Great in name, greatest together

Great Sankey High School

Knowledge Organiser

Autumn Term

2024/25

Year 9

Name: _____

Form: _____

A Knowledge Rich Curriculum at Great Sankey High School

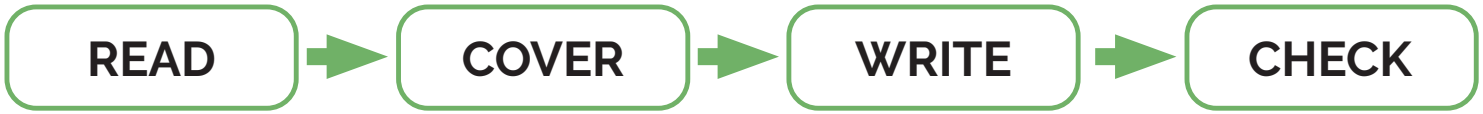
Research around memory suggests that if knowledge is studied once and not revisited or revised, it is not stored in the long-term memory. This means that after one lesson, or revising for one test, the knowledge will not be retained unless it is studied again. To ensure that knowledge is embedded in the long term memory it must be revisited frequently. Ensuring knowledge is embedded aids understanding, and in turn makes future learning more successful. To quote Daniel Willingham's learning theory,

"Thinking well requires factual knowledge that is stored in our long-term memory"

As part of home learning, students should be revising what they have been taught recently but also content they were taught previously. Therefore, as part of our strategy to embed learning over time we have developed knowledge organisers across years 7-11. These will provide key content and knowledge allowing students to pre-learn and re-learn, a vital part of processing all the information required to be successful. This knowledge will form the back-bone of assessments in school.

How to use your knowledge organiser

Knowledge organisers will be used in subject lessons, homework activities and form time and therefore you need to bring your knowledge organiser to school every day.
Ensuring that knowledge is retained into your long-term memory and you are ready for tests takes work!



To encourage students to build good study habits, students will be assigned homework quizzes on a week A through the Google Classroom. Students will be expected to use revision strategies such as read, cover, write, check to learn key knowledge and will then complete the quizzes to demonstrate their learning. Completion of these quizzes is an essential homework activity and will be closely monitored by the pastoral team.

Other methods that you may wish to try at home are listed below:

- Create mind maps.
- Create flashcards.
- Get sticky with your learning: write out key points from the KO as you read over it on post-it notes.
- Write your own basic recall quizzing questions around the keywords, definitions and key facts that you need to know. Test yourself with these questions and then leave it overnight to answer them the next day.
- Write your own challenging questions using the following command words – explain, compare, evaluate. Then create a model answer for these questions.
- Put the key words from your KO into new sentences.
- Make mnemonics to remember the order of particular concepts.
- Draw a comic strip, storyboard or a timeline describing any series of events that have a chronological order.
- Write yourself or a partner some quiz questions. Quiz each other or swop your questions to see if you can answer each other's questions.
- Think about the big picture – why is knowing specific information important to you/other people/society/companies/science/technology? The more links that you can make, the more meaningful you make your learning and the more likely it is that you will remember it. Think about the big picture – are there any links in the content on your KO to anything that you have watched on TV, read about or heard in the news?
- Give yourself spelling tests.
- Definition tests.
- Draw diagrams of key processes or theories.
- Draw images and annotate/label them with extra information.
- Create fact files.
- Create flowcharts for descriptions or explanations that have a chronological order.
- Summarise in your own words each section.
- Get your parents/carers to test you.
- Pick out key words and write definitions.
- Pre-learning (read a section of your knowledge organiser prior to the lesson).
- Learn key quotes (if applicable). Consider what you may say about these quotes e.g. what the author is trying to make you think/feel, their choice of language, what can be inferred from it.
- Write a letter/blog/article to someone explaining a key idea or concept.
- Prepare to overcome any hurdles: write down any questions or any areas of the KO that you feel you need to speak to your teacher about.
- Use the guidance that may have been given with a specific KO to help you learn the information and use it.

"Don't practise until you get it right. Practise until you can't get it wrong."

Portable Knowledge in STEM at KS3

STEM stands for Science, Technology, Engineering and Maths, and it is important that you can see connections between each of these subjects. In the real world there are very few challenges that only require one set of skills. For example, you wouldn't be able to design a new app, video game or computer program without an understanding of all of the STEM concepts. This section of the knowledge organiser will show you how different STEM subjects have things in common, including examples of how you might use them, and how some things may actually appear slightly different from one subject to the next. As Geography is a Natural Science we can include that too.

EXAMPLE	SCIENCE	TECHNOLOGY & ENGINEERING	MATHS	GEOGRAPHY
Tally chart	Can be used to record the number of pupils in different height ranges in biology.	Can be used when choosing a final design choice from a selection of draft designs.	Can be used to record the number of pupils with different eye colours or what their favourite colour, favourite animal or favourite subject is.	Can be used to used record the number of pedestrian or cars that pass a certain place.
Pie chart	Can be used to display the number of pupils with different eye colours in biology.	Can be used to display results of a tally chart.	Can be used to display the number of pupils who travel to school in different way.	Can be used to display the use of renewable and non-renewable energy resources.
Bar chart	Can be used to display the number of people with different blood groups in biology.	Can be used to display results of a tally chart.	Can be used to display the number of pupils with a different favourite sweet.	In geography the term histogram and bar chart are interchangeable and are used to display the percentage of forest lost in a range of countries for example.
Histogram	This is similar to a bar chart but the bars touch each other and they represent continuous data that is grouped, for example number of pupils in different height ranges in biology.	x	Can be used to display number of pupils in different height ranges.	
Line graph	Can be used to display the time taken for salt to dissolve at different temperatures in chemistry.	Can be used to represent trend data during research pieces.	In maths these are sometimes called scatter graphs or timeseries graphs. They can be used to display house prices or life expectancy.	Can be used to display temperatures of each month in different countries or rainfall in mm.
Line of best fit	In biology a line of best fit can be point to point, but in chemistry they are most often a straight line. In all 3 sciences they could be a curve depending on distribution of the points. For example the extension of a spring in physics.	x	In maths you might be asked to add a line of best fit to a scatter graph. It is always a straight line drawn with a ruler and can be used on graphs to show correlation between hours of revision and score in test or temperature and number of ice creams sold.	x

Portable Knowledge in STEM at KS3

Hopefully this section of the knowledge organiser will help you spot where things crossover from one STEM subject to another as you move from lesson to lesson. REMEMBER some things are exactly the same, some are very similar but might be called different things, and some things are different altogether! .....and don't forget STEM stands for **Science, Technology, Engineering and Maths**

EXAMPLE	SCIENCE	TECHNOLOGY & ENGINEERING	MATHS	GEOGRAPHY
Range	Range around a mean can be used with data for heart rate after exercise in Biology, amount of hydrogen gas produced in a chemical reaction in Chemistry and number of times a ball bounces in Physics.	x	Range around a mean can be used with data for heights, goals scored in a football match . In maths this includes looking at a table for ungrouped and grouped data.	Range when looking at rainfall and temperature data for different locations. Used when using development indicators such as literacy rate, life expectancy etc.
Mean, Median and Mode	Mean, median and mode can be used to analyse any sets of data with a range of results.	x	Mean, median and mode can be used to analyse any sets of data with a range of results.	Mean, median and mode can be used to analyse any sets of data with a range of results.
Continuous data	This is where you have any value in your data. In science an example would be length.	x	This is where you have any value in your data. In maths an example would be length.	This is where you have any value in your data. An example would be mm of rainfall.
Discrete data	In science this is sometimes called discontinuous data. An example would be blood group or eye colour in Biology.	x	Sometimes called primary or secondary data. Examples include age, shoe size, result from rolling a dice or the number of pets people have.	x
Using co-ordinates	x	x	4 and 6 figure grid references are used when plotting in 4 quadrants and used in transformations.	Both 4 and 6 figure references are used across all topics in geography to locate places from a map.
Taking measurements that are accurate and precise	Accurate data is close to the true value and precise data gives similar results if you repeat the measurement. In science there are far too many examples to mention!	Used when marking out materials prior to cutting and quality during checking when manufacturing a component.	4 and 6 figure references used across all topics to locate places from a map.	Measurements and accuracy are really important when studying map skills, especially when looking at scale and distance.

Year 9 Term 1		Definition Sentence	Contextual Sentence
1	challenge	Invite someone to take part in a competitive situation / task or situation that tests someone's abilities. To dispute the truth or validity of.	He accepted my challenge to a game of chess. He challenged the King's decision to invade.
2	clause	Part of a sentence. Part of a formal document.	The sentence "When it rained, they went inside" has 2 clauses: "when it rained" and "they went inside." The last clause in the contract was the most important.
3	compounds	Things that are composed of two or more separate elements; a mixture. To make something bad, even worse.	We will look at the properties of several compounds in science today. The high rainfall compounds the problem of flooding in the area.
4	conflict	A serious disagreement or argument.	The conflict in the play is between the king and queen.
5	consultation	The process of formally discussing.	Consultation is important in politics.
6	contact	The action of communicating or meeting. The state of physical touching.	We will contact the winners on Friday. The wires must make contact with the battery terminals.
7	decline	To become smaller, fewer or less. To politely refuse an invitation or offer.	The rain forest is in decline. I will decline the position of captain.
8	discretion	Behaving or speaking in such a way as to avoid revealing confidential information. The freedom to decide what should be done in a situation.	Discretion is vital in matters of state security. House points are awarded to pupils at the discretion of school staff.
9	draft	A preliminary version of a piece of writing/drawing. To select a person or group and bring them somewhere for a certain purpose.	The first draft of your story will be improved next lesson. He was drafted into the team as a replacement goalkeeper.
10	enable	To give someone the authority or means to do something; make it possible for.	Modern technology enables us to more accurately predict the weather.
11	energy	The strength required for physical or mental activity; power to work machines.	Changes in the levels of vitamins in your diet can affect your energy levels.
12	enforcement	The act of obeying a law, rule or obligation.	Law enforcement 200 years ago was very different to modern times.
13	entities	Things with distinct and independent existence; something separate.	The business was broken up and sold as separate entities.
14	equivalent	Equal in value, amount, function, meaning etc.	1 kilometre is equivalent to 1000 metres.
15	evolution	The gradual development of something.	Darwin's theory of evolution is based upon the idea of natural selection
16	expansion	The action of becoming larger or more extensive.	The club is undergoing expansion.
17	exposure	The state of having no protection from something harmful. The act of making information or an event public.	Exposure to high levels of noise should be avoided. The charity needed a lot of exposure in the local paper to help raise money.
18	external	Belonging to or forming the outer surface or structure of something.	The external surface was painted white.
19	facilitate	To make an action or process easy or easier.	To facilitate revision, we have produced a booklet of key topics.

Tier 2 Vocabulary

20	**fundamental**	A central or main rule on which something is based.	There was a fundamental change in the way the country was ruled.
21	**generated**	Produced or created.	The solar panels generated electricity.
22	**generation**	All of the people born and living at about the same time.	The books are popular among members of the younger generation.
23	**image**	A visible impression from a camera, telescope, microscope, or other device.	Voyager 2 sent back an image of the planet Neptune.
24	**liberal**	Open to new ideas. Generous.	He had liberal views about technology He is liberal with his money and buys lots of presents.
25	**licence**	A permit from an authority to own or use something, or to do a particular thing.	The farmer had a gun licence.
26	**logic**	Thinking/reasoning conducted or assessed according to strict principles of validity.	There seemed to be a lack of logic in his battle plans.
27	**marginal**	At the edge, minor, limited and not important.	She had only marginal success with the team.
28	**medical**	Relating to the practice of medicine. He had a medical problem and so could not attend.	
29	**mental**	Relating to the mind.	We all need to take care of our mental health.
30	**modified**	Made small changes in.	The castle was modified in 1252.

31	**monitoring**	Observing/checking the progress or quality of something over time.	They were monitoring the experiment over 2 hours.
32	**network**	A group or system of interconnected people or things.	The expanding railway network helped to develop the area.
33	**notion**	An idea or belief about something.	The traditional notion of marriage goes back thousands of years.
34	**objective**	A thing aimed at; a goal. Dealing with facts as seen without being biased by personal feelings/ prejudices.	The objective today is to learn about sculpture. Your essay must give an objective history of the war.
35	**orientation**	The relative position or direction of something.	You can use the orientation of a building to capture energy from the sun.
36	**perspective**	A point of view.	The story was written from the child's perspective.
37	**precise**	Exact and accurate.	She gave me a clear and precise recipe.
38	**prime**	Of first importance; main. The time of greatest vigour / success in a person's life.	Safety is our prime concern The young soldiers were struck down in their prime.
39	**psychology**	The scientific study of the human mind and its functions.	The answers we give will reflect our own psychology.
40	**pursue**	To follow or chase.	He had to pursue the ball down the pitch.

Rebellion, Revolution and Romanticism

Romanticism characterized many works of literature, painting, music, architecture, criticism, and historiography in Western civilization over a period from the late 18th to the mid-19th century. Romanticism can be seen as a rejection of the precepts of order, calm, harmony, balance, idealization, and rationality that typified Classicism in general and late 18th-century Neoclassicism in particular.

It was also to some extent a reaction against the Enlightenment and against 18th-century rationalism and physical materialism in general.

Romanticism emphasized the individual, the subjective, the irrational, the imaginative, the personal, the spontaneous, the emotional, the visionary, and the transcendental.

Romanticism

- Today the word 'romantic' evokes images of love and sentimentality, but the term 'Romanticism' has a much wider meaning. It covers a range of developments in art, literature, music and philosophy, spanning the late 18th and early 19th centuries.
- In 1762 Jean-Jacques Rousseau declared in *The Social Contract*: 'Man is born free, and everywhere he is in chains.' During the Romantic period major transitions took place in society, as dissatisfied intellectuals and artists challenged the Establishment.
- In England, the Romantic poets were at the very heart of this movement. They were inspired by a desire for liberty, and they denounced the exploitation of the poor.
- There was an emphasis on the importance of the individual; a conviction that people should follow ideals rather than imposed conventions and rules.
- The Romantics renounced the rationalism and order associated with the preceding Enlightenment era, stressing the importance of expressing authentic personal feelings.
- They had a real sense of responsibility to their fellow men: they felt it was their duty to use their poetry to inform and inspire others, and to change society.

Common themes in Romanticism

Themes- central ideas in a literary work

- Sublime
- Nature
- Individualism
- Oppression
- Religion
- Capacity of wonder
- Childhood
- Outcasts of society

The Romantic Poets

Characteristics of Romanticism

- An appreciation of the beauty of nature
- Human emotion and the senses
- Obsession with the exceptional figure, the genius and the hero, and their inner struggles
- The imagination as a gateway to experience and truth
- An obsessive interest in folk culture, cultural origins and the medieval era

Percy Shelley (1792-1822)

As reckless and brilliant in his poetry as in his life, Shelley poured out the great body of his major works in less than a decade and drowned at the age of twenty-nine while trying to race a summer storm. The rebellious son of a baronet, many of his radical and revolutionary ideas powerfully influenced by his father in law William Godwin.

William Blake (1757-1827)

Poet, painter and engraver, Blake grew up in London 'conversing with angels' and retained a visionary view of the world throughout his long, hard-working and poverty stricken career. Powerfully influenced by revolution, well known for his radical circle and now admired for Songs of Innocence and Experience (1794)

William Wordsworth (1770-1850)

William Wordsworth was born in Cumbria and was heavily inspired by the Lake District as an area of outstanding natural beauty. His father was a lawyer. Both Wordsworth's parents died before he was 15, and he and his four siblings were left in the care of different relatives. As a young man, Wordsworth developed a love of nature, a theme reflected in many of his poems.

John Keats (1795-1821)

Though he became the epitome of the young, beautiful, doomed poet of late English Romanticism, Keats struck everyone who knew him with his tremendous energy, his robust good humour and his zest for living. Sensuous and highly intelligent, he said poetry should be 'felt on the pulses.'

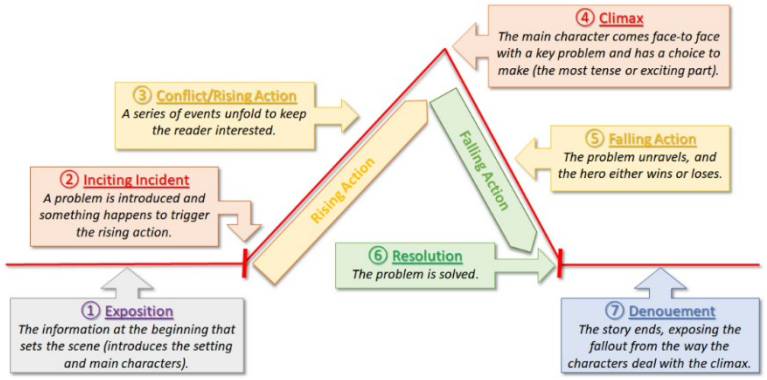
Lord Byron (1788-1824)

With Lord Byron, English Romanticism developed into an international style. A charismatic figure of devastating charm and vanity. His magnetic presence attracted innumerable raffish admirers and hangers-on. Lord Byron's politics, relationships and views on other poets led to his reputation of 19th century bad boy.

Poetic Forms and devices

Technique	Definition	Contextual Sentence
Alliteration	The occurrence of the same letter or sound at the beginning of adjacent or closely connected words.	He heard the snow falling faintly
Sibilance	A form of alliteration where the 's' or 'sh' sound is formed. It often creates a hissing sound	The sweet smell of victory swirled in his nostrils
Onomatopoeia	The forming of a word by imitating the sound the word is referring to	Crash! Bang!
Simile	A descriptive technique that compares one thing with another, usually using like or as	My love is like a red, red rose Her hands were as cold as ice
Metaphor	a figure of speech used to make a comparison between two things usually by stating something is something else.	Juliet is the sun
Repetition	Intentionally using a word or a phrase more than once in a text. They are often repeated in close proximity to each other.	The sad truth is that the truth is sad. Time after time.
Personification	The attribution of human characteristics to something non-human	Lightning danced across the sky My alarm clock yelled at me to get up!
Pathetic Fallacy	A type of personification where human emotions are attributed to aspects of nature, such as the weather, and often reflects characters' feelings or the action of a story	The sullen wind was soon awake. The sombre clouds darkened our mood
Oxymoron	Oxymoron is a figure of speech pairing two words together that are opposing and/or contradictory.	Silent scream Close distance Live recording
Hyperbole	An exaggerated claim or statement. They are often used to add emphasis.	I had to wait in the station for hours – an eternity!
Sonnet	A sonnet is a fourteen line poem with a fixed rhyme scheme. Often, sonnets use iambic pentameter: five sets of unstressed syllables followed by stressed syllables for a ten-syllable line. Although sonnets can be written about any theme, they are commonly used to express love, romance and beauty	
Ballad	A ballad is a form of narrative verse that is considered either poetic or musical. As a literary device, a ballad is a narrative poem, typically consisting of a series of four-line stanzas. Ballads were originally sung or recited as an oral tradition among rural societies, and were often anonymous retellings of local legends and stories by wandering minstrels in the Middle Ages.	

Conscious Crafting: Setting and Atmosphere



Freytag's Pyramid

Freytag's pyramid helps writers to organise their plots when describing the action of their story.

Why use Freytag's Pyramid?

- It provides a blueprint for writing fiction.
- It helps to organise the progression of the conflict in your narrative.
- It helps to develop characterisation.

What is setting in a narrative?

A setting is the time, period and location within a narrative.

The setting introduces what your story is about and helps to establish the mood of your narrative. Setting can also be used to help introduce the protagonist in your narrative.

In order to create a strong setting, you need to consider your vocabulary choices and a variety of sentences. You want your narrative to engage and hook your reader from the beginning.

Elements of setting include **place, time, historical context, sensory details and mood or environment**.

Famous settings in texts:

Hogwarts Castle in Harry Potter
London in Oliver Twist
Middle Earth in the Lord of the Rings

What is atmosphere in a narrative?

Atmosphere is a literary technique that is concerned with the **feeling** readers get from the elements of a narrative.

When we write, we can use different techniques to help build our atmosphere.
Descriptive language – our word choices can instantly evoke specific feelings or moods.
Sensory imagery – Our senses can stir a reader's emotions to deepen the atmosphere.
Setting – The setting can complement or enhance the narrative.
Narrative Voice– the point of view and its reliability
Foreshadowing – hinting to the reader that something is going to happen.

Types of atmosphere:

Tense atmosphere
Eerie atmosphere
Light-hearted atmosphere
Idyllic atmosphere
Optimistic atmosphere

Motifs	Description and the five senses	Narrative perspective/ Narrative Voice
A motif is a recurring image or ideas in a text. **Motifs are repeated throughout the story.** In fact, "motif" is a French word that translates to "pattern." If you notice the same object, phrase, or symbol multiple times throughout the story, it's probably a motif. **Motifs point to a larger theme or concept**. Oftentimes, a motif will recur in similar situations throughout the story. It can also be used to generate a mood, create symbolism, and engage with readers. Motifs work by appearing during key moments throughout the story.   	• Tactile (Touch): Think about texture, or how the surface of something you're touching feels. • Auditory (hearing): Are you hearing a scrape, or a scratch? A wail or a sob? Consider the different descriptions that you can use for sound. • Visual (sight): What can you see? What does it look like? How would you describe: colours, textures, movements? • Gustatory (taste): Consider things like flavors and textures for example, what can you taste at the beach compared to what can you taste in a forest? • Olfactory (smell): Think about what smells stand out for you and how everyday smells can add to description and add to emotions e.g. why do some smells appear unpleasant where as others are inviting?	• **1st person perspective**: written as if the narrator is a character, observing or taking part in the story • **2nd person perspective**: written as if the narrator is talking directly to the reader • **3rd person perspective**: written as if the narrator is talking about the characters and events, but not necessarily a character in them. • **Limited narrator**: A narrator aligned to a specific character, knowing nothing outside of that character's thoughts and interactions with the world and story. • **Omniscient narrator**: A narrator who is god-like, able to move from place to place and character to character, realigning the reader to any perspective they wish to share.

Language features	
Metaphor	Describing something by saying it is something else, e.g. 'he was a lion in battle' might show a soldier as fierce or brave.
Extended Metaphor	Using the same metaphorical theme throughout the text, e.g. describing a sports match as a war battle.
Simile	Describing something by saying it is like something else, e.g. 'her smile shone like the sun' would suggest a bright smile and a happy mood.
Personification	Describing something not human by giving it human characteristics, e.g. 'the angry sea grabbed and threw the boat across the choppy waters' would show rough and dangerous weather.
Alliteration	When several words in the same sentence or paragraph stand out because they begin with the same letter, e.g. 'softly spoken,
Oxymoron	When words next to each other have opposite meanings, such as 'bittersweet' or 'beautiful monster'. The contrast showing how things can be contradictory.
Juxtaposition	When words or ideas near to each other in a sentence, paragraph or text have contrasting meanings.
Noun	Words for people, places, things, e.g. 'the muddy **dog** jumped eagerly onto the **table'**.
Adjective	Words that describe nouns, e.g. 'the **muddy** dog jumped eagerly onto the table'.
Verb	Words for action, e.g. 'the muddy dog **jumped** eagerly onto the table'.
Adverb	Words that describe verbs or adjectives, e.g. 'the muddy dog jumped **eagerly** onto the table'.
Preposition	Words that indicate place or time and how words in a sentence relate to each other, e.g. 'the muddy dog jumped eagerly **onto** the table'.
Semantic & Lexical Fields	A semantic field is a group of words with similar meanings or connotations in a text, e.g. in the semantic field of ghostly, you might have 'fear', 'shiver', 'eerie', 'pale', etc. However a lexical field is a group of words that relate to the same topic, e.g. in a lexical field of the supernatural, you might have 'ghost', 'vampire', 'graveyard', 'abandoned house', 'spirit', 'bats', 'moonlight', etc.
Structural Features	
Sentence Functions:	**Declarative:** stating information, e.g. 'I am taking the dog for a walk.' **Interrogative**: asking questions, e.g. 'Are you taking the dog for a walk?' **Exclamatory**: emotionally stated information, often ending with an exclamation mark, e.g. 'This dog needs a walk NOW!' **Imperative**: an order or command, e.g. 'You will take the dog for a walk.'
Sentence types:	**Complex:** containing a main (makes sense on its own) and a subordinate (must be linked to another) clause. E.g. 'If you're going for a walk then remember to take some water. **Compound:** two or more main clauses linked by a conjunction (a 'joining' word, e.g. 'and'). E.g. 'We went for a walk and enjoyed the fresh air.' **Simple:** one main clause (makes sense on its own). E.g. 'We went for a walk.'
Repetition	When words are repeated in any way within a text. E.g. 'Everyone lived in the same small brick houses, on the same kind of long and narrow streets, all leading to the same tall factory chimneys in one direction and the same dark and brooding moors on the other.'
Listing	When items are noted one after the other. E.g. 'The cold, dark and brooding moors.'
Anaphora	(A type of repetition) When a series of sentences begin in the same way. E.g. Martin Luther King's 'I have a dream' speech had many lines beginning with the phrase 'I have a dream'.
Plot	The events and the organisation and sequencing of them that make up the story. E.g. in the nursery rhyme 'Humpty Dumpty', he first sits on the wall, then he falls off, then all the King's horses and men arrive, but cannot put him back together again. The events and the order of them are each important.
Theme	An underlying message or meaning conveyed by the story. E,g, the story might tell us something about love, conflict, betrayal, friendship, bravery, loyalty, all of these things or something completely different. Stories generally have several linked themes.

Year 9 Mathematics Knowledge Organiser

Topic: Fractions, Decimals and Percentages

Additional Tier 3 Vocabulary – use www.mathsdictionaryforkids.com to help

Reciprocal	The inverse of a number or a value. "Reciprocal" comes from the Latin *reciprocus* meaning returning.	The **reciprocal** of $\frac{2}{3}$ is $\frac{3}{2}$
Percentage	a number or ratio expressed as a fraction of 100.	Write 37 out of 50 as a **percentage.**
Percentage Multiplier	a factor that amplifies or increases the base value of something else.	After an increase of 8%, the **percentage multiplier** is 1.08
Percentage change	the relative change between an old value and its new value, expressed as a percentage of the old value.	The **percentage change** from 80 to 92 is a 15% increase.

Fractions

Simplifying

To write a fraction in its simplest form, (cancel down), you must divide both parts by their HCF.

$$\frac{6}{12} \overset{\div 6}{=} \frac{1}{2}$$

Add and Subtract

Look for a common denominator.

$$\frac{2}{3} + \frac{4}{5}$$

In this case, 15 is a common denominator

We now write them as equivalent fractions

$$\frac{10}{15} + \frac{12}{15} = \frac{22}{15} = 1\frac{7}{15}$$

We do exactly the same for subtraction

$$\frac{7}{8} - \frac{3}{7}$$

$$\frac{49}{56} - \frac{24}{56} = \frac{25}{56}$$

Fraction of an Amount

Step 1: Divide by the denominator.
Step 2: Multiply by the numerator.

Find $\frac{3}{4}$ of 20

Step 1: $20 \div 4 = 5$

Step 2: $5 \times 3 = 15$

Multiplying

Multiply the numerators
Multiply the denominators

$$\frac{3}{7} \times \frac{2}{5} = \frac{3 \times 2}{7 \times 5} = \frac{6}{35}$$

$$1\frac{2}{3} \times 2\frac{4}{5}$$

$$\frac{5}{3} \times \frac{14}{5} = \frac{5 \times 14}{3 \times 5} = \frac{70}{15} = 4\frac{10}{15} \; 4\frac{2}{3}$$

Mixed Numbers

An **improper fraction** is one where the numerator is greater than the denominator. A **mixed number** is a number with an integer part and a fraction part

Improper → Mixed

$$\frac{13}{4} = \frac{4}{4} + \frac{4}{4} + \frac{4}{4} + \frac{1}{4} = 3\frac{1}{4}$$

Mixed → Improper

$$3\frac{2}{5} = \frac{3 \times 5 + 2}{5} = \frac{17}{5}$$

Calculating with Mixed Numbers

Change into improper fractions FIRST, then calculate as normal.

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

Now subtract by finding the lowest common denominator:

$$\frac{7}{3} - \frac{7}{5} = \frac{35}{15} - \frac{21}{15} = \mathbf{\frac{14}{15}}$$

Fraction → %

Convert to a denominator of 100

$$\frac{3}{4} \overset{\times 25}{} \frac{75}{100} = 75\%$$

Key Equivalent Values

Fraction		Decimal	Percentage
(one whole)	1	1.00	100%
(one half)	1/2	0.50	50%
(one quarter)	1/4	0.25	25%
(one fifth)	1/5	0.20	20%
(one tenth)	1/10	0.10	10%
(one hundredth)	1/100	0.01	1%

Percentage Change

$$\frac{Change}{Original} \times 100$$

Original skirt price = £15
Sale price = £12

$$\frac{3}{15} \times 100 = 20\%$$

Percentages

A percentage is an amount 'out of 100'.

Percentage of an Amount

To find 10% of an amount → ÷ by 10

Find 15% of 20

10% = 2 (÷ 2)
5% = 1 (÷ 2, +)
15% = 3

Find 21% of 60

10% = 6 (÷ 10)
1% = 0.6 (÷ 10, × 2)
20% = 12 (+)
21% = 12.6

Percentage Increase

Add to the original amount

Non Calculator

Increase 80 by 12%
10% = 8
1% = 0.8
2 % = 1.6
12% = 9.6
80 + 9.6 = **89.6**

Calculator

Increase 120 by 23%
100% + 23% = 123%
123% = **1.23** **Multiplier**
Now multiply the original value by this multiplier:
120 x 1.23 = **147.6**

Percentage Decrease

Subtract from the original amount

Non Calculator

Decrease 40 by 27%
10% = 4
1% = 0.4
7 % = 2.8
20% = 8
27% = 10.8
40 – 10.8 = **29.2**

Calculator

Decrease 35 by 16%
100% - 16% = 84%
84% = **0.84** **Multiplier**
Now multiply the original value by this multiplier:
35 x 0.84 = **29.4**

Year 9 Mathematics Knowledge Organiser

Topic: Number Properties and Calculation

Additional Tier 3 Vocabulary – use www.amathsdictionaryforkids.com to help		
Prime Factor	A factor of a number that is also a prime number.	3 is a **prime factor** of 24.
Index form	The index of a number says how many times to use the number in a multiplication.	$7 \times 7 \times 7 \times 7$ in **index form** is 7^4.
Negative Indices	When the index of a number is a negative number.	8^{-2} is an example of a **negative index** form.
Fractional Indices	When the index of a number is a fraction.	$9^{\frac{1}{2}}$ is an example of **fractional index** form.

Highest Common Factor (HCF)

The highest or greatest common factor is the number that divides two or more given numbers exactly

Method 1: using all factors

1. List the factors for each number. 24: 1, 2, 3, 4, 6, 8, 12, 24; 36: 1, 2, 3, 4, 6, 9, 12, 18, 36.
2. List the common factors. (the ones they both have) 1, 2, 3, 4, 6, 12
3. Circle the greatest common factor. 1, 2, 3, 4, 6, (12)

GCF = 12

Method 2: using prime factors

1. List the prime factors for each number. 24: 2 x 2 x 2 x 3; 36: 2 x 2 x 3 x 3
2. List the common prime factors. 2 x 2 x 3
3. Multiply the common prime factors. 2 x 2 x 3 = 12

GCF = 12

Lowest Common Multiple (LCM)

The smallest number that is the multiple of two or more other numbers

What is the LCM of 3, 4 and 6?

1. List the multiples for each number.
   - 3: 3, 6, 9, 12, 15, 18, 21, 24, 27, 30, 33, 36 ...
   - 4: 4, 8, 12, 16, 20, 24, 28, 32, 36, 40, 44, 48 ...
   - 6: 6, 12, 18, 24, 30, 36, 42, 48, 54, 60, 66, 72 ...
2. List the common multiples. (multiples they have that are the same) 12, 24, 36 ...
3. Choose the smallest number. It is the least common multiple. (12), 24, 36 ...

LCM = 12

Laws of indices

Multiplication Rule	$a^x \times a^y = a^{x+y}$
Division Rule	$a^x \div a^y = a^{x-y}$
Power of a Power Rule	$(a^x)^y = a^{xy}$
Power of a Product Rule	$(ab)^x = a^x b^x$
Power of a Fraction Rule	$\left(\frac{a}{b}\right)^x = \frac{a^x}{b^x}$
Zero Exponent	$a^0 = 1$
Negative Exponent	$a^{-x} = \frac{1}{a^x}$
Fractional Exponent	$a^{\frac{x}{y}} = \sqrt[y]{a^x}$

Squares, Cubes, Primes and Roots

Square numbers	1, 4, 9, 16, 25, 36, 49, 64, 81, 100, 121, 144
A number formed by multiplying a number by itself	
Note: A square number can only end in 1, 4, 9, 6 or 25	
Cube numbers	1, 8, 27, 64, 125, 216, 343, 512, 729, 1000
A number formed by multiplying a number by itself twice	
Square Root	$\sqrt{36} = 6$ or -6, $\sqrt{169} = 13$ or -13
A value that, when multiplied by itself, gives a square number	
Cube Roots	$\sqrt[3]{64} = 4$, $\sqrt[3]{216} = 6$, $\sqrt[3]{0.125} = 0.5$
A value that, when multiplied by itself and itself again, gives a cube number	
Prime Numbers	2, 3, 5, 7, 11, 13, 17, 19, 23, 29, 31, 37, 41, 43, 47, 53, 59, 61, 67, 71, 73, 79, 83, 89, ...
A number which only has two factors – itself and 1	

Negative Numbers

operations on positive and negative numbers

Addition

- Positive + Positive = Positive: 5 + 3 = 8
- Negative + Negative = Negative: (- 5) + (- 3) = - 8
- * Positive + Negative or Negative + Positive: (- 5) + 3 = - 2
  - subtract the smaller number from the larger number, then use the sign of the larger number in the answer
  - 3 + (- 5) = - 2
  - (- 3) + 5 = 2
  - 5 + (- 3) = 2

Subtraction

- Negative - Positive = Negative: (- 5) - 3 = (- 5) + (- 3) = - 8
- Positive - Negative = Positive: 5 - (- 3) = 5 + 3 = 8
- * Negative - Negative = Negative + Positive: (- 5) - (- 3) = (- 5) + 3 = - 2
  - treat as Negative + Positive
  - subtract the smaller number from the larger number, then use the sign of the larger number in the answer
  - (- 3) - (- 5) = (- 3) + 5 = 2

Multiplication

- Positive x Positive = Positive: 5 x 3 = 15
- Negative x Negative = Positive: (- 3) x (- 5) = 15
- Negative x Positive = Negative: (- 3) x 5 = - 15
- Positive x Negative = Negative: 3 x (- 5) = - 15
  - change double negatives to a positive

Division

- Positive ÷ Positive = Positive: 15 ÷ 3 = 5
- Negative ÷ Negative = Positive: (- 15) ÷ (- 3) = 5
- Negative ÷ Positive = Negative: (- 15) ÷ 3 = - 5
- Positive ÷ Negative = Negative: 15 ÷ (- 3) = - 5
  - change double negatives to a positive

Year 9 Mathematics Knowledge Organiser	Topic	Additional Tier 3 Vocabulary – use www.amathsdictionaryforkids.com to help		
	Approximations, Powers and Roots, Using a Calculator	**Integer**	A number with no fractional part (no decimals).	To the nearest **integer** 7.3 is 7
		Decimal places	The position of a digit to the right of a decimal point.	In 6.287, the third **decimal place** is 7
		Significant Figures	A figure or a digit that contributes to how accurately something can be measured.	7654 to 2 **significant figures** is 7700
		Error interval	The range of values that a number could have taken before being rounded or truncated.	92m is rounded to the nearest metre. The **error interval** is $91.5 \leq x < 92.5$

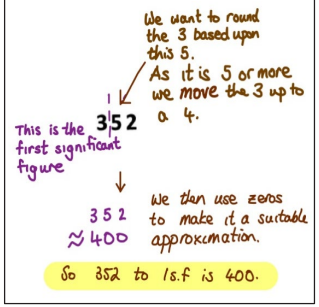
Rounding and estimation

How to round to decimal places

Round 22.57 to 1 decimal place i.e. we must have 1 number after the decimal point	Round 7.832 to 2 decimal places i.e. we must have 2 numbers after the decimal point
22.57	**7.832**
As the 5 is the first number after the decimal point, we round this based upon the second number, the 7.	As 8 and 3 are the first two numbers after the decimal point, we round based upon the third number, the 2.
As 7 is 5 or more, we **round up** so **22.57 becomes 22.6**	As 2 is less than 5, we **round down** so **7.832 becomes 7.83**

How to round to significant figures

Round 352 to 1 significant figure (1 s.f.)



Round 0.040256 to 2 significant figures (2 s.f.)

We find the first non-zero digit (the first significant figure).
This is the **4** indicated by the arrow.

0.040256

After this, everything (including 0's) are significant. So, we are rounding the 0 based upon the 2.
The 2 is less than 5, so we keep it at 0

So $0.040256 \approx 0.040$ to 2s.f.

And this continues for whatever the number of significant figures you need.

Estimation

To estimate is to assign an approximate value to a calculation or measure. We can do an estimation in order to check an answer, just in case we used the calculator incorrectly or made an error in our written method.

Use approximations to estimate the value of $\frac{37 \times 304}{58}$

Round numbers to 1s.f.

$37 \longrightarrow 40$

$304 \longrightarrow 300$

$58 \longrightarrow 60$

So

$\frac{40 \times 300}{60} = \frac{12000}{60}$

$= 200$

Powers and Roots

Square number	Square root
A number that results from multiplying a integer by itself.	A number that when multiplied by itself gives the original number.
We use the superscript ^{2} to state we are squaring the number.	We use the symbol $\sqrt{\ }$ to indicate we wanting the square root

Examples

$4^2 = 4 \times 4 = 16$

16 is the square number

$27^2 = 729$

729 is the square number

$\sqrt{36} = \mathbf{6}$ (as $6 \times 6 = 36$)

$\sqrt{144} = \mathbf{12}$,

$\sqrt{2025} = \mathbf{45}$

Q. How many square roots can a number have?

Cube(d) number	Cube root
A number that results from multiplying a unteger by itself...and itself again	A number that when multiplied by itself and itself again gives the original number.
We use the superscript ^{3} to state we are cubing.	We use $\sqrt[3]{\ }$ to indicate we wanting the cube root.

Examples

$5^3 = 5 \times 5 \times 5 = \mathbf{125}$

125 is the cube number.

$11^3 = \mathbf{1331}$

1331 is the cube number.

$\sqrt[3]{8} = \mathbf{2}$ (as $2 \times 2 \times 2 = 8$)

$\sqrt[3]{216} = \mathbf{6}$ $\sqrt[3]{1000} = \mathbf{10}$

You need to know all square numbers up to 225 and cube numbers up to 1000

Using a calculator

CASIO fx-83/85 ES Plus (old model)

CASIO fx-83/85 GTX (new model)

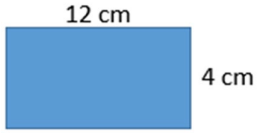
The Button Moon – a rundown of star buttons

Button	Function	Stars
S⇔D	Converts between fractions, decimals and surds (numbers that involve square roots).	★★★
	The fraction button (Press SHIFT and this button for mixed fractions).	★★★
( )	The bracket buttons – remember if squaring negative numbers to use them.	★★
x^2 x^3 $\sqrt{\ }$ $x^{\blacksquare}$	The power and root buttons – in order • squaring the number • cubing the number • square root • the power button (to the power n).	★★★
(−)	Negative number button (remember above).	★
Ans	The answer the last time you pressed equals.	★★
SHIFT	The SHIFT button – allows you to access other functions (ALPHA does the red ones).	★★★
×10^x	On its own it's the **Standard Form button**. Pressing SHIFT and this gives π (3.1419...).	★★★
sin cos tan	These buttons are those which represent the trigonometry functions. When finding lengths, press then as seen. When finding angles, you need to do the inverse e.g. $\sin^{-1}$. To do this press SHIFT and then **sin**, **cos** or **tan** depending on the one you are using.	★★★

Year 9 Mathematics Knowledge Organiser	Topic	Additional Tier 3 Vocabulary – use www.amathsdictionaryforkids.com to help		
	Perimeter and Area	**Radius**	A line that connects the centre of the circle to its circumference.	In a circle, the angle where the **radius** meets the tangent is always 90°
		Diameter	A line that connects two points on the circumference that passes through the centre. It is twice the length of the radius.	Draw a circle with a **diameter** of 8 cm.
		Circumference	The perimeter of a circle or ellipse. (from Latin circumferens, meaning "carrying around").	The length of the **circumference** is given by πd.
		Arc	A part of a curve, especially a part of the circumference of a circle.	Find the length of the **arc** between the two points.

Perimeter

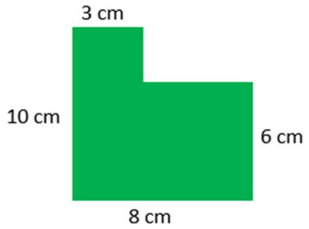
The path that surrounds a 2-dimensional shape.



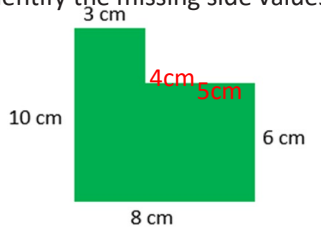
12cm + 4cm + 12cm + 4cm = 32cm
or 2 x (12cm + 4cm) = 32cm
or (2 x 12cm) + (2 x 4cm) = 32cm

Compound Shape

A compound shape is made up of 2 or more simple shapes.



Identify the missing side values.

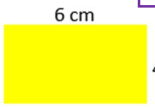


10cm + 3cm + 4cm + 5cm + 6cm + 8cm
= 36cm

Area Formulae

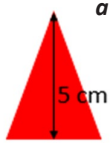
The area of a shape is the size of the surface a 2-D shape covers.

Rectangle: Base x Height



6cm x 4cm = 24cm^2

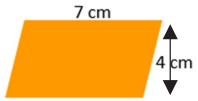
In each case, we are using the perpendicular height – this is the height at a right-angle to the base



Triangle: $\frac{Base \times Height}{2}$

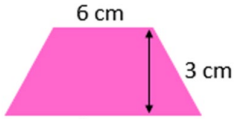
$\frac{5cm \times 4cm}{2} = \frac{20cm^2}{2} = 10cm^2$

Parallelogram: Base x Height



$7cm \times 4cm = 28cm^2$

Trapezium: $\frac{a+b}{2}$ x Height
where a and b are the parallel sides



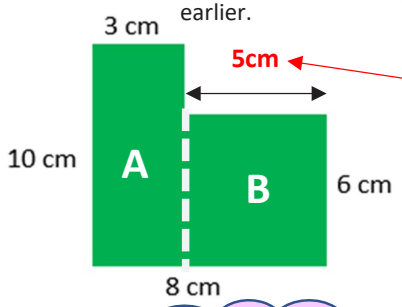
$\frac{8cm+6cm}{2} \times 3 =$

$\frac{14cm}{2} \times 3 =$

$7 \times 3 = \mathbf{21cm^2}$

Area of Compound Shapes

We have seen this compound shape earlier.



Is there a different way you could have calculated this?

Split the shape into parts and calculate the area of each section.
You may need to find missing sides that you will need.

One way to calculate the total area is the following:

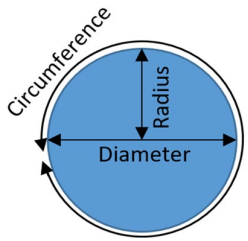
Area (A) = 3 x 10 = 30 cm^2

Area (B) = 5 x 6 = 30 cm^2

TOTAL AREA

Area (A) + Area (B) = 30 + 30 = 60 cm^2

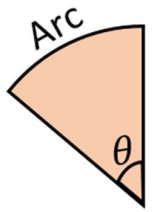
Circles



Area = $\pi \times r^2 = \boldsymbol{\pi r^2}$

Circumference = $\pi \times d = \boldsymbol{\pi d}$ *or* $\boldsymbol{2\pi r}$

To help you remember these, watch 'Circle Song 2" on YouTube!



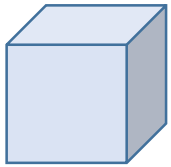
Sector Area = $\frac{\theta}{360} \times \boldsymbol{\pi r^2}$

Arc Length = $\frac{\theta}{360} \times \boldsymbol{\pi d}$

Year 9 Mathematics Knowledge Organiser	Topic
	Volume and Surface Area

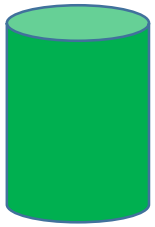
Additional Tier 3 Vocabulary – use www.amathsdictionaryforkids.com to help		
Face	A flat or curved surface on a 3D shape.	A cuboid has 6 **faces.**
Edge	Where two faces meet .	A cuboid has 12 **edges.**
Vertex	A corner where edges meet (pl. vertices).	A cuboid has 8 **vertices.**
Frustum	The portion of a cone or pyramid which remains after its upper part has been cut off by a plane parallel to its base.	Calculate the volume of the **frustum** in the diagram shown.

3-D Shapes



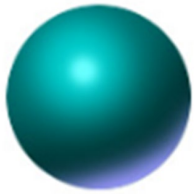
cube

cuboid



cylinder

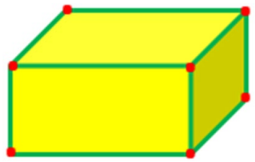
cone



sphere

pyramid

3-Dimensional Solid

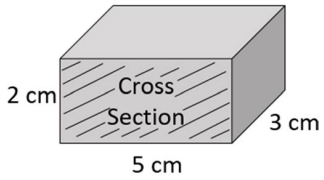


Faces | Edges | Vertices

Volume of prisms

A prism is a solid object with two identical, parallel polygon faces called the 'cross section'.

Volume of Prism: Area of Cross Section x Length



$(5\text{ cm} \times 2\text{ cm}) \times 3\text{cm} =$

$10\text{ cm}^2 \times 3\text{cm} = 30\text{ cm}^3$

Key Formulae

Volume is the amount of 3D space that a solid takes up
Surface area is the area that encloses a 3D shape

Volume of a cylinder: $\pi r^2 h$

Volume of a sphere: $\frac{4}{3}\pi r^3$

Volume of a cone: $\frac{1}{3}\pi r^2 h$

Curved surface area of a cone:

$\pi r l$

(where l is the slant height of the cone).

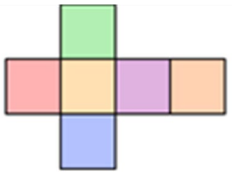
Curved surface area of a sphere:

$4\pi r^2$

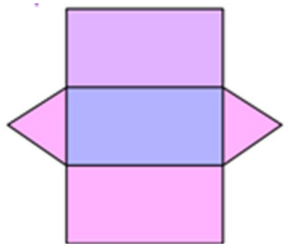
Surface Area

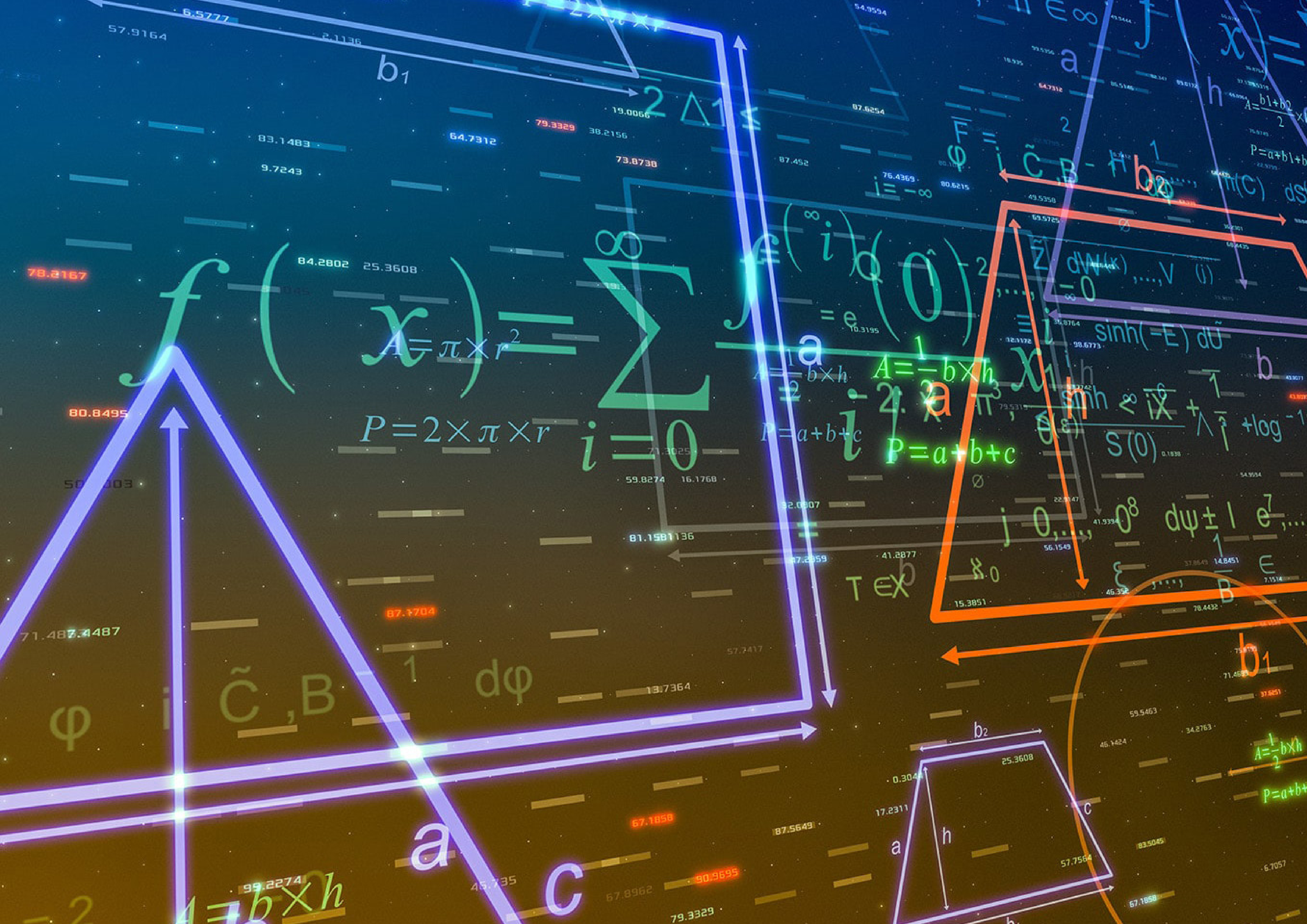
The surface area of a shape is the total area of all the faces of that shape.
To help identify all the faces, draw the **net** of the shape.

The net of a cube



The net of a triangular prism





A=π×r²
P=2×π×r
P=a+b+c

Year 9 Biology: Cells and Transport

1) World of the microscope

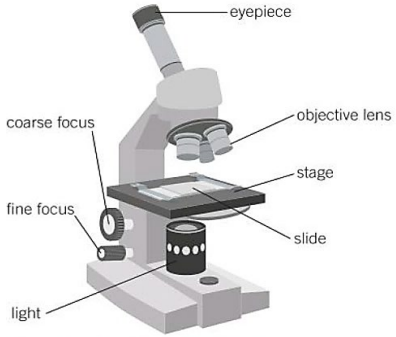
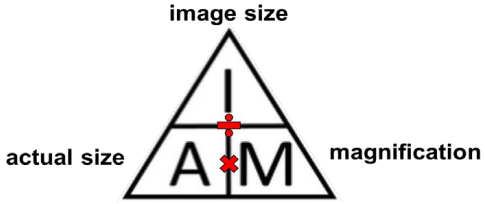
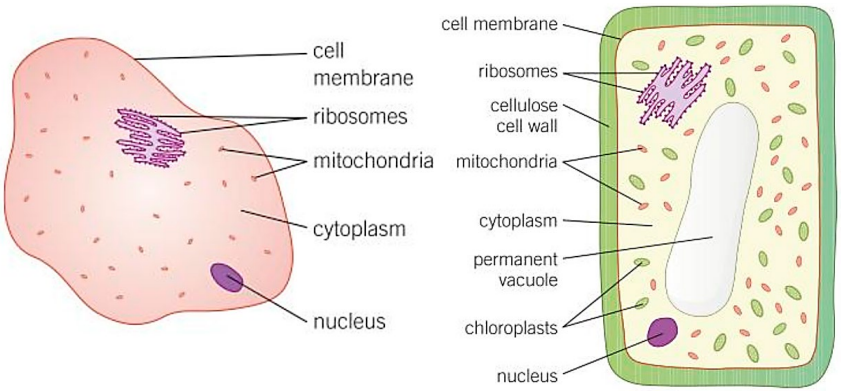


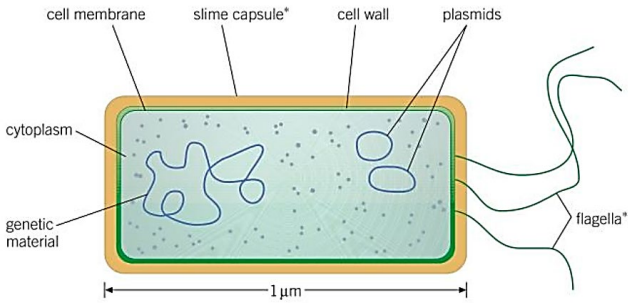
Figure 1 *A light microscope*



2) Animal and plant cells



3) Eukaryotic and Prokaryotic cells



4 & 5) Specialised cells

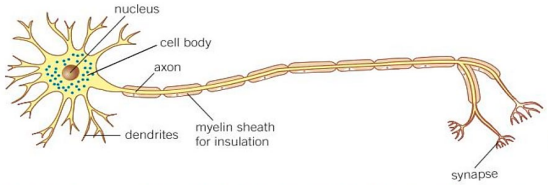


Figure 1 *A nerve cell is specialised to carry electrical impulses from one part of the body to another*

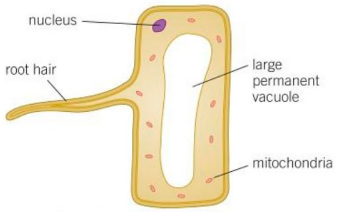


Figure 2 *A root hair cell*

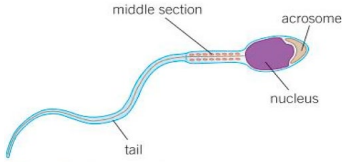
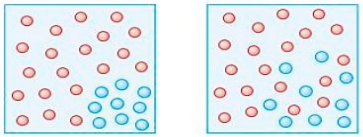


Figure 3 *A sperm cell*

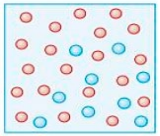
A **specialised cell** is a cell that is highly adapted to carry out a particular function.

6) Diffusion

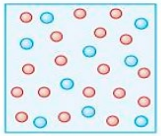


At the moment when the blue particles are added to the red particles they are not mixed at all

As the particles move randomly, the blue ones begin to mix with the red ones



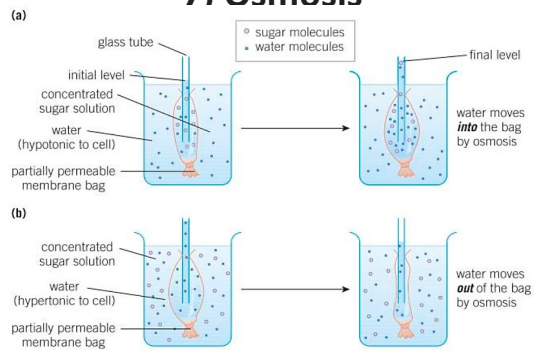
As the particles move and spread out, they bump into each other. This helps them to keep spreading randomly



Eventually, the particles are completely mixed and diffusion is complete, although they do continue to move randomly

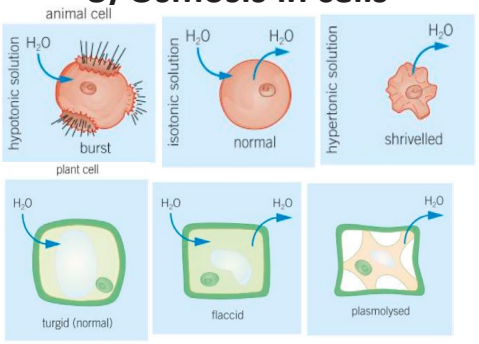
Figure 1 *The random movement of particles results in substances spreading out, or diffusing, from an area of higher concentration to an area of lower concentration*

7) Osmosis



Osmosis is the movement of water from high to low concentration across a **partially permeable membrane.**

8) Osmosis in cells



10) Exchanging materials

Adaptations for exchanging materials

There are various adaptations to make the process of exchange more efficient. The effectiveness of an exchange surface can be increased by:

- having a large surface area over which exchange can take place
- having a thin membrane or being thin to provide a short diffusion path
- in animals, having an efficient blood supply moves the diffusing substances away from the exchange surfaces and maintains a steep concentration (diffusion) gradient
- in animals, being **ventilated** makes gas exchange more efficient by maintaining steep concentration gradients.

9) Active Transport

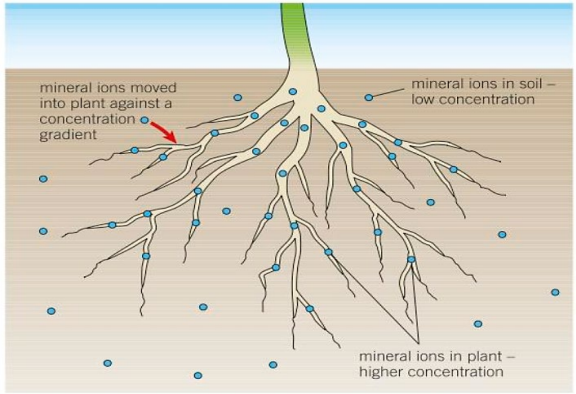


Figure 2 *Plants use active transport to move mineral ions from the soil into the roots against a concentration gradient*

Year 9 Biology: Cells and Transport Key Vocabulary

Key word	Definition	Contextual Sentence
Active transport	The movement of substances from a dilute solution to a more concentrated solution against a concentration gradient, requiring energy from respiration.	Mineral ions are moved into the roots of a plant through the process of **active transport.**
Bacteria	Single-celled prokaryotic organisms.	You need to use a microscope to see **bacteria.**
Cell membrane	The membrane around the contents of a cell that controls what moves in and out of the cell.	Gases like oxygen pass through the **cell membrane**.
Cell wall	The rigid structure around plant and algal cells. It is made of cellulose and strengthens the cell.	Animal cells do not have a **cell wall**, unlike plant cells.
Cellulose	The complex carbohydrate that makes up plant and algal cell walls and gives them strength.	**Cellulose** give strength to cell walls.
Chloroplasts	The organelles in which photosynthesis takes place.	Photosynthesis takes place in the **chloroplasts.**
Cytoplasm	The water-based gel in which the organelles of all living cells are suspended and most of the chemical reactions of life take place.	Bacterial, animal and plant cells all contain **cytoplasm.**
Diffusion	The spreading out of the particles of any substance in a solution, or particles in a gas, resulting in a net movement of particles from an area of higher concentration to an area of lower concentration down a concentration gradient.	The perfume particles moved across the room through the process of **diffusion.**
Eukaryotic cells	Cells from eukaryotes that have a cell membrane, cytoplasm, and genetic material enclosed in a nucleus.	Animal and plant cells contain a nucleus, they are **eukaryotic cells.**
Hypertonic (osmosis)	A solution that is more concentrated than the cell contents.	As the student added more glucose to the water, the solution became more **hypertonic**.
Hypotonic (osmosis)	A solution that is less concentrated than the cell contents.	Water moved into the cell from the **hypotonic** solution.
Isotonic (osmosis)	A solution that is the same concentration as the cell contents.	When the cylinder of potato was placed in the solution its mass remained the same, this is because the solution was **isotonic.**
Mitochondria	The site of aerobic cellular respiration in a cell.	The sperm contains many **mitochondria** to release energy for movement.
Partially permeable membrane	A membrane that allows only certain substances to pass through.	The cell membrane allowed water to pass through it but not starch, it is a **partially permeable membrane**.
Permanent vacuole	Space in the cytoplasm filled with cell sap.	Plant cell contain a **permanent vacuole**.
Plasmolysis	The state of plant cells when so much water is lost from the cell by osmosis that the vacuole and cytoplasm shrink and the cell membrane pulls away from the cell wall.	When viewed under a microscope, the cells showed **plasmolysis.**
Prokaryotic cells	A type of cell that does not contain a nucleus or membrane bound organelles.	Bacteria are example of **prokaryotic cells** because they do not contain a nucleus.
Resolving power	A measure of the ability to distinguish between two separate points that are very close together.	An electron microscope has a higher **resolving power** than a light microscope.
Ribosomes	The site of protein synthesis in a cell	Proteins are made by **ribosomes.**

Year 9 Chemistry: Atomic Structure

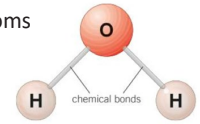
Atoms

Atoms are the smallest part of a substance that can exist. If all the atoms are the same, the substance is known as an **element**.

Molecules

A **molecule** is when two or more atoms are chemically bonded together. For example, look at the diagram of a water **molecule.**

Pure water will always have twice as many hydrogen atoms as oxygen atoms. That means its chemical formula is written as H_2O.



Compound

A **compound** is when two or more different **elements** chemically bond together.

Formula Writing

If there is no subscript after the atom's symbol in a chemical formula, it is read as "1", which means the ratio of H atoms compared to O atoms is 2:1

Compounds	Mixtures
Compounds have a fixed composition (the ratio of elements is always the same in any particular compound).	Mixtures have no fixed composition (the proportions vary depending on the amount of each substance mixed together).
Chemical reaction must be used to separate the elements in a compound.	The different elements or compounds in a mixture can be separated (by physical means, using the difference in properties of each substance in the mixture).
There are chemical bonds between atoms of the different elements in the compound.	There are no chemical bonds between atoms of the different substances in a mixture

Chemical equations

Chemical equations show the chemicals used, called **reactants** and then new chemicals it forms, are called the **products** of a reaction.

Chemical equations

Using symbol equations helps you to see how much of each substance is involved in a reaction. For example, calcium carbonate **decomposes** (breaks down) when heated. You can show the reaction using a symbol equation like this;

Reactants → Product

$CaCO_3$ → CaO + CO_2

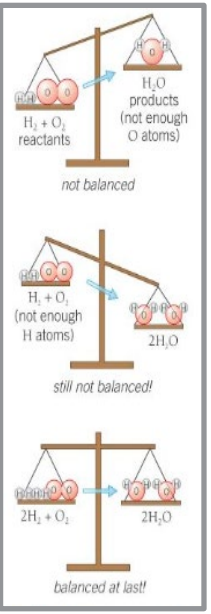
1 = Ca = 1

1 = C = 1

3 = O = 3

This equation is balanced; there is the same number of each type of **atoms** on both sides of the equation. You can see this from the counting under the equation and from the diagram on the right. This is very important because **atoms** cannot be created nor destroyed in a chemical reaction. This means that;

"The total mass of the products formed in a reaction is equal to the total mass of the reactants" (which is the Law of Conservation.)



States & symbols

This is what state the substance is in at a given temperature.

This could be

solid (s),
liquid (l)
gas (g)

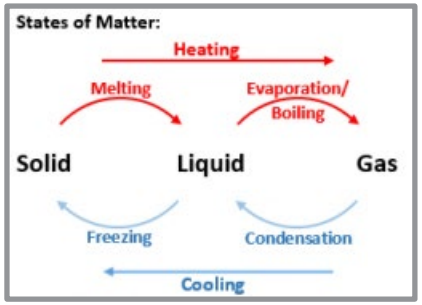
Substances have a melting point and a boiling point.

In chemistry, we also give a state symbol to substances dissolved in water. This is known as an **aqueous solution** with the state symbol being **(aq).**

Changing states

You can see on the graph below that when a substance changes state. The line of the graph stops rising when a substance changes state.

Here, a **solid** is changing to a liquid. The reason it stops rising is that enough **energy** is transferred from the surrounding area to the solid so forces between the particles in the solid break. Once the particles break apart from their fixed position it is no longer a **solid**. Once this happens the transfer of **energy** from the surroundings to the substance causes the temperature to continue to rise.



State of matter energy diagram

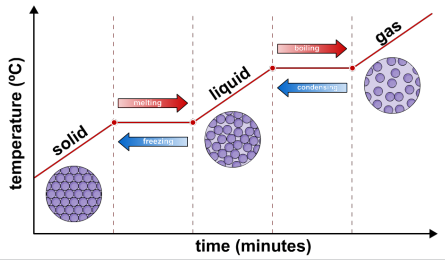
To the left is a diagram of the **changes of state.** If you increase or decrease the energy of the substances the state will change (e.g. solid → liquid).

Solids are held together in a fixed pattern/shape and have a fixed volume. **Solids** can not be compressed (squashed).

Liquids have a fixed volume and the particles are packed close together in a random order moving over each other, this allows them to flow and change shape.

Gases have no fixed shape or volume. The particles move around at a much faster speed. The **gases** will fill the area given but they can be compressed.

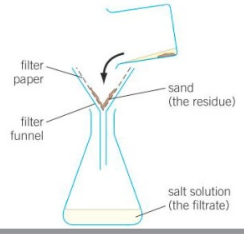
The changing state graph



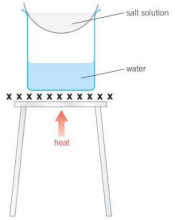
Separating Mixtures

A **mixture** is made up of two or more substances (elements or compounds) that are not chemically combined together. These can be separated using various techniques, depending on what you need to separate and the properties they have. The most common ways to separate mixtures are;

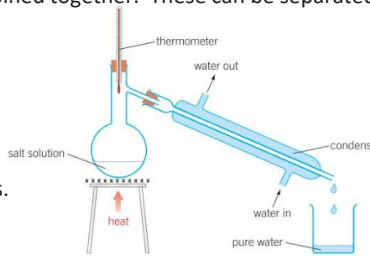
Filtration
Separates solid and liquids



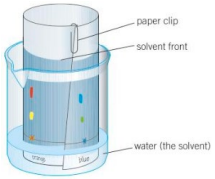
Evaporation
Separates liquids and a dissolved solid

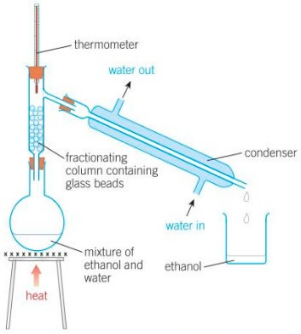


Distillation
Separates out liquids based on their boiling points.



Chromatography
Separates out substances dissolved in a solvent





Fractional Distillation

The liquid **evaporates** and turns into a gas. The vapours must pass over and between the glass beads in the fractionating column before they reach the condenser. The temperature in the fractionating column is highest at the bottom of the column, getting lower as the vapours rise up. The substance with the higher boiling point will **condense** more readily on the cooler glass beads nearer the bottom of the column and drip back down into the flask. The substance with the lower **boiling point** will continue rising and pass over into the condenser, where is it cool enough to turn back into the liquid state and be collected.

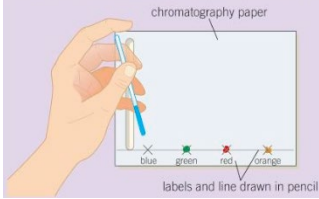
Chromatography

Paper chromatography separates out the substance, known as the **solute**. It uses a chemical that can dissolve the **solute**, this is known as a solvent. The **solvent** will dissolve the **solute** and travel up the chromatography paper based on the affinity to either the **mobile phase** or the **stationary phase**.

Detecting dyes in food colourings

In this experiment you can make a chromatogram to analyse various food colourings.

Set up the experiment as shown in Figure 2 and Figure 3.



Pure substances & Formulation

The definition of a **pure** substance is ***"a pure substance is one that is made up of one substance. The substance can be an element or a compound"***. This is different to the word "pure" in everyday life. For example "pure orange juice" is not a pure substance as it has different substances in it.

A **formulation** is a substance that is designed to be useful. For instance; paint, medication, dyes, and cleaning products.

Key Vocabulary	Definition	Contextual Sentence
atom	The smallest part of an element that can still be recognised as that element.	Each element has its own type of **atom**.
balanced symbol equation	A symbol equation in which there are equal numbers of each type of atom on either side of the equation.	A **balanced symbol equation** obeys the Law of Conservation of Mass.
chromatography	The process whereby small amounts of dissolved substances are separated by running a solvent along a material such as absorbent paper.	Different coloured dyes in ink can be separated **chromatography.**
compound	A substance made when two or more elements are chemically bonded together.	Water is a very useful **compound** for dissolving substances.
electron	A tiny particle with a negative charge. Electrons orbit the nucleus of atoms or ions in shells.	Oxygen has 6 **electrons**.
element	A substance made up of only one type of atom. An element cannot be broken down chemically into any simpler substances.	Hydrogen, Helium and Neon are all gaseous **elements**.
conservation of mass	The total mass of the products formed in a reaction is equal to the total mass of the reactants.	The **law of conservation of mass** can be used to calculate the yield of products in a chemical reaction.
state symbol	The abbreviations used in balanced symbol equations to show if reactants and products are solid (s), liquid (l), gas (g) or dissolved in water (aq).	Salty water or aqueous Sodium Chloride has the **state symbol** (aq).
Pure	A pure substance is one that is made up of just one substance . That substance can be either an element or a compound.	That drinking water is not **pure** water. It contains minerals in it.

Year 9 Physics: Energy Stores and Pathways Knowledge

Energy Stores

Energy store	Description
Magnetic	The energy stored when like poles are pushed closer together or when unlike poles are pulled further apart.
Thermal	In most cases this is the vibrations of the particles in the object. In hotter objects, the particles vibrate faster.
Chemical	The energy store associated with chemical bonds, such as those between molecules.
Kinetic	The energy associated with a moving object.
Electrostatic	The energy stored when like charges are moved closer together or when unlike charges are pulled further apart.
Elastic	The energy stored when an object is stretched, squashed or twisted.
Gravitational	The energy associated with an object at height.
Nuclear	The energy associated with nuclear interactions.

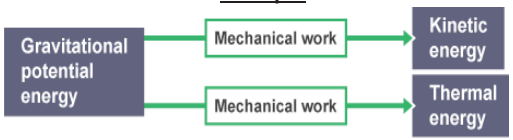
Energy Pathways

- **mechanically** - a force moving an object through a distance
- **Electric Circuit** - charges moving due to a potential difference
- **Heating** - due to temperature difference caused electrically or by chemical reaction
- **Radiation** - energy transferred as a wave, eg light and infrared - the Sun emits light radiation and infrared radiation

Law of Conservation of Energy

"Energy **cannot** be **created** or **destroyed**. It can only be **transferred** from one **store** to another."

Example



Energy calculations

An object raised above ground level

GPE (J) = mass (kg) × height (m) × gravitational field strength (N/kg)

A moving object

kinetic energy (J) = 0.5 × mass (kg) × (velocity)^2 (m/s)

A stretched spring

Elastic Potential (J) = 0.5 × spring constant (N/m) × (extension)^2 (m)

Energy transferred = Work done

Work Done (J) = Force (N) x Distance (m)

Energy transferred and time

Power (W) = Energy (J) ÷ Time (s)

Efficiency

It is not possible to have an efficiency of greater than 1 or efficiency percentage of 100%. This would mean that more energy is being **transferred** than is being **supplied**, which would mean that energy is being created. This would break the **law of conservation of energy.**

$$efficiency = \frac{useful\ energy\ transferred}{total\ energy\ supplied}$$

Key Vocabulary	Definition	Contextual Sentence
Conservation of energy	Energy cannot be **created** or **destroyed**	Energy will always transfer from one store to another, obeying the law of **conservation of energy**
Dissipated energy / dissipation of energy	The energy that is **not usefully** transferred and stored in less useful ways	Energy is usually **dissipated** as heat into the surroundings.
Efficiency	Useful **energy transferred by a device ÷ total energy** supplied to the device	LED bulbs have a greater **efficiency** than filament bulbs so are cheaper to run
Elastic potential energy	Energy stored in an **elastic object** as a result of it being deformed. For example, a stretched spring	When the spring was stretched it became a store of **elastic potential energy**.
Input energy	Energy **supplied** to a device	The **input energy** for a battery power torch is chemical.
Power	The **energy transformed or transferred per second**. The unit of power is the watt (W)	The shower had a **power** rating of 1.5Kws,
Spring constant	**Force per unit extension** of a spring	The **spring constant** of springs we use in school is 30 N/m
Useful energy	**Energy transferred** to where it is **wanted** in the way that is wanted	The **useful energy** for a battery power torch is light.
Wasted energy	Energy that is not **usefully transferred**	The **wasted energy** for a battery power torch is thermal.
Work	The energy transferred by a force. Work done (joules, J) = force (newtons, N) x distance moved in the direction of the force (metres, m)	**Work** is done when an object is moved through a distance by a force.

Half Term One How is religion portrayed in the media?
1. What is the media and how does it influence us?
2. How do religious groups use the media?
3. How is religion portrayed in the media?
4. How does the media influence people's attitudes to religion?
5. Should the media be free to criticise religion?
6. What are examples of the media coming into conflict with religion?
7. Assessment

1. What is the media and how does it influence us?

Mass Media is all media including the internet, television, film, radio, newspapers and magazines which are used to communicate to lots of people (the masses). It is used for; advertising, marketing, propaganda, public relations and entertainment. The media can manipulate, influence, persuade and pressurise society, along with even controlling the world at times in both positive and negative ways; mentally, physically and emotionally.

Positives of mass media: It provides Information and is easily accessible. It makes the world smaller and is immediate. It is in your home. It can also send out moral messages.

Negatives of mass media: It can be unreliable and can be completely untrue. It can be used for propaganda and can be controlled. Copyright can hinder creativity and there is the issue of illegal downloading.

2. How is religion portrayed in the media?

1. A local newspaper may inform its readership about various aspects of a religion e.g. appointment of a new Pope. However, newspapers can report stories in a biased way. Since the events of 9/11, some representations of Islam have focused on the more extreme aspects rather than the Muslim community as a whole, which may lead to prejudice among readers.

2) On television documentaries are factual and should give a balanced presentation. For example, the documentary Strictly Kosher. Soap operas are very popular in the UK and often tackle religious issues but some believers may be frustrated by the way in which a religious issue is tackled.

3) Religious groups can use the internet to their advantage by promoting their religion to the world. Many religious charities, e.g. CAFOD, use their websites to raise money for those in need However, the internet can also be used to spread a message of bigotry and hate about particular religions or groups of people.

3. How is God portrayed in the media?

Most religious groups see the media as a useful tool to provide people outside of their religion with information and to promote their faith in a positive way. However, some people have used the idea of God in the media to portray him in a certain way, sometimes for comedic purposes.
1. Bruce almighty – a comedy based God and the powers he has – some could see this as disrespectful towards religion.
2. The Chronicles of Narnia – a film series adapted from popular books by C.S Lewis (who was a Christian) depicting God as powerful.

4. What is the impact of media on religion?

The media can cause people to view religion in a certain light. For example, the media has often, in recent times, associated extremism with Islam and has cause a negative effect on followers from the religion. For example, the 9/11 terror attack and the Manchester Arena bombing. However, the media can help religious people be understood more, they can have talk shows, religious channels and even radio stations to reach more people and help them understand the key messages that they are trying to promote.
Famous people such as Michael Cain and Kevin Costner have appeared on such shows as Heaven & Earth. Many of the interviews were live and unedited so guests' beliefs often came across as fact rather than as opinion. Depending on how a viewer felt about that guest it could lead some people to accept the beliefs of that person and so believe in God.

5. What is censorship in the media?

Censorship is the examination of different forms of media and the suppression of parts considered unacceptable. Media can be deemed unacceptable for reasons including being violent, sexually explicit or using bad language. In this country people have freedom of speech if it does not incite hatred. Papers/ news have freedom to write and the reader has freedom to comment. The government does not control the press in this country. The media is privatised. There are arguments for and against the media being able to criticise religion:

For

• Critical comment helps people to understand and think about different views on an issue.

• Members of the public have the freedom to make their own decisions on beliefs and practices of religions, regardless of what the media says.

Against

• Most people gain the majority of their knowledge of religion from the media, therefore it needs to avoid being biased.

• Belief and practice are a personal choice which should not be criticised.

6. What is the law on blasphemy in the media?

Blasphemy is seen as unacceptable by religious people. It is the act of being disrespectful towards God or even religious practices and believes that are considered sacred. The laws on blasphemy have changed over the years. In the 16th Century Henry VIII passed a law which protected Christianity from attacks against the belief in Jesus. In 1838 it was later amended to specifically protect the Church of England and persecute any publication against the beliefs of the Church. In 2008 the laws were repealed and criticism of religion is not against the law.

In countries that practice Shariah Law (The law based on the Qur'an) six of them have the death penalty for the crime of blasphemy. A general description of blasphemy is "Insulting God or an Angel and denying that one of the prophets was called by God". Salman Rushdie (an Indian born, British author) wrote a book called The Satanic Verses. The religious leader of Iran declared the book blasphemous in 1989 and, in a religious ruling (FATWA), called for Rushdie to be put to death. Rushdie still has police protection.

Key term	Definition	Contextual Sentence
Media	Systems of communication designed to reach a large number of people.	Newspapers are examples of the media.
Propaganda	An organised spreading of often false ideas or the ideas spread in such a way.	The mass media can be used for propaganda.
Pressurise	To exert force over something or someone.	The media can pressurise people to believe a certain thing.
Manipulate	To skilfully force or persuade people to do what they want.	He is a very difficult character as he manipulates people.
Prejudice	An unreasonable dislike of a particular group of people or things.	There is widespread prejudice against workers over 65.
Discrimination	Treating one person or group of people less fairly or less well than other people or groups.	There are laws in place to prevent racial discrimination.
Bigotry	The possession or expression of strong, unreasonable prejudices or opinions.	The media can be the source of religious bigotry.
Biased	To prefer one group of people to another, and behave unfairly as a result.	The media can be biased against certain religions.
Misconceptions	An idea that is not correct.	The media can cause many misconceptions.
Extreme	Great in degree or intensity.	The media can portray extreme views.
Censorship	The suppression of parts considered unacceptable.	Certain religious groups may ask for censorship of the media.
Freedom of speech	The right of people to express their opinions publicly without governmental interference.	Freedom of speech is a fundamental human right.

Half Term Two What does it mean to be a human?
1. What does it mean to be a human?
2. What is the sanctity of life?
3. Should animals have the same rights as humans?
4. Is the death penalty ever acceptable?
5. Is it ever right to go to war?
6. Do humans have freewill?
7. What is the future for humanity?

1. What does it mean to be a person?

Personhood is the quality or condition of being an individual person. Ever since we learned to write, we have documented how special we are.
The philosopher Aristotle marked out our differences over 2,000 years ago. We are "rational animals" pursuing knowledge for its own sake. We live by art and reasoning, he wrote.
Some of the qualities/attributes that make a human a person are; consciousness, reason, morality, intelligence and personal identity.
How we define personhood can have a huge impact on issues within medical ethics such as embryo research, abortion and euthanasia.

2. What is the sanctity of life?

The sanctity of life is the belief that all human life is sacred and belongs to God. This belief is because in the Genesis creation story it writes that only humans are made in the image of God. The sanctity of life means only God can remove life. The sanctity of life is the reason many Christians oppose abortion, euthanasia and the death penalty. Important teachings in the Bible to support the belief in the sanctity of life are:
1. "God breathed into Adam the breath of life."
2. "Don't you know that you yourselves are God's Temple, and that God's spirit lives in you"
3. "If we live, we live to the Lord, and if we die, we die to the Lord. Whether we live or die, we belong to the Lord"

Quality of life is a person's satisfaction with life based on health, comfort and happiness. Some people believe a person's quality of life is more important than a belief in the sanctity of life. This means they may support abortion or euthanasia in some situations.

3. Should animals have the same rights as humans?

Speciesism is the assumption of human superiority which can lead to the exploitation of animals. In the UK animals are used by scientists in experiments for scientific or educational purposes. Testing for cosmetics is illegal in the UK. In 2010 a policy ban was introduced on any household product being tested on animals. Animal research in the UK can only be carried out where there is no suitable non-animal alternative. In the UK approximately 3 million animals are experimented on for medical research each year. 96% of these experiments are done on mice, rats, fish and birds

Many believe animal research has contributed to many of the medical advances we now take for granted. We share 95% of our genes with a mouse, making them an effective model for thenimals suffer from similar diseases to humans including cancers, TB, flu and asthma. Many however oppose animal testing as they believe it is cruel. Most of the animals used are bred specifically for this purpose and are kept in small cages inside the laboratory. Scientists have developed alternatives to animal testing such as computer modelling which they believe should be used instead.

Christians may supporting testing on animals for medicine as they believe we have dominion. Buddhists however may oppose it due to the belief in ahmisa (non-violence).

4. Is the death penalty ever acceptable?

The death penalty is also known as capital punishment. Execution of criminals has been used by nearly all societies since the beginning of civilization on Earth. Until the nineteenth century, without developed prison systems, there was frequently no workable alternative to ensure deterrence and incapacitation of criminals. In 1965 Parliament suspended (or temporarily stopped) capital punishment in the UK for a trial period of five years and in 1970 it was abolished altogether.
Arguments to support Capital Punishment
1. It acts as a deterrent to others to not commit crime.
2. If someone murders someone they should have their human rights removed.
Arguments to oppose Capital Punishment
1. It always allows the possibility of an innocent person being wrongly executed.
2. It doesn't allow the opportunity for the criminal to make amends and to change for the better.

5. Is it ever right to go to war?

Countries may decide to go to war for in self defence, retaliation or sometimes for greed.
Some Christians may support going to war in certain circumstances e.g. self defence. This is because:
1. Sometimes fighting may be the lesser of two evils and may be necessary to protect and save the lives of the people in your country.
2. In the Bible it also says that war is sometimes necessary- 'A time to love, and a time to hate; a time for war, and a time for peace.' (Ecclesiastes 3:8)

Some Christians such as Quakers however believe war and violence is always wrong in all circumstances. These Christians are known as pacifists. This is because:
1. War means innocent people will die. This breaks the sanctity of life.
2. In the Bible it teaches 'For all who draw by the sword, die by the sword.' (Matt 26:52)
The Just War theory was proposed by St Thomas Aquinas in the 13th century who attempted to create a list of criteria which show whether the war was right to fight in. He argued the war must have a just cause, proportional force and be the last resort.

6. Do humans have freewill?

Free-will is the idea that people can act as free beings. We are governed by our own, freely-made decisions and choices. The opposite idea is determinism. This is where our choices are preordained, i.e. already mapped out by God.

Christians believe we have the freewill to make our own choices. They believe this is a gift from God. Freewill also means we can be held accountable for the choices we make and therefore rewarded or punished on Judgement Day.

John Locke believes life is determined and he is a Hard Determinist. John Locke believes that freewill is an illusion, and that when people believe they are making free choices, they have been deceived. Locke uses the analogy of a Locked Room to support this. Locke concludes that humans are not free. He says that freedom consists in more than simply doing what you choose to do, it also means not having the power to do otherwise.

7. What is the future for humanity?

With the development of transportation, medicine and the internet life 100 years ago seems more like it was on another planet! Our understanding of the world and technological advancements could lead to an incredibly bright future or somewhere we don't want to be. Some ethical issues facing humanity are; Could humans exist on another planet? Could memory chips be implanted in our brains to aid our memories? Should you be allowed to design your own baby? Will intelligent robots overtake humans?

Key Terms	Definition	Contextual Sentence
Personhood	Personhood is the quality or condition of being an individual person.	Defining personhood is a controversial topic in Philosophy.
Rational	The use of reason and logic.	Aristotle believed the human soul was rational.
Sanctity of life	The sanctity of life is the belief that all human life is sacred and belongs to God.	Many Christians oppose abortion due to the sanctity of life.
Quality of life	Quality of life is a person's satisfaction with life based on health, comfort and happiness.	Some people support euthanasia if there is a poor quality of life.
Euthanasia	Ending someone's life painlessly to relieve suffering.	Euthanasia is illegal in the UK.
Speciesism	Speciesism is the assumption of human superiority which can lead to the exploitation of animals.	Speciesism results in the belief that animals can be used for human purposes.
Dominion	The belief that humans were given control and authority over the world.	Christians believe Adam and Eve were given dominion.
Ahmisa	Principle of non-violence in Buddhism.	The principle of ahmisa means Buddhists are against animal testing.
Capital Punishment	The death penalty.	Capital punishment is illegal in the UK.
Abolition	The action of getting rid of a system, practice, or institution	The abolition of the death penalty happened in 1970 in the UK.
Pacifists	A pacifist is somebody who will never use violence in any situation.	Quakers are an example of a Christian pacifist group.
Just	Behaving according to what is morally right or fair.	Many people argue World War Two was a just war.
Artificial Intelligence	Intelligence demonstrated by computers, as opposed to human or animal intelligence.	Artificial intelligence is a wide ranging branch of computer science.
Freewill	The idea that people can act as free beings.	Christians believe that God gave people the gift of freewill.
Hard determinism	The belief that forces outside of our control affect our behaviour.	John Locke was a hard determinist.
Predestination	The belief that God determines our actions and fate.	Predestination is a key belief in Islam.

HISTORY

Year 9 History
Winter Term- 1. Trenches

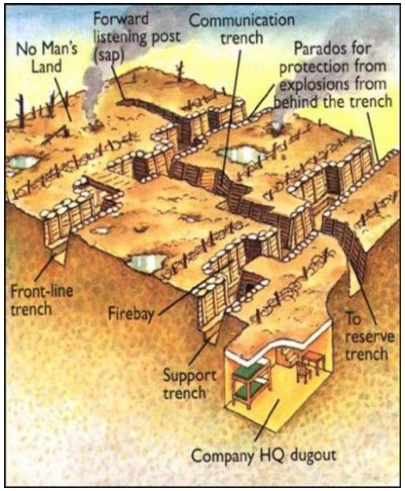
On the Western Front, the war was fought by soldiers in trenches.

Trenches were long, narrow ditches dug into the ground where soldiers lived.

They were very muddy, uncomfortable and the toilets overflowed. These conditions caused some soldiers to develop medical problems such as trench foot.

There were many lines of German trenches on one side and many lines of Allied trenches on the other.

In the middle was no man's land, which soldiers crossed to attack the other side



1.1- A typical day in the trenches

- 5am 'Stand-to' (short for 'Stand-to-Arms', meaning to be on high-alert for enemy attack) half an hour before daylight
- 5.30am Rum ration
- 6am Stand-down half an hour after daylight
- 7am Breakfast (usually bacon and tea)
- After 8am Clean selves and weapons, tidy trench
- Noon Dinner
- After dinner Sleep and downtime
- 5pm Tea
- 6pm Stand-to half an hour before dusk
- 6.30pm Stand-down half an hour after dusk
- 6.30pm onwards Work all night with some time for rest (patrols, digging trenches, putting up barbed wire, getting stores)

1.2 - WW1 Weaponry


Tanks


Artillery Shells


Gas


Machine Guns

A soldiers kit

1.3 Conditions in the Trench

Boredom and camaraderie

- Once the soldiers had completed the daily trench chores of refilling the sandbags, repairing the duckboards and trench floor, and draining the trenches, many of them became bored.
- They couldn't really move around or do much as the fear of a sniper's bullet was always there.
- To relieve the boredom, they used to write letters home and diaries.

Camaraderie

- Many soldiers enlisted with their friends. That meant that they were often in the same 'PALS' battalion as them and fought alongside them in the trenches.
- They would spend hours together and became close. To pass the time they would sing, talk about home, and write letters. They would try to help and protect each other

Food

- It is not surprising that food in the trenches was poor. The main food was tinned bully beef with bread or biscuits.
- A popular meal was manochie – tinned Irish stew which could be heated easily.
- This was of poor quality and eating the same thing everyday added to the often dull nature of trench life

- There was little drinking water so soldiers drank rum instead. The water was treated with chloride to kill the germs so had an unpleasant taste.

Rat Infestation

- Rats in their millions infested trenches. There were two main types, the brown and the black rat.
- The brown rats were the worse. Gorging themselves on human remains they could grow to the size of a cat.
- Men, maddened and afraid of these rats (which would even run across their faces in the dark), would attempt to rid the trenches of them by various methods: gunfire, with the bayonet, and even by clubbing them to death.
  - A single rat couple could produce up to 900 offspring (babies) in a year, spreading infection and contaminating food. The rat problem remained for the duration of the war.

Lice infestation

Lice were so common because men in the front-line rarely, if ever, washed. It was not unusual for men to go over a month without washing. Lice spread due to this, breeding in the seams of filthy clothing and causing men to itch constantly. One soldier counted 163 on himself!

- Even when clothing was washed and deloused, lice eggs remained hidden in the seams; within a few hours of the clothes being re-worn the body heat generated would cause the eggs to hatch.
- Lice caused Trench Fever, a particularly painful disease that began suddenly with severe pain followed by high fever. Recovery - away from the trenches - took up to twelve weeks. Lice were not actually identified as the cause of Trench Fever until 1918 (after the war).

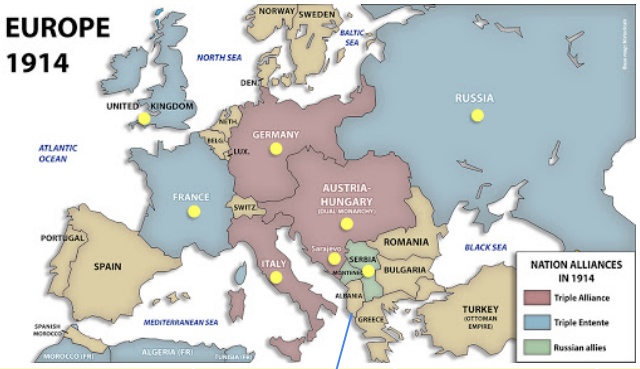
Trench Foot

- Many soldiers fighting in WW1 suffered from trench foot. **This was an infection of the feet caused by cold, wet and unhygienic conditions.**
- In the trenches men stood for hours on end in waterlogged trenches without being able to remove wet socks or boots.

- **The feet would gradually go numb and the skin would turn red or blue. If untreated, trench foot could turn gangrenous and result in amputation.**
- The only remedy for trench foot was for the soldiers to **dry their feet and change their socks several times a day.** By the end of 1915 British soldiers in the trenches had to have three pairs of socks with them and were under orders to change their socks at least twice a day. As well as drying their feet, soldiers were told to cover their feet with grease made from whale-oil.

Year 9 History
Winter Term- 2. Outbreak of War

1.1 Why did Europe go to war?



1.2 Key Word	Definition	Contextual Sentence
Militarism	The focus and growth of the military in that country.	*The money spent on militarism made Germany a threat.*
Alliances	Two countries or groups that have a common interest to work together.	*By signing agreements the two countries formed an alliance.*
Imperialism	The growth of the Empire and the conquest of more land.	*The want for a growth of imperialism made Germany a threat.*
Nationalism	The pride the population have for their country over everyone else.	*The celebrations in the streets showed their nationalism.*

June 28th 1914- The Assassination of Archduke Franz Ferdinand

August 1914- Germany declares war on Russia, France and Belgium

February 1915- Germany begins blockade of England

September 1916- Tanks first used at the Battle of the Somme.

January 1917- Germany declares unrestricted submarine warfare

February 1917- Zimmerman telegram intercep British

March 1917- Tsar overthrown in Russia.

April 1917- USA declares war on Germany

November 1918- Armistice signed after Kaiser steps down

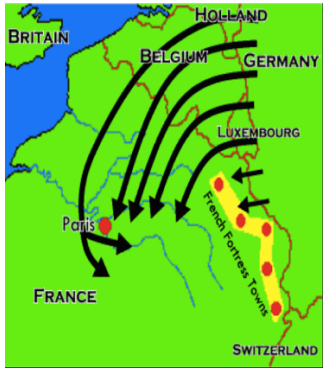
June 1919- Treaty of Versailles

1.3 The Assassination of Archduke Franz Ferdinand

Key Word	Definition	Contextual Sentence
Assassination	A targeted kill.	*The assassination of Archduke Franz Ferdinand was a significant event in the lead up to World War 1.*
The Blackhands	The terrorist group that killed Franz Ferdinand.	*The Blackhands were a threat to the stability in the Balkans.*
Nationalist	Someone who is patriotic to their country.	*The nationalist movement rejected outside help.*
Heir	The next in line to the throne.	*Henry VIIi's heir was Henry VIII.*

Do you agree with this view? (Interpretation)
[The German] bid for continental supremacy was certainly decisive in bringing on the European War ...
A.J.P. Taylor, The Struggle for Mastery in Europe (1954)

The Schlieffen Plan



- The plan was the work of the German army chief-of-staff Alfred von Schlieffen.
- It took nine years to devise - it was started in 1897, presented in 1905, and revised in 1906.
- The plan imagined a huge hammer-blow at Paris, using 90 per cent of the German army, swinging down through Belgium and northern France, to take out France in a quick, decisive campaign.
- It was a plan of attack - for Germany, **mobilisation** and war were the same thing.
- **It was Germany's only plan for war.**
- In the event, Russia took only ten days to mobilise, and General Moltke was forced to send some troops to the eastern front, which weakened the main attack on Paris.
- When the German army asked permission to go through Belgium on 2 August 1914, the Belgians refused, so the German army had to fight its way through Belgium. This slowed it down and tired the soldiers.
- Britain's decision to uphold the 1839 Treaty with Belgium amazed the Germans. "For a scrap of paper, Great Britain is going to make war?" said the amazed Bethmann-Hollweg.
- In the event, the British Expeditionary Force (BEF) arrived to resist the Germans, and held them up at the Battle of Mons on 23 August 1914. With his army exhausted and many of his best forces killed, Moltke was defeated at the battle of the Marne on 6-10 September 1914. "Sir, we have lost the war," he told the Kaiser.

Can you give 3 reasons to why the Schlieffen Plan failed?

Year 9 History
Winter Term- 3.Haig, Recruitment and the Home Front

3.1 General Haig and the Battle of the Somme

In an attempt to break the stalemate on the Western Front and relieve the pressure on the French at Verdun, Haig ordered the Somme offensive, which began on 1 July 1916. The British army suffered 60,000 casualties (just under 20,000 of whom were killed) on the first day, the highest in its history, and Haig's conduct of the battle made him one of the most controversial figures of the war. In July 1917, a new offensive - the Third Battle of Ypres (also known as Passchendaele) resulted in further heavy casualties, but did succeed in weakening the German army and helped prepare the way for its defeat in 1918.

Haig had won at the battle of the Somme, as he had said he could, but did he deserve any credit?
Many writers - including those writing just after the war - have criticised Haig for his tactics, for the great loss of men and, above all, for his defeat at the Battle of the Somme.
Others, mainly military men and recent historians, have defended him, saying that he did as well as could be expected, and that only a man of great determination and character could have seen the matter through.

Key Battles of WW1	
1914	Battle of the Marne
1914	Battle of Tannenberg
1916	Battle of Verdun
1916	Battle of the Somme
1917	Second Battle of Ypres
1918	The Ludendorff Offensive

In August 1914, Lord Kitchener, the Secretary of State for War, realised Britain needed a bigger army.

He made a direct appeal to the men of Britain. Posters were displayed showing him pointing his finger at anyone passing by.

Men felt proud to fight for their country.

54 million posters were issued.
8 million letters were sent.
12,000 meetings were held.
20,000 speeches were given by military spokesmen.
In the first weekend of the war, 100 men an hour (3,000 a day) signed up to join the armed forces.

By the end of 1914 1,186,337 men had enlisted

3.4- Recruitment posters

Propaganda-information, especially of a biased or misleading nature, used to promote a political cause or point of view
Could you create your own recruitment poster?

3.2- General Haig Hero or Butcher?

'Good-morning; good-morning!' the General said
When we met him last week on our way to the line.
Now the soldiers he smiled at are most of 'em dead,
And we're cursing his staff for incompetent swine.
'He's a cheery old card,' grunted Harry to Jack
As they slogged up to Arras with rifle and pack.
But he did for them both by his plan of attack
Siegfried Sassoon

A considerable portion of the German soldiers are now practically beaten men, ready to surrender if they could, thoroughly tired of the war and expecting nothing but defeat. It is true that the amount of ground we have gained is not great. That s nothing. We have proved our ability to force the enemy out of strong defensive positions and to defeat him. The German casualties have been greater than ours.

Part of a report written in December 1916, sent by Haig to the British Cabinet about the aftermath of the Battle of the Somme

3.5 The Home Front

The Defence of the Realm Act (DORA) became law on 8 August 1914, five days after the war began:

It authorised the government to do almost anything it thought necessary to help the war effort and protect the country.
It allowed the government to pass laws and avoid the drawn-out process of having bills proposed, voted on and ratified in Parliament.

No-one was allowed to:

- talk about naval or military matters in public places
- spread rumours about military matters
- buy binoculars
- trespass on railway lines or bridges
- melt down gold or silver
- light bonfires or fireworks
- give bread to horses or chickens
- use invisible ink when writing abroad

Key events	
1901	Queen Victoria dies and her son becomes King Edward VII.
1906	The Liberal government wins the general election and introduces a programme of reforms.
1908	The 'Children's Charter' is introduced to protect young people.
1912	The *Titanic* sinks.
1913	Emily Davison dies after being trampled by the king's horse at the Epsom Derby.

Key concepts	
Patriotic	Showing love for your country and being proud of it.
Empire	A group of countries ruled over by a single monarch or power.
Public health	The health and wellbeing of the population as a whole, in a particular place at a particular time.
Suffrage	The right to vote in political elections.
Militant	Someone who supports or uses confrontational or violent methods to support a political or social cause.
Martyr	Someone who is prepared to die for their beliefs.

Key words / terms	
Middle class	Class of people in between upper and working classes; a class of professionals, such as doctors and bankers, and business people.
Working class	Class of people employed for wages, usually in manual or industrial work.
Mass produce	Make goods in huge numbers, often for cheaper than before.
Assembly line	A system using workers and machines in a factory to make goods in stages.
Consumer goods	Items bought by people for their own use.
Liberal Reforms	Laws passed by the Liberal government to improve the lives of the most vulnerable in society.
Unemployment benefit	Money paid to working-class people who were out of work temporarily.
Old age pension	Money paid to elderly people so they did not have to work, be looked after by family members or go into the workhouse.
Suffragist	Campaigner for the right of women to vote, who used peaceful means of protest.
Suffragette	Campaigner for the right of women to vote, who organised often-violent protests to press their cause.
Munitions	Short for 'ammunition'; bullets and weapons needed for war.

GEOGRAPHY

Globalisation and Extreme Weather Tier 3 Vocabulary

Key Vocabulary	Definition	Contextual Sentence
Globalisation	Globalisation is the increasing connections between places and people across the planet.	We are better connected to other countries around the world due to **globalisation**.
Glocalisation	When a TNC changes and modifies its product to accommodate to local consumer preferences.	McDonalds **glocalise** their menu in India, to not include as much beef to better suit the country.
Time-space compression	The way that the world is seemingly getting smaller, as a result of increased transport, communications, and globalisation.	Globalisation and transport has resulted in **time-space compression.**
TNC	Transnational corporation: a company that operates in two or more countries.	**TNCs** such as Coca-Cola, McDonalds and Starbucks.
Sweatshops	Factory where workers are paid very low wages for long hours and poor working conditions	TNC's operate **sweatshops** in low income countries to generate profit.
Switched off	Switched off counties are those which don't connect with other countries or aren't very developed.	Countries which are landlocked and not on the coast tend to be **switched off** from globalisation.
Containerisation	Containerisation is a system of transport for sea shipping that has reduced the transport costs of moving thousands of different goods across the globe.	Transport has accelerated due to trading of goods through **containerisation.**
Extreme Weather	Extreme weather is any weather that is unusual or unexpected.	The UK is experiencing a period of extreme weather.
Hurricane	A tropical system with winds that have reached a constant speed of 74 miles per hour or more.	In seas over 27 degrees, hurricanes will develop.
Tornado	A violently rotating column of air touching the ground, usually attached to the base of a thunderstorm.	Tornadoes commonly occur across the mainland of the USA.
Climate Change	long-term shifts in temperatures and weather patterns.	We are now in the warming phase of climate change.
Snow storm	A storm with widespread snowfall accompanied by strong winds.	New York experience a lot of snow storms.
Eye	The quiet centre of the storm. A roughly circular area, typically 30–65 kilometers	The safest part of the hurricane is the eye.
Eye wall	A ring of tall thunderstorms that produce heavy rains and usually the strongest winds..	The most dangerous part of the hurricane is the eye wall.

What are TNCs?

Transitional corporation are companies which operate in two or more countries such as Co-ca-cola, Starbucks and McDonalds.

Different types of globalisation

Economic– To do with money, jobs and economies.

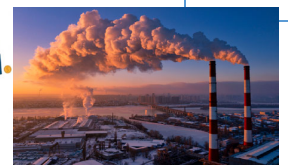
Social– To do with people and how they interact, share and communicate with each other.

Cultural– To do with the different ways people live their lives.

Political– To do with governments around the world , the policies they make and how they work together.

Positives and Negatives of TNC's

Advantages	Disadvantages
• Creates jobs and brings in money • Improves transport • Creates infrastructure such as roads and ports • Improves skills and education	• Workers are paid low wages and have harsh working conditions • Many TNC's emit harmful pollutants into the atmosphere • Water pollution • Majority of the money and profits go back to the TNC.



Why has globalisation increased?

TNC's – More of these global companies means the same businesses, products and services can be found around the world which means people in different countries can buy and experience the same things.

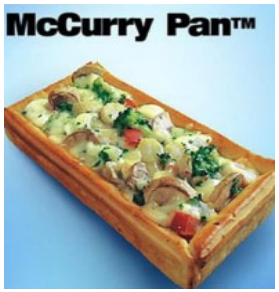
Communication and Technology – The internet, WIFI and mobile phones mean thoughts, trends and information can be shared instantly around the world.

Transport – This has become cheaper, quicker and can carry you further so it is easier for people and products to be moved around the world.

Governments – Now work with each other more than ever to try to solve global problems such as climate change.

Glocalisation

Glocalisation describes when a globalised product is adapted to local cultures and tastes to make it more desirable to people. McDonalds sell the McCurry Pai in India instead of regular burgers which would not sell as well.



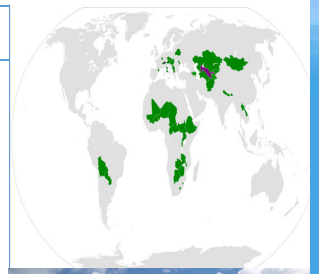
Globalisation of Coffee

Globalisation of coffee has resulted in the growth of 'Fair Trade' products. This ensures the farmer receives a **fair price** for the goods they produce.

Switched on Vs Switched off

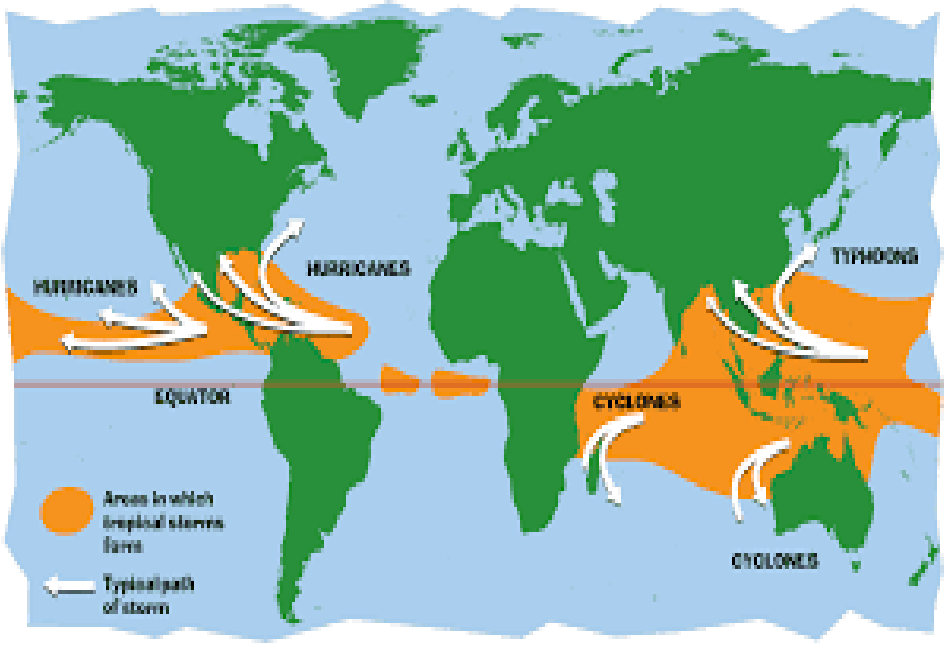
A **switched on** place is an area that is connected to other countries through globalisation. A **switched off** place is an area that isn't connected to other counties.

Switched on	Switched off
• Connections with other countries • Allows investment from TNC's • Skilled and educated population	• Landlocked • War • Lack of transport/internet links • Political decision • Suffer from Climate Change • Poverty



Winners vs loser of globalisation

Winner	Losers
• TNCs developing LICs can improve the economy and provide new jobs and skills. • Easier to connect with the rest of the world • People can experience new countries and cultures due to the media and better transport. • We are able to buy cheaper products from abroad. • Countries can share ideas and help each other develop new technologies.	• TNCs can exploit poorer countries for their resources. • Small businesses are forced to close due to the competition from global chain stores. • Threat to diversity - areas are becoming more and more similar (Western). • Increased air pollution created by air travel and the movement of goods on ships and lorries.



5 THINGS TO KNOW ABOUT STRENGTHENING YOUR HOME

1. Keep trees around your home trimmed well before a storm to prevent damage from broken branches.

2. Shop now for tested and approved window coverings to put up when a hurricane approaches. See flash.org.

3. Bring loose outdoor items such as patio furniture inside. They can blow around and cause damage to homes.

4. Secure all doors on your property. Remember that the garage door is usually the most vulnerable.

5. Move your car inside a garage or to another secure location.

For more Hurricane Safety Information, visit
weather.gov/hurricanesafety

Saffir-Simpson Hurricane Wind Scale (SSHWS)

Category	Wind (mph)	Damage
5	≥ 157	Catastrophic
4	130-156	Catastrophic
3	111-129	Devastating
2	96-110	Extensive
1	74-95	Some

Non-Hurricane Classifications

Tropical Storm	39-73	--
Tropical Depression	≤ 38	--

sciencenotes.org

Causes and Effects of Climate Change

Causes

- Rapid industrialization
- Energy use
- Agricultural practices
- Deforestation
- Consumer practices
- Livestock
- Transport
- Resource extraction
- Pollution

Effects

- Rising temperatures
- Rising sea levels
- Unpredictable weather patterns
- Increase in extreme weather events
- Land degradation
- Loss of wildlife and biodiversity

What are the social impacts of climate change?

Displaced people. Poverty. Loss of livelihood. Hunger. Malnutrition. Increased risk of diseases. Global food and water shortages.

GlobalGiving

Spanish: Knowledge Organiser Year 9 Term 1
Unit 1: Free time

1.1 El tiempo libre *Free-time*

tocar la guitarra	to play the guitar
cantar en un coro	to sing in a choir
jugar con mi consola de videojuegos	to play on my games console
ir al teatro	to go to the theatre
tocar el piano	to play piano
salir con amigos	to go out with friends
escuchar música	to listen to music
ver la televisión	to watch TV
bailar	to dance
leer novelas	to read novels
ir de compras	to go shopping
toco la guitarra	I play the guitar
…el piano	…the piano
Canto	I sing
charlo	I chat
juego con mi consola	I play on my console
salgo con amigos	I go ot with friends
escucho música	I listen to music
veo la televisión	I watch TV
bailo	I dance
leo novelas	I read novels
voy de compras	I go shopping

Gramática *Regular present tense verbs*

	The present tense of regular verbs		
	hablar	comer	vivir
Yo - I	hablo	como	vivo
Tú - you	hablas	comes	vives
Él/ ella – he/she/it	habla	come	vive
Nosotros - we	hablamos	comemos	vivimos
Vosotros -you	habláis	coméis	vivís
Ellos/ellas - they	hablan	comen	viven

1.2 Expresiones de frecuencia *Expressions of frequency*

todos los días	every day
siempre	always
todas las semanas	every week
normalmente	normally
generalmente/ por lo general	generally, usually
de vez en cuando	occasionally
a veces	sometimes
a menudo	often
raramente	rarely
nunca	never
el fin de semana	at the weekend
por la tarde/ noche	in the evening/ at night
por la mañana	in the morning

1.3 Programas de televisión *TV programmes*

Veo…	I watch….
los dibujos animados	the cartoons
las noticias	the news
las series	the series
las series policiacas	the police series
los programas de …	
música	the music programmes
deporte	the sports programmes
telerealidad	the reality tv shows
las telenovelas	the soaps
las comedias	the comedies
los documentales	the documentaries
el telediario	the news
las películas	the films

Opinions about types of programme (plural)

me gustan	I like
me fascinan	……fascinate me
me encantan	I love …….
me aburren	……. bore me
me molestan	……. annoy me
me chiflan	I am mad about ……
me flipan	I love ……

1.4 Los deportes *Sports*

Juego al….	I play….
baloncesto	basketball
fútbol	football
golf	golf
tenis	tennis
rugby	rugby
voleibol	volleyball
Hago …	I do…
esquí	skiing
patinaje	skating
equitación	horse riding
natación	swimming
ciclismo	cycling
atletismo	athletics
gimnasia	exercise
alpinismo	climbing
vela	sailing
montar a caballo	to ride a horse
montar en bicicleta	to ride a bike
ir a pescar	to go fishing
ir al gimnasio	to go to the gym
el campo	the countryside, playing field
la cancha	the court
el estadio	the stadium
la pista de hielo	the ice rink
el polideportivo	the sports centre
tranquilo/a	peaceful, quiet
al aire libre	in the open air.

Gramática: Present tense of jugar and hacer

To play	**jugar (al + sport)**
I play	*juego*
You play	*juega**s***
He/she plays	*juega*
We play	*juga**mos***
You play (plural)	*jug**áis***
They play	*juega**n***
To do (sport)	**hacer**
I do	*hago*
You do	*haces*
He/she/it does	*hace*
We do	*hacemos*
You do (plural)	*hacéis*
They do	*hacen*

Gramática: Future tense of jugar and hacer

To play	**jugar (al + sport)**
I will play	*jugar**é***
You will play	*jugar**ás***
He/she will plays	*jugar**á***
We will play	*jugar**emos***
You will play (plural)	jugar***éis***
They will play	*jugar**án***
To do (sport)	**hacer**
I will do	*har**é***
You will do	*har**ás***
He/she/it does	*har**á***
We will do	*har**emos***
You will do (plural)	*har**éis***
They will do	*har**án***

Unit of work 1: Key language in context

Express opinions about free-time activities	Me gusta bailar en una fiesta.	I like dancing at a party.
	Me encanta tocar el piano.	I love playing the piano.
	Me chifla jugar con la consola (de videojuegos)	I'm mad about playing on the games console.
	Me gusta mucho leer novelas.	I really like reading novels.
Say what you do in your free-time and how often	Toco la guitarra todos los días.	I play the guitar every day.
	Salgo con amigos el fin de semana.	I go out with friends at the weekend.
	Por lo general, escucho música.	I usually listen to music.
	De vez en cuando, veo la televisión.	Occasionally, I watch TV.
	Raramente, leo una novela.	I rarely read a novel.
Say what you watch on TV	Veo los programas de tele realidad.	I watch reality TV shows.
	Normalmente veo las noticias.	I usually watch the news.
	Generalmente, veo las series policiacas.	I generally watch police series.
Express opinions about TV programmes	Me encantan los dibujos animados.	I love cartoons/ animated films.
	Me fascinan los documentales.	I find documentaries fascinating.
	Me molestan los programas de tele realidad.	Reality TV shows annoy me.
	Me flipan las comedias.	I love comedies**.**
Say what sports you play	Juego al fútbol todos los sábados.	I play football every Saturday.
	Normalmente hago la natación.	I usually do/go swimming.
	Juego al baloncesto y al tenis.	I play basketball and tennis.
Use the future tense to say what sports you will play/ practise:	En el futuro, haré alpinismo en los Pirineos. El año próximo, jugaremos al baloncesto en Barcelona. Haré esquí en Canadá el año que viene.	In the future, I will go climbing in the Pyrenees. Next year, we will play basketball in Barcelona. I will go skiing in Canada next year .

Unit 2: Food, eating out and customs

2.1 Comer y beber- *Eating and drinking*

el (fem.) agua (mineral)	(mineral) water
el bocadillo	the sandwich
la carne	the meat
el helado	the ice cream
el huevo	the egg
el jamón	the ham
la leche	the milk
las legumbres	the pulses
la mantequilla	the butter
la manzana	the apple
la mermelada	the jam, marmalade
las patatas fritas	the chips, fries
el perrito caliente	the hot dog
el pescado	the fish
el pollo	the chicken
el postre	the dessert, pudding
el queso	the cheese
la sopa	the soup
el té	the tea
la tortilla	the omelette
la tostada	the toast
el vaso	the glass
las verduras	the vegetables
beber	to drink
comer	to eat
bebo	I drink
como	I eat
la cena	the evening meal
cenar	to have evening meal
la comida	the lunch, food, meal
desayunar	to have breakfast
el desayuno	the breakfast
después	afterwards
tomar	to take, to have (food, drink)
sano	healthy
malsano	unhealthy

2.2 Vamos a comer fuera- *Let's eat out!*

el atún	the tuna
el bacalao	the cod
la barra	the loaf
el bistec	the steak
los calamares	the squid
la cebolla	the onion
el cerdo	the pork
la cerveza	the beer
los champiñones	the mushrooms
el chorizo	the chorizo
la chuleta	the chop
el cordero	the lamb
el filete	the fillet (steak)
la fresa	the strawberry
las gambas	the prawns
el gazpacho	the chilled tomato soup
los guisantes	the peas
el jamón serrano	the cured ham
las judías verdes	the green beans
los mariscos	the seafood
el melocotón	the peach
la naranja	the orange
la patata	the potato
la piña	the pineapple
el plátano	the banana
el queso	the cheese
la ración	the portion, serving
la salsa	the sauce
las tapas	the small bar snacks
el vino blanco	the *white wine*
el vino tinto	the red wine
Quiero/ me gustaría	I want/ would like
de primero(plato)	*(for) first course*
de segundo	*(for) second course*
de postre	for dessert
para beber	to drink

2.3 La vida en familia *Family life*

acostarse	to go to bed
me acuesto	I go to bed
levantarse	to get up
me levanto	I get up
coger	to catch
participar	to participate, to take part
probar	to try, to try out
traer	to bring
el bollo	bun
a media mañana	at mid-morning
la dieta	diet
ligero/a	light
el recreo	break
saludable	healthy
el trabajador	worker
la tradición	tradition
tranquilamente	calmly
el vaso	glass

la sobremesa sitting chatting at the table after a meal

Gramática: the definite article 'the'

	Singular	Plural
Masculine	*el*	*los*
Feminine	*la*	*las*

***El** vaso = the glass* ***los** vasos = the glasses*
***La** manzana = the apple* ***las** manzanas = the apples*

Gramática: key verbs in the **present tense**

To take /have food	***Tomar***	**To eat**	***Comer***
I take/ have	*Tomo*	I eat	*Como*
You take/ have	*Tomas*	You eat	*Comes*
He/she takes/ has	*Toma*	He/she/it eats	*Come*
We take/ have	*Tomamos*	We eat	*Comemos*
You all take/ have	*Tomáis*	You all eat	*Coméis*
They take/ have	*Toman*	They eat	*Comen*

Gramática: **The future tense** to form the future tense:
select the person of the verb 'ir' then add 'a + infinitive verb'

The verb 'to go'	**– *ir***
I go/ am going	*Voy*
You go/ are going (singular)	*Vas*
He/she/it goes/ is going	*Va*
We go / are going	*Vamos*
You go/ are going (plural)	*Vais*
They go/ are going	*Van*

Eg Voy a comer = I'm going to eat
Voy a tomar = I'm going to have

Gramática: The preterite tense (past tense) is used to describe actions in the past
To form it you find your verb and remove the last 2 letters

verbs ending in –ar *(eg. tomar)*		**verbs ending in er/ir***(eg.comer/beber)*	
I	-é	I	-í
You	-aste	You	-iste
he/she/it	-ó	He/she/it	-ió
we	-amos	we	-isteis
you (plural)	-asteis	you (plural)	-isteis
they	-aron	they	-ieron

eg. Tom**é** atún = I **had** tuna

eg. - com**í** = I ate Beb**í** = I drank)

Unit of work 2: Key language in context

Talking about food and drink:	Para desayunar como cereales y bebo té	For breakfast I eat cereal and I drink tea
	Me gustan los perritos calientes	I like hot dogs
	Para cenar como pollo con verduras	For dinner I eat chicken with veg
	A veces tomo pescado	Sometimes I have fish
	Es sano	It is healthy
Asking for food and drink in a restaurant	De primero voy a tomar la sopa	For first course I'm going to have soup
	De segundo plato quiero el cordero	For second course I want (the) lamb
	Para beber quiero el vino blanco	To drink I want (the) white wine
	No voy a tomar postre	I'm not going to have dessert
Talking about family life and customs:	A los españoles les gusta charlar con familia	The Spansih like to chat with family
	Normalmente me levanto a las siete	Normally I get up at seven
	Ayer comí pizza	Yesterday I ate pizza

French Knowledge Organiser Year 9 Term 1

Unit 1: Me, my family and friends

1.1: La famille - family	
Le père	(The) father/dad
la mère	(The) mother/mum
Les parents	(The) parents
Le frère	(The) brother
La soeur	(The) sister
Le grand-père	(The) grandad
La grand-mère	(The) grandmother
Les grand-parents	(The) grandparents
Le fils	(the) Son
La fille	(the) daughter
Les enfants	The children
L'oncle	(the) Uncle
La tante	(the) Aunt
Le cousin	(the) Cousin (m)
La cousine	(the) Cousin (f)
Les cousins	(the) Cousins
Le neveu	(the) Nephew
La niece	(the) Niece
Il y a	There is / are
Avoir	To have
Être	To be
S'appeller	To be called
1.2 Les descriptions - descriptions	
Grand(e)	Tall
Petit(e)	Short
Gros(se)	Fat
Mince	Thin
Beau	Good-looking (m)
Belle	Good-looking (f)
Laid(e)	Ugly
Il/Elle/On est	He/she/it is
Ils/Elles sont	They are
Il/Elle/On a	He/she/it has
Ils/Elles ont	They have

1.2 Les descriptions – descriptions CONTINUED	
Les cheveux	(the) Hair
Roux	Ginger
Blonds	Blonde
Châtains	Brown/chestnut
Longs	Long
Courts	Short
Raides	Straight
Ondulés	Wavy
Bouclés/frisés	Curly
Chauve	Bald
Les yeux	(the) eyes
Bleus	Blue
Marron	Brown
Verts	Green
Très	Very
Assez	Quite
Un peu	A little
1.3 La personnalité - personality	
Casse-pieds	annoying
Sympa	Nice/pleasant
Amusant	Fun
Drôle	Funny
Généreux/euse	Generous
Jaloux/se	Jealous
Méchant(e)	naughty
Sévère	Strict
Timide	Shy
Désagréable	Unpleasant
Ennuyeux/euse	Boring
Égoïste	Selfish
Intelligent(e)	Intelligent
Gentil(le)	kind
Mignon(ne)	Cute
Paresseux/euse	Lazy

1.4 Les rapports - relationships	
S'entendre	To get on
Je m'entends	I get on
Bien	Well
Avec	With
Parce que	Because
Critique	To criticize
Se disputer	To argue
Il/elle m'énerve	He/she gets on my nerves
Grammaire – key reflexive verbs in the present	
S'appeler	**To be called**
Je m'appelle	I am called
Tu t'appelles	You (singular) are called
Il/elle s'appelle	He/she/it is called
Nous nous appelons	We are called
Vous vous appelez	You (plural) are called
Ils/elles s'appellent	They are called
S'entendre	To get on
Je m'entends	I get on
Tu t'entends	You (singular) get on
Il/elle s'entend	He/she/it gets on
Nous nous entendons	We get on
Vous vous entendez	You (plural) get on
Ils/ells s'entendent	They get on

Unit of work 1:Key language in context

Talking about family members:	Dans ma famille il y a cinq personnes	In my family there are 5 people
	Dans ma famille il y a ma mère et mes deux frères	In my family there is my mum and my two brothers
	J'ai deux frères et une soeur	I have two brothers and a sister
	Mon père s'appelle Victor	My dad is called Victor
	Mes soeurs s'appellent Chloé et Camille	My sisters are called Chloé and Camille
	Ma mère est grande et mince	My mum is tall and thin
	Mon père est beau	My dad is good looking
	Mon frère a les yeux marron	My brother has brown eyes
Giving physical descriptions of family members:	Ma soeur a les cheveux courts et noirs	My sister has short, black hair
Describing personality:	Mon grand –père est très drôle	My grandad is very funny
	Ma grand –mère est un peu timide	My grandmother is a bit shy
	Mes cousins sont casse-pieds	My cousins are annoying
Talking about relationships:	Je m'entends bien avec mon frère car il est sympa	I get on well with my brother because he is nice
	Je m'entends pas bien avec ma soeur car elle est paresseuse	I get on badly with my sister because she is lazy
	Nous nous disputons beaucoup	We argue a lot
Using BAGS adjectives	J'ai une ***nouvelle*** copine Je m'entends bien avec ma ***grande*** sœur	I have a ***new*** friend I get on well with my ***big*** sister

Grammaire – possessive adjectives			
	Masc	**Fem**	**Plural**
My	Mon	Ma	Mes
Your	Ton	Ta	Tes
His/her	Son	Sa	Ses
Mon frère		My brother	
Ma soeur		My sister	
Mes parents		My parents	

Grammaire – key verbs in the present tense	
Être	**To be**
Je suis	I am
Tu es	You (singular) are
Il/elle est	He/she is
Nous sommes	We are
Vous êtes	You (plural) are
Ils/elles sont	They are
Avoir	**To have**
J'ai	I have
Tu as	You (singular) have
Il/elle a	He/she has
Nous avons	We have
Vous avez	You (plural) have
Ils/elles ont	They have

Unit 2: House, home and town

2.1 Les maisons différentes – different homes	
J'habite dans	I live in
Un appartement	An appartment
Une cabane	A shack
Une caravane	A caravan
Une hutte en terre	A mud hut
Un igloo	An igloo
Une maison jumelée	A semi-detached house
Une yourte	A yurt
Sur une péniche	On a houseboat
Au banlieu	In the suburbs
À la montagne	In the mountains
Au bord de la mer	By the sea
À la campagne	In the countryside
Dans un village	In a village
Au centre-ville	In the town centre
Dans le nord	In the north
Dans le sud	In the south
Dans l'est	In the east
Dans l'oest	In the west

2.2 Décrire une maison – describing a house	
Il y a	There is/are
On a/nous avons	We have
Le salon	The living room
Ma chambre	my bedroom
Le grenier	The attic
Le bureau	The study
La chambre de mes parents	My parents' bedroom
La cuisine	The kitchen
L'entrée	The entrance/hallway
Le garage	The garage
Le jardin	The garden

2.2 Décrire une maison CONTINUED	
La cave	The cellar
La salle d'eau	The wet room
La douche	The shower
Au rez-de-chaussée	On the ground floor
Au premier étage	On the first floor

2.3 Décrire une chambre – describing a bedroom	
L'armoire	The wardrobe
La bibliothèque	The book case
Le bureau	The desk
Le canapé	The sofa
La chaise	The chair
La commode	The chest of drawers
L'étagère	The shelf
Le fauteuil	The armchair
La fenêtre	The window
Le lit	The bed
Le miroir	The mirror
La porte	The door
Le mur	The wall
La peinture	The painting
Le tapis	The rug

2.4 Adjectifs – adjectives	
Blanc(he)	White
En bois	Made of wood
Dur(e)	hard
Gris(e)	grey
Jaune	Yello
En metal	Made of metal
Noir(e)	Black
propre	Clean

2.4 Adjectifs – adjectives CONTINUED	
Violet(te)	Violet
Douillet(te)	cosy
Sombre	Dark

2.5 En ville – in town	
Il y a	There is
Il n'y a pas de	There isn't
Le musée	The museum
La charcuterie	The delicatessen
L'hôtel de ville	The town hall
Le marché	The market
La piscine	The swimming pool
Le parc	The park
Le centre commercial	The shopping centre
La boulangerie	The bakery
La gare	The train station
La bibliothèque	The library
La place du marché	The market square
La poste	The post office
La boucherie	The butchers
L'église	The church
Le tabac	The newsagents
Le commissariat	The police station
Les magasins	The shops
Le cinema	The cinema
L'usine	The factory
La rue principale	The main street
La cathédrale	The cathedral
Le centre sportif	The sports centre

La salle de bains	The bathroom	Rose	Pink
La salle à manger	The dining room	Rouge	Red
Le séjour	The lounge	En tissue	Made of fabric
Le sous-sol	The basement	En velours	Made of velvet
La toilette	The toilet	Vert(e)	green

2.6 Les adjectifs - adjectives	
vieux/Vieille	A pharmacy
moderne	The post office
Petit(e)	A supermarket
Grand(e)	Big
Ennuyeux/se	Boring
Amusant(e)	Fun
Joli(e)	Pretty
Moche	Ugly
Célèbre	Famous
Inconnu(e)	Unknown
Touristique	Touristic
Industriel(le)	Industrial
Bruyant(e)	Noisy
Tranquille	Calm
Propre	Clean
Sale	Dirty

2.7 Les magasins - shops	
Une boucherie	A butcher's
Une boulangerie	A bakery
Un café	A café
Une librairie	A book shop
Un magasin de chaussures	A shoe shop
Un magasin de musique	A music shop
Un magasin de sport	A sports shop
Un magasin de vêtements	A clothes shop
Une pharmacie	A pharmacy
La poste	The post office
Un supermarché	A supermarket

Unit of work 2: Key language in context

Describing your home

J'habite dans une maison individuelle	I live in a detached house
J'habite dans un appartement	I live in a flat
Dans ma maison il y a un salon et une cuisine	In my house there is a living room and a kitchen
Au premier étage il y a la chambre de mon frère	On the first floor there is my brother's bedroom
Au rez-de-chaussée il y a la toilette	On the ground floor there is the toilet
Il y a un jardin	There is a garden

Describing what furniture there is

Dans le salon il y a un canapé et une chaise	In the living room there is a sofa and a chair
Il n'y a pas de bibliothèque	There isn't a bookcase
Nous avons un miroir	We have a mirror
Un bureau en bois	A desk made of wood

Describing your neighbourhood, saying where it is

Ma ville est au bord de la mer	My town is by the seaside
J'habite au banlieue	I live in the suburbs
J'habite au centre-ville	I live in the town centre
Ma ville est grande et modern	My town is big and modern
C'est dans le nord de la France	It's in the north of France

Saying what your town is like

La ville est belle et grande	The town is beautiful and big
Le village est beau et petit	The village is beautiful and small
C'est vieille	It's old
Ce n'est pas touristique	It's not touristic
Il y a un vieux café	There is an old café
Il y a une vieille église	There is an old church

Talking about shops

Il y a une boucherie et une boulangerie	There is a butcher's and a bakery
Il n'y a pas de banque	There isn't a bank
Il n'y a pas de centre sportif	There isn't a sports centre