Great in name, greatest together

Great Sankey High School

Knowledge Organiser

Summer Term

2023/24

Year 7

A Knowledge Rich Curriculum at Great Sankey High School

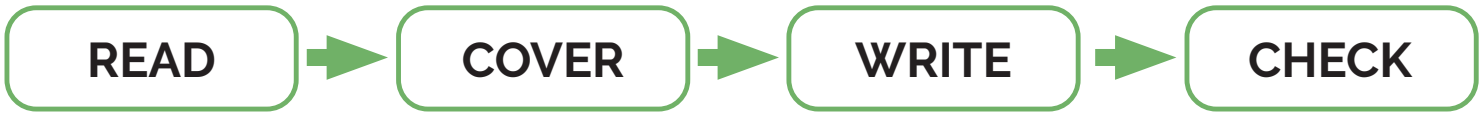
Research around memory suggests that if knowledge is studied once and not revisited or revised, it is not stored in the long-term memory. This means that after one lesson, or revising for one test, the knowledge will not be retained unless it is studied again. To ensure that knowledge is embedded in 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, 8 and 9. 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 Class Charts and Teams. 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 very important when studying map skills, especially when looking at scale and distance.

Tier 2 Vocabulary

Year 7 Term 3		Definition	Contextual Sentence
1	**achieve**	To bring about or reach (an objective or result) by effort, skill, or courage.	She will achieve a level 7 in Maths if she works hard.
2	**acquisition**	Something that is obtained; the leaarning or developing of a skill, habit, or quality.	The acquisition of new vocabulary is key to good grades in your subjects.
3	**administration**	The process of running a business, organization etc.	The organisation of exams require a lot of administration.
4	**alternative**	Of one or more things available as another possibility or choice.	Wind power is an alternative to coal fired power stations.
5	**assistance**	The action of helping someone.	Good revision notes can be a great assistance to learning.
6	**categories**	A class or division of people / things that have particular shared characteristics.	Foods can be divided into different categories such as fruits, vegetables and dairy.
7	**circumstances**	A fact or condition connected with or relevant to an event or action.	Describe the circumstances that brought about the end of World War 2.
8	**commission (2 definitions)**	To order or authorize the production of (something). To bring (something newly produced) into working condition.	The portrait was a commission. We will have to commission the new heating system before use.
9	**community**	A group of people living in the same place or having a particular thing in common.	A farming community settled along the banks of the Nile River.
10	**complex**	Consisting of many different and connected parts.	The layout of the castle was complex and had many rooms.
11	**components**	Parts of a larger whole thing, especially a part of a machine or vehicle.	The design of the box is made up of several different components.
12	**computer**	An electronic device for storing and processing data.	A computer can help you find information.
13	**conduct (2 definitions)**	The manner in which a person behaves, especially in a particular place or situation. To direct the performance of a piece of music or an orchestra, choir, etc..	We expect good conduct on the school corridors. He will be able to conduct the orchestra today.
14	**construction**	The action of building something.	We will start the construction of a warning sign in DT today.
15	**consumer**	A person who purchases goods and services for personal use.	Consumers are more aware about the use of single use plastic.
16	**credit (2 definitions)**	The ability to obtain goods/services before payment, based on the trust that payment will be made in the future. Public acknowledgement or praise.	Credit card use has increased in recent years. He is a credit to the form.
17	**distinction**	a difference or contrast between similar things or people.	The distinction between the two poems is that one is about love, whereas the other is about war.
18	**final**	Coming at the end of a series.	The rugby team got to the final of the competition.
19	**focus (2 definitions)**	To adapt to the prevailing level of light and become able to see clearly. To pay particular attention to.	Your eyes take a while to focus in low light. Focus on the key words of the question.
20	**injury**	An instance of being injured	She was unable to play in the match due to injury.

21	**institute**	An organization having a particular purpose.	The city has a literary and scientific institute.
22	**investment**	The use of money, time, or effort to make a profit or result	Running the football team is a significant investment of time.
23	**journal (2 definitions)**	A newspaper or magazine that deals with a particular subject or professional activity. A daily record of news and events of a personal nature; a diary	The library has a good selection of journals. You can keep a journal to record your daily exercise.
24	**maintenance**	The process of keeping something in good condition.	The mini bus has broken down and is in need of maintenance.
25	**normal**	Conforming to a standard; usual, typical, or expected.	The normal amount of rainfall in this country is over 800mm a year.
26	**obtained**	To get, acquire, or secure (something).	The king obtained large area of land due to victory in battle.
27	**participation**	The action of taking part in something.	In a game of football, participation by all of the team is important.
28	**perceived**	To become aware of something / to come to realize or understand.	The government reacted immediately to the perceived threat to its authority.
29	**potential**	Having or showing the capacity to develop into something in the future.	She has the potential to be a good singer.
30	**primary (2 definitions)**	The most important. The earliest in time or order.	The primary concern of the charity is to preserve and protect human life. The first school you attend is primary school.
31	**purchase (2 definitions)**	To acquire something by paying for it. A firm contact or grip.	You can purchase a vegetarian meal at lunchtime. Ensure you have a good purchase on the saw.
32	**range (2 definitions)**	A line or series of mountains or hills. A set of different things of the same general type.	The Himalayas is a famous mountain range. There is a wide range of activities on offer after school.
33	**regulations**	Rules made and maintained by an authority.	You must follow the safety regulations in the lab.
34	**resident**	A person who lives somewhere permanently or on a long-term basis.	There were 50 residents living in the castle.
35	**resources**	A stock of money, materials, staff etc. that can be drawn on by a person/organisation in order to function effectively.	Extra resources are available to help with revision.
36	**restricted**	Limited in extent, number, scope, or action.	Membership of the new gym is restricted to adults.
37	**security**	The state of being free from danger or threat.	A good password will help with your online security.
38	**site**	An area of ground on which something is built.	The site of the castle was by a wide river.
39	**sought**	To try and find / look for something (past tense of 'seek')	Scientists sought a vaccine for small pox to reduce deaths.
40	**survey**	To look closely at or examine (someone or something)	The team carried out a survey on the river to find out what wildlife it supported.
41	**traditional**	Something that is long standing / has gone on for a long period of time.	We will be looking at the traditional food of that area of Italy.

Identity Poetry

What is identity?	
• a person's name and other facts about who they are: • the fact of being, or feeling that you are, a particular type of person, organization, etc.; the qualities that make a person, organization, etc. different from others:	
An Introduction to Poetry Definition: Poetry is a type of literature that conveys a thought, describes a scene or tells a story in a concentrated, lyrical arrangement.	
Topics	• Poems are usually about a person, a place, an event, memory or reflection (thinking of feelings about something). They are often observations of very small details. • Poets will take the reader on a journey. However, where we end up may or may not be at the same point in terms of feelings and ideas.
Structure	Poems can be structured with: • Rhyming lines and meter • Freeform (no formal structure) Poems are structured using stanzas (grouping of lines related to the same thought/ topic).
Form	There are 'rules' that poets would traditionally follow. Different forms would be used for different topics e.g. Sonnet – love poetry.
Imagery	• Imagery is linked to the five senses: visual, olfactory (smell), Gustatory (taste), Tactile (touch) and auditory (sound). • Poetry uses imagery to appeal to the senses through describing living things or inanimate objects.
Punctuation	Punctuation is important in poetry. • Caesura forces a pause and a moment of reflection by slowing the pace. • Enjambment has the effect of making the idea or thought run on. This could show emotions running out of control or disorganised, instant thoughts.
Regular/ Irregular	• Regularity in poems often suggests something has been thought about for a long time a deep and considered reflection. Regular poems may suddenly break the pattern to stop the reader and force them to pause and reflect. • Irregularity in poems can suggest sudden thoughts, reflections and observations, for example a sudden memory. It can also show disharmony, problems and conflict.

Key Vocabulary	Definition	Contextual Sentence
Alliteration	The repetition of identical consonant sounds, most often the sounds beginning words, in close proximity.	Pensive poets, picture perfect, money matters.
Allusion	A reference to something or quotation that the poet thinks the reader will recognise.	She felt like she had won a golden ticket – Willy Wonka and the Chocolate Factory He acts like Scrooge – A Christmas Carol.
Anaphora	Repetition of the same word or phrase at the beginning of a line.	In every cry of every Man, In every infant's cry of fear, In every voice, in every ban, (London, William Blake).
Assonance	Repetition of the vowel sound across words within the lines of the poem creating internal rhymes.	Hop-scotch, deep green.
Caesura	A short but definite pause used for effect within a line of poetry.	To be, or not to be — that is the question...
Consonance	The repetition of consonant sounds in a line of text.	Pitter patter, lily livered.
Couplet	Two successive rhyming lines.	Couplets end the pattern of a Shakespearean sonnet.
Diction	Usually used to describe the level of formality that a speaker uses.	Formal diction – proper, elevated, elaborate language. Informal diction – relaxed, conversational and familiar language.
Enjambment	A line that has no end punctuation and continues onto the next line.	And he will make the face of heaven so fine That all the world will be in love with night And pay no worship to the garish sun.
Extended Metaphor	A metaphor that extends over the course of multiple lines in a text or stanzas in a poem.	Life is a book, lying on a tabletop, its pages outspread like a thousand wings of a bird.
Hyperbole	Deliberate exaggeration for effect.	I'm so hungry, I could eat a horse. I'm dying of thirst.
Juxtaposition	Placing of two contrasting things or ideas close together.	The icy wind warmed her heart.
Metaphor	A comparison between two unlike things, this describes one thing as if it were identical.	Time is money. He's buried in a sea of paperwork.
Meter	The number of feet within a line of traditional verse.	Shakespeare wrote in Iambic Pentameter.
Onomatopoeia	A blending of constant and vowel sounds designed to imitate the activity being described.	Bang, slurp, buzz
Oxymoron	Place of two contrasting things or ideas next to each other for effect.	Dead smile, organised chaos
Personification	Giving human characteristics to non-human things.	The windows watched as they walked past.
Repetition	Repeating a word or idea throughout a poem to emphasise it.	Home sweet home, time after time, rain rain go away
Rhyme	The repetition of identical concluding syllables in different words, most often at the end of lines.	June – moon
Rhyme Scheme	The pattern of rhyme, usually indicated by assigning a letter of the alphabet to each rhyme at the end of a line of poetry.	The rhyme scheme in the poem was AABBCC.
Semantic field	A group of words connected by topic, meaning or theme	The stages of life – child, toddler, adult. Nature – tree, leaf, grass, flower
Simile	A direct comparison between two dissimilar things using like or as.	He is as strong as an ox.

Grimm's Fairy Tales

1. Exposition: The storyteller sets the scene and the character's background.

A. Inciting Incident: The character reacts to something that has happened, and it starts a chain reaction of events.

2. Rising Action: The story builds. There is often a complication, which means the problem the character tried to solve gets more complex.

B. Crisis: The hero may have a setback or series of setbacks on their journey.

3. Climax: The story reaches the point of greatest tension between the protagonist and antagonist (or if there is only one main character, the darkness or lightness of that character appears to take control).

C. Falling Action: The story shifts to action that happens as a result of the climax, which can also contain a reversal (when the character shows how they are changed by events of the climax).

4. Denouement: The character solves the problem or conflict. French for "the ending," the denouement is often happy if it's a comedy, and dark and sad if it's a tragedy.

The Brothers Grimm

• Jacob Ludwig Karl (1785–1863) and Wilhelm Carl (1786–1859), are known as "The Brothers Grimm".

• They were German academics, philologists, cultural researchers and authors who together collected and published folklore during the 19th century.

• They were among the first and best-known collectors of German and European folk tales, and popularized traditional oral tale types such as "Cinderella", "The Frog Prince", "The Goose-Girl", "Hansel and Gretel", "Rapunzel", "Rumpelstiltskin", "Sleeping Beauty" , and "Snow White".

• Their classic collection, Children's and Household Tales, was published in two volumes—the first in 1812 and the second in 1815.

Key Vocabulary

Key Word	Definition	Contextual Sentence
Folklore	the traditional beliefs, customs, and stories of a community, passed through the generations by word of mouth. They may change in the retelling.	In Irish folklore, the leprechaun has a large pot of gold.
Allegory	a story, poem, or picture that can be interpreted to reveal a hidden meaning, typically a moral or political one.	The play can be read as an allegory.
Fairy Tale	a children's story about magical and imaginary beings and lands; a fairy story.	There are often princesses in fairy tales. Cinderella is a fairy tale.
Ode	a poem expressing the writer's thoughts and feelings about a particular person or subject, usually written to that person or subject	"Ode to a Nightingale" and "Ode on a Grecian Urn" are poems by Keats.
Narrative	A story or account of events, experiences whether true or fiction.	Hansel and Gretel is a narrative about two children and a witch.
Narrator	A person who narrates something, especially a character who recounts the events of a novel or narrative poem.	The Brothers Grimm are the narrators of many fairy tales.
Archetype	A typical example of a certain person or thing.	He was the archetype of a hero.
Supernatural	(of a manifestation or event) attributed to some force beyond scientific understanding or the laws of nature.	The ghost was a frightening example of the supernatural.
Moral	Concerned with the principles of right and wrong behaviour.	Many narratives teach morals through good and bad characters, and their actions.
Motif	A dominant or recurring idea in an artistic work e.g. a narrative.	Superstition is a recurring motif in the book.

Key Techniques

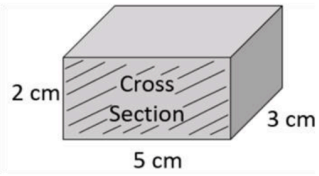
Key Word	Definition	Contextual Sentence
Foreshadowing	A warning or indication of a future event; the author hints at something that will happen later in the story.	"Doesn't the proud princess look elegant today!" Ashputtel becomes a princess.
Omniscient Narrator	the voice in which a story is written that is outside the story and knows everything about the characters and events in the story	Night after hungry night, he lay in his bed next to his thin wife, and he worried so much that he tossed and turned and he sighed and he mumbled and moaned and he just couldn't sleep at all.
Characterisation	The way in which something is described by stating its main qualities e.g appearance, behaviour, actions etc.	The bony voice of his wife; a voice as fierce as a famine.
Tone	a quality in the voice that expresses the speaker's feelings or thoughts, often towards the person being spoken to:	"Why should this eyesore sit next to us at supper?" they squawked.
Dialogue	Conversations between the characters in a story, such as in a book or film.	"Beautiful dresses" said one.
Repetition	The action of repeating something that has already been said or written.	Let it snow, let is snow, let it snow

Year 7 Mathematics Knowledge Organiser	Topic	Where does the word volume come from ?
	Volume, Surface Area & 3-D Solids	The earliest books were not like the books we read today. Instead of having pages that turn, they were written on rolls of papyrus. The Latin word for such a scroll, *volumen*, came from the verb *volvere*, meaning "to roll." English *volume* came by way of French from Latin *volumen*. At first *volume* meant "scroll" or "book," but later it came to mean "the size of a book" as well. **This sense led to the more general meaning of "size" or "amount."**

Volume

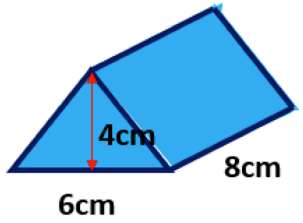
A prism is a solid object with two identical ends and flat sides.

Volume of Prism: Area of Cross Section x Width



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

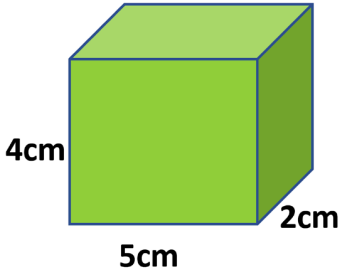
$10cm^2 \times 3\text{cm} = 30cm^3$



$\frac{(6cm \times 4cm)}{2} \times 8\text{cm} =$

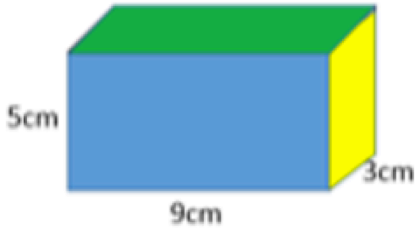
$12cm^2 \times 8\text{cm} = 96cm^3$

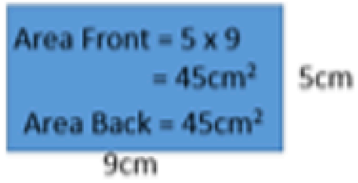
You try...

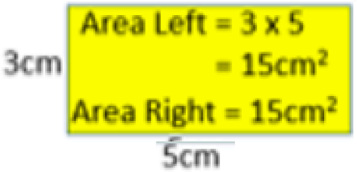


Surface Area

Surface Area is the amount of area covered by the surface of something.





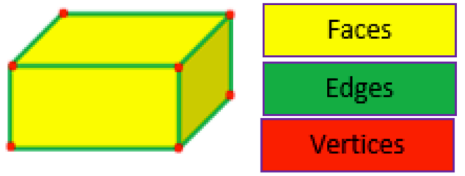


Total Surface Area =

45 + 45 + 15 + 15 + 27 + 27

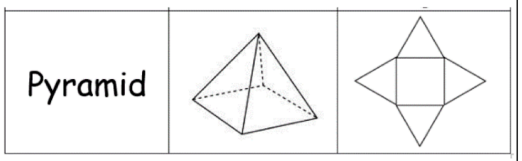
= $174cm^2$

3-Dimensional Solid

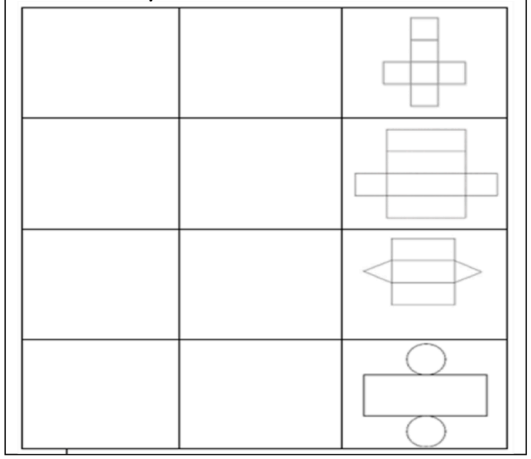


Nets

A net is a 2D representation of a 3D solid.



Can you name the other nets?
Can you draw the 3D solid?



Year 7 Mathematics Knowledge Organiser

Topic

Number

Fun fact ...

*The first known tools used to aid arithmetic calculations were: bones (used to tally items), pebbles, and counting boards, and the abacus, known to have been used by Sumerians and Egyptians before 2000 BC. The first mechanical calculator appeared in 1642, the creation of Blaise **Pascal** as "a device that will eventually perform all four arithmetic operations without relying on human intelligence."*

Rounding

How to round numbers

- Decide which is the last digit to keep
- Leave it the same if the **next digit** is less than 5 (this is called **rounding down**)
- But increase it by 1 if the **next digit** is 5 or more (this is called rounding up)

Examples

Round 78 to the nearest 10

We want to keep the "7"

The next digit is "8" which is 5 or more, so increase the "7" to "8"

Answer 80

(78 gets rounded up)

Round 8.47 to the nearest integer

We want to keep the "8"

The next digit is "4" which is less than 5, so no change is needed to the "8". The other digits are ignored

Answer 8

(8.47 gets rounded down)

How to round to decimal places

Round 22.57 to 1 decimal place i.e. we must have 1 number after the decimal point

22.57

As the 5 is the first number after the decimal point, we round this based upon the second number, the 7.

As 7 is 5 or more, we **round up** so **22.57 becomes 22.6**

Round 7.832 to 2 decimal places i.e. we must have 2 numbers after the decimal point

7.832

As 8 and 3 are the first two numbers after the decimal point, we round based upon the third number, the 2.

As 2 is less than 5, we **round down** so **7.832 becomes 7.83**

Significant Figures

Significant figures are the number of **digits** in a value, often a measurement, that contribute to the degree of accuracy of the value.

We start counting **significant figures** at the first non-zero **digit**.

Examples

Round 37 to 1 significant figure

We want the answer to have only **1 non-zero** digit.

Look at the 2nd digit 7 rounds the 3 up, and replace everything else with a zero.

Answer = 40

Round 45826 to 2

We want the answer to have only **2 non-zero** digits.

Look at the 3rd digit

8 rounds the 5 up, and replaces everything else with a zero.

Answer = 46000

Order of Operations

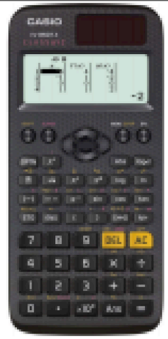
BIDMAS

( ) Brackets — x^y Indices — ÷ or × Divide & Multiply — + or − Add & Subtract

Order of Operations

Using a calculator

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



CASIO fx-83/85 GTX (new model)

Key thing – they are both good calculators

The Button Moon – a rundown of star buttons

Button	Function	Stars
S⇔D	Converts between fractions, decimals and surds (more about surds in Y8).	★★★
	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 √ $x^{\blacksquare}$	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	★★
	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...)	★★★

Year 7 Mathematics Knowledge Organiser	Topic	*Where does the work sequence come from?*
	Algebra and Sequences	*English word sequence comes from Latin sequor (with accusative) I follow, come or go after.*

1. Types of Sequences

Arithmetic (Linear)

One which increases or decreases by the same number each time.

3 , 5 , 7 , 9 , 11.....

Quadratic

One in which the second differences are identical.

2, 4, 8, 14, 22.....

Geometric

One which the terms are multiplied or divided by the same value.

5, 10, 20, 40, 80.....

Fibonnaci-Style

One in which the next term is the sum of the previous two terms.

1, 1, 2, 3, 5, 8, 13,21.....

2. Finding the Next Term

Linear Sequence

12, 15, 18, 21, □

+3 +3 +3 +3 +3

Identify the 1st differences.

21 + 3 = 24

3. Term – to - Term

The term-to-term rule of a sequence is the difference between each term.

2, 6, 18, 54, 162...

x 3 x 3 x 3 x 3

Term-to-Term = x 3

4. Finding the nth Term

The nth term of a sequence is the rule that it follows.

7, 12, 17, 22, 27.....

+5 +5 +5 +5 +5

Identify the term-to-term rule

The adding of 5 each time is represented by **5n**

2, 7, 12, 17, 22, 27.....

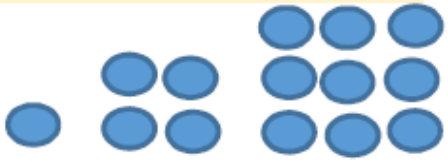
- 5

Find the previous term.

The previous term of 2 completes the nth term of **5n + 2.**

5. Special Sequences

Square numbers



1, 4, 9, 16, 25, ...

Triangular numbers

1, 3, 6, 10, 15 ....

Fibonacci

1,1,2,3,5,8,13 ...

Each term is a sum of the previous two terms

Mathematics Command Words – Tier 2 Vocabulary

State the units of your answer	Write down your full calculator display	Explain how you got your answer…	Give a reason for your answer…	Write down the next two terms…
The correct units must be given to gain full marks. There may be a stand-alone mark for giving the correct units	Give your answer as a decimal and write all the digits shown on your calculator.	Explain in words the implication of the given information	Explain in words the implication of the given information	Look at the sequence to see which numbers would come next, following the rule
Example Application	**Example Application**	**Example Application**	**Example Application**	**Example Application**
Work out the volume of the cuboid, <u>state the units of your answer</u>	Find the length AC, write down <u>your full calculator display</u>	The area of one face of a cube is 36 cm^2. What is the volume of the cube. <u>Explain how you got your answer.</u>	Is 97 a term in the sequence? <u>Give a reason for your answer</u>	<u>Write down the next two terms</u> in the geometric sequence? 5, 10, 20, 40,

On the diagram below, draw	Calculate the area of the shaded region…	You must show your working…	Work out	Is … correct ?
Add the required information to a given diagram	Find the area of the space that is identified by colouring or cross-hatching.	A correct answer will not receive the marks unless working is given to show how the answer was arrived at	One or more calculations will usually be necessary.	Tick a box if given or state 'yes' or 'no' in your answer.
Example Application	**Example Application**	**Example Application**	**Example Application**	**Example Application**
<u>On the diagram below draw</u> a tangent to the circle	<u>Calculate the area of the shaded region</u> in the shape below	Find the area of the shape. <u>You must show your working</u>	<u>Work out</u> the area of the sector of the circle	Anna thinks that $(^{-}6)^2$ is –36. Is Anna correct?

Use your Calculator to…	Give you answer to … decimal places	Giver your answer to … significant figures	Give your answer to suitable degree of accuracy	Is your answer to part … sensible?
You are not expected to show the required calculations or how you worked them out.	Show the full answer in your working, but give the rounded value on the answer line	Show the full answer in your working, but give the rounded value on the answer line	Show the full answer in your working, but give the rounded value on the answer line	Use approximations to check if a previous answer makes sense in the context of the question.
Example Application	**Example Application**	**Example Application**	**Example Application**	**Example Application**
<u>Use your calculator</u> to find the value of $\sqrt{98}$	Give your answer to 2 decimal places	Give you answer to 3 significant figures	Calulate the area of the field. Give you answer to a suitable degree of accuracy.	Is your answer to part (a) sensible? Use approximations to decide.

Mathematics Command Words – Tier 3 Vocabulary

Sequence	Linear Sequence	Term	Geometric Sequence	Common Ratio
An ordered set of numbers, shapes or other mathematical objects, arranged according to a rule	A sequence which increases (or decreases) by the same amount each time.	Each number in a sequence is called a **term**.	A **geometric sequence** goes from one term to the next by always multiplying or dividing by the same value.	The number multiplied (or divided) at each stage of a geometric sequence is called the **common ratio**
Example Application	**Example Application**	**Example Application**	**Example Application**	**Example Application**
What is the next term in the following **sequence**? 2, 5, 8, 11	What is the next term in the **linear sequence**? 5, 8, 11, 14, …	In the sequence **2, 6, 10, 14 …** the first **term** is 2 and the second **term** is 6.	What is the next term in the **geometric sequence**? 5, 10, 20, 40, …	What is the **common ratio** in the geometric sequence? 5, 10, 20, 40,

Non - zero digits	Significant figure	Faces	Edges	Vertices
A quantity that does not equal zero	The number of digits that are meaningful.	In any geometric solid that is composed of flat surfaces, each flat surface is called a face	In any geometric solid that is composed of flat surfaces. The line where two faces meet is called an edge	Vertex typically means a corner or a point where lines meet. The plural form of vertex is **vertices**
Non-zero digits are significant. Leading zeros are not significant	Give your answer to 3 **significant figures**	How many **faces** does a cube have?	How many **edges** does a cube have?	How many **vertices** does a cube have?

Net	Prism	Polygon	Regular polygon	Cross- section
A pattern that you can cut and fold to make a model of a solid shape	A solid object with two identical ends and flat sides.	A plane shape (two-dimensional) with straight sides.	A polygon that has all sides equal and all interior angles equal.	The shape obtained by the intersection of solid by a plane.
Example Application	**Example Application**	**Example Application**	**Example Application**	**Example Application**
Draw the **net** of a cuboid	Which of the following is a **prism**? Cube, Cone, or Sphere	The formula for the sum of the angles in a **polygon** is (n-2)x180	Find the size of an angle in a **regular** hexagon	The **cross-section** of a cylinder is a circle

Year 7 Science: Biology – Reproduction

Human reproduction

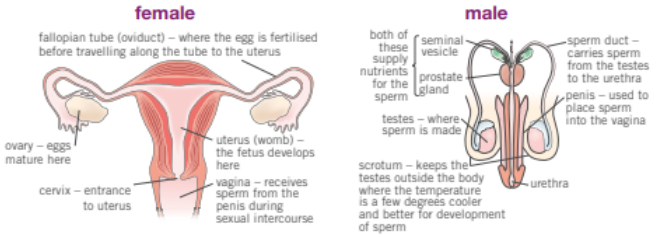
Adolescence

The time during which you change from being a child to being an adult is called **adolescence**. The physical changes that happen between the ages of 9–14 are called **puberty**.

These changes include:

Girls	pubic and underarm hair grows, body odour develops, emotional changes, growth spurt	Boys
breasts develop, ovaries start to release egg cells, periods start, hips widen,		voice breaks, sexual organs develop, testes start to produce sperm, shoulders widen, hair grows on face and chest

Reproductive systems



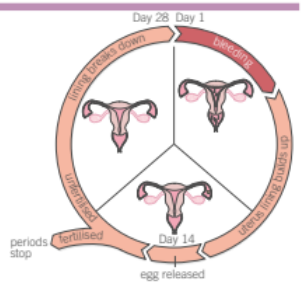
The menstrual cycle

Day 1 – blood from uterus lining leaves the body through the vagina.

Day 5 – bleeding stops. Uterus lining begins to re-grow.

Day 14 – an egg cell is released from one of the ovaries (**ovulation**).

The egg cell travels through the oviduct towards the uterus.



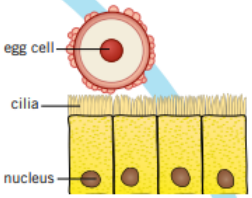
Methods of contraception

Condoms – A thin layer of latex rubber that prevents semen being released into the vagina.

Contraceptive pill – a daily tablet that contains hormones. It prevents pregnancy by stopping ovulation.

Fertilisation

An egg is released every month.



The egg cell is moved along the oviduct towards the uterus by **cilia**.

Sperm cells are produced in the **testicles**/**testes**.

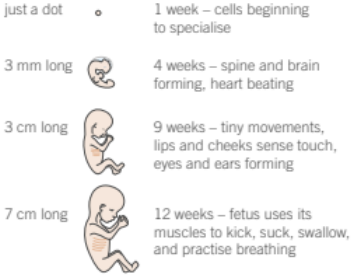
Sperm are mixed with nutrients and fluid from the glands to form **semen**.

During sexual intercourse a man will release semen into the vagina (**ejaculation**).

If a sperm meets the egg **fertilisation** may happen.

The fertilised egg may then **implant** in the uterus lining and form an **embryo** (ball of cells)

the main steps in a baby's development (**gestation**) during pregnancy



There are three important structures in the uterus during gestation:

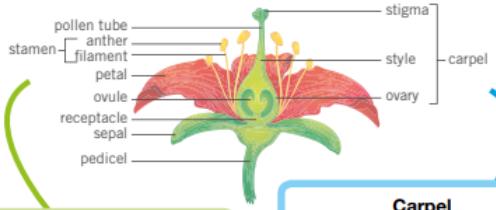
placenta – where substances pass from mother to **fetus**

umbilical cord – connects the fetus to the placenta

fluid sac – shock absorber that protects the baby.

Plant reproduction

Parts of a flower



Stamen

male part of the flower

- the **anther** produces pollen
- the **filament** holds up the anther

Carpel

female part of the flower

- the **stigma** is sticky to catch grains of pollen
- the **style** holds up the stigma
- the ovary contains **ovules**

Pollination

Pollination is the fertilisation of the ovule, which occurs when pollen is transferred from an anther to the stigma. Pollination can occur due to insects or the wind.

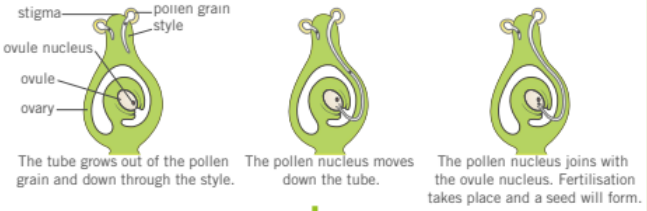
cross-pollination

between two **different** plants

self-pollination

between the male and female parts of the **same** plant

Fertilisation



Germination

When a seed starts to grow it is called **germination**.

To germinate, seeds need:

- water – for the seed to swell and the embryo to start growing
- oxygen – for respiration and transferring energy for germination
- warmth – to help speed up the reactions in the plant.

Year 7 Science: Biology – Reproduction

Key word	Definition	Contextual Sentence
adolescence	The period of time when a child changes into an adult.	During the teenage years, a child is said to be in adolescence.
cilia	Tiny hairs on the surface of cells.	The cilia sweep dirt and mucus away from your cells
contraception	A method of preventing pregnancy.	A chemical method of contraception is the contraceptive pill, another method is to use a condom.
ejaculation	When semen is released from the penis.	Ejaculation is the beginning step in the process of reproduction
embryo	A ball of cells that forms when the fertilised egg divides.	An eight-week-old embryo is only an inch long
fertilisation	The process where the nucleus of a sperm cell joins with the nucleus of an egg cell.	Fertilisation happens the moment a sperm cell reaches an egg cell in the female reproductive system
fetus	The name given to an unborn baby from eight weeks of development.	The fetus is growing in the uterus of the female.
fluid sac	Contains fluid. This acts as a shock absorber, protecting the fetus from bumps.	When your water breaks the fluid sac where the baby grows is ruptured.
gametes	Reproductive cells. The male gamete is a sperm cell and the female gamete is an egg cell.	The gametes fuse together to produce the embryo, during fertilisation.
germination	The period of time when a seed starts to grow.	In plants a seed will germinate and produce its first shoot.
implantation	The process where an embryo attaches to the lining of the uterus.	When implantation occurs within the uterus the fetus will begin to grow.
menstrual cycle	The monthly cycle during which the uterus lining thickens, and then breaks down and leaves the body if an egg is not fertilised.	A woman's period are part of her menstrual cycle. A cycle takes 28 days to complete.
ovulation	The release of an egg from an ovary.	Ovulation happens around the 14 day of a menstrual cycle.
placenta	The organ where substances pass between the mother's and the fetus's blood. It acts as a barrier, stopping infections and harmful substances reaching the fetus.	The fetus was provided with oxygen and food from the mother through the umbilical cord.
pollen	The male gamete of a plant.	Bees transport pollen to help the reproduction of plants
pollination	The transfer of pollen from the anther to the stigma.	Pollination must happen for plants to reproduce and produce seeds.
puberty	The physical changes that take place during adolescence.	During puberty, a male voice will break, and a female's period will start.
sexual intercourse	The process where the penis releases semen into the vagina.	The baby was created during sexual intercourse of the parents
umbilical cord	Connects the fetus to the placenta.	The umbilical cord was cut during the birth of the child.
uterus	Where a baby develops until its birth.	The fetus is growing inside the uterus of the mother.

Year 7 Science: Chemistry – Acids and Alkalis

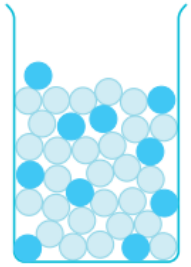
Acids and alkalis

Acids and **alkalis** are special solutions which are chemical opposites to each other.

If a solution is between acid and alkaline it is **neutral**.

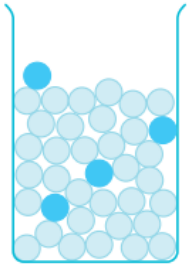
Acids and alkalis can be:

concentrated



Lots of acid/alkali particles for the amount of water.

dilute



A small number of acid/alkali particles in the same amount of water.

Acids and alkalis are **corrosive**

This means that they can cause burns if they get on your skin.

Acids and alkalis can be extremely dangerous, depending on the type of acid/alkali and its concentration.

As a general rule the more concentrated the solution, the more dangerous it can be.

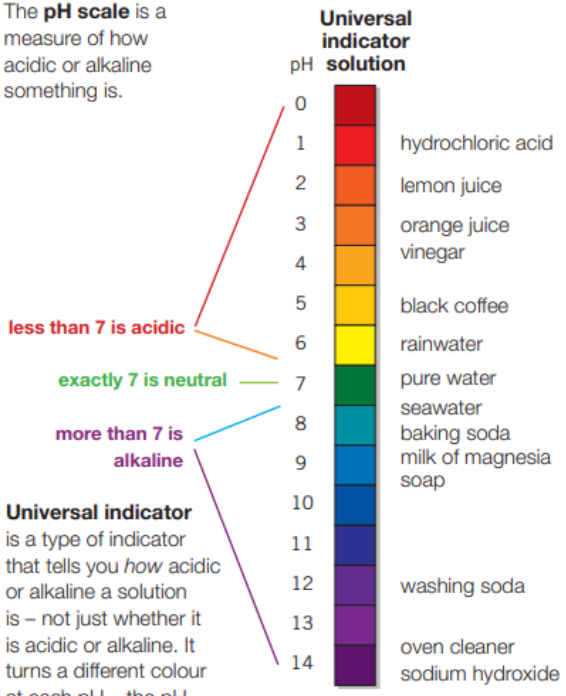
Indicators

If you want to know if something is acidic or alkaline, you need to use an **indicator**. Indicators contain a dye that turns different colours in acidic and alkaline solutions.

Litmus paper is a type of indicator. It can be either **pink** paper or **blue** paper.

- in acid – **blue** paper turns **pink**
- in alkali – **pink** paper turns **blue**

The **pH scale** is a measure of how acidic or alkaline something is.



Universal indicator is a type of indicator that tells you *how* acidic or alkaline a solution is – not just whether it is acidic or alkaline. It turns a different colour at each pH – the pH scale shows the colours of universal indicator in solutions of different pH.

Reactions with acids

When an acid reacts with a metal element or compound a **salt** is formed.

The hydrogen atoms of the acid are replaced with atoms of the metal element.

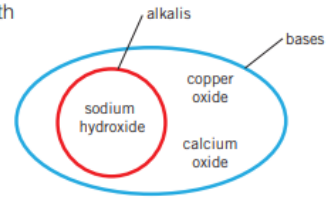
$$Zn + H_2SO_4 \rightarrow ZnSO_4 + H_2$$

zinc + sulfuric acid → zinc sulfate + hydrogen

A **base** is a compound that can react with an acid to make a neutral solution.

This is called **neutralisation**.

Bases that are soluble in water are alkalis.



Neutralisation reactions produce water and a salt.

acid + base → salt + water

for example,

sodium hydroxide + hydrochloric acid → sodium chloride + water

copper oxide + sulfuric acid → copper sulfate + water

Metals can also react with acids, but they produce a salt and hydrogen gas.

for example,

magnesium + hydrochloric acid → magnesium chloride + hydrogen

Naming salts

The name of the metal comes first, for example, **magnesium** chloride.

Different acids produce different types of salt:

- hydrochloric acid produces metal **chlorides**
- sulfuric acid produces metal **sulfates**
- nitric acid produces metal **nitrates**

Year 7 Science: Chemistry – Acids and Alkalis

Key word	Definition	Contextual Sentence
acid	An acid is a solution with a pH value less than 7.	The acid reacted with the alkali.
alkali	An alkali is a soluble base.	Sodium hydroxide is the name of an alkali.
base	A base is a substance that neutralises an acid.	Copper Oxide is the name of a base and will react with an acid.
concentrated	A solution is concentrated if it has a large number of solute particles per unit volume (litre or cubic metre).	Concentrated juice is very strong and will taste very sweet.
corrosive	A substance is corrosive if it can burn your skin or eyes.	Bleach is corrosive and you must not get it on your skin.
dilute	A solution is dilute if it has a small number of solute particles per unit volume (litre or cubic metre).	You must dilute the juice with water before you drink it.
indicator	A substance that changes colour to show whether a solution is acidic or alkaline.	Litmus paper can be used as an indicator of the presence of acid in a solution
litmus	An indicator. Blue litmus paper goes red on adding acid. Red litmus paper goes blue on adding alkali.	The strong acid reddens the litmus paper
neutral	A solution that is neither alkaline nor acidic. Its pH is 7.	Water is a neutral solution it will turn green under universal indicator.
neutralisation	In a neutralisation reaction, an acid cancels out a base or a base cancels out an acid.	When an acid and an alkali react a neutralisation reaction will occur.
pH scale	The pH scale shows whether a substance is acidic, alkaline, or neutral. An acid has a pH below 7. An alkali has a pH above 7. A solution of pH 7 is neutral.	The pH scale runs from 0 to 14; distilled water has a pH of about 7 and is considered neutral, vinegar has a pH of 3 and is acidic.
salt	A salt is a compound in which the hydrogen atoms of an acid are replaced by atoms of a metal element.	Sodium Chloride is the name of table salt.
universal indicator	An indicator that changes colour to show the pH of a solution. It is a mixture of dyes.	When placed in bleach the universal indicator turned purple.

Year 7 Science: Chemistry – Reactions

A **chemical reaction** is a process where atoms are rearranged to make new substances with the atoms joined together in different ways.

Equations

The substances that you start with in a reaction are called reactants, and the ones you finish with are the products.

We can represent a reaction with a **word equation**.

the reactants are on the left
the products are on the right
there is an → from the reactants to the products

copper + oxygen → copper oxide

reactants products

We can also use a **balanced symbol equation** to represent a reaction.

$$2Cu + O_2 \rightarrow 2CuO$$

A balanced symbol equation shows:

- the formula of each substance in the reaction
- how the atoms are rearranged
- the relative number of atoms of each substance.

What happens during a chemical reaction?

If a chemical reaction is happening you might:

1. see flames or sparks
2. notice a smell
3. hear fizzing or a bang
4. feel the temperature of the reaction mixture going up or down

Speed of reactions

Some reactions are very fast but others can be very slow.

Adding a **catalyst** can speed up a reaction, for example, to make a product more quickly.

Different reactions require different catalysts.

A catalyst isn't used up in the reaction but helps the reaction along.

Chemical reactions are normally not **reversible**.

This means that you cannot turn the products back into reactants

All chemical reactions involve an energy transfer to or from the surroundings:

Energy transfer	Temperature of surroundings	Type of reaction	Example
from the surroundings to the reaction mixture	decreases	**endothermic**	thermal decomposition
to the surroundings from the reaction mixture	increases	**exothermic**	combustion

Conservation of mass

In a reaction, atoms are not created or destroyed – they are just rearranged.

The total mass of the reactants is always equal to the total mass of the products. This is called **conservation of mass**.

If the mass seems to increase, it is because atoms have been added from a gas.

magnesium + oxygen (gas) → magnesium oxide

If the mass seems to have decreased, it is because atoms have rearranged and formed a gas that has escaped.

calcium + water → calcium hydroxide + hydrogen (gas)

Changes of state are not chemical reactions, but they are reversible this is called a **physical change**.

This is because no new substances are made.

for example, water, ice, and steam are all made of molecules of the same substance (H_2O) in different states, and the change from one state to another is reversible

Types of reaction

Thermal decomposition reactions

A **decomposition** reaction is when a substance breaks down into simpler substances.

Most decomposition reactions need heat to happen – this is called **thermal decomposition**.

Burning fuels

Oxidation is when substances react with oxygen.

Combustion is a type of oxidation reaction where a **fuel** reacts (burns) with oxygen. This transfers energy by heating.

Petrol, diesel, and coal are all **fossil fuels** and take millions of years to form.

They cannot be replaced when used, and will eventually run out, so are called **non-renewable**.

Fossil fuels produce carbon dioxide and water when combusted. This release of carbon dioxide is harmful to the environment and a cause of climate change.

Hydrogen can also be combusted and used as a fuel.

This may be better than using fossil fuels because it only produces water as a product.

$$2H_2 + O_2 \rightarrow 2H_2O$$

Year 7 Science: Chemistry – Reactions

Key word	Definition	Contextual Sentence
balanced symbol equation	In a balanced symbol equation, chemical formulae represent the reactants and products. The equation shows how atoms are rearranged and gives the relative amounts of reactants and products.	An example of a balanced symbol equation is: $2Li + 2H_2O \rightarrow 2LiOH + H_2$
chemical reaction	A change in which atoms are rearranged to create new substances.	Rusting of iron is a chemical reaction that is unhelpful, it makes iron oxide that flakes away.
combustion	A chemical reaction in which a substance reacts quickly with oxygen and gives out light and heat.	The burning of a candle is an example of a combustion reaction.
conservation of mass	In a chemical reaction, the total mass of reactants is equal to the total mass of products. This is conservation of mass. Mass is conserved in chemical reactions and in physical changes.	According to the Law of Conservation of Mass, the mass of the reactants at the start of the reaction will be the same as at the end of the reaction
decomposition	A chemical reaction in which a compound breaks down to form simpler compounds and/or elements.	Calcium carbonate will go through a thermal decomposition reaction to make calcium oxide and carbon dioxide
discrete	A variable that can only have whole-number values.	The number of students in a class is an example of discrete data. You can count each one of them, and you can't have half a student.
endothermic change	An endothermic change transfers energy from the surroundings.	Sweating is an example of an endothermic change; it cools down your body.
exothermic change	An exothermic change transfers energy to the surroundings.	Burning is an example of an exothermic change; it produces lots of heat energy.
fossil fuel	A fuel made from the remains of animals and plants that died millions of years ago. Fossil fuels include coal, oil, and natural gas.	We burn fossil fuels to create energy and electricity.
fuel	A material that burns to transfer useful energy.	The natural gas that is provided to your homes is a fuel that is used in cooking.
hazard	A possible source of danger.	The flammability of many substances such as hairspray can be considered a hazard
non-renewable	Some fuels are non-renewable. They form over millions of years and will one day run out.	Coal, oil and natural gas are all non- renewable and will run out.
oxidation	A chemical reaction in which substances react with oxygen to form oxides.	Oxidation is simply the reaction of oxygen with some other compound. Fire is an example of rapid oxidation, while rust is indicative of slow oxidation.
physical change	A change that is reversible, in which new substances are not made. Examples of physical changes include changes of state, and dissolving.	When water is frozen a physical change occurs and the water turns to ice..
product	A substance that is made in a chemical reaction.	Water is the product of a reaction between hydrogen and oxygen
reactant	A starting substance in a chemical reaction.	When an acid reacts with an alkali, they are both reactants in the chemical reaction
risk	The chance of damage or injury from hazard.	Using a chemical will always have a risk if not used sensibly.
word equation	A way of representing a chemical reaction simply. The reactants are on the lefts of an arrow, and the products are on the right. The arrow means reacts to make.	For example, a word equation could be magnesium + oxygen -> magnesium oxide

Year 7 Science: Physics – Space

Space

A **galaxy** is a collection of billions of **stars**. The Earth is in the **Milky Way** galaxy.

Planets are large objects that **orbit** stars, and do not **produce** light.

Asteroids are rocky objects smaller than planets, that also orbit stars.

Satellites are objects that orbit planets. This includes **natural satellites** (moons) and **artificial satellites** (e.g., the International Space Station).

Meteors are bits of rock which burn up in Earth's atmosphere. They are called **meteorites** once they hit the ground.

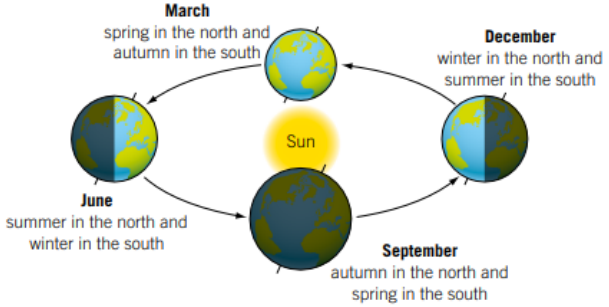
The Universe contains billions of **Galaxies** contain billions of **Stars** are orbited by **Planets, asteroids, and comets** planets may have **Moons**

The Earth

The Earth is the only place we have found life in the **Universe**.

It takes a year for the Earth to orbit the **Sun** - 365.2442 days. We add one day every fourth year (a leap year) because of the extra 0.2442 days.

The Earth's **axis** is tilted 23.4 degrees, which causes seasons (which have different day lengths and temperatures).

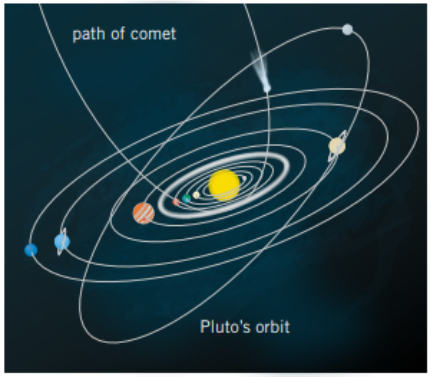


The Earth spins on its axis every 24 hours, giving us day and night.

The Solar System

Our **Solar System** is everything that orbits around the Sun. This includes:

- **Inner planets** – the **terrestrial** (rocky) planets
  - Mercury
  - Venus
  - Earth
  - Mars
- Asteroid belt (Including the **dwarf planet** Ceres)
- **Outer planets –** the **gas giants**
  - Jupiter
  - Saturn
  - Uranus
  - Neptune
- Kuiper belt objects (such as Pluto)
- **Comets** (balls of ice)



The further a planet is from the Sun, the colder its temperature is (apart from Venus, because of its thick atmosphere).

Gravity pulled gas and dust together to form the Sun about 5 billion years ago. The planets then formed from a spinning disc of gas and dust around the Sun.

An **exoplanet** is a planet that is orbiting a star that is not the Sun.

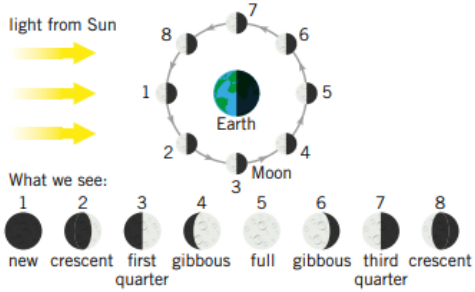
The Moon

The **Moon** orbits the Earth every 27 days and 7 hours.

It takes the same amount of time to spin on its axis, so we always see the same side.

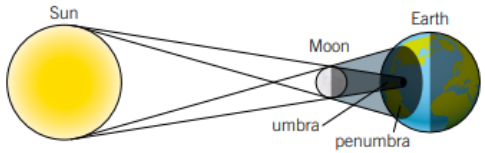
Phases of the moon

As the Moon moves around the Earth different parts are lit by the Sun, so it looks different to us.



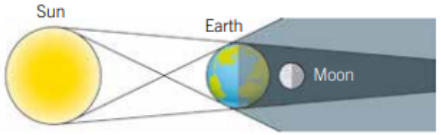
Solar eclipses

The Moon blocks light hitting part of the Earth. The **umbra** is the region of total darkness (like night), and the **penumbra** is where the light is partially blocked.



Lunar eclipses

The earth stops light hitting the Moon.



Year 7 Science: Physics – Space

Key word	Definition	Contextual Sentence
artificial satellite	A manmade spacecraft.	The international space station is an artificial satellite.
asteroid	Lumps of rock orbiting the Sun left over from when the Solar System formed.	The asteroid belt of many rocks separates Mars and Jupiter.
axis	The imaginary line that the Earth spins around.	When earth spins on its axis it creates day and night.
comet	Dust particles frozen in ice that orbit the Sun.	The early earth was hit by many comets that brought water to earth.
day	The time it takes a planet to make one full spin on its axis.	One full day is 24 hours on earth
dwarf planet	A small lump of rock in orbit around the sun.	Pluto is an example of a dwarf planet in our solar system
galaxy	A number of stars and the solar systems around them grouped together.	The universe is made up of many, many galaxies. The galaxy we live is called the Milky Way.
gas giant	An outer planet in the Solar System made mainly from gas.	Jupiter, Saturn, Neptune and Uranus are all gas giants.
gravity	A non-contact force that acts between two masses.	Gravity on earth has a strength of 10 N/kg and pulls everything down.
lunar eclipse	An eclipse that happens when the Earth comes between the Sun and the Moon.	In most years there are two lunar eclipses when the sun moon and earth align.
meteor	A piece of rock or dust that makes a streak of light in the night sky.	A meteor burns up in the atmosphere and is known as a shooting star.
meteorite	A stony or metallic object that has fallen to Earth from outer space.	A meteorite streaked across the sky.
Moon	A rocky body orbiting Earth; it is Earth's only natural satellite.	The full moon is seen in the night's sky.
natural satellite	A moon in orbit around a planet.	Six of the planets are orbited by one or more natural satellites
night	The period on one section of the Earth or other planet when it is facing away from the Sun.	Day and Night are created by the earth spinning, at night we see the moon.
orbit	The path taken by one body in space around another.	The earth orbits the sun, the moon orbits the earth.
planet	Any large body that orbits a star in a Solar System.	The earth is one of 8 planets in our solar system
season	Changes in the temperature during the year as the Earth moves around its orbit.	Winter, spring, summer and autumn are the names of the seasons.
solar eclipse	An eclipse where the Moon comes between the Sun and the Earth.	Total solar eclipses are seen every 400 years from any one place on the surface of the Earth.
Solar System	The Sun and the planets and other bodies in orbit around it.	There are billions of solar systems in the universe
star	A body in space that gives out its own light.	The star of our solar system is called the Sun.
Universe	Everything that exists.	There are many galaxies and stars in the Universe
year	The length of time it takes for a planet to orbit the Sun.	The year on earth is 365 days.

RELIGIOUS STUDIES

Half Term One What are the key beliefs in Islam?
1. How does Islam begin?
2. What are the different groups within Islam?
3. What do Muslims believe about life after death?
4. How do Muslims worship?
5. What are important sources of authority in Islam?
6. What does it mean to be a Muslim in Britain today?
7. Review and assessment

1. How does Islam begin?

Muslims believe that Islam was revealed over 1,400 years ago in Mecca, Arabia through a man called Muhammad. Muslims believe when Muhammad was 40, he began having visions and hearing voices. Trying to understand what was happening he spent time meditating at Mount Hira near Mecca. On one of these occasions Muslims believe the Archangel Jibril appeared to Muhammad and instructed him to recite 'in the name of [your] Lord.' This started the beginning of recitations from Allah through the Angel Jibril to Muhammad that lasted approximately 23 years. These revelations revealed to Muhammad were written down and are the basis of the Qur'an. These revelations from Jibril taught Muhammad there was only one God. Muhammad is so respected that it is usual for Muslims to say 'peace be upon him' whenever they mention his name.

2. What are the different groups within Islam?

Within Islam, there are two main denominations, called Sunni and Shi'a. All Muslims share some key beliefs. However, some beliefs vary depending on the denomination a Muslim belongs to. Sunni and Shi'a Muslims agree on the basic beliefs of Islam, such as believing in one God and the importance of the prophets. They also share the same holy book - the Qur'an. The reason there has been a split into different denominations is due to differences in belief about who was the rightful successor to the Prophet Muhammad as leader of the Muslim community after his death.

Many Muslims believed that Abu-Bakr, the Prophet's closest friend would be the first Caliph (which means 'deputy to God's Prophet'). This is the Sunni viewpoint. A minority believed that Ali, the Prophet's son-in-law, and cousin should lead. These Muslims became known as Shi'a, which means 'Party of Ali'.

3 What do Muslims believe about life after death?

Akhirah is the word Muslims use to refer to life after death. Belief in an afterlife encourages Muslims to take responsibility for their actions. They know God will hold them accountable and reward or punish them accordingly. After death, most Muslims believe that the soul will enter Barzakh, a state of waiting, until the Day of Judgement. Muslims believe they get to Jannah (Paradise) by living religiously, asking Allah for forgiveness, and showing good actions in their life. These good actions will be rewarded on the Last Day. Therefore, obeying the rules set by Allah is of crucial importance. Hell is described as a place of fire and torment. Jahannam is a place of physical and spiritual suffering. Muslims believe that they will be sent to Hell if they reject the teachings of the Qur'an or take no responsibility for their actions.

4. How do Muslims worship?

Muslims are required to pray five times a day. The times of prayer are fixed by the sun and change daily. The Muslim building for worship is called a mosque. There are no pictures or statues in a mosque. They are decorated with patterns and words from the Qur'an. There is also very little furniture inside because Muslims use prayer mats for prayer. When people go into the mosque, they take off their shoes. This is to keep it clean for prayer. Muslims are required to wash before they pray to ensure they are spiritually clean and pure before coming before God. This wash before prayer is called wudu. There is often a fountain or pool where people can wash before prayer in the mosque. Muslims wash their hands, mouth, throat, nose, ears, arms up to the elbow and feet. When Muslims pray, they must all face the city of Makkah. In the mosque is a qibla wall which faces Makkah which helps Muslims know the right way to face when praying. Muslims can choose to pray at home or in the mosque. Muslims will however try to make their Friday afternoon prayer in the mosque. This Friday prayer is called Jummah prayer.

5. What are important sources of authority in Islam?

Religious people often call upon texts or people for guidance in their faith. The key sources of authority for a Muslim are:

The Qur'an is the most important source of authority as it is the word of God, passed down through the Angel Jibril to the Prophet Muhammad. It consists of 114 chapters which were revealed over a period of 23 years. The Qur'an instructs Muslims on how to behave and sets out what is right and wrong.

The Hadith are the writings about the life of the Prophet Muhammad. They were remembered by close followers of the Prophet and were later written down. They teach Muslims how to live their lives, and to understand and follow the teachings of the Qur'an. When a Muslim follows the example of the Prophet Muhammad in the Hadith, they are following the Sunnah, or life of the Prophet Muhammad.

Sharia law is the law of Islam. It sets the code of law for Islamic living.

6. What does it mean to be a Muslim in Britain today?

Islam is the second largest religion in the world today with approximately Today there are around 1.9 billion Muslims around the world, with over 3 million Muslims living in the UK.

Food that Muslims can eat is called halal and food they should not eat is called haram. Halal meat has been farmed, prepared, and slaughtered according to Shari'ah law. Haram food includes all pork products, animals that eat meat and animals that have not been slaughtered according to Islamic law.

Muslims are taught to dress modestly. Many Muslim women wear a hijab or veil to protect their modesty. Not all Muslim women choose to do this. In the UK this is matter of choice. During the month of Ramadan, Muslims will not eat or drink during the hours of daylight. This is called fasting.

Key Term	Definition	Contextual Sentence
Monotheistic	The belief in one God.	Islam is a monotheistic religion.
Qur'an	The holy book in Islam.	The Qur'an has 114 chapters,
Denominations	A religious group or division.	Sunni Islam is the largest denomination.
Sunni Islam	The largest denomination in Islam followed by approximately 85%-90% of the world's Muslims.	Sunni Muslims believe Abu Bakr was the rightful leader after Muhammad.
Shi'a Islam	The second largest denomination in Islam.	Shi'a Muslims believe Ali was the rightful leader after Muhammad.
Caliph	A successor to the prophet.	Sunni Muslims believed Abu Bakr should be the first Caliph.
Akhirah	Life after death.	Akhirah is a key belief in Islam.
Barzakah	A barrier between the living and the dead.	The soul will enter Barzakh before the Day of Judgement.
Jannah	Paradise. The goal for all Muslims.	Jannah is described as a beautiful garden in the Qur'an.
Jahannam	Hell. A place of punishment for Muslims who have not followed the path of Allah and taken responsibility for their actions.	Jahannam is described as a place of torment in the Qur'an.
Hadith	The record of the traditions and sayings of the Prophet Muhammad.	The Hadith is an important source of authority in Islam.
Sunnah	The way of the prophet.	The Sunnah is the second source of authority after the Qur'an.
Sharia	The law of Islam.	Sharia law is based on the Qur'an.
Halal	Food that is permitted to be eaten in Islam.	The Qur'an sets out the halal food laws.
Haram	Things that are forbidden by Islamic law.	Muslims are not allowed to eat haram foods such as pork.
Hijab	A veil which covers a woman's head and hair.	Some women choose to wear a hijab.
Ramadan	The ninth month of the Muslim calendar when Muslims are required to fast during daylight hours.	Muslims remember the Qur'an being revealed to Muhammad during Ramadan.

Half Term One Why do some people not believe in God?
1. What does it mean to be a theist/atheist/agnostic?
2. What is Humanism?
3. Who are important Humanist thinkers?
4. What is the Humanist response to ethical dilemmas?
5. What are Humanist rites of passage?
6. What are non-religious views on life after death?
7. Review and assessment

1. What does it mean to be a theist/atheist/agnostic?

We live in a society where people believe in different ideas about how life and the universe began. These different beliefs can shape how we think and act in certain situations.
Theists believe that a god created all life. However, atheists believe that there is no god and that all life, and the universe can be explained through science and observation. Agnostics are not quite sure if there is a god or not. You will be able to explain your own views about your own beliefs and explain your reasons why.

2. What is Humanism?

Humanism is a non-religious belief system that subscribe to scientific facts that help explain the world, how to behave and act and how others should be treated. Humanists do not believe in a god, therefore are an atheist group. They also believe they have a duty to support others. Humanists do not have a regular place of worship. They do, however, hold talks, lectures, and discussion groups all around the country.

3.Who are important key Humanist thinkers?

Throughout recorded history there have been non-religious people who have believed that this life is the only life we have, that the universe is a natural phenomenon with no supernatural side, and that we can live ethical and fulfilling lives on the basis of reason and humanity. They have trusted the scientific method, evidence, and reason to discover truths about the universe and have placed human welfare and happiness at the centre of their ethical decision making.

Peter Albert David Singer (born 6 July 1946) is an Australian moral philosopher. He is the Professor of Bioethics at Princeton University, and a Professor at the Centre for Applied Philosophy and Public Ethics at the University of Melbourne. He specialises in applied ethics and approaches ethical issues from a secular, utilitarian perspective.

Richard Dawkins is well respected by humanists for his accessible writing on science and evolution and for his consistent defence of science and the scientific method against superstition and unreason. He has said, “I care passionately about the truth because it’s a beautiful thing and enables us to live a better life.” In the God Delusion (Sept 2006,) he presents an argument against religion of all types, denouncing religious beliefs and the suffering, that he believes.

4. What is the Humanist response to ethical dilemmas?

1. We need to think for ourselves and take individual responsibility for our actions
2. Our understanding of right and wrong has evolved naturally, rather than been given to us from an external source
3. Human beings can be good without a god or sacred texts to guide us
4. Human beings have the right tools at our disposal to be able to work out what is the right or wrong thing to do: reason, empathy, compassion, and respect for the dignity of others.

The aim of morality is to improve human welfare (rather than some divine purpose) and between us we can make the world a better place for everyone

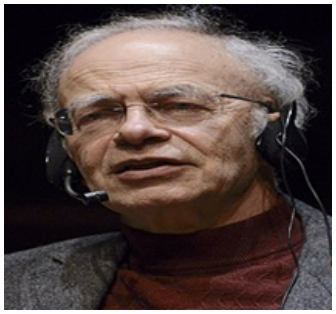
5. What are Humanist rites of passage?

People often mark the major life stage events in life - like being born, getting married and so on - with religious ceremonies like christenings, weddings, and funerals. Atheist and Humanist organisations offer their own rituals for these events that give them meaning and significance without any religious content. These ceremonies differ from mainstream secular ceremonies like civil weddings, in that they are highly personalised for the individuals concerned. Humanist rites of passage include: Naming Ceremonies, Weddings, Funerals.

6. What are non-religious views on life after death?

Humanists believe that people have one life to live - there is no afterlife. As a result, they focus on being happy and making the most of their life. They also believe they have a duty to support others.

Other non-religious people believe that, from a physics perspective energy cannot be created or destroyed due to the conservation of energy. So, since all we are is energy, we will go on for ever. But that energy is recycled not whole into a new system. It is dissipated and merges with many new or existing systems.



Peter Singer

Key Terms	Definition	Contextual sentence
Theist	Someone who believes in a god.	Someone who is a Christian is a theist.
Agnostic	Someone who is not sure if there is a god or not.	Some people who doubt the existence of God, but not rule out God's existence are agnostic.
Atheist	Someone who rejects the ideas of a god.	Humanists are atheists.
Humanism	Humanism is a non-religious belief system that subscribe to scientific facts	Humanism creates a philosophy that does not use any religious views.
Secular	Something that is not connected with religious or spiritual matters:	A secular country is not ruled by religious belief.
Ethics	Moral principles that govern a person's behaviour or the conducting of an activity.	Ethics helps people decide what is right or wrong.
Empathy	The ability to understand and share the feelings of another.	If you understand someone's feelings, you are showing them empathy.
Reason	The power of the mind to think, understand, and form judgements logically.	Scientists apply reason to explain and develop theories or facts.
Ceremony	The ritual observances and procedures required or performed at grand and formal occasions.	During a wedding there is usually a ceremony to join two people together.
Rite of Passage	An event in someone's life that allows them to move on to the next stage.	A naming ceremony is a non-religious rite of passage.
Life after death	The thought of what happens after life has ended.	Heaven and hell are religious examples of life after death.
Conservation of energy	A scientific fact that energy does not disappear but changes forms.	Physicists use the conservation of energy to explain how energy cannot be destroyed.

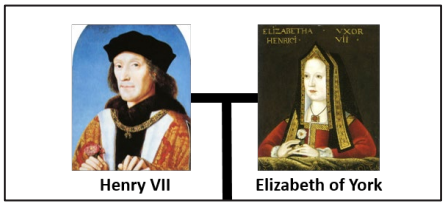
HISTORY

Year 7 History
Summer Term- The Tudors

In 1485 Henry Tudor beat King Richard III at the Battle of Bosworth field. Richard was killed and Henry Tudor became the new king, Henry VII. The Tudors now had control of the country and wanted to keep this power. The Tudor family would reign till 1603 when the Stuart family took over. During this time there were many great changed to the country, this can particularly be seen in religion. One of the most famous kings of England was Henry VIII, the son of Henry VII. Henry VIII came to the throne in 1509.

Henry VII

Henry VII had become the king by fighting. He wanted to remain the king and keep his position safe.



He married a rival
Henry was a member of the Lancaster family. The Lancaster's had been bitter rivals of the York family, who had ruled the country. Henry married Elizabeth of York in 1486. She was the daughter of Edward IV. With Elizabeth of York as queen, it meant that the king was a Lancaster and the queen a York.

He made sure he had the best weapons
Cannons first appeared in Britain in the 1300s. They were the most destructive and feared weapons. Henry made sure he had the finest cannons.

He banned private armies
Some powerful men in England had their own armies. These armies could be used against Henry. He made a law that banned them. Anyone who failed to get rid of their army was fined.

He forced people to give him money
Henry made the rich pay him taxes. He sent ministers to look for large, expensive houses. If they found one Henry argued they could afford to pay a large tax. If officials found nobles living careful with money, he assumed they must be saving money. He forced them to hand over their savings in tax.

He made deals with other countries
Henry got parliament to give him money to fight the French. He then got the French king to pay him not to fight. He also made his eldest son, Arthur, marry a Spanish princess called Catherine of Aragon. He Arthur died told young Henry that he should marry her. His 18 year old daughter was sent to marry the 52 year old king of France. His other daughter was sent to marry the King of Scotland.

He made sure everyone knew he was king
Henry was careful with money but liked to enjoy himself. He spent huge amounts of money on lavish parties and entertainment. The Tudor rose symbol appeared all over the country in churches, paintings, palaces and cathedrals.

Key events

1486	The Houses of York and Lancaster are united when Henry VII marries Elizabeth of York.
1509	Henry VIII becomes King of England.
1517	Martin Luther writes his 95 Theses and nails it to a church door. Followers of Luther would become known as Protestants.
1521	The Pope makes Henry VIII Fidei Defensor, 'Defender of the Faith'.
1531	Henry VIII makes himself Head of the Church of England.
1533	Henry VIII divorces Catherine of Aragon, is excommunicated from the Catholic Church, and marries Anne Boleyn.
1538	Henry VIII orders that every church must have an English-language copy of the Bible.
1547	Henry VIII dies and his son becomes Edward VI.
1553	Edward VI dies, making his sister, Mary, queen. She returns the country to Catholicism.

Key Word	Definition
Fidei Defensor	Defender of the Faith in Latin. Henry VIII was granted this title in 1521 for defending the Catholic Church against the Protestant German monk, Martin Luther.
Dissolution	The act of officially breaking up an organisation; used to describe the time when Henry VIII closed the monasteries.
Indulgences	People could buy one of these from a bishop; they helped a person pass through Purgatory more quickly.
Protestant	Christians who protested against the Catholic Church and wanted reforms made to the religion. They believed in the teachings of the Bible but didn't recognise the Pope as their religious leader.
Purgatory	The place between heaven and hell; a person is believed to be punished in purgatory for any sins they committed while alive.
Reformation	This means changing or improving something. Henry reformed the Church in England and made a Protestant Church of England.
Heresy	This was a crime; it meant going against accepted religious beliefs.
Excommunicate	If someone is excommunicated from the Catholic Church, it means that they are officially banned from being part of the religion, cannot take part in services and will not go to heaven.

Year 7 History
Summer Term- The Tudors

The Timeline of Henry VIII

1491 - Born at Greenwich on 28 June
1502 - Henry's older brother Prince Arthur dies, leaving Henry as the heir.
1509 - Acceded to the throne on the death of his father Henry VII, 22 April.
1509 - Crowned : Westminster Abbey, 24 June.
1509 - Married Catherine of Aragon, daughter of the King and Queen of Spain and Arthur's widow.
1513 - English army defeats the Scots at the Battle of Flodden
1514 - Under the peace treaty with France, Henry's youngest sister, Mary was married to the King of France, Louis XII.
1515 - Thomas Wolsey becomes Chancellor of England.
1516 - Catherine gives birth to Princess Mary, later Mary I.
1517 - Martin Luther publishes his 95 theses against the Catholic Church.
1518 - The Pope and the kings of England, France, and Spain, pledge peace in Europe.
1521 - Henry VIII is made 'Defender of the Faith' by the Pope for being a good Catholic.
1530 - Cardinal Wolsey is accused of high treason, but dies before he can be brought to trial. His main crime was failing to secure a divorce for Henry from Catherine of Aragon.
1530 - Sir Thomas More becomes Chancellor of England.
1532 - Henry's marriage to Catherine is annulled.
1533 - Henry marries Anne Boleyn
1534 - Henry VIII forms the 'Church of England'. Henry is confirmed as 'Supreme Head of the Church of England' following a parliamentary Act of Supremacy
1535 - Sir Thomas More is executed after refusing to accept Henry as Supreme Head of the Church of England.
1536 - The Dissolution of the monasteries starts. Henry VIII orders Thomas Cromwell to start closing most of the small monasteries in England.
1536 - Anne Boleyn is executed for treason and Henry marries Jane Seymour.
1536 - The Pilgrimage of Grace.
1536 - Act of Union between Wales and England.
1537 - Jane Seymour gives birth to Edward (later Edward VI), but dies after childbirth.
1540 - Henry marries and divorces Anne of Cleves.
1540 - The end of the Dissolution. All the monasteries in England have been closed.
1540 - Thomas Cromwell is executed on a charge of treason.
1540 - Henry marries Catherine Howard, his fifth wife.
1542 - Catherine is executed for treason.
1543 - Henry marries Catherine Parr, his sixth wife.
1547 - Henry VIII dies, Whitehall, 28 Jan, aged 55

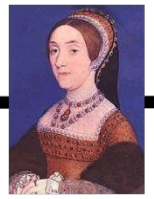

Henry VIII


Catherine of Aragon


Ann Boleyn


Jane Seymour


Anne of Cleves


Katherine Howard


Katherine Parr

Henry VIII and religion

In 1534 Henry said that he, not the Pope, was the Head of the Church in England. Although Henry remained a Catholic to the end of his life, this was the beginning of the Church of England. In 1536 Henry used his new power to begin to close down the monasteries and take their land and money. This made many people unhappy, and there was a rebellion, called the Pilgrimage of Grace in 1536. Henry put it down brutally.

Henry VIII became king in 1509. His father had left him lots of money. He was a glamorous 'Renaissance Prince' and wanted to be the greatest king England ever had.

He went to war with France in 1513 and built more warships. In 1536 he united Wales with England, and in 1541 he declared himself King of Ireland.

Henry VIII is most famous for divorcing his first wife, Catherine of Aragon, because she could not give him a male heir, and then marrying five times more

Young Henry VIII

He loved entertaining.

He wrote music.

He enjoyed hunting.


SOURCE A A portrait of King Henry VIII, showing him in his late twenties in 1520.

He was a keen sportsman.

He loved jousting.

He was a keen poet.

He spoke four languages.

Year 7 History
Summer Term- The Tudors

Henry VIII and his big problem

Henry married his brother widow, Catherine of Aragon. This kept the friendship between England and Spain. They were a popular couple. Catherine had ran the country whilst Henry was in France in 1513. Henry and Catherine were happily married for nearly 20 years, but the marriage didn't last. Henry's desire for a son began a series of events that altered religion in England forever. In one move he got his divorce and made himself more powerful.

1. Henry desperately wanted a son. This was a time when a male heir was crucial to continue the royal line and secure the kingdom. Catherine gave birth to six children but only one girl called Mary (1516)survived.

2. By 1527, Henry thought Catherine was too old to have any more children. Henry wanted to divorce her. He had fallen in lobe with another women, Anne Boleyn.

3. Henry got his lawyers to look secretly into whether his marriage was legal or not. The marriage was found to be legal, but Henry still wanted his divorce.

4. The Pope was the only man who could give Henry the divorce he wanted, but he refused. Henry hated the fact the Pope had this power over him.

5. Henry ignored the Pope. In 1531, he created a new title for himself: Head of the Church of England. He said the Pope was no longer in charge of the church. The Pope was furious, but Henry could do as he pleased.

6. In April 1533, Henry gave himself the divorce he desired. Henry had already married Anne Boleyn in secret in January that year.

7. Anne Boleyn was already pregnant when Henry married her. Anne gave birth to a girl Elizabeth. Henry was very disappointed.

8. Some of the monks in England didn't support Henry's new Church of England. They supported the Pope. So Henry closed down all the monasteries and their land was sold.

9. The monasteries treasures were seized and sold, and the king made a good profit. This made the Pope furious again. Not only had Henry ignored him and closed all of the monasteries, he had also taken their treasures. In 1538, Henry VIII was excommunicated by the Catholic church.

The Pope no longer controlled the English Church. Henry did and its wealth too. To this day the head of the Church of England is the king or queen.

Apart from the change of church leader and closing of the monasteries, Henry only really made one other major religious change. From 1538, he ordered that every church must have an English copy of the Bible.

Why were the Protestants protesting?

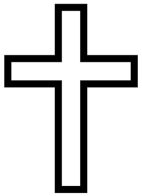
Religion was very important in Tudor times. They used religion to explain things they didn't understand. For example, nasty illnesses or a bad harvest. By 1500, the increase in the printing press meant that many books on different topics were available to read. Bibles were available in local languages, rather than just Latin. Educated people were able to read the Bible for themselves instead of going to church to listen to what the priest told them. Some people started to think deeply about the Catholic Church and whether everything they had always been told was correct. Some people began to criticise the church. They still believed in God but thought people should worship in a different way.

Criticism one: The Church was too rich
The church owned about one third of all the land in England. Ordinary peasants had to give 10% of their harvest (a tithe) to the priest every year. Some felt the bishops. Priests and monks lived in luxury while the poor suffered

Criticism two: The priests and other religious leaders didn't lead a very holy life
Some priests had several different jobs and neglected their work. Ordinary people thought some priests were not setting a very good example to the people in the village or town.

Criticism three: Ordinary people couldn't understand the church services
Church services were held in Latin. People said they found it difficult to feel close to God if they couldn't understand what was being said in church.

Criticism four: Poor people couldn't afford indulgences
When a person died, it was believed they went to heaven or hell. It was thought that people passed a place called purgatory on the way. Here you were punished for any sins you committed whilst alive. It wasn't meant to be a nice place to stay for very long. So when alive you could buy indulgences from a bishop. This meant that you travelled through purgatory quicker. Rich people could buy lots of indulgences. Poor people didn't think it was fair. They thought they were being punished for being poor.



In 1517, a German monk called Martin Luther wrote out a long list of criticisms of the Catholic Church and had it nailed to his local church door. His list was quickly reprinted, translated into different languages and distributed throughout Germany and Europe. Luther wanted the church to change. Soon his ideas attracted many followers. By 1529, the followers were know as Protestants because they protested against the Catholic Church. Now there were mainly two Christian groups in Europe, the Catholics and Protestants, but both wanted to worship God in different ways.

The Protestant way:
- A country's monarch as head of the church.
- The Bible in the language of the worshippers – not Latin.
- A church should be plain and simple. Money should not be wasted on decorations or robes for the priest.
- People should not pay indulgences for their sins

The Catholic way:
- The Pope in Rome is Head of the Catholic Church and is chosen by God.
- The Bible is written in Latin.
- A church should be an inspiring place, with pictures on the wall, stained glass window, large stone alter, silver cups and crosses, and priests in magnificent robes.
- People should pay indulgences for their sins

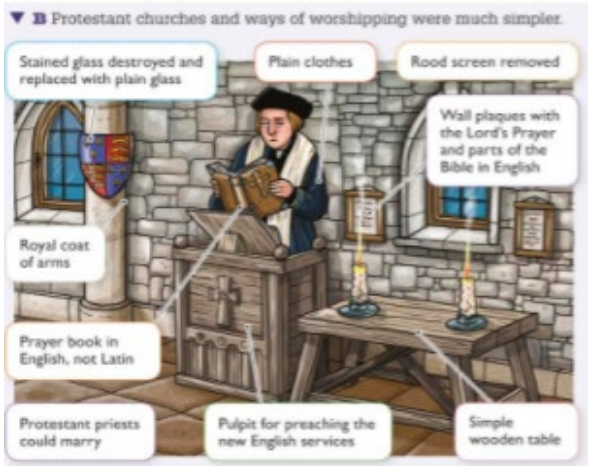
Year 7 History
Summer Term- The Tudors

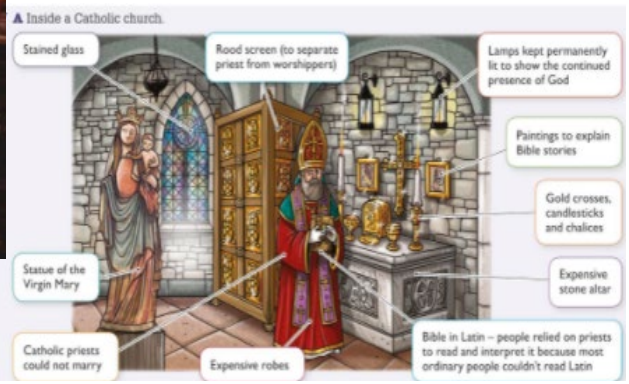
Edward VI

Edward was born on 12 October 1537, the only son of Henry VIII. Edward's mother, Henry's third wife Jane Seymour, died a few days after his birth.

Edward became king at the age of nine, in January 1547. His father had arranged that a council of regency should rule on his behalf, but Edward's uncle, Edward Seymour, took power as protector. Somerset and the archbishop of Canterbury, Thomas Cranmer, were intent on making England a truly Protestant state, supported by the young king. An English Prayer Book was issued in 1549.Edward faced two rebellions because of his changes in religion.
It soon became clear that Edward was suffering from tuberculosis and would not live long. Edward approved a new order of succession.

This declared Mary illegitimate and passed the throne to Lady Jane Grey. Edward died on 6 July 1553. However, Jane was only queen for nine days until, Mary took the throne.





Mary I

Mary was born on 18 February 1516, the only surviving child of Henry VIII and Catherine of Aragon. After Edward died, Mary had popular support and within days made a welcome entry into London. Once queen, she was determined to re-impose Catholicism and marry Philip II of Spain. This was unpopular. Philip was Spanish and people didn't like the thought of her marrying a foreign king that could take over the country. and many in England had an interest in the wealth of the Protestant church, having received church lands and money after Henry dissolved the monasteries.

In 1554, Mary crushed a rebellion led by Sir Thomas Wyatt. Making the most of her advantage, she married Philip, pressed on with returning Catholicism and revived the laws against heresy. Over the next three years, hundreds of Protestants were burned at the stake. Childless, sick and deserted by Philip, Mary died on 17 November 1558. Her hopes for a Catholic England died with her.

SOURCE D Drawing of the execution of Latimer and Ridley, two Protestant bishops who refused to become Catholics, in Oxford in 1555. A year later, Thomas Cranmer (the first Protestant Archbishop of Canterbury) was executed in this way too. These executions were deeply unpopular.

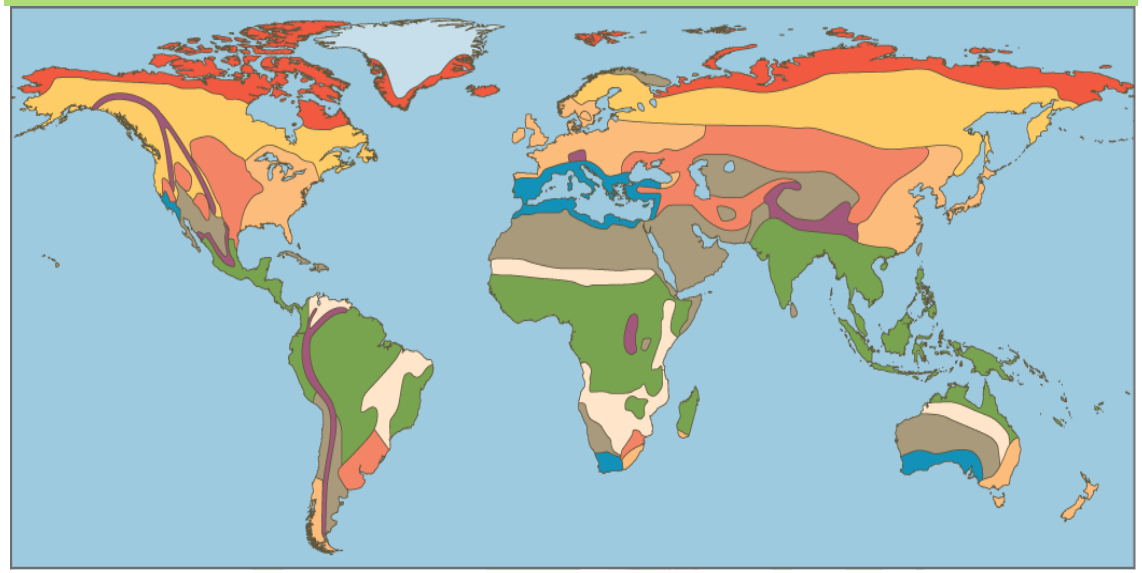
Mary started to undo all the religious changes brought in by her father and brother:

- England was officially made a Catholic country once more
- The Pope in Rome is Head of the Catholic Church
- .The Bible is written in Latin once again.
- The churches were redecorated with stone altars, brightly painted walls, statues and gold crosses.
- Married priests were made to leave their wives. Catholics believe priests should be unmarried
- Church services were one again in Latin.

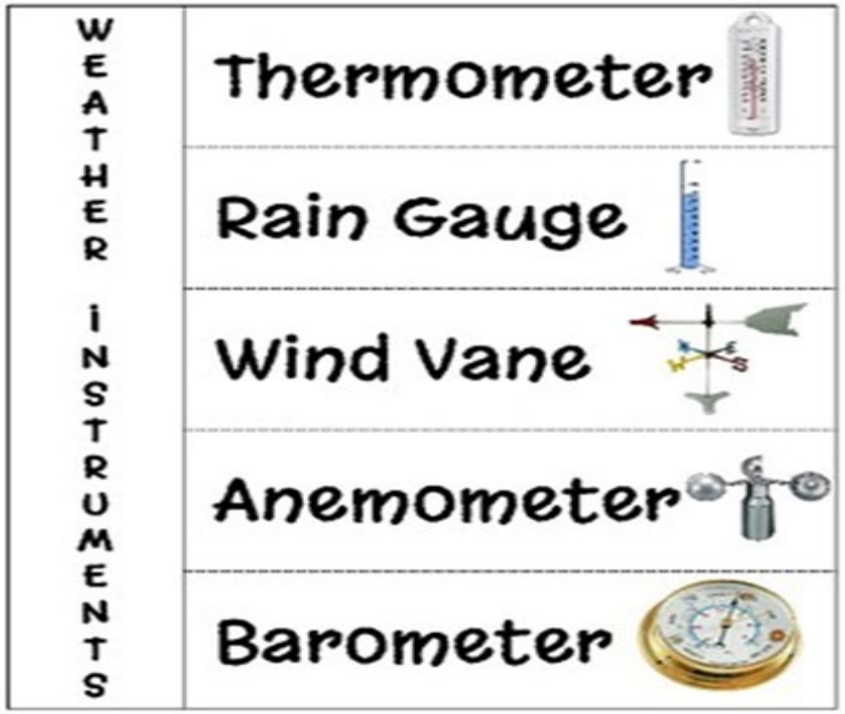
During Mary's reign, people who wouldn't declare they were Catholics or accept the Pope as God's leader on earth were sent to prison and often tortured. If they still refused, they might be burned alive. As a result of her harsh measures, Mary became more and more unpopular. The Protestants hated her for trying to turn England back into a Catholic country. Many Catholics disliked her fot being too harsh. Mary was given the nickname bloody Mary.

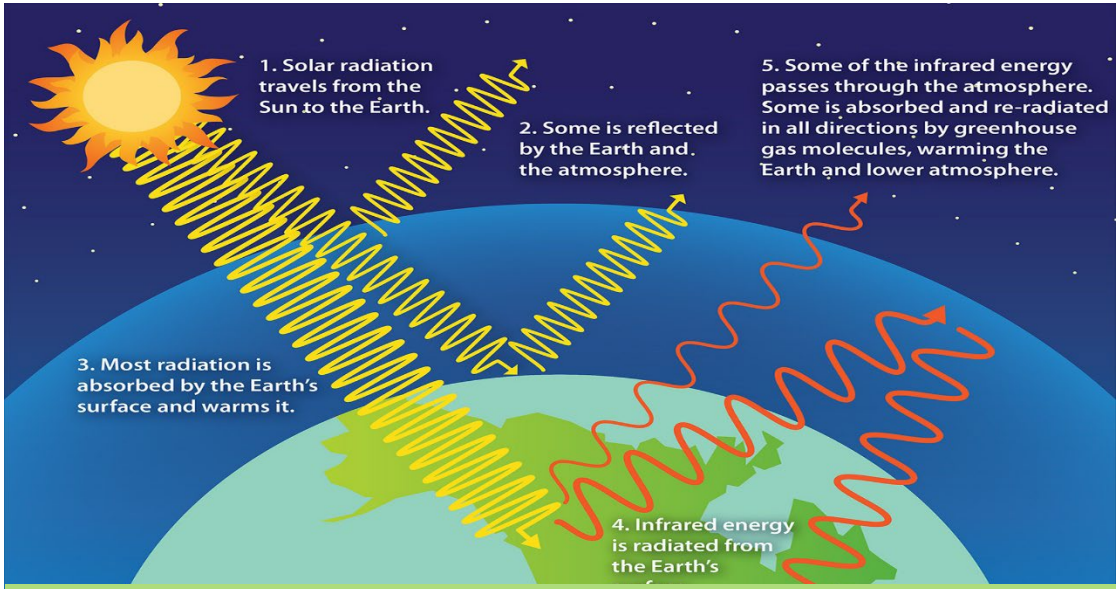
GEOGRAPHY

Global Distribution of Biomes

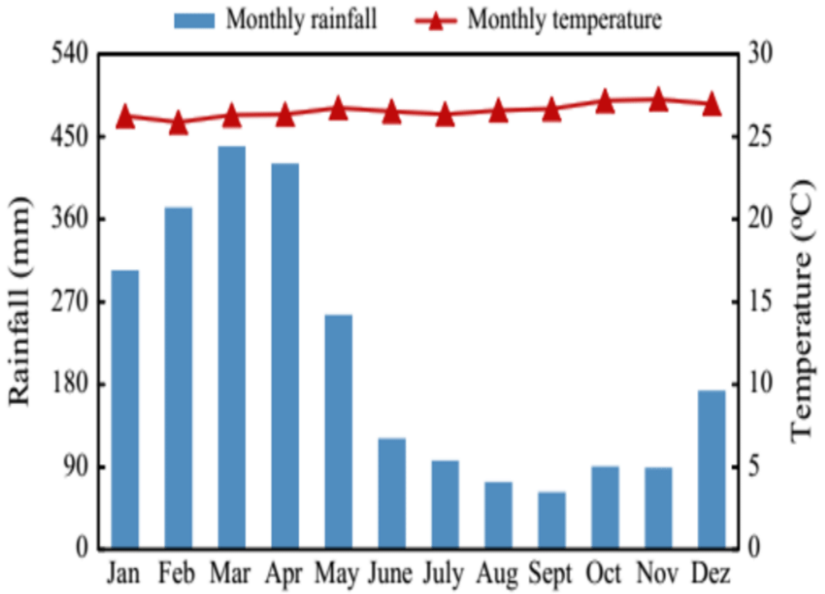


Weather Instruments



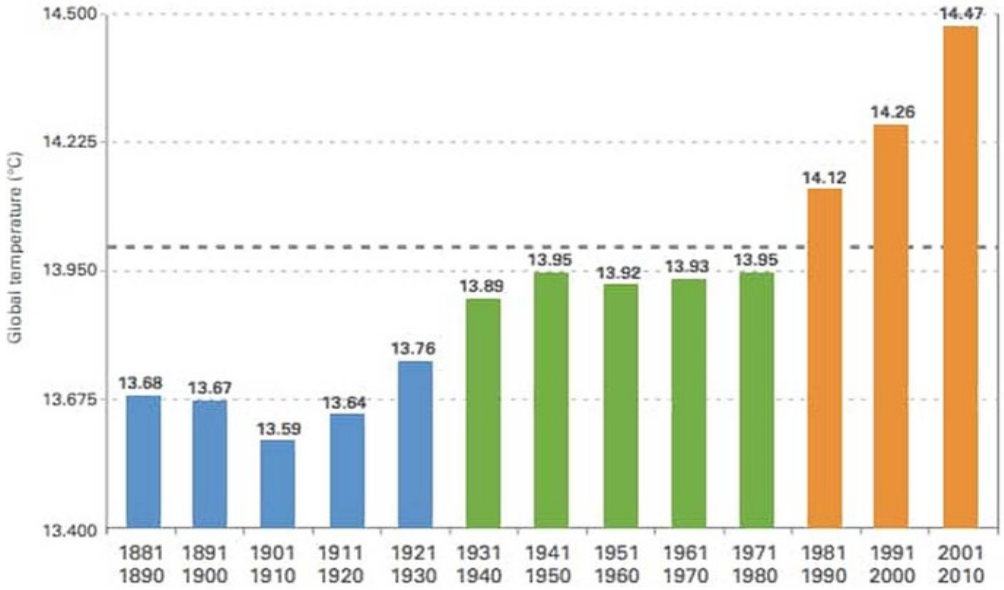


The Greenhouse Effect

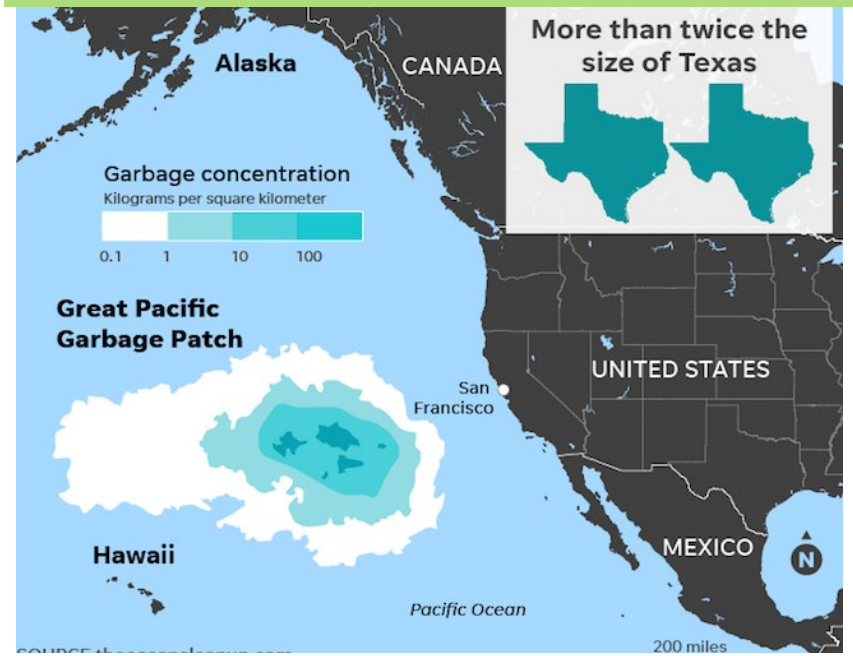


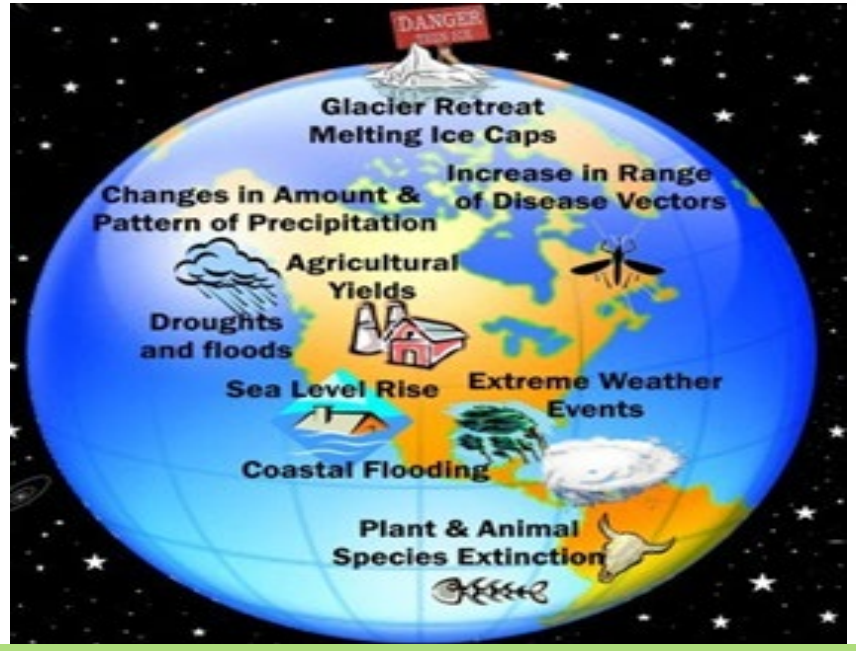
Climate Graph

Increasing average temperature since 1881



Great Pacific Garbage Patch





Effects of global warming

Deforestation

Weather and Climate – Environmental Issues & Fieldwork Tier 3 Vocabulary

Tier 3 Keywords	Definition	Contextual Sentence
Biome	Biomes are large scale ecosystems with particular plants and animals occupying it.	The tropical rainforest is a large biome that can be found in different countries along the equator.
Mitigation	When you reduce the effects of something happening.	Mitigation is one way to tackle the impacts of climate change.
Adaptation	The process of changing to become better suited to surrounding environments.	Adaptation takes place so plants and animals can survive in their environment.
Greenhouse effect	The greenhouse effect is a process that occurs when gases in Earth's atmosphere trap the Sun's heat.	The greenhouse effect is a natural process that makes the planet habitable.
Sustainability	Using resources responsibly, so they can support both present and future generations.	Sustainability is important for future generations.
Weather	The day-to-day changes in the atmosphere.	It is important to monitor the weather.
Climate	Climate is the average weather conditions over a long period.	There are many different climates.
Anemometer	An instrument for measuring the speed of the wind.	We can measure wind speed using an anemometer.
Barometer	A barometer is a scientific instrument that is used to measure air pressure in a certain environment.	We can measure air pressure using a barometer.
Temperature	Temperature is a degree of hotness or coldness the can be measured using a thermometer.	Degrees Celsius is a measure of temperature.

Present	To show something using text, images and/or mathematical tables.	The students were asked to present the information they found out about the Great Barrier Reef.
Evaluate	To form an idea/opinion about the success of something.	The students evaluated if their trip had been successful.
Great Barrier Reef	A marine ecosystem off the Australian coast.	The school group went snorkeling on the Great Barrier Reef.
Renewable energy	A source of energy that cannot be exhausted.	Wind power is a renewable energy source.
Deforestation	The cutting down of trees.	Deforestation has led to more flooding in certain areas.
Analyse	To examine something in detail to explain and understand it.	The manager began to analyse the team's performances.
Climate change	A long-term change in the earth's climate.	Climate change is making the UK's weather more extreme.
Environmental impact	Effect of an event on the landscape and ecology.	The environmental impact of the hurricane was devastating.
Great Pacific Garbage Patch	A vast area of plastic and other waste products in the Pacific Ocean.	The Great Pacific Garbage Patch covers an area of 1.6 million square kilometres, 3 times the size of France.
Urbanisation	When an increasing number of people come to live in towns	Urbanisation is occurring in Warrington at a very rapid rate.
Carbon Footprint	A measurement of greenhouse gases that individuals produce through burning fossil fuels	Someone who travels often has a large carbon footprint.
Fieldwork	practical work conducted in the natural environment outdoors	The students collected evidence as part of their fieldwork.
Fossil fuel	A natural fuel formed in the geological past	Coal, gas and oil are examples of fossil fuels.

Spanish: Knowledge Organiser Year 7 Summer Term

Unit of work 5: Mi casa

4.1 Dónde vivo yo *Where I live*

antiguo/a	*old*
histórico/a	*historic*
moderno/a	*modern*
las afueras	*the outskirts*
la aldea	*the village*
el campo	*thecountryside*
el centro	*the centre*
la ciudad	*the city*
la costa	*the coast*
el desierto	*desert*
la isla	*the island*
el mar	*the sea*
la montaña	*themountain(s)*
la playa	*the beach*
el pueblo	*the town*
vivir	*to live*
la zona	*the area*
la brújula	*the compass*
el este	*the east*
el noreste	*the northeast*
el noroeste	*the northwest*
el norte	*the north*
el oeste	*the west*
los puntos cardinales	*the compass points*
el sur	the south
el sureste	the southeast
el suroeste	the southwest

4.2 Mi casa es tu casa *Mu house is your house*

el apartamento	*the apartment*
el área	*the area*
el bloque	*the block*
la caravana	*the caravan*
la casa	*the house*
la casa de campo	*the country house*
el castillo	*the castle*
el chalet	*the villa*
la granja	*the farm*
el piso	*the flat*
el rascacielos	*the skyscraper*
la región	*the region*
la vista	*the view*
bonito/a	*pretty*
cómodo/a	*comfortable*
espacioso/a	*spacious*
lujoso/a	*luxurious*
nuevo/a	*new*
viejo/a	*old*

4.3 Pasa, pasa a mi casa! *Come in to my house*

las habitaciones	*rooms*
abajo	*downstairs*
afuera	*outside*
arriba	*upstairs*
el aseo	*the toilet*
el ático	*the attic*
el balcón	*the balcony*
el baño	*the bathroom*
la cocina	*the kitchen*
el comedor	*the dining room*
el dormitorio	*the bedroom*
las escaleras	*the stairs*
el garaje	*the garage*
el jardín	*the garden*
el pasillo	*the hall, corridor*
el salón	*the living room*
situarse en	*to be located in*
el trastero	*the storage room*
vender	*to sell*

4.3 A Gramática:

The definite article = "the" in Spanish there are 4 versions of the word "the":

El the (masculine) el mar (the sea)
La the (feminine) la playa (the beach)
Los the (masc plural) los puntos (the compass points)
Las the (fem plural) las vistas (the views)

Spanish: Knowledge Organiser Year 7 Summer Term

4.4 Mi habitación es mi reino *My bedroom is my kingdom*

los muebles	*the furniture*
el armario	*the wardrobe*
la cama	*the bed*
el espejo	*the mirror*
la estantería	*the shelves, bookcase*
la lámpara	*the lamp*
la mesa	*the table*
el ordenador	*the computer*
el póster	*the poster*
la silla	*the chair*
la ventana	*the window*
al lado de	*next to*
debajo de	*underneath*
delante de	*in front of*
detrás de	*behind*
encima de	*on top of*
entre	*between*

4.5 Mi casa de sueño *My dream house*

enorme	*enormous*
exótico/a	*exotic*
impresionante	*impressive*
luminoso/a	*bright*
privado/a	*private*
la caseta	*the kennel*
el cine	*the cinema*
el estudio	*the study*
la piscina	*the swimming pool*
el trampolín	*the diving board*
la ubicación	*the location*
estaría	*I/it would be*
habría	*there would be*
me gustaría	*I would like*
sería	*I/it would be*
tendría	*I/it would have*

Unit of work 5: key language in context

Say in which area you live:	Vivo en un pueblo en el noroeste de Inglaterra.	*I live in a village in the northwest of England.*
Use adjectives correctly to describe a town/ village:	El pueblo es moderno y grande. La ciudad es muy bonita.	*The village/ town is modern and big.* *The city is very pretty.*
Describe your house:	Vivo en un chalet grande en Warrington. Vivo en un piso espacioso en un bloque moderno.	*I live in a big detached house in Warrington.* *I live in a spacious flat in a modern block.*
Use 'está' and 'es' correctly:	Mi casa está en un pueblo en las montañas. Mi casa es pequeña y bonita.	*My house is in a village in the mountains. (location)* *My house is small and pretty. (description)*
Say which rooms are in my house:	Arriba en mi casa hay 3 dormitorios y un cuarto de baño. Abajo, hay un salón, una cocina y un aseo. Fuera hay un jardín, un garaje y una terraza.	*Upstairs in my house, there are three bedrooms+ a bathroom.* *Downstairs, there is a living-room, kitchen and a toilet.* *Outside, there is a garden, garage and patio.*
Say which furniture I have in my room and describe where it is situated.	En mi dormitorio, hay una cama, una mesa y una silla y una lámpara. El ordenador está encima de la mesa. La lámpara está al lado de la cama.	*In my bedroom, there is a bed, a table, a chair and a lamp.* *The computer is on (top of) the table.* *The lamp is next to the bed.*

Spanish: Knowledge Organiser Year 7 Summer Term

Unit of work 6: Mi insti

6.1 Todo lo que estudio *Everything I study*

las asignaturas	*the subjects*
la clase	*the class*
¿Qué estudias?	*What do you study?*
Estudio…	*I study...*
la biología	*(the) biology*
las ciencias	*(the) sciences*
el dibujo	*(the) art*
la educación física	*(the) P.E.*
el español	*(the) Spanish*
la física	*(the) physics*
el francés	*(the) French*
la geografía	*(the) geography*
la gimnasia	*(the) gymnastics, P.E.*
la historia	*(the) history*
los idiomas	*(the) languages*
la informática	*(the) ICT*
el inglés	*(the) English*
las matemáticas	*(the) maths*
la música	*(the) music*
la química	*(the) chemistry*
el teatro	*(the) drama*
la tecnología	*(the) technology*
el colegio	*the school*
estudiar	*to study*
el instituto	*the high school*
obligatorio/a	*compulsory*
me aburre	*it bores me*
me anima	*it cheers me up*
me apasiona	*it's a passion of mine*
me da igual	*it's all the same to me*
me entretiene	*it entertains me*

6.2 ¡Uff! ¡Qué rollazo! *How dull!*

aburrido/a	*boring*
difícil	*difficult*
divertido/a	*fun*
duro/a	*hard*
fácil	*easy*
interesante	*interesting*
práctico/a	*practical*
útil	*useful*
el/la profesor(a) es…	*the teacher is...*
despistado/a	*forgetful*
estricto/a	*strict*
gracioso/a	*funny*
guay	*cool*
inteligente	*intelligent*
tolerante	*tolerant*
trabajador(a)	*hard-working*

6.3 Mi horario escolar *My school timetable*

la hora	*time*
¿Qué hora es?	*What time is it?*
Es/Son…	*It is...*
¿A qué hora…?	*At what time...?*
A la/las	*At...*
y cuarto	*quarter past*
y media	*half past*
menos cuarto	*quarter to*
el día	*day*
especial	*special*
el horario	*timetable*
el recreo	*break*
los domingos	*on Sundays*
los sábados	*on Saturdays*

Telling the time

Use ***es*** to mean 'it is' when referring to one o'clock, and ***son*** when referring to all other times.

Es la *una.*	It's one o'clock.
Son las *dos.*	It's two o'clock.

State the hour before the minutes, and link them with ***y*** if it is 'past' the hour, or ***menos*** if it is 'to' the hour.

Es la una ***y*** *cuarto.*	It's quarter past one.
Son las cuatro ***menos*** *veinte.*	It's twenty to four.

Spanish: Knowledge Organiser Year 7 Summer Term

Unit of work 6: key language in context

Say what I study at school:	Estudio diez asignaturas. Estudio inglés, español, francés, historia, matemáticas …etc.	*I study 10 subjects.* *I study English, Spanish, French, History, maths …etc.*
Give my opinion about what I study:	Me apasiona el español. Me aburren las matemáticas.	*Spanish is a passion of mine.* *Maths bore me.*
Explain my opinions:	Me gusta la biología porque es interesante. Me entretiene la geografía porque el profesor es gracioso.	*I like biology because it's interesting.* *I find Geography entertaining because the teacher is funny.*
Ask what time it is and say the time in Spanish	¿Qué hora es? Es la una. Son las tres y media. Son las cuatro y cuarto.	*What time is it?* *It's one o'clock.* *It's half past three.* *It's quarter past four.*
Ask at what time someone has a lesson and say what time you have a lesson.	¿A qué hora tienes……. ciencias? Tengo ciencias a las nueve y veinticinco. Tengo educación física a las dos menos veinte.	*At what time do you have ….science?* *I have science at twenty-five past nine.* *I have PE at twenty to two.*

French: Knowledge Organiser Year 7 Term 3

Unit 5: Mon monde perso

2.2 C'est quoi une famille

mes grands-parents: my grandparents
mon grand-père my grandfather
ma grand-mère my grandmother
mes parents: my parents:
mon père my father
mon beau-père my step-father
ma mère my mother
ma belle-mère my step-mother
mon papa et ma maman my dad and my mum
mon frère my brother
mon demi-frère my half brother
ma sœur my sister
ma demi-sœur my half sister
J'habite avec … I live with
Ma mère s'appelle My mum is called
J'ai un frère/deux sœurs I have one brother/ two sisters
qui s'appelle(nt) … who are called
Je n'ai pas de frères ou de sœurs. I have no brothers or sisters

Je suis fils/fille unique. I'm an only child

Je n'ai plus de père/mère. I no longer have a dad/ mum

Mes parents sont séparés/divorcés. My parents are separated/ divorced

3. Un modèle – a role model / 5. Un bon ami

Créatif – creative
Talentueux – talented
Qui – who/which
Ami/amie – friend
Copain/copine – friend
Un(e) meilleur(e) ami(e) – a best friend
Quelqu'un – someone
Gagner – to win
Un chanteur/une chanteuse – singer
Toujours – always
Parfois – sometimes
Souvent – often
Rarement – rarely
Jamais – never
Je ne suis pas – I am not
Il/Elle n'est pas – He/she is not

6. Un meilleur ami

Plus … que – more … than
Moins …que – less … than
Plus – more
Moins – less
Ma meilleur amie – my best friend (f)
Mon meilleur ami – my best friend (m)

GRAMMAR :

What are verbs?

Verbs are words that express doing, being or happening. In a dictionary you find verbs in the infinitive form. In English an infinitive verb starts with "**to**" e.g. to sing, to eat

The present tense - irregular verbs:

Some verbs don't follow the regular pattern and are called **irregular** verbs. **Être** (to be) and **avoir** (to have) are irregular verbs that you will use a lot, so learn them by heart.

Avoir	**to have**	**être**	**to be**
J'ai	*I have*	**Je suis**	*I am*
Tu as	*You have*	**Tu es**	*You are*
Il/elle a	*He/she has*	**Il/elle est**	*He/she is*
On a	*We/they have*	**On est**	*We/ they are*

The present tense - regular verbs:

The present tense is used to talk about; What is happening now/ What is usually done/ How things are. Many verbs are **regular**, this means, they follow the same pattern:

habiter	**to live**
j'habite	I live
tu habites	you live he/she
il/elle habite	lives

UNIT OF WORK 2 KEY LANGUAGE IN CONTEXT

Saying who is in your family	J'ai deux sœurs et un demi-frère. Je n'ai pas de frères et sœurs. Je suis fille unique.	*I have two sisters and a step-brother.* *I don't have any brothers and sisters.* *I am an only child (girl)*
Describing people	Je suis quelqu'un de travailleur. Ma meilleur amie est active. Mon meilleur ami est plus intelligent que moi.	I am someone who is hard working. My best friend is active (f). My best friend is more intelligent than me. (m)
Saying what people are called	Il s'appelle Harry. Elle s'appelle Louise. Ils s'appellent Fred et Ben. Elles s'appellent Amy et Yasmina.	*He's called Harry.* *She is called Louise.* *They are called Fred and Ben.* *They (girls) are called Amy and Yasmina.*

3.3 Les animaux chez moi

Unit 6: Les animaux

Les animaux domestiques	pets
un animal	*animal*
un chat	*cat*
un cheval	*horse*
un chien	*dog*
un cochon d'Inde	*guinea pig*
un lapin	*rabbit*
un lézard	*lizard*
un oiseau	*bird*
un phasme	*stick insect*
une tortue	*tortoise*
blanc	*white*
bleu	*blue*
gris	*grey*
jaune	*yellow*
marron	*brown*
noir	*black*
orange	*orange*
rose	*pink*
rouge	*red*
vert	*green*
violet	*purple*