo. Lady Macbeth tries to calm him down but when this fails cancels the feasts and sends the courtiers away.

Act III scene v – The witches discuss events so far; Hecate, the ruler of the witches, predicts his downfall.

Act III scene vi – suspicion of Macbeth is growing; Macduff has left for England to rouse support against him.

Act IV scene i – The witches tell Macbeth he cannot be harmed by anyone 'born of a woman' and that he will be safe until Birnam Wood moves to the castle at Dunsinane. Macbeth decides to murder Macduff's family.

Act IV scene ii – Macbeth's murderers kill Lady Macduff and her children.

Act IV scene iii – Macduff discovers his family's murder and, with Malcolm, leads an army to attack Macbeth.

Act V scene i – Lady Macbeth is sleep walking and trying to wash an imaginary blood spot from her hands.

Act V scene ii – Malcolm's army is at Birnam Wood and hear reports that Macbeth's supporters are deserting him.

Act V scene iii – Macbeth is besieged but puts his trust in the witches' prophesy.

Act V scene iv – Malcolm orders his army to cut down branches from Birnam Wood to disguise the number of soldiers.

Act V scene v – Macbeth is told of his wife's death and about the news that Birnam Wood seems to be approaching. He resolves to die fighting.

Act V scene vi - ix – Macbeth is killed by Macduff (who reveals he was delivered by caesarean and so not properly 'born'). Malcolm becomes the new king of Scotland and order is restored.

Key characters	Key themes	Historical context	Stylistic features and symbols
<p>Macbeth Thane of Glamis</p> <p>Lady Macbeth his wife</p> <p>Banquo Macbeth's best friend</p> <p>Fleance Banquo's son</p> <p>Duncan King of Scotland</p> <p>Malcolm Duncan's eldest son</p> <p>Macduff – Thane of Fife</p> <p>Lady Macduff his wife</p> <p>Donalbain Duncan's younger son</p> <p>Ross, Lennox, Angus Scottish nobles</p> <p>The witches – supernatural beings who predict events in the play.</p> <p>Hecate ruler of the witches</p>	<p>Ambition seen as a purely negative quality.</p> <p>Guilt - the play shows the terrible consequences of murdering a king.</p> <p>Kingship vs tyranny – Duncan and Macbeth embody the qualities of a good king and a tyrant respectively.</p> <p>Order vs chaos Natural order is disrupted then re-established.</p> <p>Fate</p> <p>Masculinity/femininity</p>	<ul style="list-style-type: none"> • <i>Macbeth</i> was most likely written in 1606, early in the reign of James I, who had been James VI of Scotland before he succeeded to the English throne in 1603. • Only a century earlier, England had suffered under the massive disorder of the Wars of the Roses. Civil disorder was now seen as the ultimate disaster, and also as an ungodly state. • The play pays homage to the king's Scottish lineage. Additionally, the witches' prophecy that Banquo will found a line of kings is a clear nod to James's family's claim to have descended from the historical Banquo. • The theme of bad versus good kingship, embodied by Macbeth and Duncan, respectively, would have resonated at the royal court, where James was busy developing his English version of the theory of the divine right of kings. • The play was first performed not long after the Gunpowder Plot. Shakespeare shows the murderers of a king tormented by their own guilt and driven to their doom. • It was believed that kings were appointed by 'divine right' and were anointed by God. To kill a king was considered the worst sin and a terrible crime. • <i>Macbeth</i> is a tragedy and the character of Macbeth is a tragic hero 	<p>Blood – a symbol of guilt and violence</p> <p>The supernatural – belief in witchcraft was widespread and Shakespeare uses prophesy, hallucinations, ghosts and magic to give the play a menacing, unnatural feel.</p> <p>Oxymoron – opposites & contradiction recur throughout the play</p> <p>Pathetic fallacy – unnatural events are usually echoed by unnatural weather</p> <p>Alliteration</p> <p>Blank verse – non rhyming lines written in iambic pentameter (iam= a beat <i>duh</i>; pent = five)</p> <p>Soliloquy – where a character speaks their thoughts aloud to the audience</p> <p>Monologue – a long speech by a single character</p> <p>Dramatic irony – when the audience knows more than a character or characters do</p>

English Literature: Macbeth KO

Key Quotations

The witches: Fair is foul, and foul is fair, Hover through the fog an filthy air. (Act I, Scene i)

The witches: When shall we three meet again in thunder, lightning, or in rain? When the hurlyburly 's done, When the battle 's lost and won. (Act I, Scene i)

Captain: For brave Macbeth—well he deserves that name— Disdaining fortune, with his brandished steel, Which smoked with bloody execution, Like valour's minion carved out his passage (Act I, Scene ii)

Macbeth: So foul and fair a day I have not seen (Act I, Scene iii)

Banquo: And oftentimes, to win us to our harm, the instruments of darkness tell us truths (Act I scene iii)

Macbeth: Stars hide your fires let not light see my black and deep desires. (Act I, Scene IV)

Lady Macbeth: Yet do I fear thy nature; It is too full o' the milk of human kindness. (Act I, Scene V)

Lady Macbeth: Look like the innocent flower, but be the serpent under't. (Act I, Scene V)

Lady Macbeth: Come, you spirits Tat tend on mortal thoughts, un-sex me here And fill me from the crown to the toe topfull Of direst cruelty (Act I, Scene v)

Macbeth: If it were done, when 'tis done, then 'twere well It were done quickly. (Act I, Scene vii)

Macbeth: I have no spur To prick the sides of my intent, but only Vaulting ambition which o'erleaps itself And falls on th'other. (Act I, Scene vii)

Macbeth: I dare do all that may become a man; Who dares do more is none. (Act I, Scene vii)

Lady Macbeth: Screw your courage to the sticking-place, and we'll not fail. (Act I, Scene vii)

Macbeth: False face must hide what the false heart doth know. (Act I, scene vii)

Macbeth: Is this a dagger which I see before me, The handle toward my hand? (Act II, Scene I)

Macbeth: Will all great Neptune's ocean wash this blood clean from my hand? No, this my hand will rather the multitudinous seas incarnadine, making the green one red. (Act II, Scene ii)

Donalbain: Where we are there's daggers in men's smiles. The near in blood, The nearer bloody. (Act II, Scene iii)

Macbeth: Thou canst not say I did it; never shake thy gory locks at me! (Act III, scene iv)

The witches: By the pricking of my thumbs, Something wicked this way comes. (Act IV, Scene i)

Malcolm: Angels are bright still, though the brightest fell. Though all things foul would wear the brows of grace, Yet grace must still look so. (Act IV, Scene iii)

Lady Macbeth: Out, damned spot! out, I say! (Act V, Scene i).

Macbeth: To-morrow, and to-morrow, and to-morrow, Creeps in this petty pace from day to day, To the last syllable of recorded time; And all our yesterdays have lighted fools The way to dusty death. Out, out, brief candle! Life's but a walking shadow, a poor player, That struts and frets his hour upon the stage, And then is heard no more. It is a tale Told by an idiot, full of sound and fury, Signifying nothing. (Act V, Scene v)

Macbeth: I bear a charmed life which must not yield To one of woman born. Macduff: Macduff was from his mother's womb untimely ripp'd. (Act V, Scene viii)

Malcolm: Of this dead butcher and his fiend-like queen (Act V. Scene ix)

Symbolism

Ravens - Because of its black plumage, croaking call and diet of [carrion](#), the raven is often associated with loss and ill omen. Yet its symbolism is complex. As a talking bird, the raven also represents [prophecy](#) and insight. Ravens in stories often act as [psychopomps](#) (creatures in many religions who are used to escort people from the mortal world to the afterlife), connecting the material world with the world of [spirits](#).

Breastfeeding/Breast milk - Breastfeeding is symbolic of giving or receiving, nurturing, and sustenance. It represents motherly love, as well as physical and emotional support and well being.

Crowns – The “crown” of a person can refer to the top of their head. However, a **crow** is a traditional symbol. Usually worn by a monarch or by a deity, the crown traditionally represents power, legitimacy, victory, triumph, honour, and glory.

Heaven and Hell - As symbolic expressions found in various religious traditions, heaven and hell suggest polar components of a religious vision: a state of bliss and/or an abode of deity or sacred reality on the one hand, and a state of spiritual impoverishment and/or an abode of evil or demonic spirits on the other. As a spatial referent, Heaven is generally considered to be "above," informed by the human experience of the sky as the expansive space or dome encompassing the earth and also including the sun, moon, and stars. Just as Heaven is "above" the earth, so then is deity "higher" than the human or earthly plane for those traditions in which Heaven is viewed as the abode of deity. On the contrary, Hell is generally regarded as a realm "below," a meaning reflected in the derivation of the English *hell* from the [Old English](#), *helan*, with a root meaning of "hide," "cover," or "conceal." Thus, Heaven is often symbolized by light or brightness as a realm of bliss, whereas Hell is characterized as dark or shadowy, a realm of anguish and suffering.

Serpent - The serpent is a universal and complex symbol. It can represent death, destruction, evil, a penetrating legless essence, and/or poison. In the Christian tradition, Satan (in the guise of the serpent) instigated the fall by tricking Eve into breaking God's command. Thus the serpent can represent temptation, the devil, and deceit. The snake is phallic so could be seen as a masculine symbol, but alternatively can be seen as androgynous. The snake is also associated with re-birth as a snake sheds its skin.

Key Vocabulary

Tyrant	a cruel and oppressive ruler.
Fiend	an evil spirit or demon
Thane	A Scottish nobleman
Heir	Someone who will inherit property or titles when someone else dies
Ambiguity	Phrases with more than one possible meaning
Regicide	The murder of a king
Infanticide	The murder of a child
Primogeniture	the right of succession belonging to the firstborn child
Diabolical	Characteristic of absolute evil
Hubris	Excessive pride and ego
Hamartia	A fatal flaw (in Macbeth's case, Ambition) that leads to the downfall of the tragic hero
Valiant	Brave and heroic
Machiavellian	Cunning, scheming and unscrupulous in politics
Despotic	Controlling and Tyrannical
Peripeteia	The turning point in a drama after which the plot moves steadily to its denouement.
Prophecy	A prediction of what will happen in the future.



English Language: Paper 1 Section A

<u>Question Breakdown</u>		<u>Language Devices</u>		<u>Key words</u>
Q1 - List four things from the text [4 marks]		Simile	Comparison using like or as, used to create imagery for the reader	
Q2 - "How has the writer used language?" [8 marks] 2-3 PEZZ paragraph response		Metaphor	Comparison which describes something as something that it isn't	
Q3 - "How has the writer structured the text?" [8 marks] 3 paragraph response - track the beginning/middle/end of text		Personification	Giving an inanimate object human characteristics	
Q4 - Essay response to statement about the text "How far do you agree?" 3-4 analytical paragraphs [20 marks]		Pathetic fallacy	Where the weather reflects the mood of the scene	
		Lexical/ semantic field	Group of words that all relate to one topic to create imagery	
		Zoomorphism	Describing a human being using animal features	
<u>Evaluative Language</u>		<u>Structural Devices</u>		<u>6-9 Grade answer</u>
<u>Adverbs</u>	<u>Tentative/Evaluative phrases</u>	Analepsis	Flash back	
Skillfully Successfully Carefully Cleverly Powerfully Interestingly Expertly Precisely Confusingly	<ul style="list-style-type: none"> This makes us think of... As we read this part, we feel...because... The reader is shocked/surprised by... The writer successfully uses ... which creates ... The impact of this sentence/description is... It is almost as if... There is a real sense of... You could argue... There is an underlying feeling of... 	Prolepsis	Flash forward	
		Shift in focus/ zoom in	Where the writer draws our attention to a specific moment, place, character or detail	
		Perspective	The viewpoint through which the story is told	
		Narrative hook	An engaging or intriguing line in the opening of an extract	
		Cliffhanger	Where the end of a story remains uncertain or unresolved	
		Resolution	When the story reaches a clear conclusion in the end	



English Language: Paper 1 Section B

<u>Techniques to use:</u>	
1. Setting description	<ul style="list-style-type: none"> Describe in detail your setting: <i>weather, mood, colours, smells, sounds</i>. Paint a picture in your reader's imagination.
2. Figurative Language	<ul style="list-style-type: none"> Similes: Like a deep, inky splodge, the midnight sky covered the horizon in darkness. Metaphors: The trees, menacing monsters, flailed hopelessly in the wind. Personification: The hot beach welcomed the cool breeze, sighed with relief when it glided in from the east.
3. Use of colour	<p>Red: crimson, blood, ruby, merlot Black: ink, midnight, soot, charcoal Yellow: butter, lemon, mustard, fire Blue: indigo, sapphire, ocean, aegean</p>
4. Use of structural techniques	<ul style="list-style-type: none"> Use shifts in time as a powerful structural technique - e.g a flashforward of flashback Use a cyclical structure - link your opening and ending by referring to a specific object of word or open the story in media res (in the middle of the action) e.g "and then the bomb exploded"

How to structure your writing:

- DROP** the reader into the scene. Describe the **setting** in detail, using *colours, sensory language, adjectives*. Describe the **weather** to set the tone.
- SHIFT** onto describing your **character** in detail- what are they doing there? how are they feeling? What do they look like and how does this reflect their mood? SHOW don't TELL.
- ZOOM** in an important detail of your story and describe in vivid detail- how does your character interact with it? Or have a small moment of action in your story. A flashback might work here.
- ENDING** – end your piece in an exciting, mysterious or ambiguous way- does something happen to your character? Do you introduce a new detail or character at the end? Do you use a cyclical structure or end on a moment of tension/cliffhanger? You could describe the weather at the start or end, or reference an object.

<u>What should you ensure you do?</u>	
1. Paragraphed effectively and correctly	Separate paragraphs using Drop/Shift/Zoom/End or use TipTop (time, place, topic, person.) You could try using a one line paragraph for effect. If you forget to paragraph, look for where you feel a change of paragraph would go and write // next to this
2. Proofread to check your SPAG	Use the final 5 minutes to closely check for SPAG errors. Follow your words along with your pen as you read back over your work. Think CUPS to spot basic errors: <i>Capital letters, Understanding, Punctuation, Spelling</i> .
3. Varied your sentence structures/ vary your punctuation	Don't just start with "I" or "She" - vary your sentence openers. E.g use an adverb: "Noisily she sprinted down the corridor, hoping not to be late" or start with a verb: e.g "Screaming loudly, the man fell to his knees" Use a semicolon (making sure both sentences either side of the semicolon make sense on their own with a full stop) e.g "He danced with style and grace; he was destined to become a performer."
4. -Kept to one or two characters:	You should concentrate on saying a lot about very little. Fuller descriptions of one character is best. Minimal speech/dialogue is most effective. Description over speech.
5. Describe in detail – SHOW, don't TELL	Don't simply TELL the reader information - e.g. "he was nervous" SHOW them e.g "his eyes darted around and sweat formed on his brow" rather than saying "it was autumn" SHOW it e.g. "golden and crisp leaves decorated the pavement in the hazy October sun"

What vocabulary should I try to use?

- Instead of **'dark'** try...
dim, unlit, black, inky, unilluminated, the abyss
- Instead of **'bright'** try...
dazzling, beaming, radiant, vivid, blazing
- Instead of **'happy'** try...
glad, joyous, contented, cheerful, blissful, euphoric
- Instead of **'sad'** try:
miserable, melancholic, despairing, dismal, forlorn, despondent
- Instead of **'eerie'** try...
unnerving, sinister, abnormal, strange, unsettling
- Instead of **'mysterious'** try...
secretive, enigmatic, peculiar, curious, inexplicable

Vocabulary examples:



Exemplar Creative Writing:



Vary your Sentences



Drop/Shift/Zoom/End explained



Anthology of creative writing examples:



Activate Windows
Go to Settings to activate Windows

All Tiers

Simplify:

$$9x + 3y + 4x + 2y$$

$$9x + 3y + 4x + 2y$$

Highlight the like terms. Since I have two sets of like terms, I used two different colors.

$$9x + 4x + 3y + 2y$$

Rewrite like terms side by side.

$$13x + 5y$$

Combine like terms. (Add or subtract the coefficients of the like terms.)

To solve an equation, find the value that makes the equation true.

Solve $2x + 3 = 13$

This means: $x \times 2 + 3 = 13$

To solve, we reverse the process:

$$\begin{aligned} x \times 2 + 3 &= 13 \\ x \times 2 + 3 - 3 &= 13 - 3 \\ 2x + 3 - 3 &= 10 \\ 2x &= 10 \\ 2x \div 2 &= 10 \div 2 \\ x &= 5 \end{aligned}$$

Use the opposite (inverse) operation and undo in reverse order.

We have solved the equation when we get to a single value of x (here, x = 5).

Solve $4x + 6 = 14$

$$\begin{aligned} 4x + 6 &= 14 \\ 4x + 6 - 6 &= 14 - 6 \\ 4x &= 8 \\ 4x \div 4 &= 8 \div 4 \\ x &= 2 \end{aligned}$$

Solve $3x - 8 = 19$

$$\begin{aligned} 3x - 8 &= 19 \\ 3x - 8 + 8 &= 19 + 8 \\ 3x &= 27 \\ 3x \div 3 &= 27 \div 3 \\ x &= 9 \end{aligned}$$

Adding Fractions

Adding Fractions with Like Denominators

$$\frac{1}{7} + \frac{3}{7} = \frac{1+3}{7} = \frac{4}{7}$$

Add the numerators. Denominator is unchanged.

Adding Fractions with Unlike Denominators

$$\frac{1}{8} + \frac{2}{3}$$

Rewrite with common denominator

$$3 \times \frac{1}{8} + \frac{2}{3} \times 8 = \frac{3}{8} + \frac{16}{8}$$

Add the numerators

$$\frac{3}{24} + \frac{16}{24} = \frac{19}{24}$$

Substituting into formulae

Once we have found out or written a formula, this gives us a **rule** or **method** to work with. We can then **substitute** in the values we know to get an answer.

Here is the formula for the area of a rectangle:



If we know that the **length = 5cm** and **width = 4cm**...

Or $l = 5, w = 4$...

We can substitute these values in to find the area.

$$A = lw = 5 \times 4 = 20 \text{ (cm}^2\text{)}$$

This formula calculates Body Mass Index (BMI).

$$BMI = \frac{\text{weight}}{\text{height}^2} = \frac{w}{h^2}$$

It is one way to measure whether a person is a healthy weight or not (a BMI between 18.5 and 25 is considered healthy).

If a person was 1.6m tall, (h = 1.6) and weighed 60 kg... (w = 60)

$$BMI = \frac{w}{h^2} = \frac{60}{1.6^2} = \frac{60}{2.56} = 23.4375$$

Watch Out! Think BIDMAS: We need to calculate the power before we do the division.

A BMI of 23.4(ish) is healthy. This person would not need to lose weight (but should be careful not to gain too much more).

Solving with unknowns both sides

To solve an equation with unknown letters on both sides, add or subtract to get the unknown on **one side of the equation** only.

Solve $4x + 3 = 2x + 9$

Remove 2x by subtracting it from both sides.

$$\begin{aligned} 4x + 3 &= 2x + 9 \\ 4x + 3 - 2x &= 2x + 9 - 2x \\ 2x + 3 &= 9 \\ 2x + 3 - 3 &= 9 - 3 \\ 2x &= 6 \\ 2x \div 2 &= 6 \div 2 \\ x &= 3 \end{aligned}$$

Here, $4x - 2x$ just leaves $2x$

The equation is then solved just like a normal two-step equation.

Top Tip

To avoid getting negative x terms, always remove the smaller number of xs from both sides.

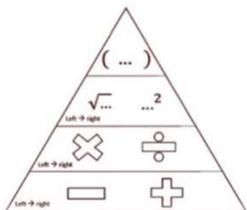
Solve $3x + 6 = 7x - 2$

$$\begin{aligned} 3x + 6 &= 7x - 2 \\ 3x + 6 - 3x &= 7x - 2 - 3x \\ 6 &= 4x - 2 \\ 6 + 2 &= 4x - 2 + 2 \\ 8 &= 4x \\ 8 \div 4 &= 4x \div 4 \\ 2 &= x \end{aligned}$$

Solve $5x - 4 = x + 8$

$$\begin{aligned} 5x - 4 &= x + 8 \\ 5x - 4 - x &= x + 8 - x \\ 4x - 4 &= 8 \\ 4x - 4 + 4 &= 8 + 4 \\ 4x &= 12 \\ 4x \div 4 &= 12 \div 4 \\ x &= 3 \end{aligned}$$

Order of Operations



Example 1
 $(4 \times 7) + 3$

So we need to evaluate the brackets first; $4 \times 7 = 28$

This is now $28 + 3 = 31$

Example 2

$$(6 + 4 - 3)^2 \times 4$$

So we need to evaluate the brackets first and we work left to right; $6 + 4 - 3 = 7$

This is now $7^2 \times 4 = 49 \times 4 = 196$

Example 3

$$4 - 8 \times 2 + 12 \div 4$$

So first we do the multiplication/division left to right; $4 - 16 + 3$

Now we do the addition/subtraction from left to right; $-12 + 3 = -9$

All Tiers

on a calculator

$$39\% \text{ of } 82$$

$$0.39 \times 82$$

Change to a decimal and multiply

fraction to %

$$\frac{15}{20} \overset{\times 5}{=} \frac{75}{100} = 75\%$$

OR

$$15 \div 20 \times 100 = 75\%$$

Percentages

%

without a calculator

- 50% - half
- 25% - half and half
- 75% - 50% + 25%
- 10% - divide by 10
- 5% - half 10%
- 20% - double 10%

increasing

Increase £60 by 12%

$$12\% \text{ of } 60 = 0.12 \times 60 = \text{£}7.20$$

$$\text{New amount} = \text{£}60 + \text{£}7.20 = \text{£}67.20$$

ADD

decreasing

decrease £60 by 12%

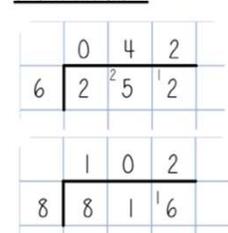
$$12\% \text{ of } 60 = 0.12 \times 60 = \text{£}7.20$$

$$\text{New amount} = \text{£}60 - \text{£}7.20 = \text{£}52.80$$

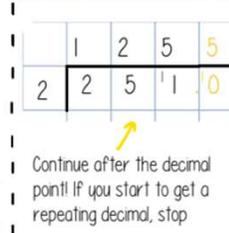
SUBTRACT

Written Methods for Division

SHORT DIVISION:

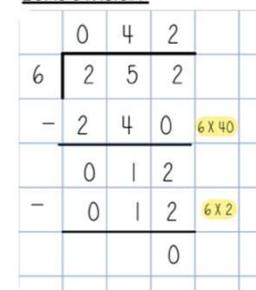


SHORT DIVISION with remainders:



Continue after the decimal point! If you start to get a repeating decimal, stop

LONG DIVISION:



This method relies on you being comfortable with multiples of your divisor (in this case, 6)

Significant figures

If something is **significant**, it is big or important. The **most significant** thing is the biggest or most important thing.

3268

3 is worth the most in this number (3 **thousand**) It is the **first significant figure**.

2 is worth 2 **hundred**, and is the **second significant figure**.

6 is worth 6 **tens**, and is the **third significant figure**.

8 is worth 8 **units**, and is the **fourth and least significant figure**.

3268 rounded to 1 sig. fig.

3268 → **3000**

1 sf
3000

Look at the next digit. 2 is less than 5 - stay at 3000

3268 rounded to 2 sig. fig.

3268 → **3300**

2 sf
3200

Look at the next digit. 6 rounds up - go to 3300

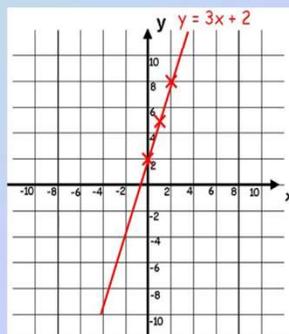
Fraction	Percent	Decimal
1	100%	1.0
1/2	50%	0.5
1/3	33.3%	0.33
1/4	25%	0.25
1/5	20%	0.2
1/6	16.6%	0.166
1/8	12.5%	0.125
1/10	10%	0.1
1/12	8.3%	0.083

Plotting Straight Line Graphs

- To plot a graph, you need to know at least 3 points

Plot a graph of the equation;

$$y = 3x + 2$$



Choose any values for x, what y value will

$x = 0 \quad y = 2 \quad (0, 2)$
 $x = 1 \quad y = 5 \quad (1, 5)$

Estimating

Billy can write 24 words a minute. Estimate how long it took him to write 643 words.

When estimating, we first need to round EVERY number in the question to one significant figure.

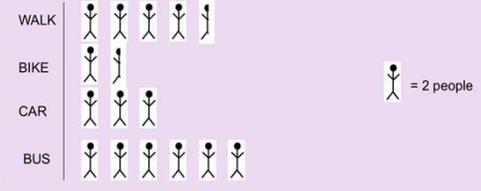
We round 24 to 1 s.f. 20

We round 643 to 1 s.f. 600

$$643 \div 24 \approx 600 \div 20 = 30 \text{ minutes}$$

Pictograms

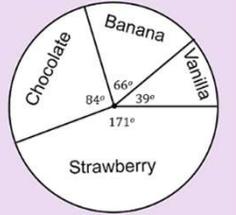
Method of Travel	Tally	Frequency
Walk		9
Bike		3
Car		6
Bus		12



Pie Charts

The information in the pie chart shows sales of 120 ice-creams sold from an ice-cream van one Saturday afternoon in the summer. Calculate the number of each type sold.

Ice cream	Frequency	Angle
Banana	22	66°
Vanilla	13	39°
Strawberry	57	171°
Chocolate	28	84°
Total	120	360°



Check they add up to make the total!
120 ÷ 3 = 40

Triangular Prism

$V = B \cdot h$
 $SA = P \cdot h + 2 \cdot B$
 $B = \frac{b \cdot h}{2}$, $P = b \cdot h + l$

Rectangular Prism

$V = B \cdot h$
 $SA = P \cdot h + 2 \cdot B$
 $B = b \cdot h$, $P = 2b + 2h$

Cube

$V = s \cdot s \cdot s = s^3$
 $SA = 6 \cdot s \cdot s = 6s^2$

units²

Surface Area is measured in square units

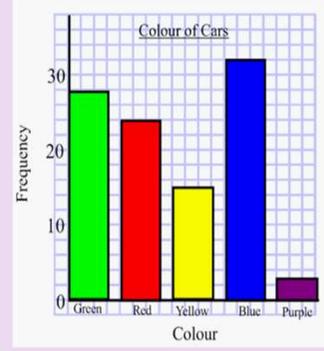
Volume is measured in cubic units

units³

Shape	Area	Terms
Circle	$\pi \times r^2$	r = radius of the circle
Triangle	$\frac{1}{2} \times b \times h$	b = base h = height
Square	a^2	a = length of side
Rectangle	$l \times w$	l = length w = width
Parallelogram	$b \times h$	b=base h=vertical height
Trapezium	$\frac{1}{2}(a+b) \times h$	a and b are the length of parallel sides h = height

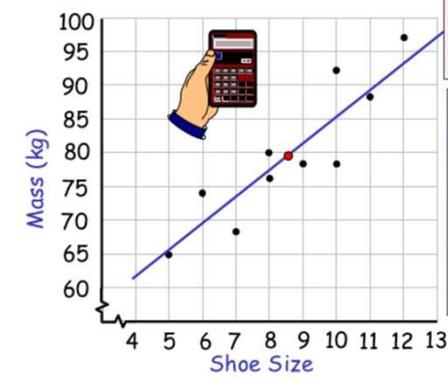
Rules for a bar chart

- Frequency on vertical axes
- Labels on axes
- Right scales
- Space between bars
- Bars with equal widths
- Title



(1). The table below shows the shoe size and mass of 10 men.

Size	5	12	7	10	10	9	8	11	6	8
Mass	65	97	68	92	78	78	76	88	74	80

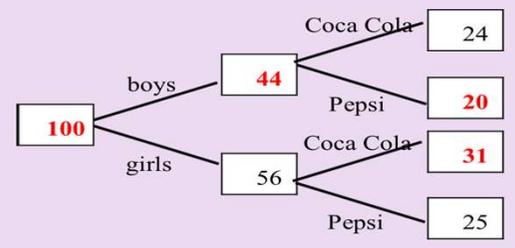


(b) Draw a line of best fit and comment on the correlation.

If you have a calculator you can find the **mean** of each set of data and plot this point to help you draw the line of best fit. Ideally all lines of best fit should pass through:
(mean data 1, mean data 2)
In this case: (8.6, 79.6)

Frequency trees

100 people were asked whether they prefer Coca Cola or Pepsi. Complete the frequency tree to show the information.



Representing data

Two Way Tables

Two way tables present data which is split into different categories.

Example 2: This two way table shows the Lunch options for the pupils in a school. Complete the totals in the missing boxes.

	Year 10	Year 11	Totals
School Lunch	96	125	221
Packed Lunch	104	93	197
Totals	200	218	418

Year 10 / School: $221 - 125 = 96$

Year 11 / Packed: $197 - 104 = 93$

Year 10 Total: $96 + 104 = 200$

Grand Total: $221 + 197 = 418$

Solving with unknowns both sides

To solve an equation with unknown letters on both sides, add or subtract to get the unknown on one side of the equation only.

Solve $4x + 3 = 2x + 9$

Remove $2x$ by subtracting it from both sides.

Here, $4x - 2x$ just leaves $2x$

The equation is then solved just like a normal two-step equation.

$$4x + 3 = 2x + 9$$

$$- 2x$$

$$2x + 3 = 9$$

$$- 3$$

$$2x = 6$$

$$\div 2$$

$$x = 3$$

Top Tip

To avoid getting negative x terms, always remove the smaller number of x s from both sides.

Solve $3x + 6 = 7x - 2$

$$3x + 6 = 7x - 2$$

$$- 3x$$

$$6 = 4x - 2$$

$$+ 2$$

$$8 = 4x$$

$$\div 4$$

$$2 = x$$

Solve $5x - 4 = x + 8$

$$5x - 4 = x + 8$$

$$- 1x$$

$$4x - 4 = 8$$

$$+ 4$$

$$4x = 12$$

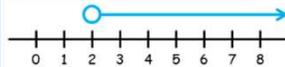
$$\div 4$$

$$x = 3$$

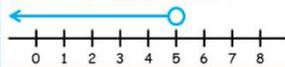
Inequalities on a number line

An **open circle** means that the value is **not included**:

$x > 2$ x is greater than 2

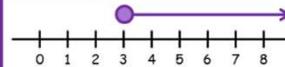


$x < 5$ x is less than 5



A **filled in circle** means that the value is **included**:

$x \geq 3$ x is greater than or equal to 3



$x \leq 6$ x is less than or equal to 6



If x is **between** two values, use **two circles**:



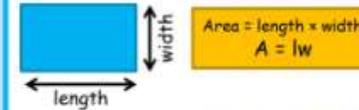
$1 < x \leq 6$

x is greater than 1, but less than or equal to 6.

Substituting into formulae

Once we have found out or written a formula, this gives us a **rule** or **method** to work with. We can then **substitute** in the values we know to get an answer.

Here is the formula for the area of a rectangle:



If we know that the **length = 5cm** and **width = 4cm**...

Or $l = 5, w = 4$...

We can substitute these values in to find the area.

$A = lw = 5 \times 4 = 20 \text{ (cm}^2\text{)}$

This formula calculates Body Mass Index (BMI).

$BMI = \frac{\text{weight}}{\text{height}^2} = \frac{w}{h^2}$

It is one way to measure whether a person is a healthy weight or not (a BMI between 18.5 and 25 is considered healthy).

If a person was 1.6m tall, ($h = 1.6$) and weighed 60 kg... ($w = 60$)

$BMI = \frac{w}{h^2} = \frac{60}{1.6^2} = \frac{60}{2.56} = 23.4375$

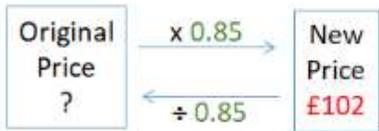
Watch Out! Think BIDMAS: We need to calculate the power before we do the division.

A BMI of 23.4(ish) is healthy. This person would not need to lose weight (but should be careful not to gain too much more).

Reverse Percentage

A jacket costs **£102** after a discount of **25%**. What is the original price of the jacket?

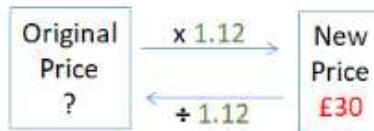
$100\% - 25\% = 85\% = 0.85$



Original price = $\pounds 102 \div 0.85 = \pounds 120$

The price of a ticket costs **£30** inclusive of **12% tax**. What is the pre-tax cost of the ticket?

$100\% + 12\% = 112\% = 1.12$



Original price = $\pounds 30 \div 1.12 = \pounds 26.79$

Solving Quadratic Equations by Factorising

Some quadratic equations can be solved by factorising.

Example 1: Solve $x^2 + 11x + 28 = 0$

First factorise the quadratic expression

$(x + 7)(x + 4) = 0$

For the equation to equal 0, then either ...

$x + 7$ must equal 0

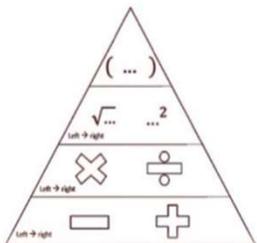
or $x + 4$ must equal 0

If $x + 7 = 0$ then $x = -7$

If $x + 4 = 0$ then $x = -4$

$x = -7$ or $x = -4$

Order of Operations



Example 1

$(4 \times 7) + 3$

So we need to evaluate the brackets first, $4 \times 7 = 28$

This is now $28 + 3 = \underline{31}$

Example 2

$(6 + 4 - 3)^2 \times 4$

So we need to evaluate the brackets first and we work left to right; $6 + 4 - 3 = 7$

This is now $7^2 \times 4 = 49 \times 4 = \underline{196}$

Example 3

$4 - 8 \times 2 + 12 \div 4$

So first we do the multiplication/division left to right; $4 - 16 + 3$

Now we do the addition/subtraction from left to right; $-12 + 3 = \underline{-9}$

Finding the equation of the line

Example 1	Example 2	Remember
		Best way to find out a gradient 1) Draw a triangle, going from left to right 2) Change in y and change in x? 3) Use the formula:
Gradient = $\frac{4}{2} = 2$	Gradient = $\frac{-2}{3}$	Gradient = $\frac{\text{The change in } y}{\text{The change in } x}$
Y intercept = 0	Y intercept = 5	Remember The y intercept is the point on the y axis where the straight line cross the y axis
Equation: $y = 2x + 0$ or $y = 2x$	Equation: $y = \frac{-2}{3}x + 5$	Remember $y = mx + c$ m is gradient, c is y-intercept

TYPES OF GRAPHS

Knowing and being able to sketch the various types of graphs in Mathematics is vital. The following examples are standard graphs with their given names.

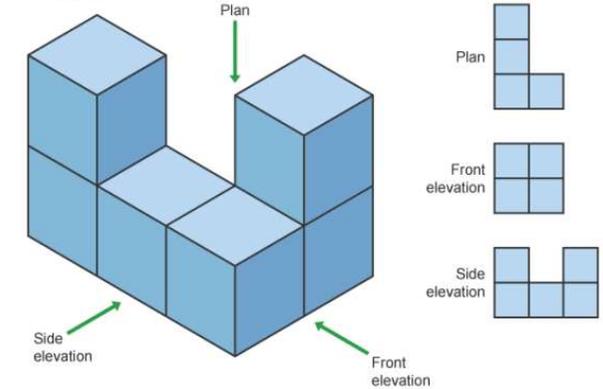
LINEAR GRAPH 	QUADRATIC CURVE 	CUBIC CURVE
EXPONENTIAL CURVE 	LOGARITHMIC CURVE 	RECIPROCAL CURVE

Plans and Elevations

Plans and elevations help us plan and design structures. Architects use these when designing buildings.

- The view from the top (looking down on the structure) is called the plan.
- The views from the front and sides of the structure are called elevations. (The front view is the front elevation and the side view is the side elevation).

Example



Cumulative Frequency

A cumulative frequency graph allows us to **measure the spread of data**.

By finding the value at each **quartile** (quarter) of the data, we can find the **median** and the spread of the **middle 50%**.

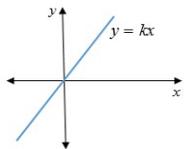
This measure eliminates extreme values.

Score	Students (Frequency)	Cumulative Frequency
11-20	5	5
21-30	9	14
31-40	13	27
41-50	10	37
51-60	3	40

Proportion

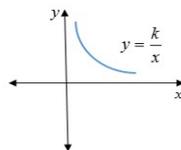
Direct Proportion

$y \propto x$
 $y = kx$ for a constant k

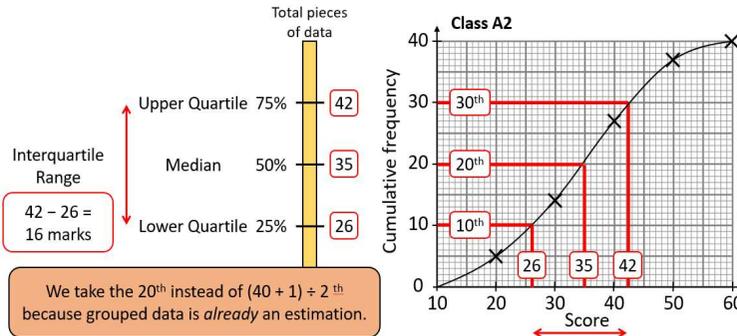
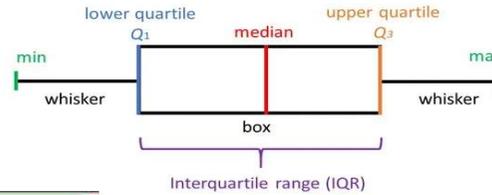


Inverse Proportion

$y \propto \frac{1}{x}$
 $y = \frac{k}{x}$ for a constant k



Box Plot



Geometry – Bearings

Angle clockwise from North 075° 	Always 3 digits 75° → 075° 4° → 004°	Lines North are Parallel
310° 	Sentence Structure Important The bearing of B from A is 075°	Co-interior Angles
From A to B 	Angles around a point 	

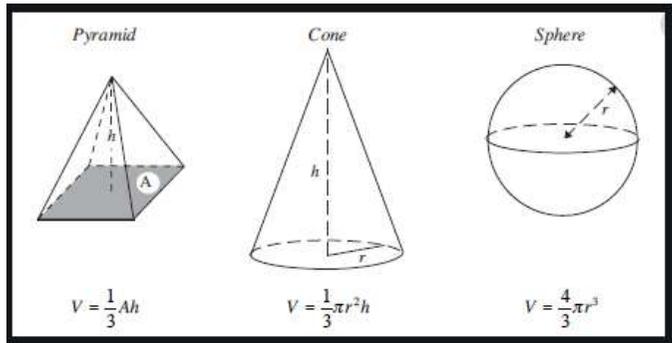
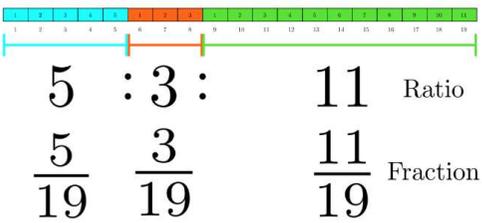
Relationship with Slopes (m)

$m_1 = m_2$

Line 1	Line 2
$\frac{1}{3}$	$\frac{1}{3}$
$\frac{5}{7}$	$\frac{5}{7}$
$-\frac{2}{7}$	$-\frac{2}{7}$

Parallel Lines
"Equal Slopes"

Ratios as fractions

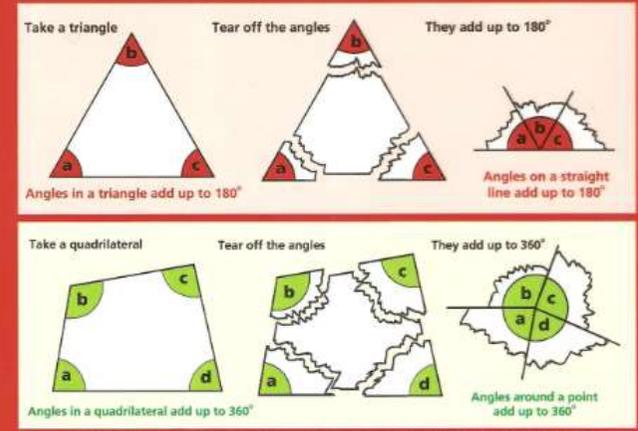


Properties of Quadrilaterals

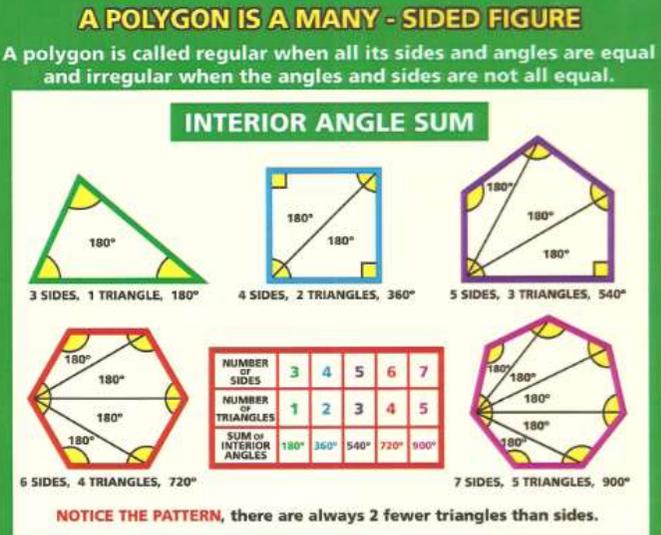
Shape name	Drawing	Properties
Square		<ul style="list-style-type: none"> Four equal sides Four right angles Opposite sides parallel Diagonals bisect each other at right angles Four lines of symmetry Rotational symmetry of order four
Rectangle		<ul style="list-style-type: none"> Two pairs of equal sides Four right angles Opposite sides parallel Diagonals bisect each other Two lines of symmetry Rotational symmetry of order two
Rhombus		<ul style="list-style-type: none"> Four equal sides Two pairs of equal angles Opposite sides parallel Diagonals bisect each other at right angles Two lines of symmetry Rotational symmetry of order two
Parallelogram		<ul style="list-style-type: none"> Two pairs of equal sides Two pairs of equal angles Opposite sides parallel Diagonals bisect each other No lines of symmetry Rotational symmetry of order two
Kite		<ul style="list-style-type: none"> Two pairs of adjacent sides of equal length One pair of equal angles Diagonals intersect at right angles One line of symmetry
Arrowhead		<ul style="list-style-type: none"> Two pairs of adjacent sides of equal length One pair of equal angles Diagonals intersect at right angles outside the shape One line of symmetry
Trapezium		<ul style="list-style-type: none"> One pair of parallel sides Isosceles quadrilaterals of this kind have one line of symmetry.

Volume of 3D shapes

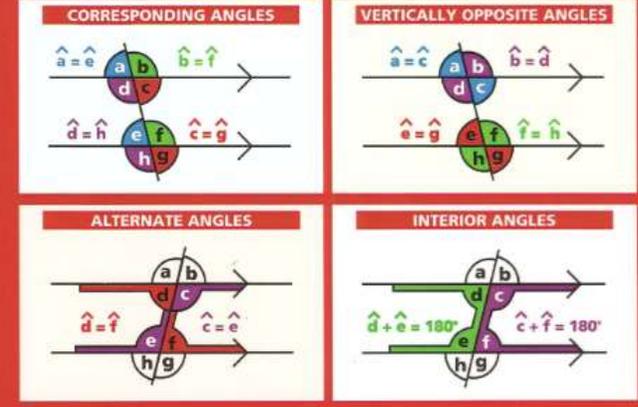
ANGLE PROPERTIES



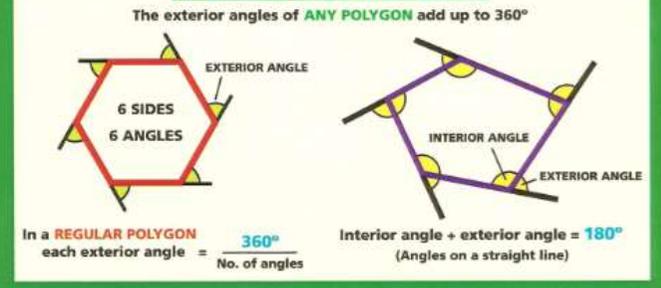
POLYGONS



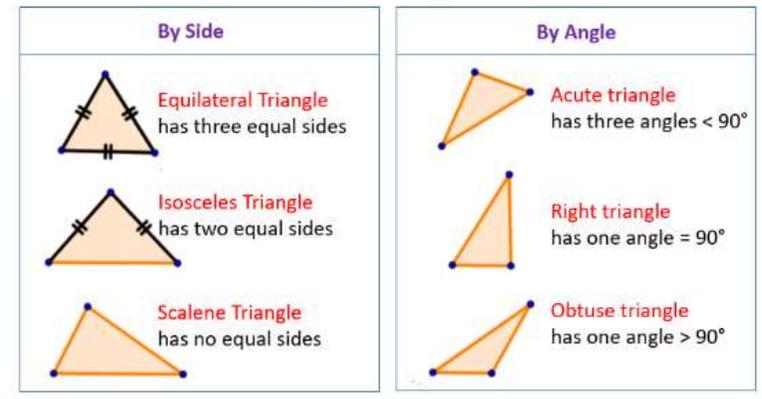
ANGLE PROPERTIES OF PARALLEL LINES



EXTERIOR ANGLE SUM

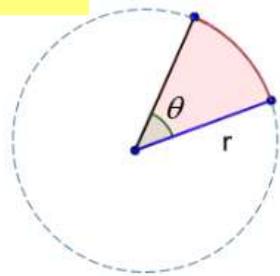
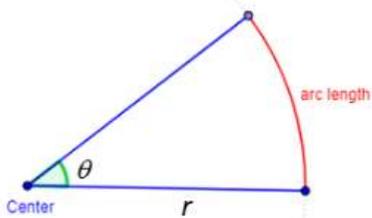


Types of Triangles



Histogram

Arc Length and Area of Sector



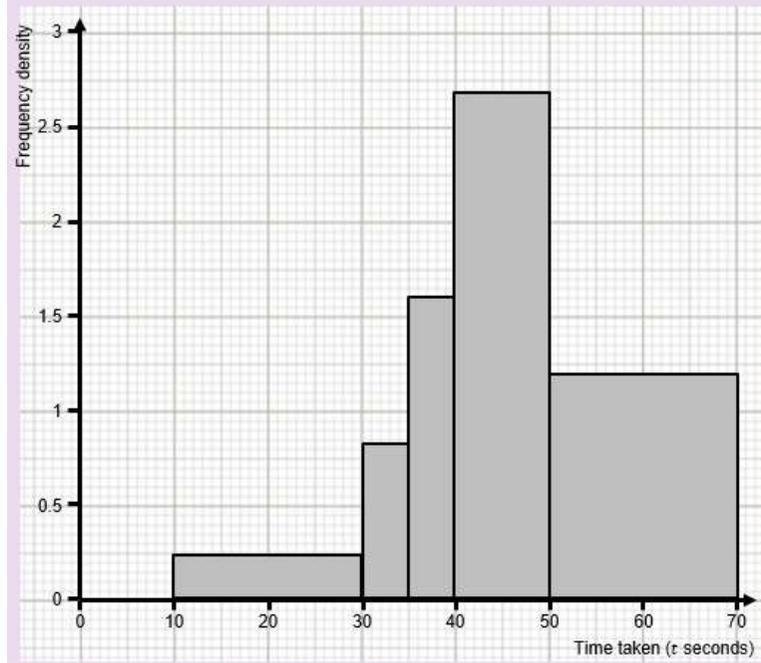
If θ is measured in degrees then
arc length = $\frac{\theta}{360^\circ} \times 2\pi r$

If θ is measured in degrees then
area of sector = $\frac{\theta}{360^\circ} \times \pi r^2$

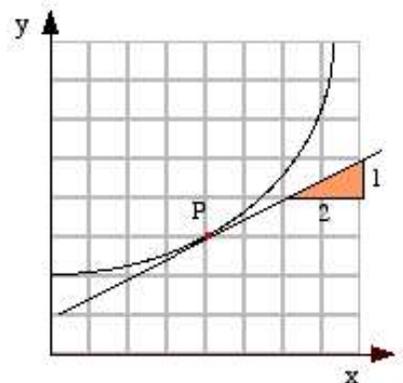
Rules of indices

Rule	Example
$a^m \times a^n = a^{m+n}$	$2^5 \times 2^3 = 2^8$
$a^m \div a^n = a^{m-n}$	$5^7 \div 5^3 = 5^4$
$(a^m)^n = a^{m \times n}$	$(10^3)^7 = 10^{21}$
$a^1 = a$	$17^1 = 17$
$a^0 = 1$	$34^0 = 1$
$\left(\frac{a}{b}\right)^m = \frac{a^m}{b^m}$	$\left(\frac{5}{6}\right)^2 = \frac{25}{36}$
$a^{-m} = \frac{1}{a^m}$	$9^{-2} = \frac{1}{81}$
$a^{\frac{x}{y}} = \sqrt[y]{a^x}$	$49^{\frac{1}{2}} = \sqrt{49} = 7$

Time taken (t seconds)	Frequency	Class width	Frequency density
10 < t ≤ 30	5	20	0.25
30 < t ≤ 35	4	5	0.8
35 < t ≤ 40	8	5	1.6
40 < t ≤ 50	27	10	2.7
50 < t ≤ 70	24	20	1.2



The **gradient of a curve** at any point is given by the gradient of the tangent at that point.
The **gradient of a curve** is different at each point on the curve.



Gradient of curve at P = Gradient of tangent at P = $\frac{1}{2}$

Perpendicular lines

Perpendicular Lines
"Opposite Reciprocal Slopes"

$m_1 = -\frac{1}{m_2}$	
Line 1	Line 2
$\frac{1}{3}$	$-\frac{3}{1}$
5	$-\frac{1}{5}$
$-\frac{2}{7}$	$\frac{7}{2}$

Accuracy and calculations

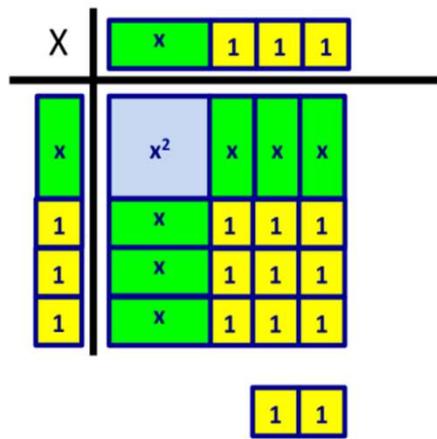
Operation	Minimum value	Maximum Value
Addition	LB + LB	UB + UB
Subtraction	LB - UB	UB - LB
Multiplication	LB x LB	UB x UB
Division	LB/UB	UB/LB

Nothing that is measured can be 100% accurate. Whether you are using a ruler, a protractor, a thermometer or a set of kitchen scales, there will always be an error of \pm half the unit of accuracy used.

Quantity given to the nearest...	Minimum value	Maximum Value
0.1 (to 1 decimal place)	Given value - 0.05	Given value + 0.05
Whole Number	Given value - 0.5	Given value + 0.5
Ten	Given value - 5	Given value + 5
Hundred	Given value - 50	Given value + 50
Thousand	Given value - 500	Given value + 500

Completing the square

Write $x^2 + 6x + 11$ in the form $(x + a)^2 + b$



Both factors are the same so you need to share your x terms equally between columns and rows.

The remainder 1s left over is the b term.

$(x + 3)^2 + 2$

Recurring Decimals to Fractions

1. Let x = recurring decimal.
2. Let n = the number of recurring digits.
3. Multiply the recurring decimal by 10ⁿ.
4. Subtract (1) from (3) to eliminate the recurring part.
5. Solve for x, expressing your answer as a fraction in its simplest form.

Examples:

0.7 (one recurring digit)

$x = 0.7777...$

$10x = 7.777...$

$10x - x = 7$

$9x = 7$

$x = \frac{7}{9}$

1.256 (two recurring digits)

$x = 1.25656...$

$100x = 125.6565...$

$100x - x = 125.6565... - 1.256565...$

$99x = 124.4$

$x = \frac{124.4}{99} = \frac{1244}{990} = \frac{622}{495}$

CIRCLE THEOREMS



Angles in the same segment and standing on the same chord are always equal.

Circles have a number of different angle properties, these are described as Theorems.

A line drawn from the centre of a circle to the mid-point of a chord is perpendicular to the chord at 90°.

The angle in a semi-circle is always 90°.

The angle at the centre of a circle is twice the angle at the circumference.

Tangents from a common point (A) to a circle are always equal in length. **AB = AC**

The angle between the tangent and the side of the triangle is equal to the interior opposite angle.

ABCD is a cyclic quadrilateral, all vertices lie on the circumference of the circle. Opposite angles add up to 180°. **A+C=180° B+D=180°**

KEY WORDS:
- SUBTENDED - OPPOSITE
- CIRCUMFERENCE - ANGLE
- TANGENT - CHORD
- PERPENDICULAR - SEGMENT

The angle between the tangent and the radius is always 90°.

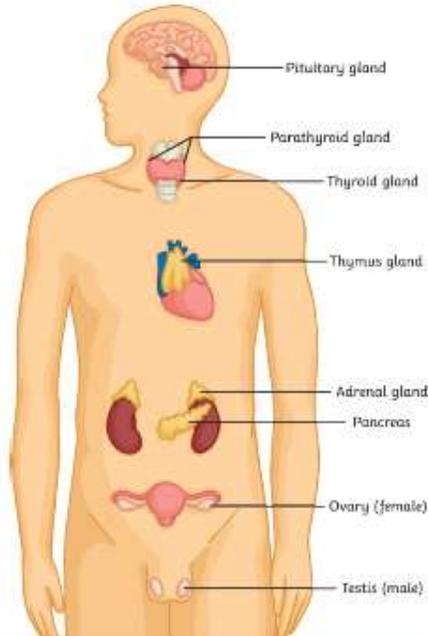


Science

Year 11 Biology: Hormones 1

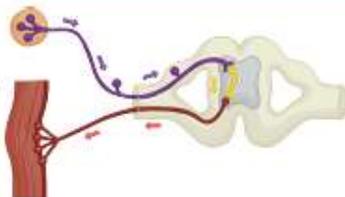
The Endocrine System

You should be able to identify the major glands of the endocrine system, as shown below:



Reflexes

A **reflex** is a fast and automatic response to a particular stimulus which may be harmful to the organism. They are quick because there is no conscious thought or process to deliver the response (they are an **involuntary** action). The pathway which carries the information about a reflex action is called a **reflex arc**.



A **reflex arc** begins with the **stimulus** e.g. a bee sting or a hot object on the skin. The stimulus is detected by the **receptor** cells and an electrical **impulse** is transmitted along the **sensory neuron**. The impulse is passed through **relay neurons** in the spinal cord or the **unconscious** areas of the brain. The response is coordinated **automatically** and sent along the **motor neuron** to the **effector** cells.

Hormones

Hormones are **chemical** messengers transported in the **bloodstream** to an effector where they can activate a response. They are produced and released from **glands** around the body which all make up the **endocrine system**. Hormones do a similar job to the neurons of the nervous system but there are some differences.

	neurons	hormones
speed	fast	slow
duration	short	long
target area	specific	general

The hormones released travel in the blood plasma to their **target cells** and affect only those certain cells. Hormones act on organs or cells where constant adjustments are made to maintain a stable state.

Some examples you should know:

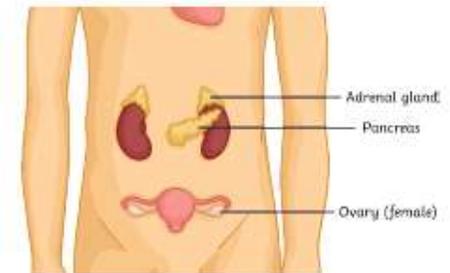
The **pituitary gland** produces a range of hormones including FSH and LH which help to regulate the menstrual cycle. The pituitary gland acts as a **master gland** because many of the hormones it releases control and coordinate the release of other hormones from other glands in the body.

Diabetes

There are two types of diabetes: type 1 and type 2.

Type 1 diabetes is a disorder affecting the pancreas. In type 1 diabetes, the pancreas does not produce enough insulin to control the blood sugar level and so the levels become higher than normal. Type 1 diabetes is usually treated by injections of insulin.

Type 2 diabetes is a disorder of effector cells which no longer respond to the hormones released from the pancreas. Type 2 diabetes can usually be managed through lifestyle choices such as maintaining a carbohydrate-controlled diet and regular exercise.

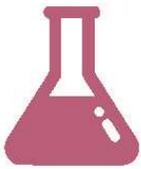


The risk of developing type 2 diabetes is higher in people who are obese (have a BMI >30).

Hormones in Human Reproduction

Oestrogen is the main reproductive hormone in females. It is produced in the **ovaries**. During puberty, this hormone increases and it stimulates an egg to be released from an ovary each month. This process is called **ovulation** and happens, on average, every 28 days.

Testosterone is the main reproductive hormone in males. It is produced in the **testes**. This hormone stimulates the production of sperm.



Science

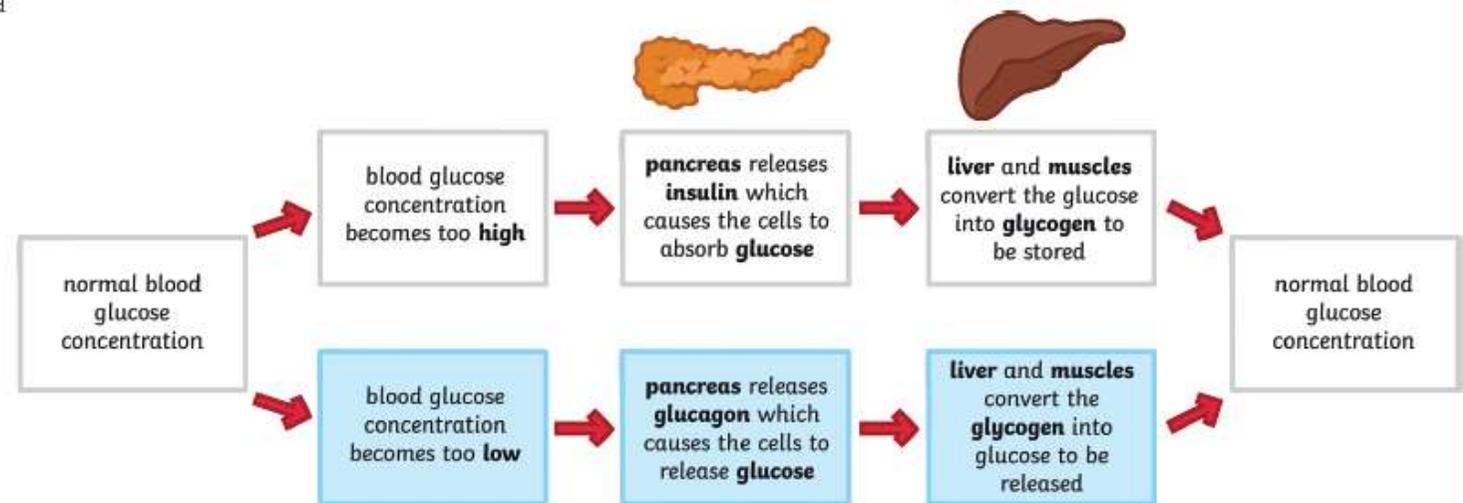
Year 11 Biology: Hormones 2

Control of Blood Glucose

The pancreas is the organ and gland which monitors and regulates the blood glucose concentration.

(HT only)

If the blood glucose concentration becomes too low, a negative feedback loop is triggered and the pancreas releases another hormone, **glucagon**, which acts on the liver and muscles to cause the stored **glycogen** to be converted back into **glucose** and released into the bloodstream.

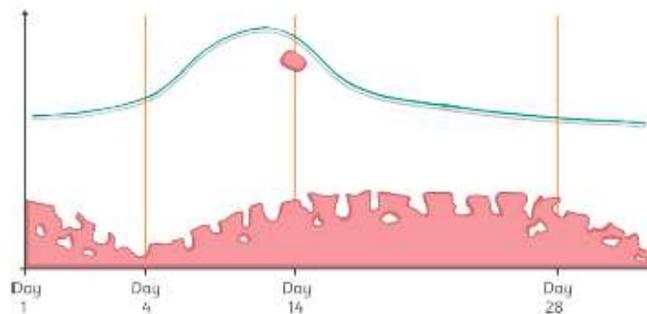


The Menstrual Cycle

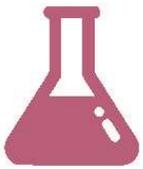
The **menstrual cycle** occurs in females, approximately every **28 days**. It is a cyclical process of the building of the lining of the **uterus** and **ovulation**. If the **egg** become fertilised by a sperm, then **pregnancy** follows. If the **egg** is not fertilised, then the lining of the uterus is shed away and leaves the body as the **menstruation** (or **period**).

The whole cycle is controlled by four main reproductive hormones:

- follicle stimulating hormone (FSH)
- oestrogen
- luteinising hormone (LH)
- progesterone



Hormone	Where It Is Produced	Response Caused	Interaction with Other Hormones (HT only)
FSH	pituitary gland	An egg to develop in one of the ovaries.	Stimulates the production of oestrogen.
oestrogen	ovaries	The lining of the uterus builds up and thickens.	Stimulates the production of LH. Inhibits the production of FSH.
LH	pituitary gland	Ovulation (at around day 14 of the cycle).	Indirectly stimulates the production of progesterone.
progesterone	ovaries	The uterus lining to maintain.	Inhibits the production of LH.

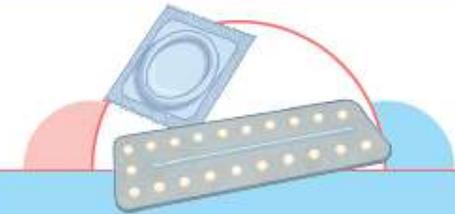


Science

Year 11 Biology: Hormones 3

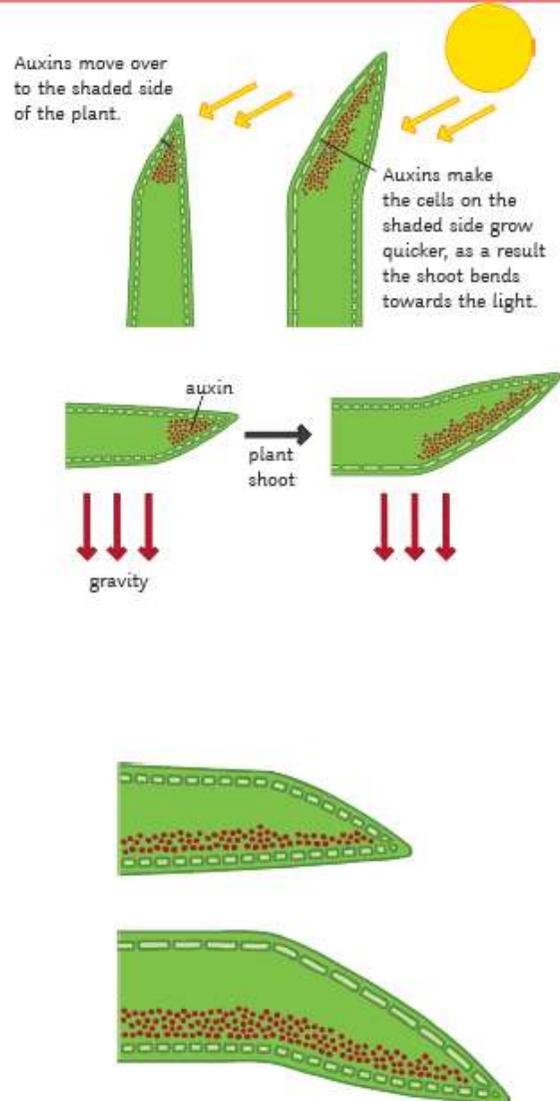
Contraception

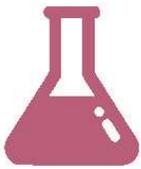
There are many different types of **contraceptive** (or birth control) methods. They are categorised as **hormonal** methods and **non-hormonal** methods.



Method	Hormonal or Non-Hormonal	How It Works	Pros and Cons
oral contraceptives ('the pill')	hormonal	Pill taken which contains hormones to inhibit FSH so that an egg does not mature.	<ul style="list-style-type: none"> ☺ Easily self-administered. Short-term effects. Can easily be reversed. Very reliable. ☹ May have mild side-effects associated. Could lead to pregnancy if missed. Does not protect from STIs.
injection, implant or skin patch	hormonal	Contains progesterone which is slowly released to inhibit the release of eggs for months or even years.	<ul style="list-style-type: none"> ☺ Administered through routine appointment at GP surgery. Requires little to no aftercare or maintenance. Very reliable. ☹ May take some time for effects to be reversed once removed. Does not protect from STIs.
condoms or diaphragm (female condom)	non-hormonal	Creates a physical barrier to prevent the sperm from reaching the egg.	<ul style="list-style-type: none"> ☺ Easy to use. Short-term effects. Very reliable. Provides protection from most STIs. ☹ Can fail.
intrauterine devices (coil)	hormonal	The device is attached to the lining of the uterus and releases hormones or prevents the implantation of an embryo.	<ul style="list-style-type: none"> ☺ Requires little to no aftercare or maintenance. Very reliable. ☹ May take some time for effects to be reversed once removed. Does not protect from STIs.
spermicidal agents	non-hormonal	Contains chemicals to kill or immobilise sperm cells.	<ul style="list-style-type: none"> ☺ Easy to use. Short-term effects. ☹ Does not protect from STIs. Less effective when used as the only method.
abstaining from intercourse (around the time of ovulation)	non-hormonal	Avoiding sexual intercourse when there is a likelihood of an egg being present in the oviduct.	<ul style="list-style-type: none"> ☺ inexpensive ☹ Not always reliable.
surgery	non-hormonal	A surgical procedure carried out in men or women. In males, the vas deferens tubes are sealed or blocked to prevent the passage of sperm from the testes. In females, the fallopian tubes (oviducts) are sealed or blocked to prevent the passage of the egg from the ovaries.	<ul style="list-style-type: none"> ☹ Risks associated with surgery (such as infection). ☹ Difficult to reverse (if at all possible). Can take several months to be reliable.

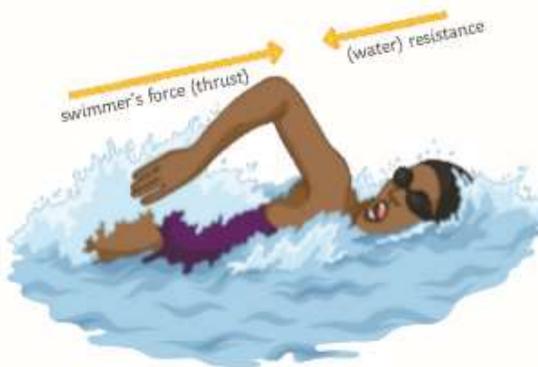
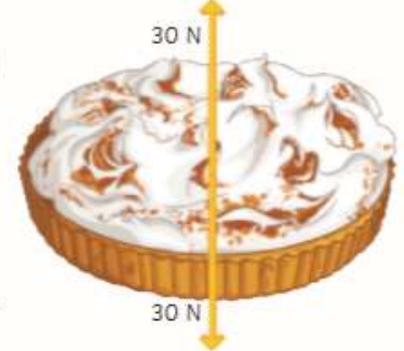
Year 11 Biology: Hormones 4 (triple only)

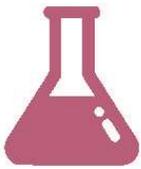
Plant Hormones		Use of Plant Hormones												
<p>Phototropism – a plant's response to light.</p> <p>Auxins are hormones in plants that control plant growth. They are found in the tips, roots and shoots and are sensitive to light. This is called phototropism. If the tip of the plant is removed, then the plant will no longer grow.</p> <p>(HT Only)</p> <p>Gravitropism/geotropism – a plant's response to gravity.</p> <p>Auxins are also affected by gravity.</p> <p>The Shoots</p> <p>The shoots will grow away from gravity. A shoot that grows sideways will end up with more auxin on the lower side of the shoot and the lower side will grow more, causing the shoot to grow upwards.</p> <p>The Roots</p> <p>The roots will grow towards gravity. If a root grows on its side, more auxins will be on the lower side. In a root, the auxins will stop growth. The cells on the upper surface will grow more, bending the root downwards.</p>	 <p>Auxins move over to the shaded side of the plant.</p> <p>Auxins make the cells on the shaded side grow quicker, as a result the shoot bends towards the light.</p> <p>auxin</p> <p>plant shoot</p> <p>gravity</p>	<table border="1"> <thead> <tr> <th>Plant Hormone</th> <th>Uses</th> <th>Commercial Uses</th> </tr> </thead> <tbody> <tr> <td>auxins</td> <td>Controlling plant growth.</td> <td> <ul style="list-style-type: none"> Killing weeds – some weed killers contain auxins which will only kill larger leaved plants (weeds). They affect how they grow and eventually kill them. Growing plants from cuttings – by placing the plants in rooting powder (containing auxins), they will produce roots and grow a new plant. Producing new plants from tissue culture produces clones. Auxins are added to the growth medium to allow the plants to grow. </td> </tr> <tr> <td>gibberellin</td> <td>Starts off seed germination, growth of stems and flowering.</td> <td> <ul style="list-style-type: none"> Gibberellin can be added to seeds to make them germinate at a specific time of year. This ensures that they would all germinate at the same time. It can be used to grow bigger flowers and also make them flower no matter what the environmental conditions. Adding gibberellin to some fruit will increase the size. </td> </tr> <tr> <td>ethene</td> <td>A gas produced when a plant ages. It controls cell division and the growth of plants. It is also involved in the ripening of fruit.</td> <td> <ul style="list-style-type: none"> Used to speed up ripening of fruit. Fruit can be picked whilst still unripe, ethene can then be added to ripen this fruit, ready for the supermarket shelf. </td> </tr> </tbody> </table>	Plant Hormone	Uses	Commercial Uses	auxins	Controlling plant growth.	<ul style="list-style-type: none"> Killing weeds – some weed killers contain auxins which will only kill larger leaved plants (weeds). They affect how they grow and eventually kill them. Growing plants from cuttings – by placing the plants in rooting powder (containing auxins), they will produce roots and grow a new plant. Producing new plants from tissue culture produces clones. Auxins are added to the growth medium to allow the plants to grow. 	gibberellin	Starts off seed germination, growth of stems and flowering.	<ul style="list-style-type: none"> Gibberellin can be added to seeds to make them germinate at a specific time of year. This ensures that they would all germinate at the same time. It can be used to grow bigger flowers and also make them flower no matter what the environmental conditions. Adding gibberellin to some fruit will increase the size. 	ethene	A gas produced when a plant ages. It controls cell division and the growth of plants. It is also involved in the ripening of fruit.	<ul style="list-style-type: none"> Used to speed up ripening of fruit. Fruit can be picked whilst still unripe, ethene can then be added to ripen this fruit, ready for the supermarket shelf.
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Science

Year 11 Physics: Forces 1

Scalar and Vector Quantities	Gravity
<p>A scalar quantity has magnitude only. Examples include temperature or mass.</p> <p>A vector quantity has both magnitude and direction. Examples include velocity.</p> <p>Speed is the scalar magnitude of velocity.</p> <p>A vector quantity can be shown using an arrow. The size of the arrow is relative to the magnitude of the quantity and the direction shows the associated direction.</p>	<p>Gravity is the natural phenomenon by which any object with mass or energy is drawn together.</p> <ul style="list-style-type: none"> The mass of an object is a scalar measure of how much matter the object is made up of. Mass is measured in kilograms (kg). The weight of an object is a vector measure of how gravity is acting on the mass. Weight is measured in newtons (N). $\text{weight (N)} = \text{mass (kg)} \times \text{gravitational field strength (N/kg)}$ <p>(The gravitational field strength will be given for any calculations. On earth, it is approximately 9.8N/kg).</p>
Contact and Non-Contact Forces	Resultant Forces
<p>Forces either push or pull on an object. This is as a result of its interaction with another object.</p> <p>Forces are categorised into two groups:</p> <p>Contact forces – the objects are touching e.g. friction, air resistance, tension and contact force.</p> <p>Non-contact forces – the objects are not touching e.g. gravitational, electrostatic and magnetic forces.</p> <p>Forces are calculated by the equation: force (N) = mass (kg) × acceleration (m/s²)</p> <p>Forces are another example of a vector quantity and so they can also be represented by an arrow.</p>	<p>An object's centre of mass is the point at which the weight of the object is considered to be acting. It does not necessarily occur at the centre of the object.</p> <p>The mass of an object and its weight are directly proportional. As the mass is increased, so is the weight. Weight is measured using a spring-balance (or newton metre) and is measured in newtons (N).</p>
	<p>A resultant force is a single force which replaces several other forces. It has the same effect acting on the object as the combination of the other forces it has replaced.</p> <p>The forces acting on this object are represented in a free body diagram. The arrows are relative to the magnitude and direction of the force.</p> <p>The car is being pushed to the left by a force of 30N. It is also being pushed to the right by a force of 50N.</p> <p>The resultant force is $50\text{N} - 30\text{N} = 20\text{N}$</p> <p>The 20N resultant force is pushing to the right, so the car will move right.</p> <p>When a resultant force is not zero, an object will change speed (accelerate or decelerate) or change direction (or both).</p> <p>When an object is stationary, there are still forces acting upon it.</p> <p>In this case, the resultant force is $30\text{N} - 30\text{N} = 0\text{N}$.</p> <p>The forces are in equilibrium and are balanced.</p> <p>When forces are balanced, an object will either remain stationary or if it is moving, it will continue to move at a constant speed.</p>
	 



Science

Year 11 Physics: Forces 2

$$F = k \times e$$

force applied (N) = spring constant (N/m) \times extension (m)

You should be familiar with the equation above and the required practical shown to the right.

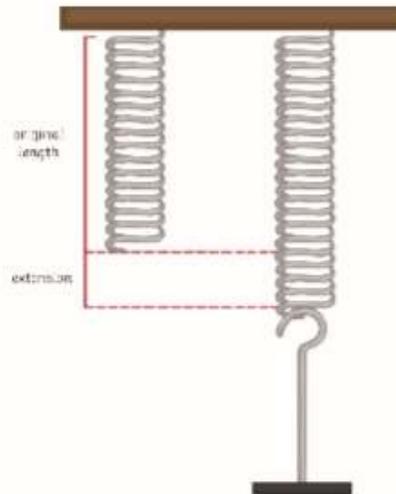
The spring constant is a value which describes the elasticity of a material. It is specific to each material. You can carry out a practical investigation and use your results to find the spring constant of a material.

1. Set up the equipment as shown.
2. Measure the original length of the elastic object, e.g. a spring, and record this.
3. Attach a mass hanger (remember the hanger itself has a weight). Record the new length of the spring.
4. Continue to add masses to the hanger in regular intervals and record the length each time.

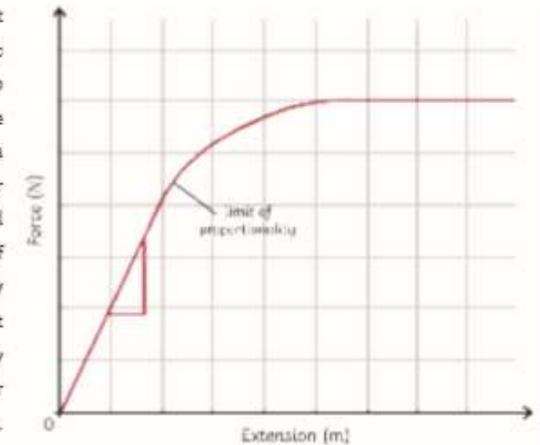


Once you have your results, you can find the extension for each mass using this formula: spring length – original length

The data collected is continuous so you would plot a line graph using the x-axis for extension (m) and the y-axis for force (N). As a result of Hooke's Law, you should have a linear graph. The gradient of the graph is equal to the spring constant. You can calculate it by rearranging the formula above or by calculating the gradient from your graph.



Hooke's Law describes that the extension of an elastic object is proportional to the force applied to the object. However, there is a maximum applied force for which the extension will still increase proportionally. If the limit of proportionality is exceeded, then the object becomes permanently deformed and can no longer return to its original shape. This can be identified on a graph of extension against force when the gradient stops being linear (a straight line) and begins to plateau. The limit is shown on the graph above and this is the specific object's elastic limit.

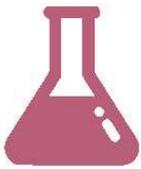


Forces and Elasticity

When work is done on an elastic object, such as a spring, the energy is stored as elastic potential energy.

When the force is applied, the object changes shape and stretches. The energy is stored as elastic potential and when the force is no longer applied, the object returns to its original shape. The stored elastic potential energy is transferred as kinetic energy and the object recoils and goes back to its original shape.





Science

Year 11 Physics: Forces 3 (triple science only)

Work Done: Elastic Objects

Work is done on elastic objects to stretch or compress them.

To calculate the work done (elastic potential energy transferred), use this equation:

$$E \text{ (J)} = 0.5 \times k \times e^2$$

(elastic potential energy = $0.5 \times$ spring constant \times extension²)

You might need to use this equation also: $F = k \times e$

Worked example:

A bungee jumper jumps from a bridge with a weight of 800N. The elastic cord is stretched by 25m. Calculate the work done.

Step 1: find the spring constant using $F = k \times e$

Rearrange to $k = F \div e$

$$800 \div 25 = 32\text{N/m}$$

Step 2: use the value for k to find the elastic potential energy (work done) using

$$E \text{ (J)} = 0.5 \times k \times e^2$$

$$0.5 \times 32 = 25^2$$

$$E = 10\,000\text{J}$$

Moments, Levers and Gears

A moment is the turning effect produced by a force. To find the size of a moment, use the equation:

$$\text{moment (Nm)} = \text{force (N)} \times \text{distance (m)}$$

Remember that the distance is the perpendicular distance from the pivot to the line of action of the force.

Worked example:

A crowbar is being used to lift a manhole cover. Calculate the moment produced.

$$M = F \times d$$

$$M = 10 \times 0.4$$

$$M = 40\text{Nm}$$

To increase the turning effect achieved without increasing the amount of force applied, you would need to increase the distance between the force and the pivot.

For example, if the crowbar in the example above was 0.5m, then the moment would be:

$$M = F \times d$$

$$M = 10 \times 0.5$$

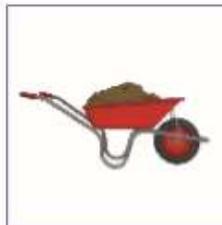
$$M = 50\text{Nm}$$

Levers can be used to increase the effect of a force applied, acting as a force multiplier. Some everyday examples include:

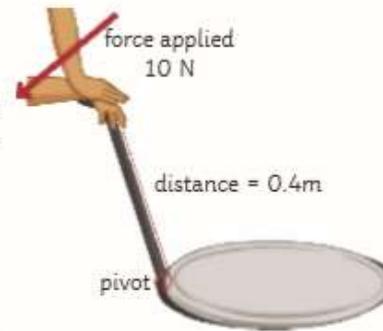
spanner



wheelbarrow



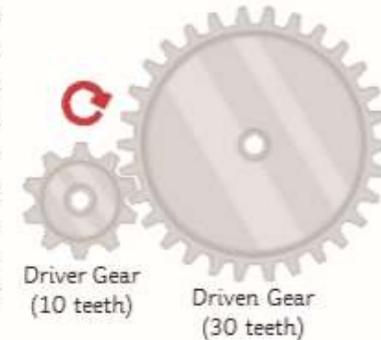
pair of scissors



A force multiplier makes it easier to do work because the same force applied at a greater distance from the pivot increases the moment produced.

A gear is a wheel which has 'teeth' around the circumference.

The teeth of different gears lock together and the gear can turn on an axle, turning the other gears it is connected to. Where the teeth meet, they must move in the same direction. This means that the gears rotate in opposite directions. If one gear is turning clockwise, it will turn the connected gear anticlockwise.



When gears are connected, the same force is applied to each; however, if they are different sizes, they will produce different moments. This is because the moment is calculated using the distance from the pivot (the radius of the gear) and if the gear is smaller, it will move a shorter distance. If the gear is larger, it will move a greater distance.

Worked example:

A gear has a radius of 0.25m. It turns a second gear with a radius of 1.5m. The moment of the smallest gear is 30Nm. Calculate the moment of the largest gear.

Step 1: calculate the force using $M = F \times d$

Rearrange to $F = M \div d$

$$F = 30 \div 0.25$$

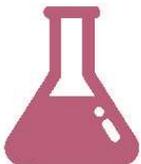
$$F = 120\text{N}$$

Step 2: use the force to calculate the moment of the larger gear.

$$M = F \times d$$

$$M = 120 \times 1.5$$

$$M = 180\text{Nm}$$



Science

Year 11 Chemistry: Rates of reaction 1

Calculating Rates of Reactions

Reactions happen at **varying rates**. For example, a firework exploding is a fast reaction whereas a piece of iron rusting would take place over a longer period of time.

The **rate of a chemical reaction** tells us how quickly a **product** is formed or how quickly a **reactant** is used up.

For a chemical reaction to occur, the reactant particles must collide with enough energy. Those collisions that produce a chemical reaction are called **successful collisions**.

$$\text{mean rate of reaction} = \frac{\text{quantity of reactant used}}{\text{time taken}}$$

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

Measuring the Mass of a Reaction Mixture

The changing mass of a reaction mixture can be measured during a reaction. This method is particularly useful when gases, such as carbon dioxide, are given off. **Gas escapes during the reaction and the mass of the reaction mixture decreases.** The mass can be measured at regular time intervals.



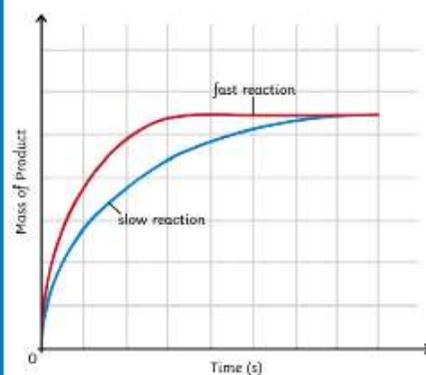
units = g/s or g/min

Measuring the Volume of a Reaction Mixture

The changing volume of a reaction mixture can be measured during a reaction. This method is particularly useful when gases, such as carbon dioxide, are given off. The gas can be collected and its volume measured at regular time intervals. Different types of measuring equipment can be used to collect the gas such as a gas syringe, measuring cylinder or upside-down burette.



units = cm³/s or cm³/min



Graphs are a useful way to **analyse** the results from a rate of reaction investigation. The graph above shows two lines, one red and one blue.

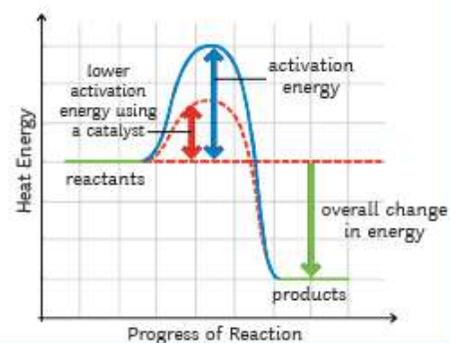
The red line represents a fast reaction and the blue line a slow reaction. We know the fast reaction occurs at a much faster rate as the line is steep. The fast reaction finishes before the slow reaction as the line plateaus sooner.

Factors Affecting the Rate of a Chemical Reaction

- concentration and pressure
- catalyst
- surface area
- temperature

The rate of a chemical reaction will be increased if there are more frequent successful collisions between reactant particles.

Catalyst



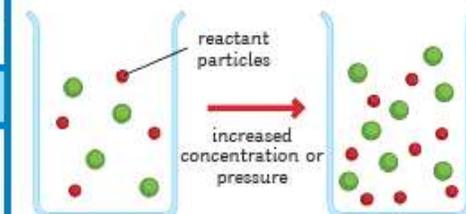
A catalyst is a **substance** that speeds up a chemical reaction without getting used up itself. Catalysts are able to offer an **alternative pathway** at a **lower activation energy**.

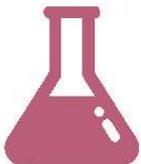
Biological catalysts are called **enzymes**.

When a catalyst is used in a chemical reaction (not all reactions have a catalyst that is suitable to use), the **frequency of collisions** is **unchanged**. More **particles** are able to react. The particles have **energy greater** than that of the **activation energy**. Consequently, there is an **increase** in the **rate** of **successful collisions**.

Concentration and Pressure

If the number of reactant particles in a given space is **doubled**, there will be **more frequent successful collisions** between reactant particles, therefore, **increasing the rate of reaction**.

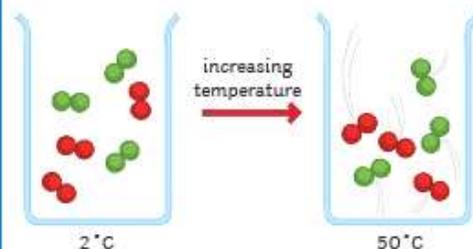




Year 11 Chemistry: Rates of reaction 2

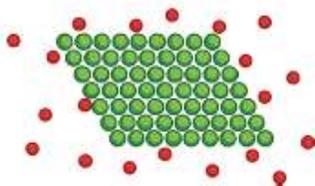
Temperature

When the temperature of the reaction mixture is increased, the reactant particles **gain kinetic energy** and move much more quickly. This results in **more frequent successful collisions** between the reactant particles, therefore, **increasing the rate of the reaction**.



Surface Area

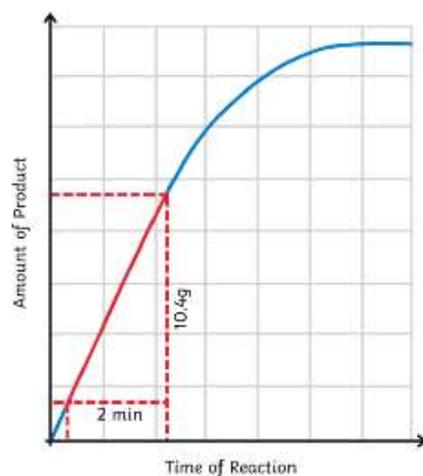
Large lumps of a solid have a **small surface area to volume ratio**. If the solid is broken up into smaller lumps or crushed into a powder, this will increase the surface area to volume ratio.



A larger area of the solid is now exposed to other reactant particles. This increases the frequency of successful collisions thus increasing the rate of reaction.

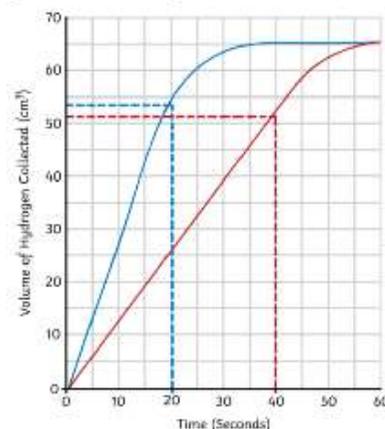
Calculating Gradient (Higher Tier Only) $\text{gradient} = \frac{y}{x}$

On the graph, draw construction lines on the part of the graph that has a straight line. Measure the values of x and y.



In the graph below, the gradient of the first line is much steeper than the second line. This indicates that a faster reaction is taking place. Remember, the steeper the line, the faster the reaction.

To calculate the reaction rate at a specific time period, construction lines must first be drawn on the straightest part of the graph.



For the first line, what is the rate of reaction at 20 seconds?

$$54 \div 20 = 2.7 \text{ cm}^3/\text{s}$$

For the second line, what is the rate of reaction at 40 seconds?

$$52 \div 40 = 1.3 \text{ cm}^3/\text{s}$$

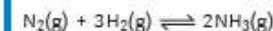
Dynamic Equilibrium

In a **closed system** (this means nothing can get in or out), a reversible reaction can reach **dynamic equilibrium**. This is where the **forward** and **reverse** reactions are occurring at the **same rate** and the **concentrations** of all the substances that are reacting remain constant.

Changing Conditions and the Effect on the Position of Equilibrium (Higher Tier Only)

The reaction between nitrogen and hydrogen to make ammonia is an industrial process called the Haber process. It requires a high temperature, high pressure and an iron catalyst.

The symbol equation for the reaction is as follows:

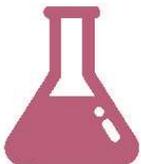


According to **Le Chatelier's Principle**, the position of equilibrium can be altered by changing the conditions of the reaction i.e. the pressure, concentration and/or the temperature. The **position of the equilibrium** will shift to **counteract** any changes made.

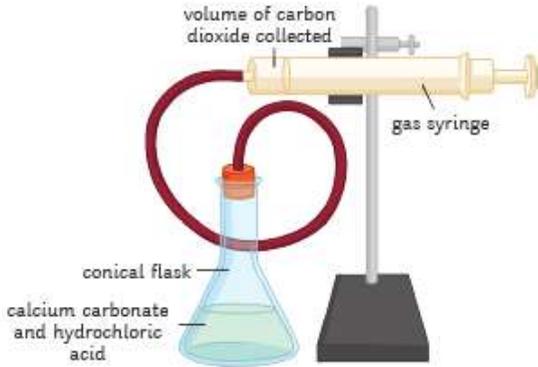
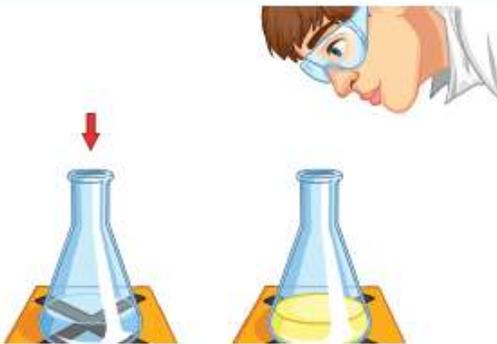
Increasing the **temperature** of the reaction in the forward direction (exothermic) will result in the equilibrium shifting in favour of the reverse direction (endothermic) to reduce the temperature.

From the equation, it is clear that on the **left-hand side**, there are **four molecules** and on the **right-hand side**, there are **two molecules**. If the **pressure** in the system were **increased**, the equilibrium **position would shift to the right** as there are fewer molecules. If the pressure in the system were **decreased**, the equilibrium **position would shift to the left** as there are a larger number of molecules.

If the **concentration** of one of the reactants were **increased**, then the equilibrium position would move in **favour of the products**. This would result in more product being produced. If the concentration of the **products** were **decreased**, equilibrium would shift to **favour the products**. More reactants would react until equilibrium is reached.



Year 11 Chemistry: Rates of reaction 3

Reversible Reactions	Required Practical 5: Measuring the Production of a Gas	Step 6 – When the reaction has finished and there are no more bubbles of gas being produced, clean the equipment and repeat using four other different concentrations of hydrochloric acid.
<p>A reversible reaction is one in which the reactants form products. The products are then able to react together to reform the reactants.</p> <p>For example: A reacts with B to form C and D. C and D are able to react to form A and B.</p> <p>The equation would be as follows (where the double arrow symbol represents a reversible reaction is taking place):</p> $A + B \rightleftharpoons C + D$ <p>The forward reaction goes to the left and the backwards reaction goes to the right. For example, if the forward reaction is exothermic then the backward reaction will be endothermic. The amount of energy that is transferred is the same for both the forward and reverse reaction.</p> <p>Hydrated copper sulfate is a blue substance. We say that the copper sulfate is hydrated as it contains water. The copper sulfate is heated and the water evaporates leaving a white substance known as anhydrous copper sulfate. Anhydrous meaning no water.</p> <p>The word equation for the reaction is as follows:</p> <p>hydrated copper sulfate \rightleftharpoons anhydrous copper sulfate + water</p> $\text{CuSO}_4 \cdot 5\text{H}_2\text{O}(\text{s}) \rightleftharpoons \text{CuSO}_4(\text{s}) + \text{H}_2\text{O}(\text{l})$ <p>The reaction can be reversed when water is added to the anhydrous copper sulfate.</p>	<p>This method outlines one way to carry out an investigation to collect a gas from a chemical reaction.</p> <p>The practical involves changing the concentration of hydrochloric acid and measuring the volume of carbon dioxide gas produced when the acid reacts with calcium carbonate.</p> <p>The word equation for the reaction is as follows:</p> <p>calcium carbonate + hydrochloric acid \rightarrow calcium chloride + water + carbon dioxide</p> <p>The symbol equation for the reaction is:</p> $\text{CaCO}_3 + 2\text{HCl} \rightarrow \text{CaCl}_2 + \text{H}_2\text{O} + \text{CO}_2$  <p>Method</p> <p>Step 1 – Clamp a gas syringe to a retort stand using a boss and clamp. Ensure the syringe is a quarter of the way from the top of the stand. Place the delivery tube to the end of the gas syringe.</p> <p>Step 2 – Measure out 50ml of hydrochloric acid using a measuring cylinder and pour into a conical flask.</p> <p>Step 3 – Using a top pan balance, measure out 0.5g of powdered calcium carbonate and place in the conical flask.</p> <p>Step 4 – Immediately connect the bung and delivery tube to the conical flask. Start the stopwatch.</p> <p>Step 5 – Record the volume of carbon dioxide gas produced every 10 seconds.</p>	<p>When analysing the results from the practical investigation, plot a graph of Time (s) against Volume of Gas Produced (cm^3). Draw a curve of best fit through the points. A graph should be plotted for each concentration of acid.</p> <p>Calculate the mean rate of reaction (cm^3/s) for each concentration of acid used. This can be calculated by dividing the total mass of gas produced (cm^3) by the reaction time (s).</p>
		Required Practical 5: Investigating a Change in Colour
		 <p>This method outlines one way to carry out an investigation into the effect of increased temperature on the rate of a reaction.</p> <p>The word equation for this reaction is as follows:</p> <p>sodium thiosulfate + hydrochloric acid \rightarrow sodium chloride + water + sulfur dioxide + sulfur</p> <p>The symbol equation for this reaction is:</p> $\text{Na}_2\text{S}_2\text{O}_3 + 2\text{HCl} \rightarrow 2\text{NaCl} + \text{H}_2\text{O} + \text{SO}_2 + \text{S}$ <p>The reaction between sodium thiosulfate and hydrochloric acid produces a precipitate. Sulfur is responsible for the formation of the precipitate. A precipitate is a solid that is formed in a solution. It is the formation of this precipitate that causes the reaction mixture to become cloudy; the cloudiness is a way to measure the reaction time.</p>



History

History Knowledge Organiser: The early Weimar Republic

The hyperinflation crisis

Germany's failure to pay reparations led to the 1923 Ruhr Crisis

- In 1922, Germany missed a **reparations** payment to **France**
- In 1923, French soldiers occupied the **Ruhr**, Germany's industrial region, and began to take coal, iron, and steel as **reparations** payments
- The Weimar Republic ordered German workers to go on strike rather than work with the French (**passive resistance**)
- In order to pay the striking workers in the **Ruhr**, the government **printed money** which led to **hyperinflation**

Hyperinflation seriously damaged the German economy

- The **Weimar** government's decision to print money led to **hyperinflation** as paper money became worthless
- Prices increased rapidly: a loaf of bread cost **201 billion marks** by November 1923
- People with **savings**, especially the **elderly**, suffered as their savings became worthless

Hitler & the Nazi Party

Hitler made big changes to the Nazi Party including: setting out a 25 Point Programme which made his aims clear. These included destroying the ToV & making Germany great again. He introduced the swastika as the Nazi symbol & set up the **brownshirts** as his private army. They were used to beat up their opponents. The membership of the party grew to 5000 in 1921.

The Munich Putsch

Hitler's attempt to take over the government of Bavaria in 1923, with the support of General Ludendorff (WW1 general). It failed. Hitler was convicted of treason & sent to prison. Whilst in prison he wrote *Mein Kampf* (My Struggle). Hitler decided to change his tactics & seize power through political means.



Key Terms	Definitions
Hyperinflation	A sudden, dramatic rise in prices.
Brownshirts	The Nazi's private army. Also known as stormtroopers.
Rentemmark	The new currency introduced by Stresemann
Daws Plan	Agreement between the USA & Germany, giving Germany US loans in order to help them recover
Young Plan	Agreement to reduce reparations between Germany & the countries they owed money to after WW1
Locarno Pact	Normally the leader of the biggest party, responsible for the day-to-day running of the country

Recovery under Stresemann

Hyperinflation: Stresemann replaced the old currency with a new one. This ended **hyperinflation**, however, people who had lost their savings did not get them back.

The Ruhr: Stresemann arranged for the USA to lend Germany money under the **Dawes Plan**. Germany could start paying back the reparations & the French & Belgian troops left the Ruhr. In 1929, the reparations were negotiated down & Germany was given longer to pay them. This was known as the **Young Plan**.

Regain international power: 1925 Germany signed the **Locarno Pact** with GB, France, Belgian & Italy, agreeing never to go to war. In 1926 Germany joined the League. Germany recovered its international status but she did not recover her land lost in the ToV.

Improving the German economy: Stresemann used some money from the Dawes Plan to build factories, houses, schools & roads. Some American factories relocated to Germany.

Recovery?

- There were still many political parties & none could gain enough votes to get a majority. This resulted in coalitions.
- Political parties with extreme ideas continued to hate the politicians in the Reichstag.
- The recovery was built on American loans. If the USA asked for the money back, Germany would be in trouble.



History

History Knowledge Organiser: The Early Weimar Republic & Hitler's appeal

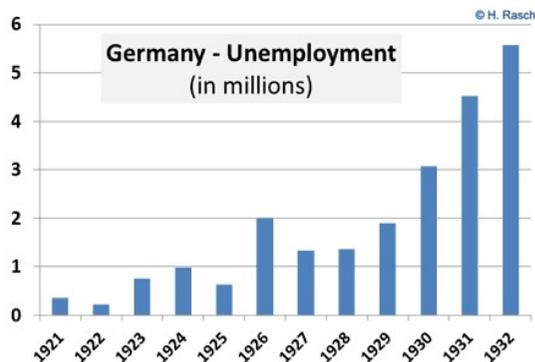
Germany's Golden Age

The Kaiser had controlled entertainment but these controls were removed under the new Weimar government.

- **Cinema:** Became very popular. Metropolis was the most technologically advanced film of the decade.
- **Nightlife:** Germany became the centre for new plays, operas & theatres shows. The Threepenny Opera was a box office smash & would have been banned by the Kaiser. Jazz music also flourished.
- **Literature:** Important works such as All Quiet On The Western Front (anti-war) were published.
- **Art:** Avant-garde artists such as Otto Dix & George Grosz believed art should show the reality of life e.g. the differences in social class & society.
- Some Germans hated the changes as they believed Germany was being led into moral decline.

The Depression

The Stock Market Crash in 1929 resulted in the USA asking for its loans back. The USA stopped buying goods from Germany, so factories shut down. Businesses went bankrupt & unemployment rose. The government couldn't deal with the problems & people started to turn to extremist parties such as the Nazis & Communists.



Data Source: StJbDR 1939/40

Why did the Nazi Party become more popular?

The Depression: Hitler promised to deal with the economic problems. He also stated the ToV was a crime & Jews should be blamed for the economic problems. People started to listen to his ideas.

Key Terms	Definitions
Depression	A time in the 1930s when many banks & businesses failed and unemployment rose
Propaganda	The spreading of ideas & information, in order to influence people's thinking
Extremist parties	Political parties such as the Nazis & Communists who were on the far edge of political ideas

Germans were unhappy with the Weimar government: Chancellors were unable to sort out the economic problems. Chancellor Brüning was forced to rule through the use of Article 48, until he lost Hindenburg's support. People started to turn to extremist parties.

Fear of other extremist parties: many groups in society were worried about the threat from the Communists (they didn't want to lose their business & wealth) The Communists were also anti-religion. Hitler said he was anti-communist & used the SA to attack them.

The appeal of Hitler: his charismatic personality & passionate speaking won over a lot of people.

Nazi Party structure, methods & tactics: After the Munich Putsch Hitler realised he needed to win power legally. Nazi Party offices were set up all over Germany to recruit more followers. It used propaganda through new media such as radio broadcasts & cinema news reports. Goebbels was put in charge of propaganda. Hitler took part in fabulous parades which showed off Nazi power & the Hitler Youth was set up to encourage young followers.

Who voted for the Nazis?

Farmers: had been hit hard by the Depression, as people were buying less food. The Nazis promised them higher prices for their crops & protect them from a communist takeover.

Women: some felt that the Weimar government had impacted on social morals. The Nazis promised to encourage family life & encourage self-discipline.

Old soldiers & young people: Hitler promised to get rid of the ToV & make the country strong again. Young people liked his promise of more jobs in the armed forces.

Middle classes: small business owners, bank workers & doctors voted for the Nazis in large numbers. They often feared law & order would break down in the Depression & wanted strong government.

Upper classes: liked Hitler's promise of strong leadership & a more powerful nation. He might use their factories to rearm



History

History Knowledge Organiser: from democracy to dictatorship

How did Hitler become Chancellor

1930 election: The Nazis become the second largest party in the Reichstag. Brüning becomes chancellor in a coalition government. He was not popular.

The Nazis worked hard to increase their support through propaganda.

July 1932: Brüning resigned
Hindenburg appointed von Papen as Chancellor. Von Papen called an election, hoping to gain more support.
In the election the Nazis become the biggest party, winning 230 seats.
Hitler demands the job of Chancellor, but Hindenburg refuses (he thought the Nazis were disruptive & violent). Von Papen was given the job again & he calls another election.

November 1932: the Nazi support fell slightly, but they were still the biggest political party. Von Papen's support fell & he resigned.

Hindenburg made von Schleicher Chancellor. He had no support & resigned. 30th Jan 1933: Hitler appointed Chancellor. In an effort to control him, Hindenburg only allowed 2 Nazis in the cabinet & von Papen was made Vice Chancellor.

Hitler did not have complete control of Germany. Hindenburg could easily replace him, Germany was still a democracy & the Communist were a threat.

Feb 1933: Hitler called a new election to take place in March 1933. In the meantime he would use the newspapers & radio stations to get his message across.

27th Feb: The Reichstag burns down & a communist, Marinus van der Lubbe is found outside with matches. Hitler claims it is a communist plot.

Key Terms	Definitions
Cabinet	The group of senior politicians who are responsible for controlling government policy
Enabling Law/Act	A law which allowed the Nazis to make their own laws without consulting the Reichstag
Gestapo	Secret police
Fuhrer	Hitler's new title meaning leader

28th Feb: Hitler asks Hindenburg to pass a special emergency 'Protection Law' to deal with Germany's problems

March 1933: the law for the 'Protection of the People and State' banned leading Communists from taking part in the election campaign, 4000 communists jailed & their newspapers shut down.

5th March: the Nazis get more votes in the election but still not a majority

23rd March: The Centre Party joins with the Nazis, giving him a majority in the Reichstag. He passes the Enabling Act, giving him the power to make laws without asking the rest of the politicians in the Reichstag.

7th April: The Gestapo was formed & concentration camps set up.

2nd May: Trade unions banned

14th July: all political parties banned apart from the Nazis. Anyone who trying to set up & run a political party would go to prison for 3 years.

30th June 1934: Night of the Long Knives

2nd August 1934: Hindenburg died. Hitler merged the role of Chancellor & President & became Fuhrer. The army swore an oath of loyalty to him personally.

The Night of the Long Knives

Rohm, the leader of the SA wanted to join it with the army. This would make him very powerful, which alarmed Hitler. The army leaders did not want to be under Rohm's control. There were also rumours that Rohm wanted to seize power.

30th June 1934: Hitler purged the leaders of the SA, key politicians & other opponents.

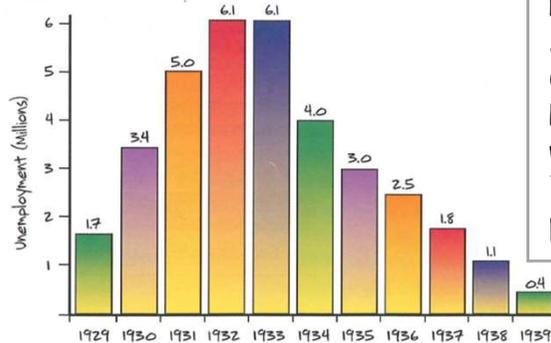
Impact: Hitler had eliminated many people who he saw as a threat. The SS, led by Himmler would now be responsible for Hitler's security. Hitler was open about what he had done & he literally got away with murder.



History

History Knowledge Organiser: Dealing with unemployment & work

▼ B The rise and fall of unemployment in Germany, 1929–39



Reducing Unemployment National Labour Service (RAD)
 All men aged 18-25 had to spend 6 months in the RAD
 Planted forests, dug ditches & worked on farms
 Wore uniforms & lived in camps, paid pocket money.

Public work schemes June 1933: Nazis ordered the creation of autobahns. Nearly 100,000 employed. By 1938, 3,800km completed. Schools & hospitals also built.

Rearmament: thousands of new jobs were created to supply the armed forces with weapons. Factory owners & businessmen made a fortune. Conscription increased the size of the army from 1000,000 to 1,400,000 men.

BUT invisible unemployment: Women & Jews who were sacked from their jobs were not counted in the unemployment figures. Part time jobs were counted as full time.

Did Hitler make Germany self-sufficient?

1933: Schacht appointed Minister of Economics. He signed deals with other countries in South America & south-east Europe to supply Germany with raw materials in return for German made goods. But Germany was still dependent on raw materials from foreign countries. Schacht was replaced by Goering.

1936: Goering introduced the Four Year Plan to get Germany ready for war. This aimed to increase military production. Ordering weapons, uniforms & equipment created jobs. High targets were set & achieved in industries such as steel & explosives but not in other key areas such as oil production. Germany was still not ready for war in 1939. Substitutes were developed for goods that were difficult to find e.g. making petrol from coal, coffee from acorns & cotton from pulped wood.

Key Terms	Definitions
Autobahn	Motorway
Rearmament	Building up stocks of weapons
Conscription	Forcing men to join the army. All men aged 18-25 were required to serve for 2 years
Invisible unemployment	When the Nazis hid or changed unemployment figures to make them look better
Self-sufficient	Having a 'closed' economy, where Germany would not need to trade with other countries; producing all its own goods

Did The Nazis Help Farmers?

- ✓ Hitler cut farmer's taxes & he guaranteed farmers could not be thrown off their land if they got into debt
- × Farmers were prohibited from dividing up their land & giving a part to each of their children & as a result some farmers argued their children were forced to leave the countryside to work in cities

Were people better off under the Nazis?

- More people were working
- German Labour Front (DAF) replaced trade unions & promised to protect the rights of workers & improve conditions. It ran:
 - Beauty of Labour: a scheme to improve the working environment
 - Strength through Joy: a scheme which organised leisure activities to encourage hard work.
- There was also a scheme to help people save for a car. No one ever received one.
- Wages didn't increase, workers lost rights as trade unions banned, workers couldn't quit without the government's permission & were banned from striking.
- Food cost more & wages didn't increase for many.





History

History Knowledge Organiser: War, women & children

The Impact Of War

At first the war went well & Germany benefitted from the resources & luxury goods taken from the conquered countries.

1941: Germany invaded the USSR & started to lose.

- Severe food shortages, clothing was rationed.
- From 1942 the country was organised for **Total War**. Factories opened for longer, leisure activities were stopped & women were drafted to work in the factories. Foreign workers were used as slave labour in factories.
- The Allies bombed German cities. Electricity & water supplies were affected, as was transport. Large numbers of refugees left their homes seeking safety.
- Support for the Nazis started to weaken.

The Young

- Hitler wanted to brainwash the young into following his beliefs. They would continue to follow him for the rest of their lives.
 - School subjects were changed e.g. History taught that the Germans had been badly treated in the ToV. Race Studies (Eugenics) taught Nazi race theories such as Aryans were the superior race.
 - All teachers had to join the German Teachers League & any who refused to teach as the Nazis wanted were sacked.
 - Adolf Hitler Schools were set up for future Nazi leaders.
- Universities:** Between 1933 & 1934 15% of all university professors were replaced, 1/3 for racial reasons & 1/2 for political.
- Many leading academics left the country e.g. Albert Einstein. University courses were changed to teach Nazi ideas.
 - The Nazis didn't see university as a particularly important & fewer Germans attended during the Nazi years.

Key Terms	Definitions
Hitler Youth	Nazi youth groups
Total War	When country's economy is geared towards providing the resources needed to supply the armed forces

Youth Groups

1922: Hitler Youth Organisation set up.

Boys taught military skills, girls taught how to be good wives & mothers.

1933: all other youth groups banned (e.g. cub scouts).

1936: Law for the Incorporation of German Youth gave Hitler Youth equal status to school & home (HY was as important as the other two).

1939: membership of HY made compulsory.

Children expected to attend meetings several times a week, weekends were spent camping. Children were encouraged to inform on their parents & teachers. Not all children joined. Edelweiss Pirates & Swing Youth - both gangs which refused to conform. They went camping, sang anti-Hitler songs & sometimes attacked HY groups.



Women

- Nazis wanted to raise the birth rate & encourage women to stay at home
- Kinder, Kirche & Kuche (children, church & cooking)
- Many women were sacked from their jobs
- Social controls were introduced e.g. women banned from smoking, wearing trousers
- Marriage loans encouraged women to have children & women with large families were rewarded with the medals
- Birth rate did increase
- During the war, the Nazis needed women in the factories & working, but women were not called up to work.



History

History Knowledge Organiser: Religion & hatred

Christianity

Religion important feature of German society
Some Christian & Nazi views were similar e.g. both believed in the importance of marriage, the family & moral values
Both disliked communism.

Catholic Church

1933: Hitler & the Pope signed the **Concordat**. Hitler soon broke this agreement & started arresting Catholic priests & closed down Catholic youth groups

1936: Pope issues 'With Burning Anxiety' saying the Nazis were hostile to the church.

1941: Archbishop Galen openly criticised the Nazis for their use of **ethanasia** & concentration camps. He was put under house arrest.

Protestant Church - some Protestants supported Hitler. They were known as '**German Christians**' & were led by Ludwig Muller. They often wore Nazi uniforms & placed Mein Kampf next to the Bible. The Protestant **Confessional Church** criticised the Nazis. Led y Pastor Martin Niemoller. Around 8000 pastors including Niemoller were arrested.

The Nazis & other religious groups

About 1/3 of Jehovah Witnesses died in concentration camps because of their pacifist beliefs
Salvation Army & Christian Scientists also targeted

Persecution of racial groups

Hitler believed some races were superior to others. Germans were the master race, with the right to dominate other inferior races such as Jews & gypsies.

Undesirables such as tramps & beggars weakened the nation.

Problem families, prostitutes were also sent to the camps.

Around 350,000 physically & mentally disabled people were **forcibly sterilised**. From 1939 the Nazis started to murder them

Key Terms	Definitions
Concordat	An agreement between the Pope & Hitler, not the interfere with each other
Euthanasia	The deliberate killing of a person
German Christians	Protestant group, largely under Nazi control
Confessional Church	German Protestant group determined to have nothing to do with the Nazis or German Christians
Undesirables	People who the Nazis saw as weak or a burden on the state
Forcibly sterilised	Operating on people to prevent them from having children

Laws against Jews



March 1933: all Jewish lawyers & judges sacked April 1933: All Jews banned from sports clubs

Jan 1934: all Jewish shops marked with the star of David

Sept 1935: Nuremburg Laws banned marriages between Jews & non-Jews. Jews not allowed to vote

Nov 1938: Jewish children banned from schools. Kristallnacht: Jewish homes, synagogues & businesses attacked. Around 100 Jews killed & 20,000 sent to concentration camps.

April 1939: Jews could be evicted from their homes for no reason

Anti-Semitism during the Second World War

Anti-Semitic policies were introduced into the countries occupied by the Nazis .

Jews in eastern European countries were placed in ghettos or sent to camps. Execution squads shot & gassed as many Jews as they could find. In 1942 the Nazis introduced the 'Final Solution'. Extermination camps were built & Jews from all over Europe were transported to them.

Jewish resistance

Some Jews fought back. Some escaped to local forests & formed resistance groups which attacked German soldiers. The Warsaw Ghetto Uprising of 1943 lasted 43 days before it was put down.



History

History Knowledge Organiser: The Terror State

The police state

Concentration camps: held 'enemies of the state' for any length of state. The aim was to 'correct' people who were not doing what the Nazis wanted. Inmates were forced to work hard & could be killed.

The SS: originally were Hitler's personal bodyguards, led by Himmler. They looked after security & ran concentration & death camps.

Police & courts: the police ignored crimes committed by Nazis. All top jobs in the police were to Nazis. Courts were under Nazi control & the death penalty could be given for even telling an anti-Hitler joke.

The Gestapo: they spied on people, tapped telephone calls & had the power to arrest & imprison anyone without trial. People were encouraged to inform on their families, neighbours and strangers.

Propaganda: Goebbels was appointed Minister of Enlightenment & Propaganda. He understood **propaganda** worked best with basic ideas, with short messages & powerful images. The Nazis key messages appeared repeatedly in all forms of media.

Censorship: Anything that was viewed as harmful to the Nazis (books, films, newspaper articles) was banned.

Only positive stories about the Nazis were published in newspapers. All film plots were shown to Goebbels before they were made. Cheap radios meant that the Nazis were able to reach a large amount of the population. Mass rallies were held to celebrate Hitler's greatness.

Resistance & opposition: it was difficult to show opposition to the Nazis. Some people grumbled about them or told anti-Hitler jokes.

Passive resistance: people might refuse to give the Heil Hitler salute or give money to the Hitler Youth.

Open opposition: the Swing Group listened to jazz music & had Jewish friends.

The White Rose group: handed out anti-Hitler leaflets, put up posters & wrote graffiti on walls.

Edelweiss Pirates: a banned youth group, beat up Nazi officials and helped army deserters

Kreisau Circle: army officers, university professors & aristocrats who discussed assassinating Hitler

July Bomb Plot: 1944, von Stauffenberg tried to blow Hitler up but failed.

Key Terms	Definitions
Gestapo	Secret police
Propaganda	The spreading of ideas and information
Censorship	Controlling the information people have access to
Passive resistance	Refusing to do what you are told, without using violence

How did the Nazis affect the arts & culture?

Chamber of culture set up. All musicians, artists, writers & actors had to be members. If they refused to join they were not allowed to work. All aspects of art & culture had to give the message that Nazi beliefs & ideas were correct.

Cinema: Goebbels directly controlled which films were made. Nazi messages included that German soldiers were heroes, Jews were mean & nasty.

Music: should be German or Austrian. Jewish composers were banned, as was Jazz because it had its origins among the black people of America.

Theatre: plays had to focus on German history & politics.

Literature: certain books were banned e.g. All Quiet On The Western Front (anti-war message). Mein Kampf was the best selling book. Books about race, the glory of war & the brilliance of the Nazis were encouraged.

Design: Hitler did approve of modern design such as Bauhaus, so the movement was closed down

Olympics

- 1936 Berlin Olympics. The Nazis used this as an opportunity to showcase Nazi Germany. Anti-Semitic posters & newspapers were stopped.
- The German Olympic squad came top of the medal table. Hitler claimed this proved his race theories.
- The events were filmed by Leni Riefenstahl, which showed Germany's technological advances to the world.



History

Year 11 History Knowledge Organiser - Medieval Medicine treatments, surgery & beliefs

Hippocrates & Galen

Medieval medical belief was based on the teachings of Hippocrates & Galen.

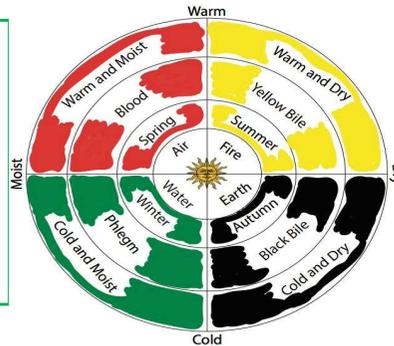
Hippocrates believed disease had **natural** rather than supernatural causes. He developed the idea of **clinical observation** & the **Theory of the Four Humours**. He also wrote about miasma.

Galen argued that the **four humours** needed to be balanced, that blood was developed in the liver and the body was designed by God. As a result his beliefs were supported by the Church.

Medieval Treatments

Doctors concentrated on the patients pulse & urine. Treatments tended to be herbal, bloodletting (normally by using leeches), causing vomiting or supernatural cures such as prayers.

Doctors were expensive, so many people turned to wise women or barber-surgeons.



The Medieval Church taught that illness came from God & curing illness would be a challenge to him. Patients should be cared for, not cured, as illness was seen as a punishment. Patients were encouraged to go on **pilgrimage**. Most hospitals run by monks & nuns.

The Church controlled universities where doctors were trained & taught the ideas of Hippocrates & Galen. They did not encourage new learning.

Islamic Medicine - many medical advances were made under the Caliphs & Islam encouraged medical learning. Hospitals (**bimaristans**) were set up to treat the mentally ill & the aim was to cure, rather than just care. Islamic medical ideas reached Europe through trade.

Al-Razi (Rhazes): encouraged careful observation of the patient, distinguished measles from smallpox & although a follower of Galen, believed that students should improve on the work of the teacher.

Ibn Sina (Avicenna): wrote the *Canon of Medicine*, covering all Greek & Islamic medical knowledge. It listed the properties of 760 drugs & had chapters on medical problems such as anorexia & obesity. It became the standard European medical textbook.

Key Terms	Definitions
Clinical observation	Examining the patient's body to find out what is wrong with them.
Four Humours	The idea the body was made up of humours. If they became unbalanced then the a person became ill.
Miasma	The belief that swamps, corpses and rotting matter could spread disease by creating bad air
Bloodletting	Removing blood
Pilgrimage	A journey to a religious shrine
Caliphs	Islamic rulers
Bimaristans	Islamic hospitals
Barber surgeon	Medieval surgeons who also cut hair
Trepanning	Drilling a hole in the skull
Anaesthetic	A substance to remove pain
Cauterisation	Burning the wound

Medieval Surgery

Most surgeons were **barber surgeons**. Their treatments included **bloodletting**, amputation & **trepanning** (used as a treatment for epilepsy, to let the devil out).

Surgery was dangerous as many patients died from shock or blood loss. Natural substances such as mandrake root, opium & hemlock were used as **anaesthetics** (but if the dose was wrong patients might die). **Cauterisation** was used to stop the flow of blood. Examples of surgeons include:

John of Arderne: his surgical manual *Practica*, contained drawings of his operations & instruments. He used opium & henbane. Developed an operation to treat knight's anal abscesses.

Hugh of Lucca & his son Theodric: criticised the view that pus was needed for a wound to heal.

Abulcasis: a Muslim surgeon who invented 26 new surgical instruments & described many new procedures.



History

Year 11 History Knowledge Organiser- Medieval Medicine towns, monasteries & disease

Public health in towns

Medieval towns were built near rivers, which were used for drinking water & the removal of sewage. However, some people threw their toilet waste into the street. Some towns & houses had **privies**, with **cesspits** underneath (these were emptied once a year by **gong farmers**). **Cesspits** might overflow into the street.

Streets might be paved, but often not. They had open drains which could overflow. Town mayors & councillors did not want to increase taxes to fund improvements. There was no knowledge of germs & the link to disease & infection. People believed that illness was caused by 'bad air', so they were keen to remove unpleasant smells.

Town authorities tried to stop rivers & towns being polluted by local businesses.

Leather tanners for example used dangerous chemicals & smelled awful. Butchers often dumped waste products such as blood & guts in rivers & streets. Some towns passed laws encouraging people to keep the streets in front of their houses clean.

Monasteries & abbeys: these were often in isolated areas, near to rivers. Monasteries used pipes to deliver water to **lavators**. They had excellent washing facilities which was done in a **lavatorium**. They had privies & cesspits (which could often be flushed out from time to time by diverting local river water through them. Cleanliness was important to monks As it was a sign of piety & celibacy, so they washed frequently (some bathed once a month & the Benedictines washed their clothes regularly). Monasteries had **infirmaries** where the sick were treated.

Why were conditions better in a monastery?

Wealth: people left monasteries money & they also made more from wool production. They owned large amounts of land. As a result they could build good **sanitation** facilities.

Education & discipline: monks had access to medical books (in their libraries) & they were trained in the use of herbs. They followed simple routines in diet, sleep & exercise. They also learned from the Ancient World the idea of keeping clean water away from wastewater.

Isolation: they tried to stay away from **lay people**, as they viewed them as sinful. This kept them away from the worst **epidemics**.

What was the impact of the Black Death?

It killed at least 1/3 of the population of England between 1348 & 1350. Food shortages: crops were not harvested & whole villages wiped out. Many peasants changed to sheep farming as it required fewer workers, which into reduced the amount of food such as bread produced. As a result of food shortages, the price of food increased. Those workers who did survive could demand higher wages. Some churchmen deserted their villages & were criticised for this.

Key Terms	Definitions
Public health	The health & wellbeing of the population as a whole
Privies	A toilet in a shed outside the house
Cesspit	A pit under a privy which collected sewage
Gong farmers	A person who cleaned out privies/cesspits
Lavers	Wash basins in monasteries
Lavatorium	Communal washing area for monasteries
Piety	A sign of being religious
Celibacy	Abstaining from (not) marrying
Infirmaries	A place to care for the sick
Sanitation	Systems for keeping water clean & removing waste
Lay people	None religious people
Epidemic	Outbreaks of disease
Buboe	A swelling in the armpit, groin or neck

Black Death: bubonic & pneumonic plague

Bubonic plague: spread by fleas. Symptoms: buboes found in people's groin, neck & armpit. The lumps oozed pus. Fever & vomiting of blood followed.

Pneumonic plague: more deadly. Infected the lungs, caused fever & coughing. Spread by contact with victims breath or blood.

Medieval people thought it had various causes: Jews, bad air, the position of the planets. Actually caused by the bacteria in the stomachs of fleas which lived on rats. It spread quickly as: people lived closely together, people who handled bodies did not protected themselves & dirty streets encouraged rats to breed.

People did not know how the disease was spread. 'Cures' included drinking mercury, shaving a chicken & strapping it to the buboes & some towns introduced quarantines.



History

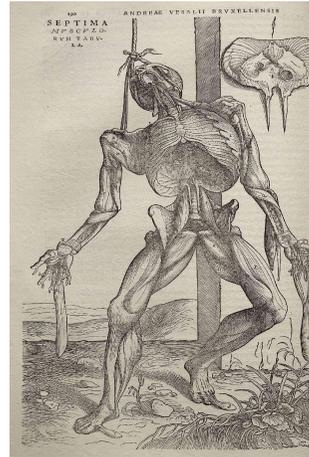
Year 11 History Knowledge Organiser- Renaissance Medicine developments

The Renaissance

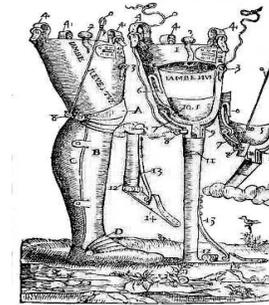
Italian traders & businessmen began to take an interest in the Greek & Roman world. They began to ask questions about these ideas, which encouraged further learning. The development of the printing press allowed knowledge to spread quicker & more accurately.

Vesalius

Carried out dissections of the human body. He realised there were mistakes in Galen's work e.g. the breastbone of a human was in 3 parts, not 7. Vesalius realised this was because Galen's findings were based on animal dissections, not human. Vesalius was criticised for saying Galen was wrong. His findings were printed in *The Fabric of the Human Body* (1543). This had clear illustrations. His work was reprinted by Thomas Geminus in *Compendiosa*, which was used by London barber-surgeons. Although his work didn't lead to any new medical cures, it became the basis for better treatments in the future.



Key Terms	Definitions
Renaissance	The renewal or rebirth of art, literature & culture during the 14-16 th centuries
Ligatures	The use of strings or threads to tie off individual blood vessels.
Cauterisation	Burning the wound
Quack	An unqualified, often useless doctor
Barber surgeon	Medieval surgeons who also cut hair
King's Touch	The practice of the king touching people in the hope of curing them
Anaesthetic	A substance to remove pain



How scientific was 17th & 18th medicine?

People could turn to **barber-surgeons** (poorly trained people who would give you a haircut & perform small operations such as tooth pulling), apothecaries (little or no medical training, but sold medicines or potions), wise women (treatments often based on superstition, herbs & plants) & **quacks** (showy, travelling salesmen who sold cures).

Bloodletting still used. People believed in the **King's Touch** to cure scrofula. People relied on herbal remedies, some of which worked like honey to kill bacteria. Explorers brought back new remedies such as quinine to treat malaria & opium to use as an **anaesthetic**.

Pare

Surgeons originally treated gunshot wounds by burning them out with boiling oil & then outing cream of rose oil, egg white & turpentine on. In 1537, Pare ran out of oil & used just cream. The wounds healed quickly. He also encouraged the use of **ligatures** in amputations, instead of cauterisation. But **ligatures** could introduce infection into the wound & took longer to implement than **cauterisation**. Pare also designed and made false limbs for soldiers.

Pare based much of his work on Vesalius' ideas. His *Works on Surgery* (1575) was read by English surgeons. William Clowes, surgeon the Elizabeth I used Pare as a source for his treatment of using onions for burns & agreed with Pare that gunshot wounds were not poisonous.

Harvey

Galen believed blood was made in the liver & used up as a fuel. He believed that blood passed from one side of the heart to the other through invisible holes. These ideas had been challenged,, but doctors still believed Galen's theories. Harvey experimented by pumping liquid the wrong way through valves in the vein, proving blood could only go one way. He worked out how much blood the body would have to produce if, as Galen said it was used as fuel. He used methodical observation & experiments to support his ideas. He took 12 years to publish his ideas in *Du Motu Cordis* & he still did not know why blood circulated. His ideas were criticised & called a **quack**. His ideas were not immediately useful, as further discoveries were needed, but many modern treatments would not work unless blood circulation as understood.



History

Year 11 History Knowledge Organiser- Renaissance Medicine disease & hospitals

The Plague

1665 - about 100,000 killed in London. People still believed it was a punishment from God for their sins, poisonous air or the movement of the planet. People treated with leeches, some smoked to keep away the 'poisoned' air & placing chickens, frogs & puppies on the **buboe**.

Rich people fled to the countryside. More organised approach to dealing with the plague. Women searchers were paid to examine the sick, then plague victims **quarantined** in their houses. Bodies buried in mass pits. House owners were ordered to keep the streets in front of their houses clean & pigs, dogs & cats were not allowed in the streets.

The plague declined because the population developed a greater resistance to the disease.

Hospitals

Idea of hospitals as a place to cure people developed during this time. Hospitals founded and supported by charitable gifts of private people e.g. Westminster Hospital (1719) in London founded by a private bank. Other hospitals founded by '**private subscription**'.

Some hospitals now had medical schools attached to train doctors. Treatment still based on the four humours approach of bleeding and purging. Some specialist hospitals established such as St Luke's Hospital in London (1751) to treat the mentally ill. BY 1800, 20,000 patients in London being treated in hospitals every year. People also moving away from the idea that illness was a punishment for sin.

Hunter

Surgeon, who believed in careful observation & the use of scientific method. Experimented on himself by injecting himself with pus from a gonorrhoea patient in the aim of proving gonorrhoea & syphilis could not exist in the same patient. He trained many new surgeons in his scientific approach. He wrote several books including *Blood Inflammation & Gunshot Wounds*, which proved that gunshot wounds were not poison & therefore the area around the wound did not need to be cut out. Hunter dissections of the human body allowed him to make discoveries about the nature of disease, infections, cancer & the circulation of the blood.

Key Terms	Definitions
Buboe	A swelling in the armpit, groin or neck
Quarantine	When people are isolated to prevent the spread of disease
Private subscription	Local people clubbing together to pay for the construction & running of a hospital
Inoculation	Scratching pus or scabs from a ill person on to a healthy person to help build up resistance to disease
Vaccination	Injecting a mild dose of an illness to build up resistance to it

Edward Jenner

Inoculation was used to prevent smallpox in China & other parts of Asia. It was introduced to Britain in 1721. It was expensive, so only the rich could afford it. But there were issues with inoculation

- Religious objections, as some people still believed illness was sent by God.
- Germs & infection were not understood, so it was hard to accept the idea of giving a small amount of disease to prevent a bigger disease.

Jenner heard that milkmaids who caught cowpox were protected against smallpox & he decided to test this out. In 1796 he injected a child with cowpox & then 6 weeks later gave him a dose of smallpox.

Jenner also took cowpox pus from one patient & vaccinated another with it. This proved that cowpox protected humans from smallpox.

Jenner could not explain how **vaccination** worked, so people found it difficult to accept. Woodville & Pearson tested Jenner's theory but their equipment was contaminated, so their experiments failed.

Attitudes changed as people eventually realised **vaccination** was effective & less dangerous than **inoculation**.

Unit 2a Urban Issues & Challenges



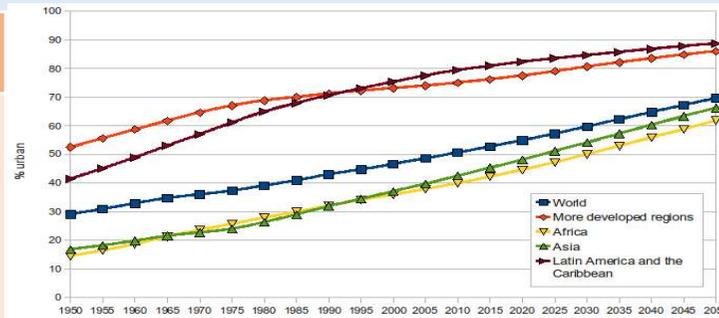
Keyword	Definition
Urban	Meaning 'of the town and city' – large built-up areas
Rural	Meaning 'of the countryside'
Urbanisation	The growth in the number and proportion of people living in urban areas
Push Factor	A reason making somebody want to leave somewhere
Pull Factor	A reasons attracting somebody to a new place
Sustainable	Development and change which does not damage things for future generations

What is Urbanisation?

This is an increase in the amount of people living in urban areas such as towns or cities. In 2007, the UN announced that for the first time, more than 50 % of the world's population live in urban areas.

Where is Urbanisation happening?

Urbanisation is happening all over the world but in LICs and NEEs rates are much faster than HICs. This is mostly because of the rapid economic growth they are experiencing.



Causes of Urbanisation

Rural - urban migration (1)

The movement of people from rural to urban areas.



Push

- Natural disasters
- War and Conflict
- Mechanisation
 - Drought
- Lack of employment



Pull

- More Jobs
- Better education & healthcare
- Increased quality of life.
- Following family members.



Natural Increase (2)

When the birth rate exceeds the death rate.

Increase in birth rate (BR)

- High percentage of population are child-bearing age which leads to high fertility rate.
- Lack of contraception or education about family planning.



Lower death rate (DR)

- Higher life expectancy due to better living conditions and diet.
- Improved medical facilities helps lower infant mortality rate.



Sustainable Urban Living

Sustainable urban living means being able to live in cities in ways that do not pollute the environment and using resources in ways that ensure future generations also can use them.

Water Conservation

This is about reducing the amount of water used.

- Collecting rainwater for gardens and flushing toilets.
- Installing water meters and toilets that flush less water.
- Educating people on using less water.



Energy Conservation

Using less fossil fuels can reduce the rate of climate change.

- Promoting renewable energy sources.
- Making homes more energy efficient.
- Encouraging people to use energy.



Creating Green Space

Creating green spaces in urban areas can improve places for people who want to live there.

- Provide natural cooler areas for people to relax in.
- Encourages people to exercise.
- Reduces the risk of flooding from surface runoff.



Waste Recycling

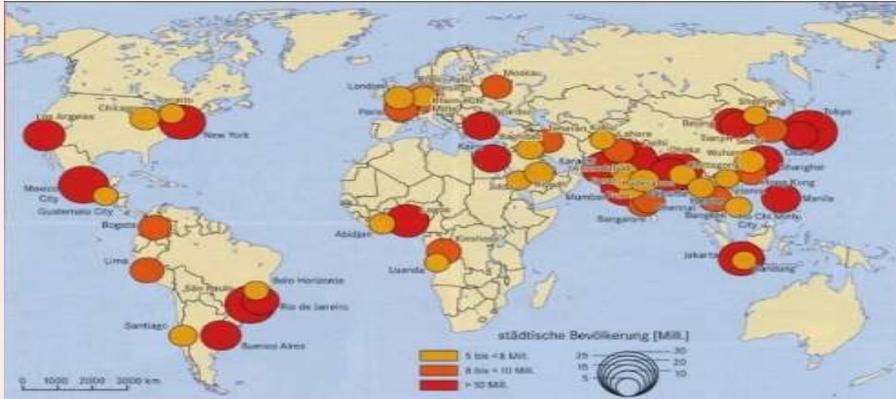
More recycling means fewer resources are used. Less waste reduces the amount that eventually goes to landfill.

- Collection of household waste.
- More local recycling facilities.
- Greater awareness of the benefits in recycling.



Types of Cities

Megacity - An urban area with over **10 million people** living there.



More than two thirds of current megacities are located in either NEEs (Brazil) and LICs (Nigeria). The amount of megacities are predicted to increase from 28 to 41 by 2030.

A conurbation is where one city has expanded outwards and joined the next city/urban area. In the UK, Birmingham and Wolverhampton have each expanded outwards to form one urban area.

A millionaire city is a city with over one million inhabitants



Traffic Management

Urban areas are busy places with many people travelling by different modes of transport. This has caused urban areas to experience different traffic congestion that can lead to various problems.

Environmental problems

- Traffic increases air pollution which releases greenhouse gases that is leading to climate change.



Economic problems

- Congestion can make people late for work and business deliveries take longer. This can cause companies to lose money.

Social Problems

- There is a greater risk of accidents and congestion is a cause of frustration. Traffic can also lead to health issues for pedestrians.

Congestion Solutions

- Widen roads to allow more traffic to flow easily.
- Build ring roads and bypasses to keep through traffic out of city centres.
- Introduce park and ride schemes to reduce car use.
- Encourage car-sharing schemes in work places.
- Have public transport, cycle lanes & cycle hire schemes.
- Having congestion charges discourages drivers from entering the busy city centres.



Unit 2a



Urban Issues & Challenges

Sustainable Urban Living Example: Freiburg

Background & Location

Freiburg is in west Germany. The city has a population of about 220,000. In 1970 it set the goal of focusing on social, economic and environmental sustainability.



Sustainable Strategies

- The city's waste water allows for rainwater to be retained.
- The use of sustainable energy such as solar and wind is becoming more important.
- 40% of the city is forested with many open spaces for recreation, clean air and reducing flood risk.
- The bus and tram system is funded by every resident through local taxes, so you hop-on-and-off as much as you like without having to pay each time.

Traffic Management Example: Bristol

In 2012 Bristol was the most congested city in the UK. Now the city aims to develop its integrated transport system to encourage more people to use the public transport. The city has also invested in cycle routes and hiring schemes.

New office developments are only allowed a small number of parking spaces to encourage employees to use the bus or to cycle to work

Bus lanes and rapid bus routes make public transport more appealing.



Integrated Transport System

This is the linking of different forms of public and private transport within a city and the surrounding area.

Trams, underground rail, light rail and modern buses (especially when separate from 'normal' traffic) are the most appealing to users.

Greenbelt Area

This is a zone of land surrounding a city where new building is strictly controlled to try to prevent cities growing too much and too fast.

There is limited development allowed on greenbelt land – only essentials. For example, near Aston-on-Trent, a crematorium was built but a local farmer was unable to extend his home.

Brownfield Site

Brownfield sites is an area of land or premises that has been previously used, but has subsequently become vacant, derelict or contaminated.

Urban Regeneration

The investment in the revival of old, urban areas by either improving what is there or clearing it away and rebuilding.

Greenfield Site

Land which has not already been built upon. Will generally be rural in nature, possibly farmers' fields

Urban Park

A green area within a city. Encourages biodiversity and the cleaning of polluted air. E.g. Central Park in New York is said to be 'The lungs of Manhattan'



Y11 French: School, work & future ambitions

Parle-moi de ton collège.	A	Tell me about your school.
Mon collège s'appelle Da Vinci Academy.	1	My college is called Da Vinci Academy
C'est un collège mixte pour les élèves de onze à seize ans.	2	It's a mixed school for students aged 11-16.
On a de la chance parce que	3	We are lucky because
il y a des excellents labos de sciences,	4	there are excellent science labs,
mais malheureusement il n'y a pas de bibliothèque.	5	but unfortunately there isn't a library.
Si j'étais le directeur/la directrice, il y aurait	6	If I was the headteacher, there would be
une grande piscine car j'adore faire de la natation.	7	a big pool because I love to go swimming.
Quelles matières aimes-tu ?	B	What subjects do you like?
Ma matière préférée c'est l'anglais	8	My favourite subject is English
car le prof est sympa et je l'aime bien.	9	because the teacher is nice and I like him.
Cependant je n'aime pas la chimie	10	However I don't like chemistry
parce que je suis assez faible en sciences	11	because I am quite weak at science
et on a trop de devoirs.	12	and we have too much homework.
Décris les règles au collège.	C	Describe the rules at school.
Selon les règles au collège	13	According to the rules at school
il faut être à l'heure.	14	you must be on time.
On n'a pas le droit d'utiliser son portable,	15	You don't have the right to use your phone,
ce que je trouve frustrant	16	which I find frustrating
parce qu'on n'est pas de bébés.	17	because we are not babies.
Quelles sont les différences entre l'école en France/au Royaume-Uni ?	D	What are the differences between school in France/UK?
En France ils portent leur propres	18	In France they wear their own clothes
tandis qu'au Royaume Uni nous portons l'uniforme scolaire.	19	whereas in the UK we wear school uniform.
Je préfère le système français	20	I prefer the French system
car à mon avis l'uniforme scolaire est inutile.	21	because in my opinion school uniform is useless.
Qu'est-ce que tu faisais à l'école primaire ?	E	What did you do at primary school?
À l'école primaire j'étais membre de la chorale	22	At primary school I was a member of the choir
mais maintenant je suis délégué de classe.	23	but now I am a class representative (on school council).
Avant j'avais beaucoup de temps libre	24	Before I used to have a lot of free time
mais maintenant je dois réviser pour mes examens.	25	but now I must revise for my exams.
Que voudrais-tu faire comme emploi ?	F	What do you want to do as a job?
Après avoir fini mes études	26	After having finished my studies
je voudrais être journaliste	27	I would like to be journalist
parce que c'est bien payé et on peut voyager.	28	because it is well paid and one can travel.
Cependant, je n'aimerais pas être infirmier	29	However, I would not like to be a nurse
car ma mère m'a dit que c'est trop stressant,	30	because my mum told me that it is too stressful,



bien que ce soit gratifiant.	31	although it is rewarding.
Si j'ai des bonnes notes, j'irai à l'université	32	If I have good grades, I will go to university
où j'ai l'intention d'étudier l'histoire	33	where I intend to study history
car j'aurai besoin d'un diplôme.	34	because I will need a degree.
Que voudrais-tu faire à l'avenir ?	G	What do you want to do in the future?
A part le travail, mon rêve serait de	35	Apart from work, my dream would be to
prendre une année sabbatique et faire du bénévolat	36	take a gap year and do voluntary work
parce que j'adore les voyages et	37	because I love travelling and
on peut aider les gens.	38	you can help people.
Un jour j'aimerais me marier et fonder une famille	39	One day I would like to get married and start a family
Ce serait parfait pour moi !	40	That would be perfect for me!
As-tu un petit boulot ?	H	Do you have a part time job?
Pour gagner de l'argent de poche	41	To earn pocket money
je tends la pelouse et je passe l'aspirateur.	42	I mow the lawn and do the hoovering
et mes parents me donnent dix euros par heure.	43	and my parents give me ten euros an hour.
J'aimerais avoir un petit boulot	44	I would like to have a part time job
et livrer les journaux, par exemple,	45	and deliver the newspapers, for example,
car c'est bien payé, mais il faut se lever tôt.	46	because it's well-paid, but you must get up early.
Décris un stage que tu as fait.	I	Describe work experience that you've done.
L'année dernière j'ai fait un stage dans un bureau	47	Last year I did work experience in an office
où j'ai fait des photocopies et j'ai répondu au téléphone.	48	where I made photocopies and I answered the phone
C'était assez ennuyeux et le chef était trop sévère	49	It was quite boring and the boss was too strict
donc je n'ai pas beaucoup appris.	50	so I didn't learn a lot.

Grammar – Higher-level tenses (conditional, imperfect & future simple)

PRESENT (what you do)	IMPERFECT (what you did/used to do)	CONDITIONAL (what you would do)	FUTUR SIMPLE (what you will do)
je suis (I am)	j'étais (I was/used to be)	je serais (I would be)	je serai (I will be)
j'ai (I have)	j'avais (I had/used to have)	j'aurais (I would have)	j'aurai (I will have)
je fais (I do)	je faisais (I did/used to do)	je ferais (I would do)	je ferai (I will do)
je vais (I go)	j'allais (I went/used to go)	j'irais (I would go)	j'irai (I will go)
c'est (it is)	c'était (it was)	ce serait (it would be)	ce sera (it will be)
il y a (there is)	il y avait (there was)	il y aurait (there would be)	il y aura (there will be)

We can combine these tenses to create 1) simple and 2) complex 'si clauses'.

1) PRESENT + FUTUR SIMPLE

e.g. Si j'ai des bonnes notes, j'irai à l'université.
If I have good grades, I will go to university.

Si je fais mes devoirs, je serai plus fort en maths.
If I do my homework, I will be better at maths.

2) IMPERFECT + CONDITIONAL

e.g. Si j'étais le directeur, il y aurait une piscine.
If I was the headteacher, there would be a pool.

Si j'avais l'argent, je ferais le tour du monde.
If I had the money, I would do an around-the-world trip.



Sentence builder – talking about school.

Mon collège s'appelle Da Vinci Academy. My college is called Da Vinci		C'est un collège It's	mixte a mixed school publique/privé a public/private school pour les filles/garçons for girls/boys	pour les élèves de onze à seize ans. for students aged 11-16. avec environ cinq-cents élèves. with around 500 students.		
On a de la chance car il y a We're lucky because there is/are		des grands labos de science big labs une bonne cantine a good canteen		mais malheureusement il n'y a pas de but unfortunately there isn't	piscine a pool gymnase a gym bibliothèque a library	ce qui est dommage. which is a shame.
Si j'étais le directeur/la directrice il y aurait If I was the headteacher there would be		une jolie cour de récréation a pretty playground				
Ma matière préférée c'est My favourite subject is Ce que j'aime le plus c'est What I like the most is J'ai toujours aimé I've always liked J'aime aussi I also like		l'anglais English l'EPS PE l'histoire history la biologie biology la chimie chemistry la géographie geography la physique physics le dessin art le français French les maths maths		parce que je le/la/les trouve facile(s) / fascinant(e)(s) / utile(s). because I find it easy / fascinating / useful. car le/la prof est sympa et je l'aime bien. because the teacher is nice and I like him/her. car je suis doué(e) en maths/sciences/langues. because I'm good at maths/sciences/languages.		
cependant however je n'aime pas I don't like ce que j'aime le moins c'est what I like the least is				parce qu'on a trop de devoirs. because we have too much homework. parce que c'est trop difficile/ennuyeux/inutile. because it's too difficult/boring/useless. car le/la prof est sévère et je le/la déteste. because the teacher is strict and I hate him/her. car je suis faible en maths/sciences/langues. because I'm bad at maths/sciences/languages.		
Selon les règles au collège According to the rules at school	Il faut you must	être à l'heure be on time porter l'uniforme scolaire wear school uniform	ce que je trouve which I find	raisonnable reasonable (in)juste (un)fair logique logical ridicule ridiculous frustrant frustrating	parce que because	c'est/ce n'est pas dangereux/important/illégal. it is/it is not dangerous/important/illegal. l'école, c'est pour apprendre. school is for learning. la mode n'a pas de place à l'école. fashion has no place at school.
	Il ne faut pas you must not Il est interdit de it's forbidden to Il n'est pas permis de it's not allowed to on n'a pas le droit de you don't have the right to	utiliser son portable use your phone de porter des bijoux / de maquillage wear jewellery / make up manquer les cours skip class fumer smoke se droguer do drugs	Je pense que c'est I think it's Je ne pense pas que c'est I don't think it's			
En France In France	ils portent leurs propres vêtements they wear their own clothes ils redoublent they repeat the year if they fail les cours finissent à 17h lessons finish at 5pm ils n'étudient pas la religion. they don't study RE		tandis qu'au Royaume-Uni whereas in the UK		nous portons l'uniforme scolaire. we wear uniform. nous ne redoublons pas. we don't repeat the year. la journée finit plus tôt. the day finishes earlier.	
Je préfère I prefer	le système français the French system		parce que l'uniforme scolaire est inutile. because school uniform is useless.			
	le système britannique the British system		parce que les horaires sont plus raisonnables. because the timings of the day are more reasonable. car le redoublement n'est pas une bonne idée. because repeating the year isn't a good idea.			
À l'école primaire at primary school	j'étais membre de la chorale I used to be a member of the choir j'avais beaucoup de temps libre I used to have a lot of free time		mais maintenant	je suis délégué(e) de classe I am a class representative j'ai trop de devoirs I have too much homework		



Sentence builder – future career & personal ambitions.

N.B. Unlike in English, you **don't** need an article (i.e. 'un' or 'une') here

COMPLEX PHRASE	NOUN	FUTURE VERB	JOB	CONNECTIVE	REASON
Après avoir fini After having finished	mes études my studies	je voudrais être I would like to be	acteur/actrice actress avocat(e) lawyer boucher/bouchère butcher caissier(ière) cashier chanteur(euse) singer cuisinier(ière) cook facteur/factrice postman fonctionnaire civil servant footballeur(euse) footballer homme/femme d'affaires business man/woman infirmier(ière) nurse	parce qu' because puisque' since étant donné qu' given the fact that	on peut parler les langues étrangères we can speak foreign languages on peut gagner beaucoup d'argent we can earn a lot of money on peut voyager partout dans le monde we can travel everywhere in the world on peut travailler avec les ordinateurs we can work with computers on peut travailler avec les gens/enfants we can work with people/children on peut aider les gens we can help people.
	mes examens my exams le lycée college l'université university mon apprentissage my apprenticeship mon diplôme my degree	j'aimerais être I would like to be je rêve d'être I dream to be mon ambition est d'être my ambition is to be j'ai envie d'être I fancy being	informaticien(ne) IT worker ingénieur engineer journaliste journalist mécanicien(ne) mechanic médecin doctor pilote d'avion pilot pompier fireman professeur teacher secrétaire secretary serveur/serveuse waiter vendeur(euse) shop assistant	parce que/car because puisque since étant donné que given the fact that	c'est bien payé it's well paid c'est gratifiant it's rewarding c'est un métier/emploi intéressant it's an interesting job j'adore la musique I love music le sport sport les voitures cars je suis très for(te) en maths / français I am very good at Maths/French
Si j'ai des bonnes notes If I have good grades		j'ai l'intention d'être I intend to be			
SEQUENCERS Aussi / de plus Après Tout d'abord Un jour	also after first of all one day	je voudrais/j'aimerais I would like to j'espère I hope to mon rêve serait de my dream would be to	fonder une famille m'installer avec mon copain/ma copine continuer mes études à l'université (la fac) faire le tour du monde faire du bénévolat devenir apprenti(e) prendre une année sabbatique		start a family move in with my boyfriend/girlfriend continue my studies at university (uni) travel around the world do voluntary work become an apprentice take a gap year

AO1

Develop ideas through investigations and showing understanding of sources



Mood board

Theme – consider your theme, have you got a set idea already or are you happy to collect a wider range of ideas

Use a range of sources – don't find pictures from just one place use different sources like, photographs, wallpapers/fabric samples, lettering, magazines etc...

Pick a style – pull it all together with a colour/theme or style to make your page 'work' as a whole

Apply ideas – your mood board should be a visual representation of your mind map



Mind map

Keywords – add branches to your mind map that include key ideas and words, using one word for each branch will allow you to develop more ideas rather than using a phrase or sentence

Central idea – this is the starting point of your mind map and shows the topic you are exploring. All keywords should link from this idea.

Include images – imagery can convey much more than a word or sentence and can help you to develop your ideas as well



Artist Research and Analysis of Work

There are several things you must include in your research to show understanding of your chosen artist

Bio – a quick gathering of facts with the artists birth/death, style, important works

Collect images – select images of their work that are relevant and images that appeal to you, comment on why you like them

Analysis – To show understanding of the artist you must discuss their work. This will allow you to explore ideas and consider different options before you begin creating your own art work.

Reproduction – either copy a small piece of their work or work in the artist's style to show your understanding of their work

Content – Looking at the subject of the work.

What is it? What exactly can you see? What is happening? What does the work represent?
 What does the artist call the work?
 Does the title change the way we see the work?
 What is the theme of the work?
 Landscape, portrait, journey, moment, memory, event, surreal, fantasy, abstract, message.

Form – Looking at the formal elements.

What colours does the artist use? Why? How is the colour organised?
 What kind of shapes can you see?
 What kinds of lines and marks does the artist use?
 What is the surface like? What textures can you see?
 What patterns can you see?
 How big is the work?
 Light, delicate, layered, strong, rough, dark, peaceful, dripped, textured, scale, vivid, bright.

PROCESS – How the work has been developed and made.

What materials and tools have been used?
 What is the evidence for how it has been made?
 Painted, drawn, woven, printed, cast, stitched, constructed, collaged.

Mood – Looking at the communication of moods and feelings.

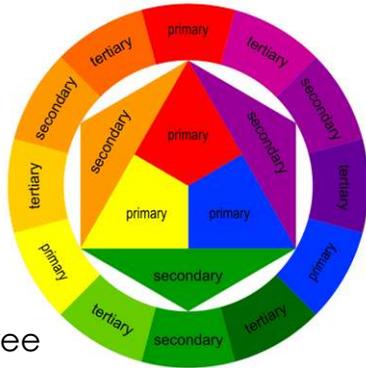
How does the work make you feel?
 Why do you feel like this?
 Does the colour, texture, form or theme of the work affect your mood?
 Quiet, contemplative, thoughtful, hopeful, peaceful, elated, joyful, reflective.

A02

Refine ideas by experimenting with appropriate media, materials, techniques and processes

You don't have to use a specific media in your project, just show some variation.

For example if an artists uses pen, you could try using, pen, pencil, charcoal, biro, coloured pen etc.



Colour Theory

Primary colours are the three main colours, they can't be made, but are used to mix all of the other colours

Secondary colours are made by mixing two primary colours

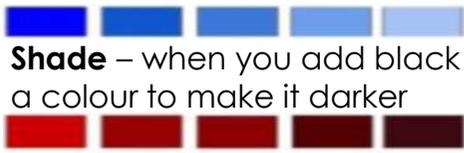
Tertiary colours are made by mixing a primary and a secondary colour

Harmonious colours are next to each other on the colour wheel

Complementary colours are opposite each other on the colour wheel

Tint – when you add white to a colour to make it lighter

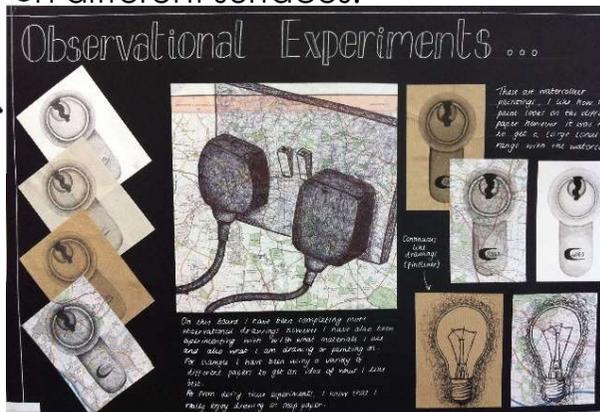
Shade – when you add black to a colour to make it darker



Experimentation

You MUST try things more than once to show improvement and refinement. See how the artist has tried the same sketches in lots of different media and on different surfaces.

Be brave in your use of media, aim to show off your best skills.



Pencil		The basic tool for drawing, can be used for linear work or for shading
Biro		Drawings can be completed in biro and shaded using hatching or cross hatching
Pastel (chalk/oil)		Oil and chalk pastels can be used to blend colours smoothly, chalk pastels give a lighter effect
Coloured pencil		Coloured pencil can be layered to blend colours, some are water soluble
Acrylic paint		A thick heavy paint that can be used smoothly or to create texture
Watercolour		A solid or liquid paint that is to be used watered down and layered
Monoprint		Where ink is transferred onto paper by drawing over a prepared surface
Collograph		A printing plate constructed of collaged materials
Card construction		Sculptures created by building up layers of card or fitting together

Media	The substance that an artist use to make art
Materials	The same as media but can also refer to the basis of the art work eg, canvas, paper, clay
Techniques	The method used to complete the art work, can be generic such as painting or more focus such as blending
Processes	The method used to create artwork that usually follows a range of steps rather than just one skill

A03

Record observations, ideas and understandings as you develop your work

Take your own photographs and work from them as much as possible. Taking your own photographs will allow you to create a more personalised response.



Create both primary and secondary studies.

Create **maquettes** (a miniature scale model) in paper, card, etc to show your ideas.



All ideas and observations **MUST** clearly link to your project/theme. No random art work.

How to 'record'

Observational drawing	Drawing from looking at something (not from imagination)
Primary observation	Drawing directly from looking at objects in front of you
Secondary observation	Drawing from looking at images of objects
Photographs	Using a camera or smartphone to take pictures to draw from (this is also classes as a primary observation)
Sketches	Basic sketches and doddles to show undeveloped and initial ideas.
Annotations	Writing about your art work

Annotation

Describes writing notes, using images and explain your thoughts to show the development of your work.

You must annotate and reflect on your work as it progresses to show your intentions and ideas.

Step 1 – Describe

What is the image of?

What have you done?

Step 2 – Explain

How was this work made?

How did you produce these effects?

How did you decide on the composition?

Step 3 - Reflect

Why did you use these methods?

Why do some parts of the work 'work' better than others?

Why might you do things differently next time?

A04

Present a personal and meaningful response that realises intentions and shows an understanding of visual language

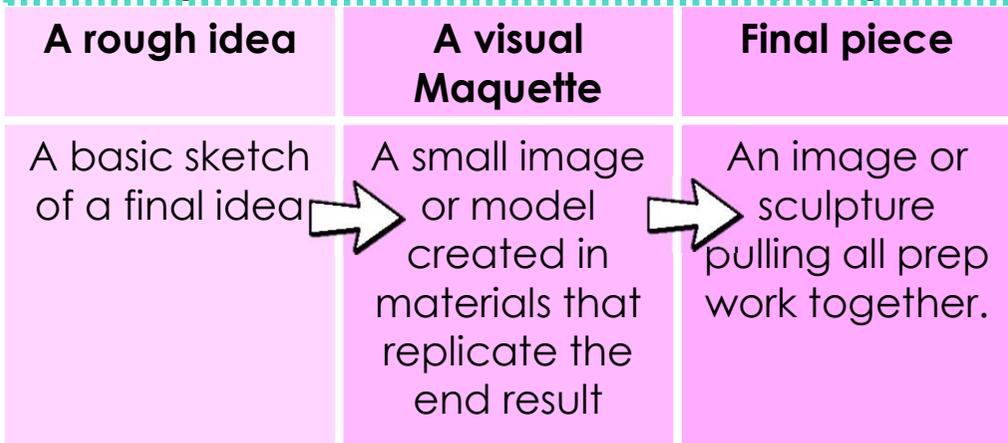
Telling a story with your art and sketchbook, using your work to convey a message instead of relying on words.

Avoid sticking with your first idea. Sometimes your initial idea is worth pursuing but before a final piece is decided upon you should have considered at least three different design ideas.

Thinking about your Final Piece

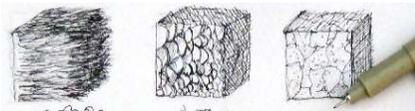
- Use materials and media that you can control well and have practised with.
- Your final piece should show influences from the artists you have studied
- Remember to think about composition rules when designing your final piece

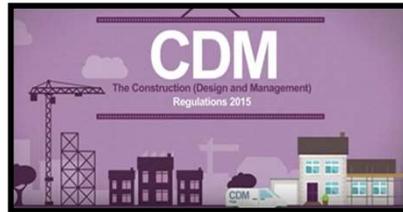
Present your work well, this doesn't mean fancy background. Just take care on every page.



Sketchbook checklist

- Have you demonstrated what the starting point, theme or brief means to you personally?
- Have you established a link between the starting point and your chosen sources?
- Have you reflected your understanding of the social and cultural context?
- Is there a clear link between your sources and your own work?
- Is it clear what ideas or techniques from your sources you have developed?
- Have you selected and presented your studies carefully?
- Made use of your discoveries?
- Made clear links between your work and that of other artists, designers and craftspeople?
- Collected images to show your inspiration and stimuli?
- Made use of drawings, sketches, jottings, photographs and experiments with different media?
- Annotated images to explain how they fit into your development process?
- Demonstrated your understanding through correct use of art and design vocabulary?
- Shown experimentation and selection of the most successful results for your project?
- Organised your recordings and presented them to show and explain your decisions?
- Clearly linked all of your work to your starting point?

The Formal elements of Art	
Tone	How light or dark something is 
Line	A mark which can be long, short, wiggly straight etc... 
Colour	What you see when light reflects off something. Red, blue and yellow are primary colours
Texture	How something looks or feels e.g. smooth or rough 
Pattern	A symbol or shape that is repeated 
Shape	A 2D area which is enclosed by a line e.g. a triangle 
Form	Something which has 3 dimensions e.g. a cube, sphere or a sculpture 



Construction Design Management (CDM)

- Plan the work so the risks involved are managed from start to finish
- have the right people for the right job at the right time
- cooperate and coordinate your work with others
- have the right information about the risks and how they are being managed
- communicate this information effectively to those who need to know
- consult and engage with workers about the risks and how they are being managed

Gantt chart Important points:

- Gives team a reference point
- Regularly updated by planner
- All factors that influence the procurement, design and construction processes are factored into the plan
- Can be produced using powerful software or excel spreadsheets or by hand.

Planning Permission:

Planning permission is managed by the local Council, whereas Building Regulations are managed by private companies such as Inspectors

Building regulations: Building Regulations are minimum standards for design, construction and alterations to virtually every building.

The Building Regulations 2010 cover the construction and extension of buildings and these regulations are supported by Approved documents.

What is the difference between them?

Planning permission relates to the principal of development, covering issues such as siting, scale and appearance, whereas the Building Regulations deal with the technical issues such as structural stability, fire drainage and energy conservation.

Building Regulations: how do they apply to renovation and conversion projects?

Some homeowners are unaware that they will require Building Regulation approval for work that they are planning to carry out, believing that once they received Planning permission (if it is required), that is all that is required do and they can carry on with the building work.

Summary: The planning of projects remains the same whether a refurbishment, extension, new build or infrastructure project.



Project planning: The pre-construction period, construction phase and maintenance period will be planned in detailed schedules and programmes of work at an early stage, to help inform, guide and check the procedures, activities and processes of construction and quality checking during the project.

Building trades: trades (as carpentry, bricklaying, plumbing) that are essential to and chiefly practiced in connection with building construction.

Professional Tradesman: Generally a tradesman that has been educated to degree level such as an architect, site manager or Civil Engineer.

Three Stages of Drawing-

Preliminary Conception-Drawn by hand then reworked digitally

Tender Drawings- These show more detail and have been approved by the client

Construction Drawings- Accurate drawing ready to be used by contractors

Common Factors That Effect

Location - Working in remote locations or far away from an organisation, head office can be costly

Value of project- A large multi million pound office development may be impossible for a small contractor to attempt due to restricted cash flow

Size of the project- A large building maybe too complex for a small company to manage resources without needing more staff

Availability of resources- Shortages of labour, plant or materials are common when constructing buildings, when there is a demand for buildings prices increase

Site clearance: This can happen once **permission** to proceed and **risk assessment** taken place. The site clearance is a vital activity that allows **controlled waste removal**. Waste that needs to be removed in a controlled manner: Vegetation, asbestos, contamination, redundant buildings and infrastructure, and waste to be removed from site in a controlled manner and taken for disposal or recycling locally. **Legislation** linked to the removal of asbestos:

Control of Asbestos Regulations 2012

Tests completed: •Contamination e.g. asbestos or oil in the subsoil, •Presence of tree roots, water sources and antiquities.
*if it is a historically significant site an archaeologist will attend



Key terms

Substructures: all structures below the superstructure, which in general terms is considered to include all structures below ground level but including the ground floor bed.

Superstructures: all structures above ground level both internally and externally

'Soft Landings': The building logbook and manuals help the owners optimise its energy consumption, owners and new owners know and understand how the building works and how it should be maintained.

Percentages: Percentages are a common means of understanding the specific part of a material that has been formed into products or requires some form of division.

Scaling: an important tool that is used in the construction industry to help you comprehend the ratios of measurements to a consistent scale. The scale is often agreed at a scale that is comfortable to the persons eye.

Best value: is the procurement process by which the buyer investigates the value of these goods and services not just by its commercial cost/value £ alone

Tolerances: are the primary quality control measure used to set the standards for the design and construction process, and give a definitive value that the tradesperson must work to.

Scaling: an important tool that is used in the construction industry to help you comprehend the ratios of measurements to a consistent scale. The scale is often agreed at a scale that is comfortable to the persons eye.

Scale	Equal to	Use
1:50	For every 50mm this is equal to 1mm on the scale rule	Plans, evaluations and sections
1:100	For every 100mm this is equal to 1mm on the scale rule	Plans, evaluations and sections
1:200	For every 200mm this is equal to 1mm on the scale rule	Site plans

Calculations needed:**Content:**

- Area, volume
- Percentages, scaling
- Best value, tolerances
- VAT, tender price

Resources:

- Plant
- Labour
- Materials

Client responsibilities

- Satisfy themselves that the project is **feasible** in
- Choose experienced construction professionals
- Trust the selected team to **procure**, design, construct
- **Pre-determine** what the possible risks are that may threaten the development and act when appropriate.

Primary Sources of information: Status of drawing

The Architect, checks that the client or user of the building is satisfied and that it is compliant with the specialist members of the team

This allows the team to understand that the drawing has been developed, checked and double-checked by everyone responsible for designing and coordinating the drawings.

Status A - highest level of drawing approval

Status B - moderate level of approval and indicates there are minor changes such as spelling still to be made, but the drawing can be used for manufacturing or construction purposes, providing any recommendations are followed.

Status C - means the drawing is not in a condition to be used for construction or manufacturing purposes

Why are there so many levels of approval?

To make sure the complex design process is compliant. Any mistakes at this stage will be very costly in terms of money and time. As drawings can take several days or weeks to revise, the status helps the builder know if they can order materials and therefore save time on the programme.

Secondary Sources of Information

Spreadsheets- Useful in formatting large amounts of data E.g.: dimensions, area, time and cost. Data can be changed and updated easily.

Catalogues- Produced by suppliers or manufacturers to offer products. Can be produced digitally and issued through social media to compare and contrast different materials.

Suppliers materials lists- These are used to compare the most current and compliant ready equipment and products

The **RIBA** plan of works is a timetable of how a construction project can be managed and delivered. It shows how there is a cycle of **analysis and improvement**

Secure Site.

Risks: stealing plant and machinery, tools, belongings
sensitive information: electronic data, ID, bank details, personal information

What other **primary measures** can be added to the perimeter fence to increase security? •Controlled access gates •Guardrooms

Secondary measures can also be added: •CCTV •Reactive guarding arrangements e.g. alarm, security guards, guard dogs

By applying the principle of **SLAM** we can proactively or reactively understand the measures that need to be used to minimise the risk to security



STOP: Engage your mind before your hands. Look and think how security could be compromised. Always stay alert!



LOOK: At your workplace and find the security hazards that may impact you and your colleagues. Report your findings to your supervisor. Look for gaps!



ASSESS: The effects of hazards may have on you, work procedures, pressures, colleagues and the environment. Do you have the knowledge, training and tools to do the task? Can theft, vandalism or privacy occur? Secure valuables when they are left unattended.



MANAGE: If you or your environment doesn't feel secure or if you suspect there could be an issue then stop working. Tell your supervisor what you think the issues are.

Potential effect of factors on project success

- Internal** e.g. lack of qualified and certified key personnel, sourcing of finance, security
- External** e.g. penalty clauses, weather conditions

Section 106

A Section 106 is a legal agreement between an applicant seeking planning permission and the local planning authority, which is used to mitigate the impact of your new home on the local community and infrastructure. In other words, a new house will mean another car(s) on the roads and perhaps your children will attend nearby schools, putting a little more strain on local services

Key terms

Infrastructure: important building and transportation network

Validate: Prove the accuracy

Transparency: Financial decisions must be clearly recorded and follow UK and European procurement law. This is so investment decisions can be made

Feasibility: Deciding whether the building is either practicable or will proceed

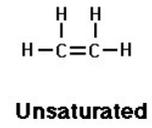
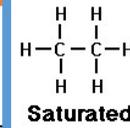
Lead time:

The time taken between ordering an item and it being delivered. Resources such as windows are usually made to order, which would require planning to make sure they arrive when they are needed to ensure work isn't delayed.

MACRO NUTRIENTS

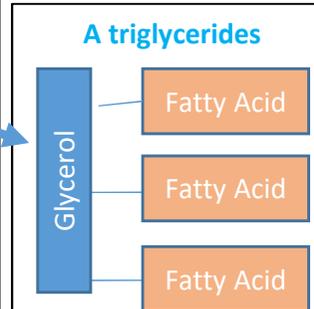


Carbohydrates	
Keyword	Meaning
Monosaccharides	A simple sugar: the most basic sugar molecule.
Disaccharides	Made up of two monosaccharides.
Polysaccharides	Complex carbohydrates: made up of lots of monosaccharides joined together.



Fats
(9kcal per gram)

Fats are made up of **Fatty acids** and **glycerol** in the form of **triglycerides**. **Fatty acid chains** are made of **carbon** and **hydrogen**. They can be **saturated** or **unsaturated**- the difference is in how **carbon atoms** bond with **hydrogen atoms**.



PROTEIN

Proteins are made up of amino acids of which there are:

9 essential	12 non-essential
Body cannot manufacture (make) these.	Can be made by the body.
Must be provided by our diet.	Low Biological Value
High Biological Value	Plants, legumes, grains, nuts, seeds and vegetables.
Animal sources of protein, such as meat, poultry, fish, eggs, milk, cheese and yogurt.	Complementary Proteins

Combining two or more LBV protein foods can provide the essential amino acids found in a meat dish:
 baked beans on wholemeal toast
 dhal with rice
 hummus and pitta bread

CARBOHYDRATES

Simple Carbohydrates = Sugars
 Fast release Carbohydrates such as Fruit, Energy drinks, Sweets, honey.

Simple Sugars (Monosaccharides)

Glucose Fructose Galactose

Disaccharides – 2 sugar molecules

Maltose Lactose Sucrose

All carbohydrates, no matter what type, provide **4kcal** of energy per gram. The difference is complex carbs take longer to break down and therefore satisfy hunger for longer, whereas simple sugars leave you feeling empty and wanting more. **Complex carbs provide dietary bulk and fibre** which makes us **feel full!**

Complex Carbohydrates= Starch
 Slow release carbohydrates such as Potatoes, Pasta, Rice.



Complex Carbohydrates
Polysaccharides – long chain sugar molecules



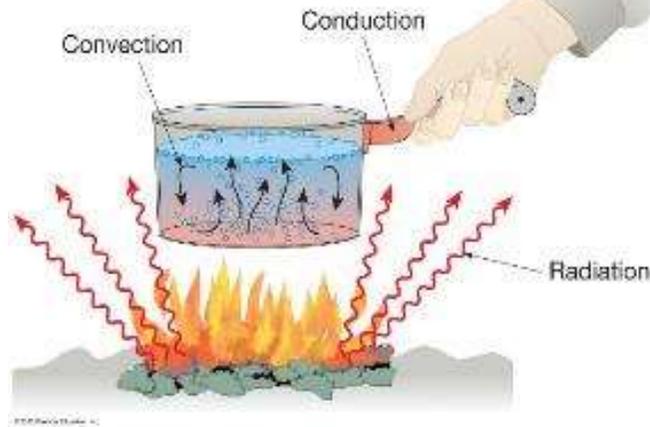
Fat Soluble	Needed For	Found In	Deficiency
A Antioxidant	Vision	Dairy Products Dark Green Veg Orange coloured fruit and veg Fish Oils and Liver	Poor vision
D	Bone growth	Fish Oils Dairy Products Sun Light Absorption	Rickets Osteomalacia
E Antioxidant	Protect tissue	Dairy Products Dark Green veg Nuts	Age quickly Wrinkles Skin loses elasticity
K	Blood clotting	Dark Green Veg Fish, liver, fruit	Haemorrhages

Water Soluble	Needed For	Found In	Deficiency
C Antioxidant	Normal structure and function of connective tissue Antioxidant (protects from free radicals) Helps absorb iron	Main sources from plants – fruits and vegetables. Milk and liver contain small amounts.	Scurvy
B1 Thiamin	Normal function of the nervous system and heart	Whole grains, meat, flour and breakfast cereals.	Beri-beri (disorder of the nervous system).
B2 Riboflavin	Release of energy from food	Milk, eggs, green vegetables.	Dry cracked skin around the mouth and nose.
B12	Cell division and blood formation Normal structure of nerves	Animal sources – milk, meat and eggs. Some algae and bacteria can produce B12.	Anaemia (rare), may be found in vegetarians.

Fats	
Keyword	Meaning
Saturated	considered the unhealthiest if eaten in large amounts- often from animal sources
Unsaturated	healthier fats, usually liquid at room temperature, help promote healthy cholesterol
Visible fats	Those you can see, such as butter and lard.
Invisible fats	Fats hidden within products, such as milk, cheese and other dairy items.
Monounsaturated	Monounsaturated fats contain one C=C double bond in their carbon chains
Polyunsaturated	Polyunsaturated fats contain more than one C=C double bond in their carbon chains
Omega 3 + Omega 6	are polyunsaturated fats and are classed as 'good' and 'essential' as they cannot be produced by our bodies.
Cholesterol	is a waxy substance which circulates in the blood. It is used by the blood to carry lipoproteins, which take the cholesterol between cells. The body needs a balance of good and bad cholesterol.
Low Density Lipoproteins (LDL)	are often called 'bad cholesterol'. High levels build up in the arteries, meaning a higher risk of heart disease.
High Density Lipoproteins (HDL)	are often called 'good cholesterol'. They carry cholesterol from around the body to the liver, which processes cholesterol out of the body.



Heat Transfer Methods



Convection - when heat travels through air or water. E.g. in an oven or a pan of boiling water.



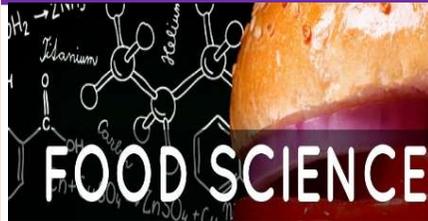
Conduction - when heat travels by direct contact through solid materials such as food or metal.



Radiation - when heat rays travel towards food, e.g. grilling, toasting, microwaving



Properties of Carbohydrates



Dextrinisation

Dextrinisation is when dry heat turns starch brown



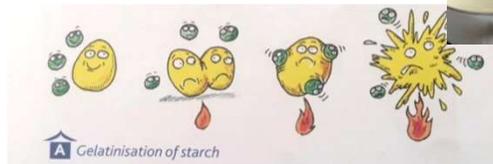
Starch broken down into **dextrin**.

Caramelisation



Caramelisation is when sugar molecules break down at high temperatures turning brown and changing flavour

Gelatinisation



Starch granules do not dissolve in liquid. Instead they form a **suspension**
Suspension – a solid held in a liquid

When heated at **60°C**, the starch granules begin to absorb the liquid and swell.

At 80°C the particles will have absorbed about 5 times their volume of water until they burst open and release starch, thickening the liquid.

Gelatinisation is complete when the liquid reaches boiling point, **100°C**



Keyword	Meaning
Coagulation	When a liquid protein is heated and becomes solid. E.g. boiling an egg.
Denaturation	When protein foods are heated causing them to change size, colour and texture. E.g. steak, meatballs, chicken.
Dextrinisation	When dry heat causes starch to turn brown. E.g. toasting bread, baking bread.
Gelatinisation	When liquid is added to starch grains, making them swell. Used to thicken sauces. E.g. custard, cheese sauce.
Plasticity	is the ability of a solid fat to soften over a range of temperatures. The more plasticity a fat has, the easier it is to spread.
Emulsion	keeps oil and water in a stable emulsion (mixture of two liquids).
Shortening	gives food a crumbly texture.
Aeration	When air is trapped in a mixture.
Caramelisation	is when sugar molecules break down at high temperatures turning brown and changing flavour
Gluten Formation	Gluten is a protein found in wheat flours. It forms when water is mixed with flour to make a dough. Gluten molecules coil making the dough elasticated.
Foam Formation	When liquids containing protein are agitated the proteins inside denature, this causes them to stretch and air gets trapped. When the proteins coagulate the air becomes trapped forming a foam.
Enzymic browning	is a chemical process which occurs in some fruits and vegetables. It causes them to discolour, usually turning a brown colour.

Properties of Fats

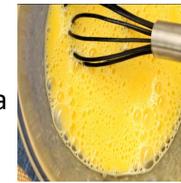
Shortening gives food a **crumbly texture**



Emulsification keeps **oil** and **water** in a **stable emulsion** (mixture of two liquids).



Aeration
When **air** is **trapped** in a mixture



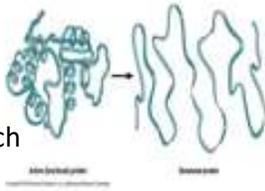
Plasticity is the ability of a **solid fat** to **soften** over a **range of temperatures**. The more plasticity a fat has, the easier it is to spread.



Properties of Protein

Denaturation

When liquids containing protein are agitated the protein inside denature, this causes them to stretch and air gets trapped.



When the proteins coagulate the air becomes trapped creating a foam.

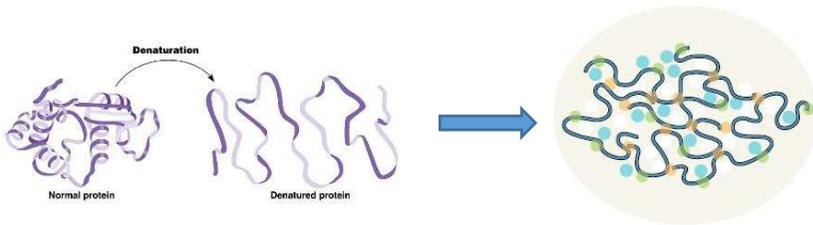
Denaturation of protein molecules can be caused by....

- Heat – frying or boiling an egg
- Acids – adding lemon juice to cream
- Air bubbles – whisked sponge
- Mechanical agitation – whisking egg whites for meringue



Coagulation

Denatured protein molecules are larger and take up more space....



They knock into other denatured protein molecules and start to join together in large groups – called coagulation



Raising Agents

Biological – Yeast, used in bread making.



Mechanical – folding, beating, whisking, sieving, creaming, rubbing in.



Chemical - Bicarbonate of soda, baking powder, S.R.flour.



Steam – Used in choux pastry, Yorkshire puddings, soufflés.





What factors affect the appeal of a destination

- Climate
 - Too cold?
 - Too hot?
 - Is the weather right for the activity to be done (e.g. will there be snow if skiing)
 - Likelihood of weather hazard (e.g. hurricane)
 - Predictability of weather
- Jet Lag
 - Different time zone?
 - How many hours different?
 - Easy to acclimatise or will it ruin the holiday?
- Travel Health
 - Is the water safe to drink?
 - Are illnesses more present there than at home?
 - What can be done to reduce the risk of becoming unwell?
- Emergency Situations

What is the difference between weather and climate?

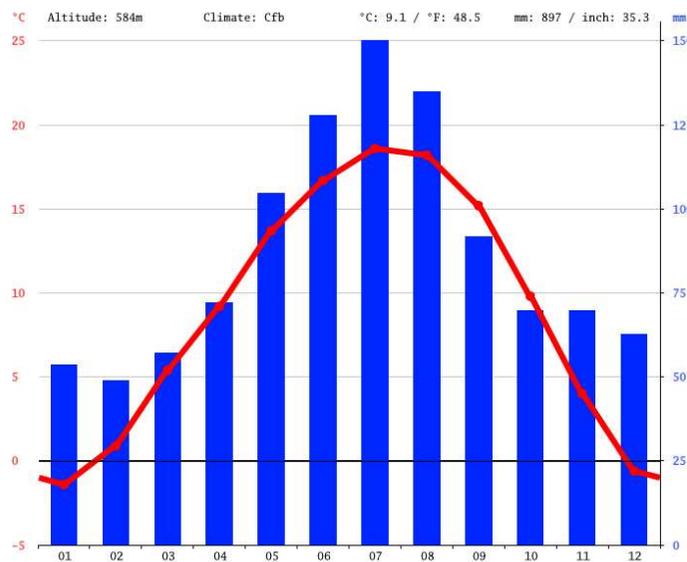
- Weather is the day-to-day climate conditions being experienced at a specific location
- Climate is the average weather measurements over a period of time – usually at least 30 years
- Many travellers will study the climate (on a climate graph) before committing to a holiday in order to assess how likely the weather is to be suitable for their visit

What weather do people like?

- As a general rule, at least 20°C to wear shorts and t-shirt outside
- Anything above 30°C may be classed as uncomfortably hot
- Wet weather is uncomfortable to most people, regardless of how warm it is
- Warm and wet weather is often called ‘humid’. Humid weather can be dangerous for elderly people
- Snow is formed when rain falls in sub-zero temperatures – needed for skiing/snowboarding holidays although artificial snow is sometimes added, although the air temperature still needs to be low
- Extreme heat and sunshine is not ideal for children and those with sensitive skin – risk of sunburn

How to read a climate graph

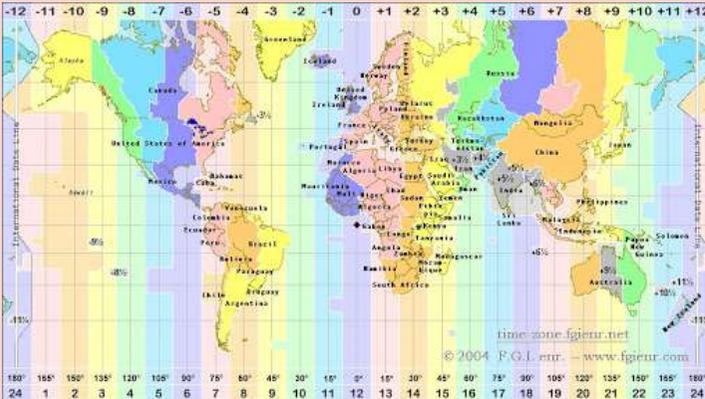
- The temperature is read using the line graph and the red data to the left
- In this location, the average temperatures fall below freezing in January and December
- The summer temperatures are warmer but do not exceed 20°C
- The cold winter temperatures may make this location suitable for snow sports. In the summer, people may undertake sporting activities such as mountain walking, climbing, cycling etc. as the temperatures are warmer but not so warm as to be uncomfortable when exercising.
- It is not an ideal location for ‘lounging’ around an outdoor swimming pool in the summer months as the temperatures are not consistently high enough.



- Precipitation is read using the blue bars and the data to the right.
- In this location, precipitation can be expected in pretty much every month of the year
- July is the rainiest month, with around 150mm of rainfall expected
- As precipitation is expected in the winter months, and temperatures can fall below freezing, it would be reasonable to expect snow to be a feature of this climate.
- Along with the cooler temperatures, the rainfall in the summer months may prevent this from being a location where ‘lounging’ around an outdoor pool may be a key activity.

What is Jet Lag?

- A feeling of tired ness and confusion caused by rapidly travelling through different time zones. Your body clock thinks it is a certain time of the day (where you came from) but it may still be light or getting dark at your destination

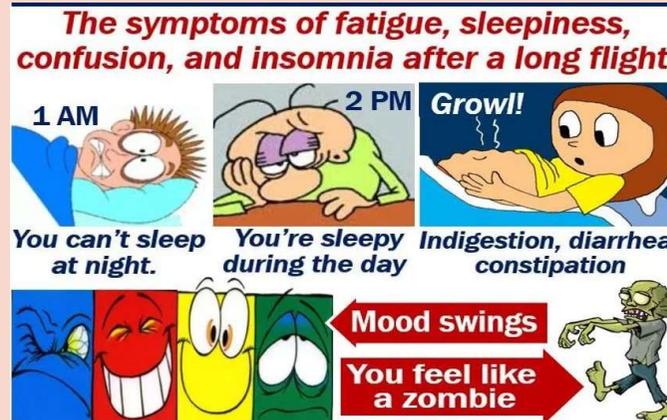


- For example
 - A flight leaves London at 1200 lunchtime
 - Arrives in Los Angeles 11 hours later
 - The passenger thinks it is bedtime as it feels like 11pm
 - Because of the -9 hour time difference, it is actually 2pm
 - The passenger has to stay awake for a number of hours until it is actually bedtime in Los Angeles – or go to bed early (UK time) and risk waking up in the middle of the night

What types of emergency situations impact travel? PHYSICAL

- Earthquakes and volcanic eruptions (volcanic eruptions can ground aircraft over vast areas) – e.g. New Zealand’s White Island Volcano 2019
- Weather hazards such as hurricanes, typhoons, drought etc.
- Landslides and avalanches
- Outbreaks of illnesses caused by environmental factors, e.g. Malaria

What does Jet Lag feel like?



- There are many symptoms of Jet Lag. They include:
 - Sleeping at the wrong time
 - Not sleeping when you should
 - Irritable bowel
 - Diarrhoea
 - Fatigue

What types of emergency situations impact travel? ECONOMIC

- Financial crises in the destination country (e.g. devaluation of the currency, rise in the price of fuel)

How can Jet Lag be reduced?

- Drink plenty of fluids
- Avoid alcohol and caffeine on the flight
- Avoid napping
- Don't nap in daylight hours
- Move to destination time as soon as possible
- Take overnight flights where possible
- Choose destinations which cross as few time zones as possible – e.g. Disneyland Paris is +1 hour, Walt Disney World Orlando is -5 hours, Disneyland California is -9 Hours: All have a mouse and a castle!
- Try to move towards the destination time before travelling, e.g. late nights before travel if going West, early to bed if going East



What types of emergency situations impact travel? SOCIAL

- Fighting and civil unrest – e.g. Hong Kong 2019, Paris 2019
- War
- Manmade hazards and illnesses
- Terrorist activities – e.g. the evacuation of Sharm el Sheikh after the Metrojet bombing in 2015



How does Dengue Fever impact travel/Travellers?

Dengue Fever.



Dengue fever is caused by the dengue virus, it is spread by the bite of an infected mosquito which mainly bite during the day.

Dengue is the second most commonly identified cause of fever in ill international travellers.

Dengue fever occurs in more than 100 countries throughout the tropics and subtropics, Nearly 100 million cases of dengue fever are thought to occur every year. Severe infection mainly affects infants and children living in the tropics and subtropics. Outbreaks are common and often occur in a seasonal pattern. Outbreaks due to imported infection have been reported in Southern Europe.

The Illness.



Most infections are mild and not very bad.

Between 4-10 days after the mosquito bite a sudden onset of fever, headache, muscle and joint pains may occur. A rash may develop.

Within a few days the illness usually gets better, and serious illnesses are uncommon. In 1 – 2 % of cases dengue can progress to a more serious form, severe dengue, which can be fatal (death).

The treatment.



There is no specific treatment but people who have symptoms should consult a doctor. Headache and fever can be treated symptomatically. Hospital care is indicated if severe illness or complications develop.

Within a few days the illness usually gets better, and serious illnesses are uncommon. In 1 – 2 % of cases dengue can progress to a more serious form, severe dengue, which can be fatal (death).

Avoiding Dengue Fever

The best way to avoid infection is to prevent mosquito bites. As the transmitting mosquitoes bite from dawn until dusk, long clothing should be worn and repellents should be used all day.

Medical attention must be sought for any feverish illness experienced whilst travelling or on your return home.

There is no vaccine against dengue fever for travellers.

A vaccine for people living in dengue affected countries aged between 9–45 years (who have had dengue before) is available in some affected countries.

How does Typhoid Fever impact travel/travellers?

Typhoid Fever



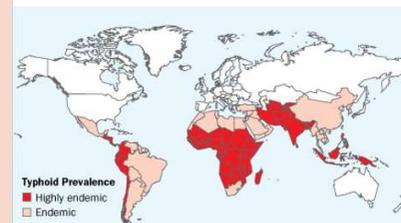
Typhoid fever is a bacterial infection that can spread throughout the body, affecting many organs. Without prompt treatment, it can cause serious complications and can be fatal.

It's caused by a *Salmonella typhi*, which is related to the bacteria that cause salmonella [food poisoning](#).

Typhoid fever is highly contagious. An infected person can pass the bacteria out of their body in their poo (stools) or, less commonly, in their pee (urine).

If someone else eats food or drinks water that's been contaminated with a small amount of infected poo or urine, they can become infected with the bacteria and develop typhoid fever.

Typhoid Fever



Typhoid fever is most common in parts of the world that have poor sanitation and limited access to clean water. Worldwide, children are thought to be most at risk.

This may be because their immune system (the body's natural defence against infection and illness) is still developing. But children with typhoid fever tend to have milder symptoms than adults.

Typhoid Symptoms

The main symptoms of typhoid fever are: a high temperature that can reach 39 to 40C

[headache](#)

general aches and pains

[cough](#)

[constipation](#)

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

Typhoid fever is uncommon in the UK, with an estimated 500 cases occurring each year. In most of these cases, the person developed the infection while visiting relatives in Bangladesh, India or Pakistan. But you're also at risk of developing the infection if you visit Asia, Africa or South America.

Typhoid treatment



Typhoid fever requires quick treatment with [antibiotics](#).

If typhoid fever is treated early, the infection is likely to be mild and can usually be treated at home with a 7- to 14-day course of antibiotic tablets.

More serious cases of typhoid fever usually require admission to hospital so antibiotic injections can be given.

Typhoid Vaccination

In the UK, 2 vaccines are available that can provide some protection against typhoid fever. These involve either having a single injection or taking 3 capsules over alternate days. Vaccination is recommended for anyone planning to travel to parts of the world where typhoid fever is widespread.

With prompt antibiotic treatment, most people will start to feel better within a few days and serious complications are very rare.

Deaths from typhoid fever are now virtually unheard of in the UK.

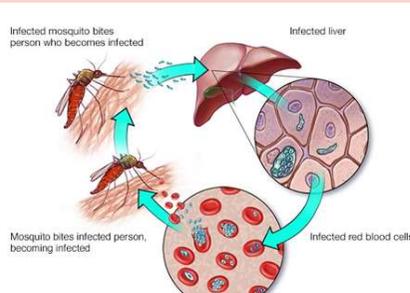
If typhoid fever isn't treated, it's estimated that up to 1 in 5 people with the condition will die. Some of those who survive will have complications caused by the infection.

How does Malaria impact travel/Travellers?

Malaria

is a serious tropical disease spread by mosquitoes. If it isn't diagnosed and treated promptly, it can be fatal.

A single mosquito bite is all it takes for someone to become infected



Symptoms of malaria

It's important to be aware of the symptoms of malaria if you're travelling to areas where there's a high risk of the disease. Symptoms include:

- a high temperature of 38C or above
- feeling hot and shivery
- [headaches](#)
- vomiting
- muscle pains
- [diarrhoea](#)

Symptoms usually appear between 7 and 18 days after becoming infected, but in some cases the symptoms may not appear for up to a year, or occasionally even longer.

Malaria is a serious illness that can get worse very quickly. It can be fatal if not treated promptly.

It can also cause serious complications, including:

- severe anaemia** – where red blood cells are unable to carry enough oxygen around the body, leading to drowsiness and weakness
- cerebral malaria** – in rare cases, the small blood vessels leading to the brain can become blocked, causing seizures, brain damage and

Malaria risk areas

Malaria is found in more than 100 countries, mainly in tropical regions of the world, including:

- large areas of Africa and Asia
- Central and South America
- Haiti and the Dominican Republic
- parts of the Middle East
- some Pacific islands

Malaria is not found in the UK – it may be diagnosed in travellers who return to the UK from risk areas.

The [TravelHealthPro](#) website has more information about the [risk of malaria in specific countries](#).

Preventing malaria

Many cases of malaria can be avoided. An easy way to remember is the ABCD approach to prevention:

Awareness of risk – find out whether you're at risk of getting malaria before travelling.

Bite prevention – avoid mosquito bites by using insect repellent, covering your arms and legs, and using an insecticide-treated mosquito net.

Check whether you need to take malaria prevention tablets – if you do, make sure you take the right antimalarial tablets at the right dose, and finish the course

Diagnosis – seek immediate medical advice if you develop [malaria symptoms](#), as long as up to a year after you return from travelling.

Speak to your GP if you're planning to visit an area where there's a malaria risk. It may be recommended that you take antimalarial tablets to prevent infection.

How does Rabies impact travel/travellers?

Rabies is a rare but very serious infection of the brain and nerves. It's usually caught from the bite or scratch of an infected animal, most often a dog.

Rabies is found throughout the world, particularly Central and South America.

It's not found in the UK, except in a small number of wild bats.

It's almost always fatal once symptoms appear, but treatment before this is very effective.

There's also a vaccine for people at risk of being infected.



Rabies vaccination

You should consider getting vaccinated against rabies if you're travelling to an [area of the world where rabies is common](#) and:

you plan to stay for a month or more, or there's unlikely to be quick access to appropriate medical care

you plan to do activities that could put you at increased risk of exposure to animals with rabies, such as running or cycling

Visit a GP or travel clinic if you think you may need the vaccine.

How to avoid being bitten or scratched

All mammals (including monkeys) can carry rabies, but it's most common in:

Dogs, bats, raccoons, Foxes, jackals, cats, mongooses

They can spread the infection if they bite or scratch you or, in rare cases, if they lick an open wound or their saliva gets into your mouth or eyes.

Rabies is not spread through unbroken skin or between people.

While travelling in an area where rabies is a risk:

- avoid contact with animals – some infected animals may behave strangely, but sometimes there may be no obvious signs they're infected
- avoid touching any dead animals

Symptoms of rabies

Without treatment, the symptoms of rabies will usually develop after 3 to 12 weeks, although they can start sooner or much later than this.

The first symptoms can include:

- a high temperature (fever) of 38C or above
- a headache
- feeling anxious or generally unwell
- in some cases, discomfort at the site of the bite

Other symptoms appear a few days later, such as:

- [confusion](#) or aggressive behaviour
- seeing or hearing things ([hallucinations](#))
- producing lots of saliva or frothing at the mouth
- muscle spasms
- [difficulty swallowing](#) and breathing
- inability to move ([paralysis](#))

Once symptoms appear, rabies is almost always fatal (you DIE!!)

Gross motor development:

- Newborns are born with reflexes – sucking, rooting, startle, grasping – which help them survive. Movements are uncontrolled and uncoordinated:
- at three months able to lift up head and chest when on their stomachs and bring hands together over body
- at six months can roll over from back to front
- at nine months can sit unsupported and is usually mobile by crawling or rolling, may pull up to stand alone and walk by holding on to furniture
- at twelve months pulls up to stand, stands alone, walks holding on to furniture.

Emotional and social development:

- at one month can focus on human faces with interest
- at six weeks can smile
- at three months enjoys being held and forms indiscriminate attachments
- at six months can recognise and respond to emotions in others
- from seven to eight months can form specific attachments and show wariness of strangers
- from eight months develops specific attachments and imitates actions of others, such as clapping
- from eight months experiences separation anxiety from primary carer(s).

Fine motor development:

- No coordinated movement but newborns will grasp things put into their hands as a reflex action
- at three months can watch their hands and hold a rattle for a moment
- at six months can reach for a toy and move a toy from one hand to the other
- at nine months can use a pincer grasp (index finger and thumb) to grasp objects, can deliberately release objects by dropping them
- at twelve months can use pincer grasp to pick up small objects, points using index finger.



Cognitive development:

- at one month 'freezes' if hears a sound played softly
- at three months can recognise familiar routines, alert and follows movement with eyes if objects are close
- at six months can explore objects by putting in mouth, recognises voices
- at eight or nine months can look for dropped objects and objects that they see being hidden
- at twelve months enjoys throwing toys to the ground and watching their descent, learns by trying things out and repeating if successful. This approach to learning is called 'trial and error'

Communication and language development:

- at one month can turn head to adult voice, at six weeks begins to coo
- at three months smiles when hears a familiar voice
- at six months makes short babbling sounds, such as 'da' and 'ba'
- at nine months understands 'no', vocalises in long strings of babbling
- at twelve months knows own name and understands simple instructions

Development: Birth – 12 months

Gross motor development:

- at fifteen months can crawl upstairs and may walk hesitantly
- at eighteen months can walk unaided, can walk upstairs with help and can squat to pick up toys
- at two years can run, climb onto furniture and use sit-and-ride toys
- at two and a half years can kick a large ball and can jump with two feet together from a low step
- at three years able to run forwards and backwards, steer and pedal a tricycle, walk upstairs with alternate feet and throw a large ball.

Fine motor development:

- at fifteen months pincer grasp is precise, uses palmar grasp to hold crayons
- at eighteen months can build a tower of three bricks, can feed self with a spoon and scribble using a crayon in palmar grasp
- at two years can draw dots and circles, can put on shoes and fasten with Velcro® but not buckles and laces
- at two and a half years starts to show a hand preference, can pull down items of clothing and starting to develop tripod grasp
- at three years can use tripod grasp, draw a circle, hand preference is established for most tasks.



Development: 12 month – 3 years

Cognitive development:

- at fifteen months explores objects by sight and sound
- at eighteen months very curious to explore environment, remembers where things belong
- at two years recognises self in mirror, can remember past experiences
- at two and a half years recognises self in photographs, with help can complete simple puzzles
- at three years understands the difference between past and present, can complete simple puzzles

Communication and language development:

- at fifteen months communicates by pointing and vocalising, has up to six words
- at eighteen months has around 15 words, able to communicate wishes, understands simple requests
- at two years has up to 50 words, able to join words, enjoys looking at books
- at two and a half years has around 200 words, starting to use simple sentences, asks questions, uses personal pronouns, plurals and negatives
- at three years speech is clear to anyone unfamiliar with child, enjoys books and turns pages.

Emotional and social development:

- at eighteen months emotionally dependent on parents and key persons, plays alone but enjoys being near adults and siblings, insistent on immediate attention to needs and can copy adult actions
- at two years unable to wait for needs to be met, may be distracted from tantrums, plays in parallel with other children but unable to share toys
- at two and a half years plays alongside other children and engages in onlooker play, very dependent on adults and jealous of other children gaining attention, responds well to adult attention and praise and has tantrums when frustrated
- at three years finds it easier to wait, starting to take turns and share, enjoys being with other children and will comfort another child.

Gross motor development:

- from three to four years can hop on one foot, walk along a line, aim and throw a ball and kick it with force, ride a tricycle using pedals
- from four to five years can run avoiding obstacles, skip with a rope, throw a large ball to partner and catch it.

Fine motor development:

- from three to four years can button and unbutton clothes, use scissors to cut out simple shapes, draw a person with head, trunk and legs, eat with a knife and fork, thread beads to make a necklace
- from four to five years can form letters, write own name and colour in pictures.

Cognitive development:

- from three to four years can recognise and name primary colours, understands what is meant by 'more', can tell whether an object is heavy or light, arranges objects into categories, makes a connection between people and events
- from four to five years can count accurately up to 10, can add two sets of objects together, can match equal sets, understands the need for rules, names the time of day associated with activities.

Communication and language development:

- from three to four years, speech can be easily understood, although some words may be incorrect, uses questions and by four years language is fluent, with some speech immaturities
- from four to five years can count accurately up to 10, uses complex sentences with words such as 'because', can talk about what has happened and what might happen, uses language to argue and answer back.

Emotional and social development:

- from three to four years can cope with separation from primary carer with someone they know, is beginning to play cooperatively and show clear friendship preferences, and plays with others
- from four to five years can work out what other people may be thinking, which helps them to negotiate with others, able to understand the need for rules, develops close friendships develop, behaviour mostly cooperative and separates more easily from parents.

Development: 3 – 5 years



Gross motor development:

- from five to eight years can hop, skip and jump confidently, can swerve and dodge when running, balance on a beam, ride a bicycle and use roller skates
- coordination is more proficient, allowing for tasks that require coordinated movements including improved ball skills, swimming activities, hopscotch.

Cognitive development:

- from five to eight years can recognise numerals up to 100, do simple calculations, show simple reasoning and be reasoned with
- from seven years can 'conserve' quantities and numbers, complete a simple maze, is starting to tell the time, understands the need for and uses rules.

Emotional and social development:

- from five to six years starts to compare self with others and becomes more aware of the feelings and needs of others
- confidence in self may be shaken by 'failure'
- from five to seven years has strong friendships, often of the same gender, can understand that others have different viewpoints than them, can read facial expressions of others accurately and recognise what others might be feeling.

Development: 5 years – 8 years

Fine motor development:

- from five to eight years can tie and untie shoelaces, and accurately cut out shapes
- from six years able to thread a large-eyed needle and sew large stitches, has good control over pencils and paintbrushes, allowing for more detailed drawings and clear handwriting.

Communication and language development:

- from five to eight years uses language to reason and explain ideas, understands and enjoys jokes and riddles
- uses more complex sentence structures and asks what, when, who, where, how, why questions
- from seven years has mastered the basics of reading and writing.



Year 10/11 BTEC Unit 1: The Music Industry - Knowledge Organiser

VENUES TYPES –

LARGE/MULTI-PURPOSE: Arena, Stadium, Large outdoor festivals, Large Theatres
SMALL: Pub, Club, Small Theatre, School Hall

HEALTH & SAFETY AT VENUES :

- Heating, lighting, ventilation
- Safe electrical equipment
- Hygiene (toilets, clean drinking water)
- First Aid Qualified Staff
- Emergency Exits
 - No tripping hazards
 - Adequate
 - Disables Access
- Security Guards (SIA license)
 - No Smoking

ROYALTY COLLECTION AGENCIES

PRS

Performing Rights Society represents their members' performing rights, whenever a piece of music is performed or played in any public space or place outside of the home. They then collect royalties for this in the form of licenses.

Phonographic Performance Limited licenses the right to play recorded music and music videos in public. They then collect royalties for this.

PPL

MCPS

The Mechanical Copyright Protection Society represents their members' mechanical rights, whenever a piece of music is reproduced as a physical product. They then collect royalties for this.

UNIONS

MU

The Musicians' Union is an organisation which represents over 30,000 musicians working in all sectors of the British music business.

Musician

Composer/
Songwriter

Record Producer

Session Musician

Equity

Equity is the UK trade union for professional performers and creative practitioners. It represents artists from across the entire spectrum of arts and entertainment.

Musician

Session Musician

Broadcaster

BECTU

The Broadcasting Entertainment Cinematograph and Theatre union is the UK's media and entertainment trade union. It represents 26,000 members who work in broadcasting, film, theatre, entertainment, leisure and interactive media.

TRADE BODIES

MPG

The Music Producers Guild represents the interests of all involved in the production of recorded music in the UK.

APRS

Association of Professional Recording Services represents those who work in the audio industry in the UK.

PLASA

Professional Lighting and Sound Association represents those who supply technologies and services to events in entertainment in the UK.

Musician

A musician is someone who performs music through the playing of an instrument or singing. Musicians play many different styles of genre's, from Jazz to Pop, from Classical to Folk.

Musicians main responsibilities are:

Why is it difficult to be a professional musician?

- Train and practise regularly to keep skills to a high standard
- Turn up to rehearsals on time and ready to play
- Look after their instrument or their voice
- Learn new music for a show.



Ed Sheeran
(Guitarist and Vocalist)

Studio Manager

A Studio Manager makes sure that the studio is organised, in terms of bookings, equipment and administration. They are involved in the business side of the operations and making sure that they keep existing clients satisfied and attract new business to the recording studio.



Abbey Road Studios
(London)

Studio Managers main responsibilities are:

- Ensure that the studio is run effectively and that it is financially profitable
- Schedule times and liaise with clients
- Employ session musicians and engineers
- Promotion and marketing of studio
- Check Health and Safety is in place to safeguard clients and employees

What health and safety concerns are there at a studio?

Composer/Song Writer

A Composer is someone who writes music. This can be in the form of music written for an orchestra or brass band, music written for film or television, electronic music written on computers or through song writing.



John Williams
(Film Composer
Star Wars)

Composers main responsibilities are:

- Compose music for a TV programme (quiz show, soap, commercial)
- Compose songs for singers
- Compose music for a special event (coronation, Olympics)
- Keep to a deadline
- Work with the performer so that the song/composition is at their ability level of singing/performance (correct range)

What wage can a composer/ song writer earn money?

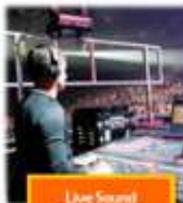
Live Sound Technician

A Live Sound Technician controls the sound at live events such as theatre performances and music concerts. They operate microphones, amplifiers and control desks to balance the sound levels, as well as providing background music and sound effects.

Live Sound Technicians main responsibilities are:

Why are sound checks important?

- Choose suitable microphones and equipment and make sure these are looked after.
- Position and rig-up microphones
- Do sound-checks
- Operate the sound desk during shows/recording



Live Sound Technician at a Concert

Promoter

A Promoter is typically hired as an independent contractor by music venues, earning an agreed-to fee or royalties. They work with agents, or in some cases, directly with the bands, and with clubs and concert venues to arrange for a show to take place. Promoters then are in charge of making sure the word gets out about that show.

How would a promoter go about arranging a show?

Promoters main responsibilities are:

- Work with venues to arrange for a show
- In charge of 'putting on' the show
- Work with artists' management
- Promote the show through advertisement and publicity



Local Flyer to Promote a Concert

Sound Engineer

A Sound Engineer is required to assemble, operate and maintain the technical equipment used to record, amplify, enhance, mix or reproduce sound.



A Sound Engineer Recording a Drum Track

Sound Engineers main responsibilities are:

- Planning recording sessions with producers and artists
- Setting up microphones and equipment in the studio
- Making sure the volume and recording levels are set correctly
- Operating recording equipment and adding effects
- Recording each instrument or item onto a separate track
- Mixing tracks to produce a final 'master' track

How does this compare to a Live Sound Technician?

Venue Manager

The venue manager must ensure the smooth running of their venue and make sure that the venue is a profitable business. This involves working closely with artists, ensuring the quality of the music performed and negotiating fees for the use of the venue.

Venue Managers main responsibilities are:

What financial aspects does the Venue Manager need to consider?

- Ensure that all services are opened and fully functional during scheduled times
- Check Health and Safety is in place to safeguard clients and employees
- Give consistent and excellent level of service to clients
- Book artists for the venue.
- Assist with preparations of shows and supervise the whole process



O2 Academy Shepherd's Bush
(London)

Marketer

A Music marketer is someone who is in charge of raising awareness of an artist and creating a brand that can be easily recognisable to the public. In order for the artist to be popular, a marketer must help create a fan base through various types of media and publicity campaigns.



Social Media used to Market an Artist

Marketers main responsibilities are:

- Design and implement marketing (i.e selling) plans: album sales, streams
- Gather prices for advertisements and promotions
- Devise promotional events, giveaways, sponsorships
- Have a radio/ online campaign for an artist
- Create the artist's image/brand

Why is a brand/image important?

Mastering Engineer

A mastering engineer is a person skilled in the practice of taking audio (typically musical content) that has been previously mixed and preparing it for use in distribution, whether by physical media such as a CD, vinyl record, or as some method of streaming audio.



A Mastering Engineer Making Subtle Changes to the Audio

Mastering Engineers responsibilities are:

- Complete the audio mastering process for an album
- Prepare and transfer audio from one format to a desired master format
- Refine the sound quality and make subtle changes to create an appealing sound

Why is a Mastering Engineer important?

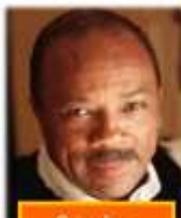
Record Producer

A Record Producer (or Music Producer) has a very broad role in overseeing and managing the recording (i.e. "production") of a band or performer's music. They have a lot of responsibility over the final recording made and are often likened to the director of a film in terms of their importance and overall creative input.

Record Producers main responsibilities are:

What coaching would they give the artist? And why?

- Oversee and manage the recording of an artist's music
- Gather ideas for the project and select songs
- Hire session musicians for the project
- Coach the artist in the studio
- Control the recording session
- Supervise the entire process through mixing to mastering



Quincy Jones
(Record Producer
Thetha)

Music Journalist/Blogger



Taylor Swift on the Cover of Rolling Stone

Music journalism is reviewing and reporting about popular music topics, including pop music, rock music, and related styles. Music journalism is an aspect of entertainment journalism, covering popular music and including profiles of singers and bands, live concert, and album reviews.

Music Journalists main responsibilities are:

- Write reviews about an artist's concert and album
- Attend shows, concerts, events and interview people
- Listen to CDs, online music, new talent to stay up to date with the latest music scene

Why should artists do interviews?

Session Musician

A session musician is a musician that is called in to play on recordings or in bands at short notice. They must learn and play parts almost immediately and should therefore be musicians of a high ability and have very good performance skills.

Venue Managers main responsibilities are:

Why would anyone want to be a session musician?

- Turn up on time to recording sessions or performances
- Rehearse music and keep instrumental level high
- Follow instructions given by producer/conductor
- Bring instrument and keep it in good condition for regular playing
- Contribute partly, at times, to the writing of an arrangement



Session Musicians Recording Their Part

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O2 Academy Shepherd's Bush (London)

What financial aspects does the Venue Manager need to consider?

- Give consistent and excellent level of service to clients
- Book artists for the venues.
- Assist with preparations of shows and supervise the whole process

CD/Vinyl Manufacturer

A Manufacturer is someone who takes the final master copy of a record and presses it onto CD or Vinyl to be distributed to retail stores for consumers to purchase.

Manufacturers main responsibilities are:

- Master CD/Vinyl's of high quality
- Transport to distribution outlets (stores or online)
- Duplicate CD's/Vinyl's



CD Manufacturing

What dangers does a Manufacturer face?

Retailer

A Retailer is someone who works in a business that sells music to consumers. This could be in the form of physical copies sold through high street shops or through online stores where music can be downloaded or streamed.



Music Retailer (HMV)

Examples of Retailers:

- Online: iTunes, Amazon, Spotify.
- Shops: HMV, Fopp, specialist record shops.

Why are high street retailers under threat?

Music Journalist/Blogger



Taylor Swift on the Cover of Rolling Stone

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DJ

DJs play music for audiences at live venues. DJs use various formats including vinyl, CD or MP3, and a range of equipment such as turntable, mixer, microphones and amplifiers. DJs develop the skill to seamlessly transition from one recording of a song to another by using turntable skills that involve the simultaneous use of two record turntable and a DJ mixer

DJ's responsibilities are:

- Play and mix records in clubs or bars, to create atmosphere or keep people dancing

What other job roles could a DJ become involved in?

- Choose music to suit the audience's taste and the venue's music policy
- Create their own sounds by manipulating beats, using samples, adding extra music and sound effects

- Work with an artist who raps or sings over the music.



David Guetta (DJ)

Distributor

A music distributor links a record label or independent musical group to consumers. Their job is to sell recordings and to increase the group's visibility and popularity by convincing stores to stock and promote its recordings. Much of that comes through the distributor's sales reps, who build relationships with the chains and independent stores.

Distributors main responsibilities are:

- Convince stores to sell their clients album.
- Work with stores to promote their clients album
- Build good relationships with stores for future sells.

What skills do you need to have to build relationships with people?



Distributing to Online Retailers

Software Programmer/App Developer



Computer Sequencing Software

A programmer, computer programmer, developer, coder, or software engineer is a person who writes computer software. Software is extremely beneficial to the music industry and it has made it easier than ever to set up home studios and produce music in a more accessible way.

Programmers main responsibilities are:

- Create apps, musical programmes: sequencing (Logic), notation software (Sibelius), music games
- Up date the programme regularly
- Create computer programmes that assist musicians with their training (aural tests, music theory)

How has software benefitted the industry?

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Distributing to Online Retailers

Instrument Technician

Instrument Technicians are those that have specialist knowledge of specific instruments and can therefore support with the use of them. They also have knowledge of how they should be used or the best configuration to get the best sound.

Instrument Technicians main responsibilities are:

- Look after the instrument.
- Fix the instrument when broken (e.g. broken strings)
- Give advice regarding best use of equipment

What expertise would you need to have and know?



Instrument Technician Repairing a Guitar

Roadie

The road crew (or roadies) are the technicians or support personnel who travel with a band on tour and handle every part of the concert productions except actually performing the music with the musicians

Roadies main responsibilities are:

- Carry equipment
- Set up equipment before event
- Look after the equipment
- Pack away the equipment at the end of the event



Artists and Repertoire (A&R)

Artists and repertoire (A&R) is the division of a record label or music publishing company that is responsible for talent scouting and overseeing the artistic development of recording artists and songwriters.

A&R main responsibilities are:

What would they look for in new talent?

- Scouting for new talent and sign to a record label
- Oversee all the aspect of the process from delivery to finished recordings
- Development of artist as they grow and mature
- Manage the recording process
- Help find songs appropriate for the artist



Simon Cowell (A&R Exec: Chief Director)

Artistic Manager/Talent Manager

A artistic manager, also known as a talent manager, band manager or music manager, is an individual who guides the professional career of artists in the music industry.

Artistic Managers main responsibilities are:

- Organise and confirm show dates and tours
- Liaise with record companies
- Assist with studio planning
- Support artist on a personal level, with advice on lifestyle choices
- To maintain the high standard needed of the artist
- Exploit marketing opportunities.

Why can't artists manage themselves?



Scooter Braun (Talent Manager Justin Bieber)



RECORD COMPANIES



Advantages of a major record label are

- They have a great deal of money at their disposal.
- They have many connections with other labels and artists
- They have great links when it comes to promotion of an artist
- Because of their large size, they can get the best deals on manufacturing, advertising and links to media outlets.

Disadvantages of a major record label are

- Difficult to stand out in such a big pool of artists
- Deals that are balanced in the favour of the record label making money as opposed to the artist.

Promotion Companies

Promotion companies support the marketing and promotion of an artist and encourages publicity of an artists product for public awareness. This can include live shows, record signings, public appearances etc. Many of the big record labels will have a promotions company within their label rather than outsourcing to other companies.

HIRE & TRANSPORT COMPANIES

Lighting and Sound Equipment	Transport
<ul style="list-style-type: none"> • Company will have technical expertise with the equipment and can also give advice about best set up or needed specifications. • The equipment will be higher quality and looked after properly. • Engineer to take care of sound/lights so that the artist can focus on the music 	<ul style="list-style-type: none"> • They will transport equipment when on tour so equipment is always at the venue when needed. • Transport company may provide Roadies to carry and install equipment. • Hire a bigger live in coaches for tours around the country or abroad.

PUBLISHING

Advantages of a major publishing house are

- Major publishing houses are better equipped to distribute music, through funds they have available and already establish connections.
- The music published is associated with a certain quality and can be packaged and printed to reflect this.
- There are lot more opportunities for marketing and promotion as the publishing house will do this for you and have greater funds to do this more extensively.
- More opportunity to make significant amounts of money



Published Sheet Music

Disadvantages of a major publishing house are

- Usually need to go through an agent who will take a percentage of the money you earn.
- It is harder to have music published when the company is large
- They may insist on further editing to your music and certain changes made.

Self Publishing (Online)

Advantages of self publishing are

- Don't need to go through an agent as you can send your work directly to them

Which way of publishing would you pick and why?

- You are more in control with the editing process
- It can be a stepping stone to a larger company
- May cater to a specific genre that is different from the style required of the major publishing houses.

Disadvantages of self publishing are

- Less marketing and promotion through online publishing. This will need to be carried out by the composer
- You are likely to make less money from online publishing, especially in the short term.
- Not the same possibilities of distribution of your work.

Advantages of an independent record label are

- There are usually less artists so there is more time that can be spent with the artist
- The contracts are more fair to the artist, giving them a more even split of the money made

How does this compare to major record labels

- Due to more time spent with the artist, a closer personal relationship can exist
- The artist can have more creative freedom with the songs chosen and the sound of the music.

Disadvantages of an independent record label are

- Less funds available to make records
- Less funds to publicise and promote a record
- Organisation of record label can be difficult due to less employees and more informal nature
- Can have less contacts with the media for advertising and promotion.

Which label would you choose?

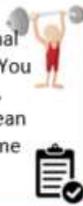
Knowledge Organiser

Unit 3 BTEC Sport Level 2



Introduction

This unit is all about you, the individual performer, training to improve and enhance personal fitness for one activity/sport you participated in for Unit 2: Practical Performance in Sport. You must select one component of fitness and one method of training that is most appropriate, beneficial and engaging to improve your fitness for your chosen activity/sport. This may mean training with a group of friends in a local park, or using a personal fitness training programme at a local sports club or leisure centre. Whatever the setting, the design of the training programme must be tailored to meet your personal training goals, aspirations and needs.



Training diary for each session recording

- Date, time and location for training undertaken.
- Aims and objectives for each session.
- Session duration.
- Type of training undertaken – selected method/activity.
- Programme details (FITT).
- Log of personal performance and achievements.
- Resources required, e.g. equipment.
- The principles of progressive overload and details of how progressive overload has been achieved over the course of the programme.
- Details of programme intensity using % HR max and RPE.



Programme design

Personal information to aid training programme design. E.g. DOB. Appropriate training method/activity for improving/maintaining the selected component of fitness, e.g. **flexibility, strength, muscular endurance and power, aerobic endurance, speed.** Personal training needs, goals, aims and objectives.

Programme design

- Application of the basic principles of training - Frequency, Intensity, Time and Type (FITT).
- Application of the additional principles of training.
- Selection of appropriate activities for warm-up (light, continuous physical activity to prepare the body for exercise).
- Selection of appropriate activities for cool down (light, continuous physical activity to reduce heart rate, remove lactic acid and prevent blood pooling).
- Creative design: consideration given to prevent/avoid barriers to training occurring, ensuring exercise adherence is maintained and the programme is enjoyable, for example including interesting, different exercise activities to maintain motivation and commitment, and to prevent boredom.
- Intensity:
 - o target zones and training thresholds (calculating and applying maximum heart rate (HR max) to training):
 - o $HR\ max = 220 - age\ (years)$
 - o 60–85% HR max is the recommended training zone for cardiovascular health and fitness
 - o Borg Rating of Perceived Exertion (RPE) Scale (1970) (6–20) can be used as a measure of exercise intensity
 - o the relationship between RPE and heart rate where $RPE \times 10 = HR\ (bpm)$.



Applying the Principles of Personal Training



Safely implement a personal fitness training programme

- Using an appropriate training method (e.g. taking part in planned sessions), performing to the best of your ability, gaining agreement from coach/trainer for any missed sessions, understanding the importance of commitment.
- Wearing correct training gear, safe and correct use of equipment, implementation of correct technique, awareness of wider safety issues, e.g. personal safety if training outdoors.
- Students should take responsibility for completing and recording details for each training session. For example a register and keeping record of medical conditions etc.



Programme design and additional information

- Lifestyle and physical activity history. This is normally in relation to smoking and alcohol use.
- Medical history questionnaire. This could be highlighting asthma or a recent sports injury.
- Attitudes, the mind and personal motivation for training.



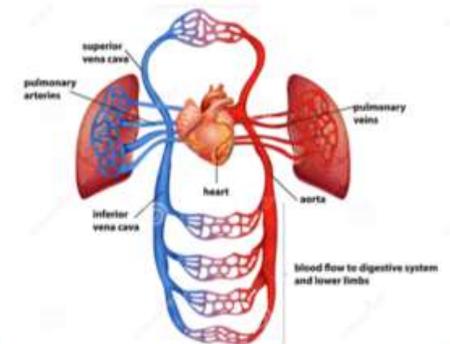
Cardiorespiratory system

Short-term effects of fitness training on the cardiorespiratory system include: increased heart rate and breathing rate to supply oxygen to the working muscles. Increased build-up of lactic acid in the muscles.

Respiratory system

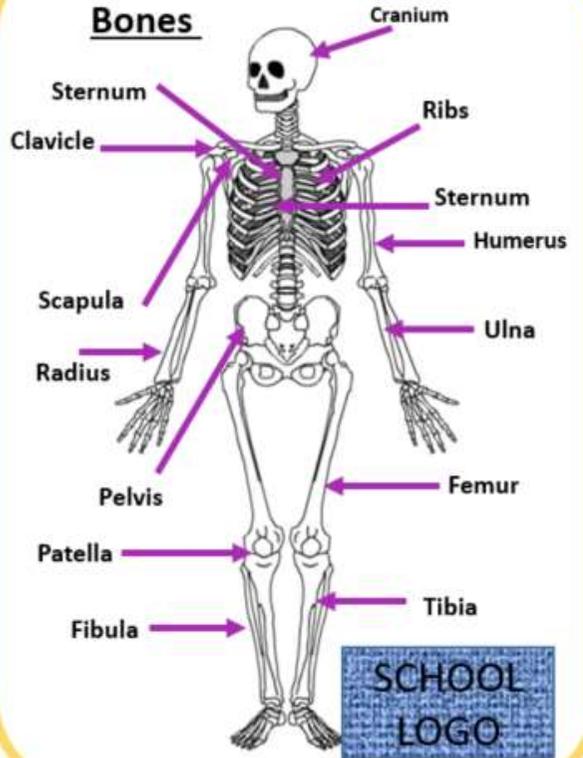


Cardiovascular system



Musculoskeletal system

Bones



Labels: Cranium, Sternum, Clavicle, Ribs, Sternum, Humerus, Scapula, Ulna, Radius, Femur, Pelvis, Patella, Tibia, Fibula.

SCHOOL LOGO

Measures for success

Types of motivation

Intrinsic:- Involves doing something because it's personally rewarding to you and you want to improve.

Extrinsic :- Involves doing something because you want to earn a reward or avoid punishment.

- Benefits of motivation and self-confidence to successfully complete a fitness training programme.
- Motivation for training, including details in the diary of personal feelings before, during and after each training session.
- Details of how the programme has been adapted to ensure continued commitment to training, for example using a variation of activities/training methods.
- Achievement against personal aims and goals.



Training programme design

- SMARTER targets (specific, measurable, achievable, realistic, time-related, exciting, recorded).

Development plans should include:-

- Aims and objectives
- Goals
- SMARTER targets (specific, measurable, achievable, realistic, time-related, exciting, recorded).
- Activities and opportunities, e.g. training, courses, qualifications
- Possible barriers. (Finance, transport, equipment and injury)





Goal setting

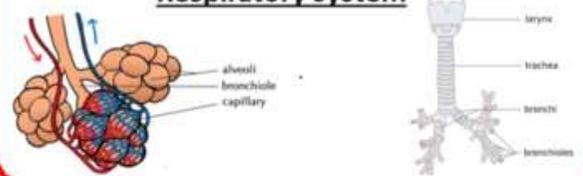
- Short-term goals (set over a short period of time, between one day and one month)
- Medium-term goals (should give progressive support towards achievement of long-term goals)
- Long-term goals (what they want to achieve in the long term, and the best way of doing this).

Aims and Objectives

- Aims (details of what they would like to achieve for the selected activity/sport).
- Objectives (how they intend to meet their aims using an appropriate component of fitness and method of training).
- Lifestyle and physical activity history.
- Medical history questionnaire.
- Attitudes, the mind and personal motivation for training.



Respiratory system



Labels: alveoli, bronchiole, capillary, larynx, trachea, bronchi, bronchioles.

Musculoskeletal system

Muscles



Labels: Pectoralis major, Triceps, Latissimus dorsi, Gluteus Maximus, Hamstrings, Gastrocnemius, Tibialis Anterior, Biceps, External obliques, Quadriceps.

Review

Review, including short term physiological effects, improvements as a result of the programme to meet the activity/sport goal.

- After each training session.
- Evidence of modifying the programme to achieve planned personal goals.
- Strengths: areas of the programme where and how personal aims and objectives have been achieved with reference to measures of success.
- Areas for improvement: where outcomes do not meet planned goals.
- Recommendations for improving future training and performance, for example personal training needs, use of different training methods/activities or strategies, use of psychological training techniques to improve performance.




Knowledge Organiser

Unit 6 BTEC Sport Level 2



Leading Sports Activities



Leading Sports Activities

There are many roles working in sport that require effective and successful sports leadership, including personal training and coaching. This unit provides you with what could be your first step into sports leadership, as it could be linked to the completion of a sports leader award, for example the Junior Sports Leader Award (JSLA).

Leadership is defined as:-

Leadership is the art of motivating a group of people to act toward achieving a common goal. In a Sport setting, this can mean guiding players and participants towards a common goal, such as winning the league or getting fitter and reducing your BMI.



Who are sports leaders?

- Sports Leaders (School)
- Sports coaches (IN/OUT school)
- Fitness instructors,
- School/college –Leaders
- local club (Community)
- Coaches
- National club coaches,
- Amateur coaches unqualified
- Referee
- Umpire
- Official
- Volunteers



Sports activities

Individual sports

- Cycling
- Athletics
- Tennis

Team sports

- Football
- Hockey
- Rugby

Fitness activities

- Yoga
- Zumba
- HITT
- Aqua aerobics



Attributes of a Sports leader/Coach

Skills :-

- Communication :- Can be in a variety of ways verbal, none verbal and written communication.
- Organisation of equipment :- Making sure that you have the right equipment and that it is stored safely.

Advanced skills:-

- Activity structure :- In the right order/sequence.
- Target setting:- Giving athletes specific targets to help them improve their performance. (SMART)
- Use of language:- Ensure that you use correct terminology and that you don't swear or use slang during session.
- Evaluation:- Make sure you review and reflect on the session. Good and bad points or strengths and weakness.

Qualities:-

- Appearance:-Don't wear jeans or a tight skirts to a coaching session, it doesn't look professional. Dress appropriately for a session. E.g. a tracksuit or official uniform. This should including not coming to training in dirty or smelly clothing.
- Enthusiasm:- Ensure that you are passionate and that you are happy to be coaching. if you lack enthusiasm the players or team most likely will too.

Additional qualities:-

- Leadership style : Leaders have many different styles and some have preferred styles.
- Motivation:-
- Humour:- Its good practice to use humour within a session as it makes it light hearted and fun.
- Personality:- Its important as a coach you show your personality. This is important as you are a role model.



Responsibilities of a Sports leader/Coach



Core responsibilities

- Professional conduct: Professional conduct is really important. As a coach you shouldn't smoke at the side lines or act in a manner which can be deemed unprofessional.
- Health and safety:- Coaches should adhere to health and safety guidelines, to protect their participants.
- Equality:- All coaches should believe and adhere to equality policy's and ensure that they are fully inclusive.

Wider responsibilities

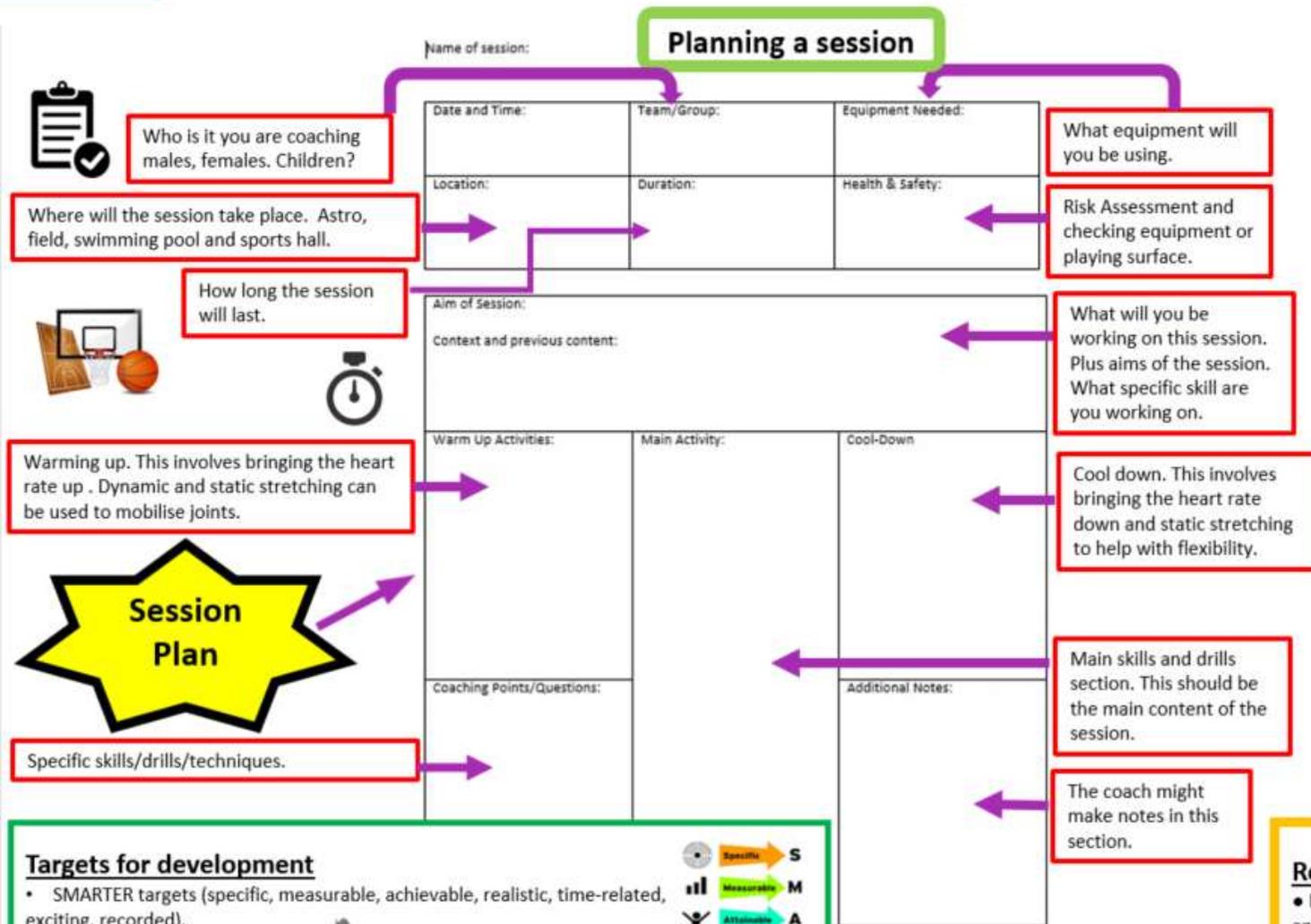
- Insurance:- All clubs should have insurance. Players and coaches can also get individual insurance to protect against injury.
- Child protection:- All clubs should have a child protection policy. This is so that they can safeguard children and young people. Any incidents should be recorded and reported. All adults involved in the club should have a DBS.
- Legal obligations:- Clubs and coaches have legal obligations for example being qualified and holding a first aid certificate. All coaches should get a minimum of a level 1 but a level 2 is preferred.
- Ethics and Values:- Ethics and values are different at every club and each coach will have their own values. These should be respected.
- Rules and Regulations:- Coaches and clubs should stick to their rules and regulations. These are often decided by the NGB'S (National Governing Body)



Leading Sports Activities

- Demonstration of attributes (skills, advanced skills, attributes, additional qualities).
- Completion of core responsibilities: Loco parentis, coach, first aider, referee, official, developing training programme and undertaking administrative tasks.
- Completion of wider responsibilities : Role model, ambassador, mentor, analyst , friend, nutritionist.





- ### Planning definitions
- Participants:- Age, ability, gender, numbers, medical and specific needs.
 - Aims and objectives:- Target setting, expected outcomes.
 - Resources :- Equipment, time and environment.
 - Warm-up: This should get the brain and the body both physically and mentally prepared for exercise.
 - Pulse raiser: activities that can be used to gradually increase the pulse rate.
 - Mobilise: Activities to mobilise the main joints of the body such as knees and hips, shoulders, ankles and wrists.
 - Stretching (different types of stretches for the main muscles used in sports activity sessions – deltoids, triceps, erector spinae, obliques, quadriceps, hamstrings, gastrocnemius).
 - Main component/components of activity, e.g. skill introduction, development, conditioned game, final activity.
 - Incorporate safe activities to minimise injury.
 - Cool down.
 - Pulse lowering: activities that gradually decrease in intensity.
 - Stretch: carry out maintenance and developmental stretches with the main muscles that were used in the activity session, including deltoids, biceps, triceps, erector spinae, abdominals, obliques, hip flexors, gluteus maximus, quadriceps, hamstrings, gastrocnemius.
 - Health and safety considerations: adhere to health and safety guidelines, and consider appropriate risk management strategies.
 - Risk assessment: environmental and injury **prevention**.

Targets for development

- SMARTER targets (specific, measurable, achievable, realistic, time-related, exciting, recorded).

Development plans should include:-

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- Goals
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- Possible barriers. (Finance, transport, equipment and injury)

Specific → S

Measurable → M

Attainable → A

Realistic → R

Time-bound → T



- ### Review
- Feedback for review, e.g. from participants, supervisor, observers, self-analysis.
 - Methods, e.g. questionnaires, comment cards, observation records, direct verbal feedback.
 - Strengths and areas for improvement (demonstration of attributes, completion of responsibilities, e.g. planning, content, organisation, health and safety and achievements).

NARRATIVE

once upon a time...

Narrative includes both story and plot.

The story includes the events within the film that are not shown but are relevant.

The plot of a film refers to how the conflicts within the narrative are established and then resolved.

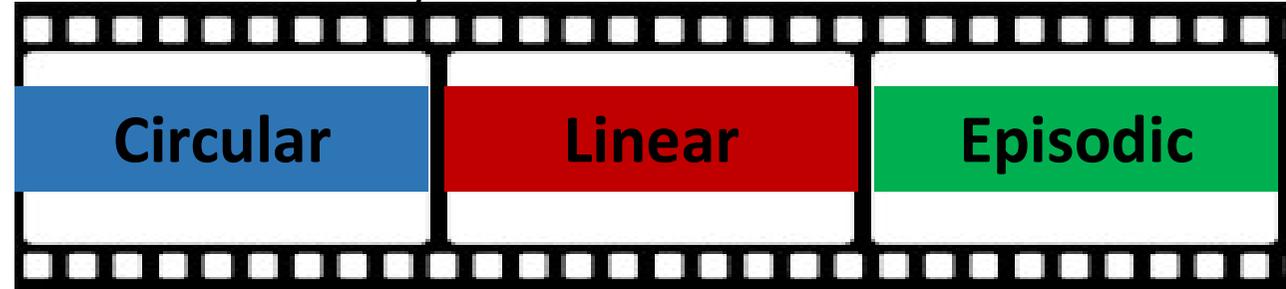
The main features you should be able to recognise.

- ✓ The difference between plot and story.
- ✓ Cause and Effect of the structure of the narrative.
- ✓ Narrative conventions.
- ✓ The role of the characters.
- ✓ Themes and issues raised.
- ✓ The impact the narrative has on the audience.

<u>Structure</u>	<u>Viewpoint</u>	<u>Theory</u>
Linear	Voice Over	Binary Oppositions
Circular	Restricted	Character Types
Episodic	Omniscient/ Unrestricted	Enigma Codes
Cause and Effect		
Flashback/ Flash Forward		

STRUCTURE

There are three ways in which a narrative can be structured.



A narrative that starts at the end then goes back in time to return to this point later on.

Generally a film that starts at the end. These narrative structures may use a series of flashbacks.

A narrative that is told in a chronological order. It is the most simple and commonly used narrative structure. These can often lead to cause and effect narratives as the consequences of one event can lead to an effect.

A narrative that has clearly separated sections, often broken up by title, date or by the cut back to a narrator. This is like when books have chapters. This can sometimes disrupt the chronological flow.

Remember the Theorists?

Strauss
Todorov
Barthes
Propp