Knowledge Organiser

Year 9

Cycle 1

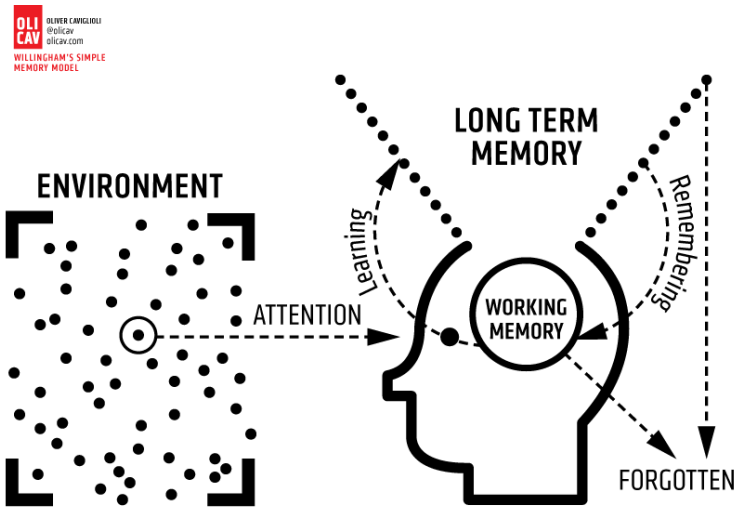
Name:

Inspiring Excellence

Using your Knowledge Organiser for homework

- Your Knowledge Organiser contains the essential knowledge that every student must know.
- Regular use of the Knowledge Organiser helps you to recap, revise and revisit what you have learnt in lessons.
- The aim is to help remember this knowledge in the long term and to help strengthen your memory
- You will use the Knowledge Organiser to help learn during homework.
- You will be assessed on the knowledge from your Knowledge Organiser; the more you revisit information the more likely it will be remembered for lessons, assessments and exams.

- For each homework you will be asked to look at a particular section of your Knowledge Organiser.
- Make sure you follow the homework timetable below so that you do the right homework for the right subjects each day.
- Each day (Monday to Friday) you will study 3 subjects for 20 minutes each.
- All Knowledge Organiser homework is completed in your blue Knowledge Workbooks
- All Maths and English homework is completed on SPARX and must be 100% completed each week.



Homework Timetable Year 9

	Monday	Tuesday	Wednesday	Thursday	Friday
Subject 1	Maths	History	Maths	English	Maths
Subject 2	English	Science	English	Science	Geography
Subject 3 Week A	French/Spanish	RPE	Drama	Food/3D Design	PE
Subject 3 Week B	French/Spanish	Art	Music	Computing	Life Skills

How to use your Knowledge Organiser

In your blue knowledge book you will always write the date, subject heading and ensure that they are underlined with a ruler.

Task 1: Questions

Where a subject includes questions to answer, you must answer these in your blue book. This is the main task to do as a minimum. If you have additional time, or where there are no questions, then do the following Tasks 2-4

Task 2: The Cover – Write – Check method

1. Study the relevant section of your Knowledge Organiser for several minutes.
2. Cover the Knowledge Organiser.
3. In your blue book, write out what you can remember.
4. Check the Knowledge Organiser to see if you got it right.
5. Correct any mistakes in purple pen.
6. Repeat the process – even if you got it 100% correct.
7. Complete sections that you have previously studied using the same process.

Task 3: Free recall

1. Pick a section of the Knowledge Organiser you have studied recently.
2. Without looking at the Knowledge Organiser write down everything you can remember about the topic.
3. Check the Knowledge Organiser to see how much you got right.
4. Correct any mistakes and add any missing parts in purple pen.

Task 4: Elaboration

1. Once you have completed the Cover – Write – Check method, add any additional details you can to your notes.
2. Remember your Knowledge Organiser only contains the core knowledge, there is much to learn beyond it so practise adding more detail when you can.

Year 9 Cycle 1

Knowledge Organiser Contents Page

CREATIVE ARTS
YR 9 3D DESIGN PATHWAY
PEWTER PENDANT DESIGN CYCLE 1

A. Visual Elements Keywords

Line	Line is the path left by a moving point. A line can be horizontal, diagonal or curved and can also change length.
Shape	A shape is an area enclosed by a line. Shapes can be geometric or irregular.
Form	Form is a three dimensional shape, such as a cube, sphere or cone.
Tone	This refers to the lightness or darkness of something. This could be a shade, or how dark or light a colour appears.
Texture	This is to do with the surface quality of something. There are two types of texture: Actual texture really exists, so you can feel it or touch it; Visual texture is created using marks to represent actual texture.
Pattern	A design that is created by repeating lines, shapes, tones or colours.
Colour	Red, yellow and blue are primary colours, which means they can't be mixed using any other colours.

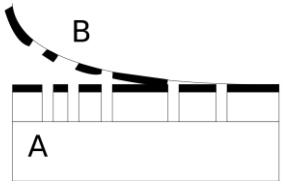
B. Key Knowledge 1: CREATING A CARDBOARD RELIEF

Use a scalpel and safety ruler cut a variety of intricate shapes in corrugated cardboard. Experiment with peeling away the top layer to reveal underneath. Add and take layers away to create your design.

Remember how to use a scalpel safely

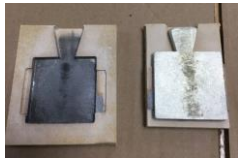
C. Key Knowledge 2: RELIEF PRINTING

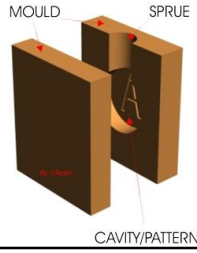
Relief printing - a process consisting of cutting or etching a **printing** surface in such a way that all that remains of the original surface is the design to be **printed**. Examples of **relief-printing** processes include woodcut, anastatic **printing** (also called **relief** etching), linocut, and metal cut.

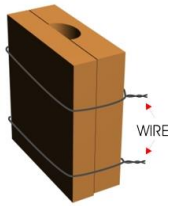


D. Key Knowledge 3: PEWTER CASTING

Most modern **pewter** is composed of 96 percent tin and 4 percent copper although there are many variations. It is a soft metal and can be shaped easily by hand tools and machine tools. Due to its low melting point (approximately 230 degrees centigrade) it is suitable for **casting**.







E. Expert Modelling: Designers inspired by LINE & SHAPE

John Pedder

Hilke MacKintyre

What Visual Elements can you see in this work?

F. WIDER READING / THINKING

Watch this video to see the Pewter Casting process

https://www.youtube.com/watch?v=NVoOxjB-2d4

YR 9 CREATIVITY & CAREERS – Threshold Concept#7 – Creatives produce original artwork on their own and in collaboration. Art inspires design and vice versa

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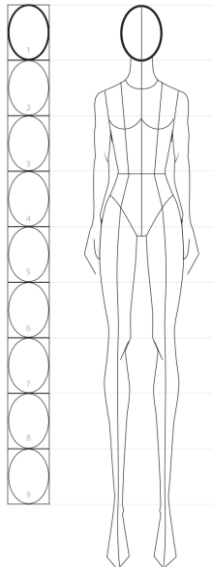
B. Key Knowledge – Textiles

PATTERN- A pattern is an arrangement of lines or shapes, which is repeated at regular intervals over a surface

Ana Rut Bre

Kate Zaremba



E. Expert Modelling:

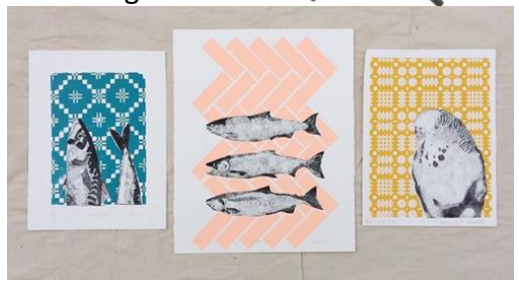
C. Key Knowledge – Art & Design

Print making - An artistic process of transferring one image from one surface onto another. This process can be repeated multiple times to achieve different results. In this project you will learn about collagraphing and dry point etching

Dry Point etching tool

Printing press

Marian Haf



E. Expert Modelling:

Etching Lino Collagraph

D. Key Knowledge - Photography

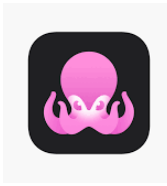
<u>COMPOSITION</u> - How to improve your Photography skills immediately – use the 'Rule of Thirds' when taking images.

The **rule of thirds** is the most well-known composition guideline. It helps draw the viewer's eye into the image and places more emphasis on the subject. Ideally, the empty space that's left **should** be in the direction the subject is looking or heading into

<u>EDITTING APPS</u> – There are lots of excellent apps to experiment with in altering your images after you have taken them. Try some of these with your own work.

Glitch

Snapseed



ArtLeap

E. Expert Modelling:

F. Wider thinking / further reading: Watch this video to find out more about working in the Creative Industries https://www.youtube.com/watch?v=ArnhItrVuFM

Images

Questions

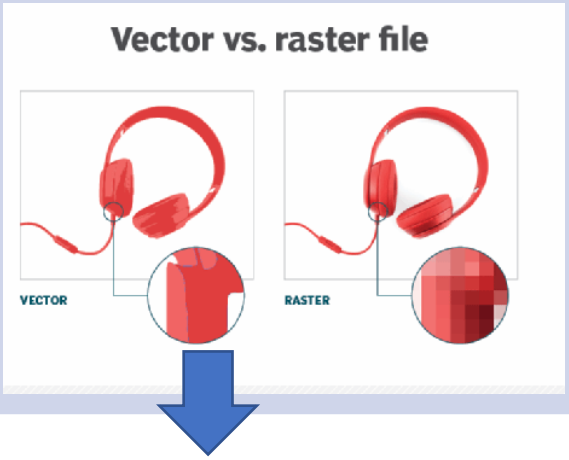
What are some of the advantages and disadvantages of Vector Graphics?

What are some of the file types that are associated with Vector Graphics?

Vector vs Raster:

Vector graphics are computer images created using a sequence of commands or mathematical statements that place lines and shapes in a two-dimensional or three-dimensional space.

Raster graphics, a type of digital image that uses tiny rectangular pixels, or picture elements, arranged in a grid formation to represent an image



Why do we use vector graphics?

Scalability : This means that the graphic can be resized without it affecting the overall quality of the design. A logo created with vector graphics can be scaled up or down without loss of quality or creating a large file.

App and web development: Vector graphics are useful in application and web development because web apps and the graphics they contain must work with various screen sizes and device types.

Animation: Animated images are also usually created as vector files, which provide for cleaner and smoother images.

Computer-aided design (CAD): CAD programs frequently use vector files for manufacturing, engineering and design because of their scalability and ease when it comes to editing the mathematical formulas.

Can you find out some jobs that use CAD?

What happens if you scale up a Raster file?:

If we scale up a raster image to enlarge it, without changing resolution, it will lose quality and look blurry or pixilated. This is because we are stretching the pixels over a larger area making them look less sharp.

Link to Video

How vector graphics work:
https://youtu.be/ywIpBSbIBdA

Watch this video on Youtube and make notes:
Dimensions (Height and Width), File type, File size, Time/Date, Resolution, Colour depth.

1.2.4 Data Storage

Images

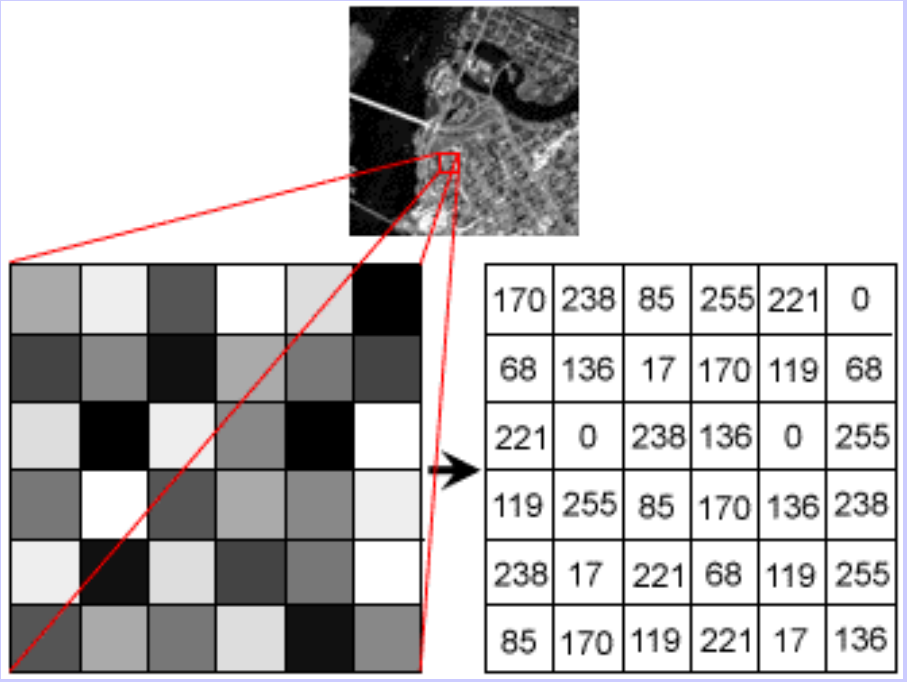
A bitmap image is a digital image that is made up of a series of picture elements (known as pixels) which are used to display images on our screen.

Colour Depth and Resolution:

Colour Depth:
Colour depth refers to how many possible colours can be represented in each pixel (bits per pixel)

Resolution:
Image resolution is typically described in PPI, which refers to how many pixels are displayed per inch of an image.

How an image is represented on a computer



170	238	85	255	221	0
68	136	17	170	119	68
221	0	238	136	0	255
119	255	85	170	136	238
238	17	221	68	119	255
85	170	119	221	17	136

- Each square is known as a Pixel
- Each pixel has the ability to store binary value.
- The binary value depends on how many bits can be stored in each pixel.
- Each binary value represents a unique colour.

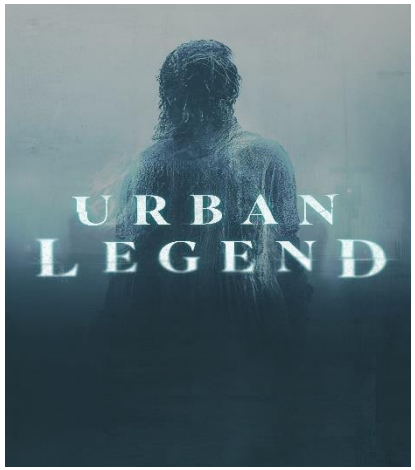
Impact:

The impact of an increase in colour depth and resolution results in more pixel information and creating a high-quality, crisp image.
On the other hand, it does increase the size of the file.

Metadata

Metadata is 'data about data'. In other, it's data about the image itself.

Examples include:
Dimensions (Height and Width), File type, File size, Time/Date, Resolution, Colour depth.

	Week 1	Week 2	Week 3	Week 4	Week 5
YEAR 9 DRAMA – CYCLE 1	**Urban Legend** Urban Legends or myths can be seen as the modern equivalent of more traditional folklore or fairy stories. The importance of folklore as a means of communicating moral or instructional tales and fables. Myths and legends are often seen as belonging in our distant past, the urban legend is very firmly rooted in the present and global communication such as television and internet.  	**Characteristics of an Urban Legend** 1.The tales are often told as true and are often believed by the teller and the audience listening. 2.The legend often has local variations that make them more believable to an audience. These are specific details of locations, settings, time and characters. 3.The tales reflect the fears of modern society and they often have a moral message. 4. The audience will normally be familiar with such tales, some of which have been retold for generations. 5.The stories might have an unexplained or supernatural Element. 	**The Vanishing Hitchhiker** A friend of a friend was driving with his companion through a remote part of the country. It was a stormy night with strong winds and torrential rain. On a bend in the road they were surprised to see in the beam of the cars headlights, a young woman hitching a lift. She was not dressed for such weather and was soaked to the skin and shivering. They decided to stop and pick her up. As the girl settled in the back seat, she looked dazed and asked if they would take her home, about 5 miles off the road. As they drove the girl indicated that they should pull off the road down a far track. After following the track for sometime, they eventually came to an old farmhouse and pulled outside the front door. The two friends turned around to tell the girl they had arrived, but to their amazement the girl had vanished!	**Words &Definitions** Performance skills Still Image Posture Thought Track  **Performance skills:** Skills used by performers including vocal skills, physical skills, use of space, facial expressions, posture. **Posture:** Physical alignment of a performers body or a physical stance that conveys information about a character. **Still Image:** This is a frozen picture which communicates meaning. It can provide insight into character relationships with a clear focus upon use of space, levels, body language and facial expression. **Thought Track:** A thought-track is when a character steps out of a scene to address the audience about how they are feeling.	**Lighting**  **Flood light:** to wash the stage with general lighting. **Ground row:** Floodlight battens placed on stage.  **Staging**: The use of the stage as a design element, considering: choice of stage; positioning of entrances and exits, set items, stage furniture, levels; awareness of audience; creating an appropriate space for performers and audience. 

	Week 6	Week	Week 8	Week 9	Week 10
YEAR 9 DRAMA – CYCLE 1	**Dartmoor Myths and Legends** **Jay's Grave:** Kitty Jay's resting place has the daily appearance of fresh flowers on the grave, nobody is ever seen leaving them but no matter what time of year there are always flowers, posies or greenery sat on the lonely mound. Tradition says that the flowers are the work of the piskies, who out of sympathy, tend the grave throughout eternity. Of all the Dartmoor legends this has to be the most popular and has found its way into almost every Dartmoor guide book. The grave has become a must do for Dartmoor visits, it has recently also become a place of pilgrimage. 	**Dartmoor Myths and Legends** **Hairy Hands:** The Hairy Hands is a Dartmoor Legend set in Postbridge, deep within the Moors. The story is about a pair of Hairy Hands that appear suddenly, grab at the steering wheel of a moving car or the handlebars of a motorcycle, and then force the driver off the road. Sometimes the hands are described as being invisible.  **The Ghostly Pigs of Merripit Hill** Legend has it that at certain times of the year when the fog lies thick and darkness enshrouds the ancient landscape, an old sow and her litter of piglets appear and can be seen walking across the moor on Merripit Hill.	**Drama Term** **Structure**: The arrangement of the relationship between the scenes within a play or piece of devised theatre. **Beginning, Middle and End**: Most stories have a beginning, middle and end. In the beginning, establish your setting and characters. In the middle, you could add conflict and a problem to solve. At the end there could be a dramatic rescue. The ending could be happy or sad. **Marking The Moment**: Marking the Moment is a dramatic technique used to highlight a key moment in a scene or improvisation. This can be done in a number of different ways: for example through slow-motion, a still image, narration, thought-tracking or music. 	**Revision for Knowledge Organiser test:** Pick three sections you feel you need revise. You may choose to look over one week in particular you feel you don't know as well. Use the following to support you with your revision: LOOK COVER WRITE CHECK Draw a picture to represent your chosen word/section. Create flash cards that include your words/sections and their definitions. Put your word/section into a scenario and link with one of the stories being explored.	**Definitions** **Devised Drama:** A piece of work that is created through rehearsal. **Mood Board:** **What to include on a Mood Board;** The location and setting of the scene. The stage furniture and the props. The costume for your characters. The lighting for your locations. The sound track or sound effect you would use. **Poster:** **What to include on a Poster advertising a Performance;** Title of the Performance Venue Open and closing dates Ticket prices and where to purchase the tickets. Designs linking to the Performance and grabbing the audience attention.

Start with Week 1. Each week, complete the colour block. Write each word out 3 times and each definition once. Check it all with a purple pen. Tick what is correct, fix what is wrong. Then complete the weekly SPaG (spelling, punctuation and grammar) task.

Coombeshead Academy *Inspiring Excellence* English Learning Area

wk	keyword	definition	example
Week 1	**Narrative**	A **story**; a spoken or written account of events.	He wrote a detailed narrative of his life at sea.
	Short story	Stories that are even shorter than novellas (like Animal Farm). They're **complete** narratives **focused on** a core event or idea.	Types of literature include novels, poems and short stories.
	Tone	The mood created by the author's language choices; the way the text makes us feel.	The tone of the Gothic story was threatening and foreboding.
	Main clause	Contains a subject and a verb. Can stand as a sentence on its own.	He ate lunch outside.
	Subordinate clause	Adds additional information to a sentence. Cannot stand as a sentence on its own.	**As it was sunny**, he ate lunch outside.
Week2	Imagery	A general term for descriptive language that helps the reader to *imagine* something that is being written about.	The snowflake danced to the ground as the view turned a pearly white before his eyes.
	Simile	A form of imagery where one thing is described as being similar to something else, using the words 'like' or 'as'.	She crept towards the doorway – **as quiet as a mouse.**
	Metaphor	A form of imagery where one thing is described as *being* something else.	**The lake was glass** in the moonlight.

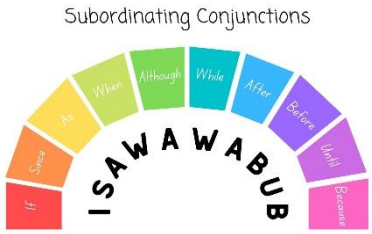
Week 1

Week 1 SPaG task

For each of the following sentences, identify the main clause and the subordinate clause.

1. Outside the window, rain began to fall.
2. He shared his sweets with his friend as it was their birthday.
3. She went to bed after brushing her teeth.
4. Before going home, Ben went to the park.
5. After we went to the cinema, we went out for dinner.

Subordinate clauses begin with subordinating conjunctions. Use this to help you!



Week2

Week 2 SPaG task

Apostrophes are used to show omission (when words are contracted and letters removed e.g. do not becomes don't) or possession (to show when something belongs to someone). Put apostrophes in the correct places in the sentences below.

1. **My dogs new toy is broken already!**
2. **I cant wait to go to the park later.**
3. **Its over there.**

	Personification	A form of imagery where a non-living object is described using human actions, features or emotions.	**The sofa hugged the weary traveller** – comforting him after his terrible journey.			4. Dans haircut looks really cool. 5. Im excited to go to my friends house.
	Motif	An image or symbol that is repeated throughout a story.	The lift (or elevator) was a motif in 'Long Way Down'.			

Week 3	**Symbol**	An object used to represent an idea or concept.	A wedding ring symbolises eternal love.		**Week 3**	Week 3 SPaG Task A comma splice is when two sentences are incorrectly joined by a comma. The below passage contains 3 comma splices. Identify them and correct the commas into the required punctuation marks. At the weekend I went out with my family, we went to the zoo. We saw monkeys, crocodiles and lots of insects, they were all so interesting to see and learn about. However my favourite animal was the elephant, he was so majestic and intelligent.
	Colour imagery	Use of colours to form part of the description.	The **green blue** translucent sea.			
	Adjective	Words that describe what a person, place, thing or emotion is like.	The **iridescent** lake glistened in the **wintery**, but yet **warming**, sunlight.			
	Verb	Words that name actions or states of being. Every sentence must contain at least one.	He **shouted** loudly.			
	Adverbial	A word or phrase that gives information about the verb.	**Sadly**, he was **always** too late to enter.			

"He's in a comma."

Week 4			
	First person	Story told from the viewpoint of a character within it.	**I** walked towards him, **my** hands trembling.
	Third person	Story told from the viewpoint of someone who is watching it happen.	**She** walked towards him, **her** hands trembling.
	Tense	Reflects the time an action occurs.	We can write in past tense (said), present tense (says) or future tense (will say).
	Sensory imagery	The use of language that helps a reader to imagine sights, sounds, tastes, smells and textures. Sensory imagery may include descriptions of one or more of these senses.	It was **too hot. Too bright.** The **smell of donuts** wafted over the bright courtyard. The **sound of laughter** heard of the busy road.
	Immersive description	The writer uses precise descriptive details.	It was too hot. Too bright. The white walls of the veranda glared stridently in the sun. The bougainvillea hung about it, purple and magenta, in livid balloons.

Week 4

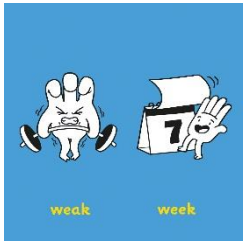
Week 4 SPaG Task

Correct the spelling errors in the following words.

1. proberly
2. allways
3. beutiful
4. intresting
5. definately
6. permenently
7. diffrent
8. wierd
9. suprise
10. seperate

Week 5	**Semantic field**	A group of words that belong to the same topic area / theme.	Overheard, the **army** of clouds **massed** as they prepared to **attack**. Each **battalion** edged closer and closer – ready for **battle.**		Week 5	Week 5 SPaG Task Identify the word classes of the highlighted words in the sentences below. 1. He quickly ran to the bus stop; he didn't want to miss the bus. 2. The wind rattled the old shutters. 3. The classroom was missing some tables and chairs. 4. I played football yesterday. 5. I don't like eating sweets; they are too sugary. 
	Structure	The arrangement or organisation of ideas within a whole text; how different parts of something are put together.	Writers structure their stories for effect.			
	Cyclical structure	When the ending of the text reflects the beginning.	The cyclical structure in The Last Woman on Earth emphasises the sadness of the story.			
	Chronological	In time order (e.g. chronological story structure = told in the order in which it happened).	A chronological structure can help build tension as the reader finds out information as the character finds out.			
	Flashback	When a story goes back to a moment in the character's past.	A flashback gives the reader more information about the characters.			
Week 6	**Foreshadow**	To hint at something that will (or might) happen later in the text.	In the prologue in 'Romeo and Juliet', the deaths of Romeo and Juliet are foreshadowed in "two star-crossed lovers take their life".		Week 6	Week 6 SPaG Task Add in the correct homophone into these sentences – there, their or they're. 1. _____ was no one else at the bus stop this morning. 2. _____ new shoes are really cool. 3. _____ going to visit their grandparent's this weekend.
	Repetition	Using a significant word, phrase or idea on multiple occasions.	Martin Luther King uses repetition in his 'I Have a Dream' speech because he starts many lines with 'I have a dream...'.			
	Links back	When an idea in a text reminds us of something that we read earlier in the piece.	Sometimes an idea at the end of a story links back to the beginning.			

	Contrast	The presentation of things that are opposite to each other.	In 'Romeo and Juliet' Shakespeare contrasts the ideas of love and hate.			4. _____ was no one at _____ house when I knocked earlier. 5. _____ going to regret not coming out with us; we had so much fun.
	Establish	To set up or introduce a topic / setting / character at the beginning.	Writers establish the setting of their story at the beginning so the reader can feel immersed in the story.			



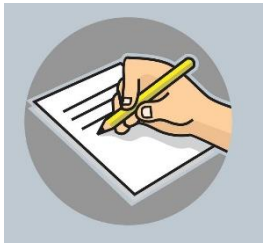
Week 7	**Develop**	To build up details about a topic / setting / character within a text.	The writer develops the character's personality as the story continues.
	Zoom in	To move from a broad, general description to focus on a more specific area.	The writer describes the whole setting, then zooms in on an important building in the setting.
	Zoom out	To move from a small focus area to a broader, more general description.	After describing one house in the setting, the writer zooms out to describe the whole street.
	Internal thoughts	Access to the character's inner personal thoughts and feelings; being metaphorically 'in the character's head'.	When the writer includes the character's internal thoughts, we learn about their true feelings and emotions.
	Dual perspective	A story told from two different narrative viewpoints / two different characters' experiences.	A dual perspective in a story means we can hear more than one point of view.
Week 8	**Sensory imagery (sight)**	The use of language that helps a reader to imagine sights.	The sun glittered on the surface of the lake.
	Hazy	When something is covered or hidden by a fine cloud, fog or mist.	A hazy veil covered the bright sun.
	Pallid	Pale, usually referring to someone's face when unwell.	Her face turned white and pallid when she heard the bad news.
	Garish	Unpleasantly bright.	His new tie was garish.

Week 7

Week 7 SPaG Task

Add a subordinate clause to the beginning, middle or end of these main clauses to create complex sentences.

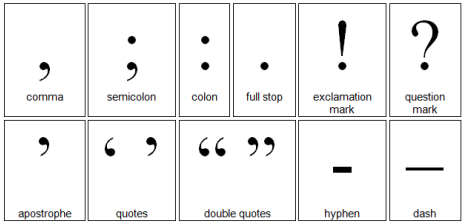
1. The rain fell
2. He walked home
3. The night darkened
4. She won the race
5. We waited for the bus



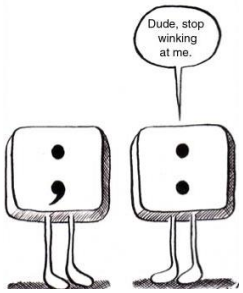
Week 8

Week 8 SPaG Task

Accurately punctuate the following text.



A few miles south of Soledad the Salinas River drops in close to the hillside bank and runs deep and green The water is warm too for it has slipped twinkling over the yellow sands in the sunlight before reaching the narrow pool On one side of the river the golden foothill slopes curve up to the strong and rocky Gabilan mountains but on the valley side the water is lined with trees willows fresh and green with every spring carrying in their lower leaf junctures the debris of the winter's flooding and sycamores with mottled white recumbent limbs and branches that arch over the pool

	Drab	Lacking brightness; dull.	The landscape was drab and grey.			
Week 9	**Sensory imagery (touch/feel)**	The use of language that helps a reader to imagine textures.	The cat's fur was smooth and silky.		Week 9	Week 9 SPaG Task Identify the adverbial phrases in the following sentences. 1. I ate my breakfast in the morning. 2. I played netball with my friends. 3. When we played football, we lost the ball behind the shed. 4. Everywhere we looked there were signs of Spring. 5. We stayed at home due to the rain. 
	Corrugated	When something has ridges or grooves.	The iron roof was corrugated and rusty.			
	Abrasive	Rough and coarse.	The sponge was abrasive in my hand as I cleaned the dishes.			
	Grainy	Consisting of small grains or particles.	The cake icing was too grainy to be tasty.			
	Cratered	When something has large cavities or holes on its surface.	The cratered moon shone in the night sky.			
Week 10	**Sensory imagery (sound)**	The use of language that helps a reader to imagine sounds.	The dry Autumn leaves rustled and crackled in the breeze.		Week 10	Week 10 SPaG Task Semi-colons can be used in place of a full stop to join two main clauses that are closely linked. Put a semi-colon in the correct place in the following: 1. Dad is looking old his hair is getting thinner. 2. I was late for school today there was traffic. 3. I can't wait for break I am so hungry. 4. I need to go shopping I have run out of food. 5. Someone needs to help me I am carrying too much. 
	Cacophony	A harsh mixture of sounds.	The cacophony of children playing could be heard from far away.			
	Symphony	A pleasant mixture of musical sounds.	A beautiful symphony of birdsong filled the morning air.			
	Discordant	Harsh and jarring; lacking harmony.	The song was tuneless and discordant.			
	Harmonious	A sound or mix of sounds that have a pleasant tune.	The harmonious music was enjoyed by the audience.			

Week 1 & 2
Why we need food & the Eatwell guide

The body needs food for:

- Growth and repair of cells
- Energy
- Warmth
- Protection from illness
- Keeping the body working properly

Your diet should include:

- A variety of foods to make sure you get all of the nutrients to stay healthy.
- No single food can supply all of the nutrients that you need

Foods are vital for our survival and are made up of different things called nutrients. Each nutrient has its own function in the body

- Protein - growth and repair of cells, maintenance of the body and to provide energy.
- Fat - provide energy, to keep the body warm, to protect internal organs and provide fat soluble vitamins and essential fats
- Carbohydrates - needed for energy
- Vitamins & minerals - needed to protect the body and prevent illness and disease

<u>The Eatwell guide</u>:

<u>Questions:</u>

1. Why should you eat a variety of foods?
2. List the 5 main nutrients needed by the body and give a function of each
3. How much water should we drink a day?
4. List the sections of the Eatwell Guide including foods you would find in each section

Week 3 & 4
Protein

Protein is needed for growth, repair, maintenance and a secondary source of energy

Some people will need more protein than others e.g. children, teenagers and pregnant women because of puberty and the growth of a child.

Proteins are made from amino acids and there are 20 of them. Essential amino acids must be provided by food because the body cannot make them. 10 are essential for children and 8 are essential for adults.

HBV - Contain all of the essential amino acids coming mainly from animals	LBV - Missing 1 or more essential amino acid. Mainly come from plant foods e.g. peas, beans
Meat, chicken, pork, beef bacon, sausages Fish and seafood Milk Yoghurt Eggs Soya beans Quinoa	Cereals, e.g. wheat, rice, oats, barley Cereal products e.g. bread, pasta, rice Sweetcorn Peas, beans, lentils Nuts and nut products e.g. peanut butter Seeds

Complimentary proteins

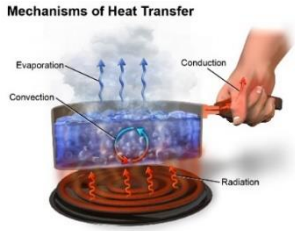
- When 2 or more LBV proteins are combined they can make a HBV protein e.g. beans on toast

<u>Deficiency and excess:</u>

Kwashiorkor is a deficiency that mostly occurs in children. They will have poor growth rates, suffer hair loss and persistent infections. Too much protein can be harmful to the kidneys and liver

<u>Questions:</u>

1. What is the 4 letter word to remember the functions of protein
2. Which groups of people need more protein in their diet?
3. What are proteins made from and how many are there?
4. Can the body make all of the amino acids?

Week 5 & 6 Modifying diets	**Week 7 & 8** Carbohydrate
<u>Balanced diet definition:</u> This means eating a wide variety of foods in the right proportions, and consuming the right amount of food and drink to achieve and maintain a healthy body weight. The Eatwell guide shows how eating different foods can make a healthy and balanced diet. It divides food into groups and shows how much of each food group is needed for a healthy diet. The groups of the Eatwell Guide are: 1. Fruit and vegetables 2. Starchy carbohydrates 3. Protein 4. Dairy and alternatives 5. Oils and spreads <u>8 tips for a healthy diet</u> 1. Base your meals on higher fibre starchy carbohydrates. 2. Eat lots of fruit and veg. 3. Eat more fish, including a portion of oily fish. 4. Cut down on saturated fat and sugar. 5. Eat less salt: no more than 6g a day for adults. 6. Get active and be a healthy weight. 7. Do not get thirsty. 8. Do not skip breakfast. The 3 main macronutrients needed by the body are: • Carbohydrate = Energy • Protein = GERM • Fat = PIE <u>Question:</u> 1. Discuss the healthy eating guidelines and their importance when planning meals for an elderly person. 2. What are the main things that need to be reduced in the diet to make sure it is healthy and balanced?	Heat is transferred to foods by 3 different methods: • Conduction - heat travels through solid materials like metal as well as food. • Convection - heat travels through air or water. • Radiation - heat rays directly warm and cook food.  Nutritional needs depend on: Gender, Age, Lifestyle, Activity level, Health condition(s), Weight People can be classified into: <u>BABIES</u> **Special diet needs**: milk for the 1st 6 months. High energy needs. No added salt or sugar. **Need more**: Food high in iron & vitamin C 6 months+ <u>CHILDREN</u> **Special diet needs:** regular, smaller meals and snacks. High energy needs. Reduced salt and sugar. Eatwell Guide between 2-5 years **Need more:** Calcium and Vitamin D. Iron and Vitamin C <u>TEENAGERS</u> **Special diet needs:** Eatwell Guide. Teenagers have growth spurts and high energy needs. Increased appetites mean larger portions. **Need more:** Protein, Calcium & Vitamin D, C & Iron <u>ADULTS</u> **Special diet needs:** Lower energy needs. Eatwell guide. Avoid foods high in sugar and fat. **Need more:** Calcium and Vitamin D, Iron and Vitamin C <u>PREGNANT AND LACTATING WOMEN</u> **Special diet needs**: Healthy balanced diet. Plenty of water. Higher energy needs for last 3 months of pregnancy **Need more:** Folic acid, Protein, Calcium and Vitamin D, C & Iron <u>THE ELDERLY</u> **Special diet needs:** Bodies typically slow down, so less energy is needed. Don't absorb nutrients as easily. Plenty of watery drinks **Need more:** Fibre, Calcium, Vitamin D & C, Iron Questions: 1. Explain which heat transfer methods would be used and where when making a stir fry 2. Design a meal for an active teenager and explain which nutrients will be found in the main

Week 1: 09/9/24, Week 2: 16/9/24, Week 3: 23/09/24

1. **Use the sentence builder to write 3- 5 sentences in French**
2. **Translate your sentences into English**
3. **Now close your knowledge organiser and try to translate your 3 sentences back into French without looking**
4. **Correct in purple pen**

Verb phrase	Verb	Noun	connective	adjective	pronoun	verb phrase
J'admire…. (I admire…) Singers: Stromaë Angèle Actors: Thimothée Chalamet Omar Sy Melanie Laurent Pom Klementieff Sports: Mbappé Zidane Louisa Nécib Jennie Longo Influencers: Squeezie Michou Writers: Jules Verne Fred Vargas	il/elle est (He/she is)	chanteur chanteuse (singer) acteur actrice (actor) influenceur influenceuse (influencer) auteur autrice (author) sportif sportive (sportsman/woman) dans un groupe (In a group) riche (rich) unique (unique)	selon moi il/elle est (according to me he/she is)	extraordinaire (extraordinary) célèbre (famous) populaire (popular) star (a star/celebrity)	car il/elle	a une voix puissante (has a strong voice) chante des chansons populaires (sings popular songs) est à la mode (is trendy) a beaucoup d'argent (has lots of money) a une série de réalité (has a reality series) écrit pour un journal (writes for a newspaper) fort(e) en foot/rugby/tennis (good at…) est mon héros/mon héroïne. (is my hero/heroine) m'inspire. (inspires me) est ma star préférée (is my favourite celebrity)
					donc je vais (so I'm going to)	apprendre les paroles de leurs chansons (learn their lyrics) chanter ses chansons (sing their songs) lire ses romans (read their books) écouter sa musique (listen to their music)

Y9Fr LC1 – SB2 – Les influenceurs – il/elle est comment ? What is he/she/like?

Week 4: 30/09/24, Week 5: 7/10/24

1. **Use the sentence builder to write 3- 5 sentences in French**
2. **Translate your sentences into English**
3. **Now close your knowledge organiser and try to translate your 3 sentences back into French without looking**

Verb	Verb	adjective	verb	adjective		
Je suis … (I follow) J'admire… (I admire) … m'inspire (…inspires me) J'écoute… (I listen to…)	il/elle est (He/she is)	arabe (Arabic) britannique (British) canadien(ne) (Canadien) chinois(e) (Chinese) espagnol(e) (Spanish) français(e) (French) marocain(ne) (Moroccan) bouddhiste (Buddhist) chrétien(ne) (Christian) juif/ve (Jewish) musulman(e) (Muslim) bi (bisexual) hétéro (heterosexual) gay (gay) non-binaire (non-binary) transgenre (transgender) célibataire (single) marié(e) (married) Pacsé(e) (in a civil partnership)	et je crois qu' il/elle est (and I beleive that he/she is)	agréable (pleasant) amusant(e) (funny) bavard(e) (chatty) beau/belle (beautiful) calme (quiet) drôle (funny) fier/fière (proud) fort(e) (strong) gentil(le) (kind) heureux/euse happy) intelligent(e) (intelligent) sérieux/euse (responsible)	il/elle parle (he/she talks about)	de la musique (music) de la culture (culture) de la littérature (literature) de la mode (fashion) de l'art (art) du sport (sport) du film (film) de tout (about everything)

Y9Fr LC1 L'identité – SB3 – mes passions – my interests (contrasting tenses)

Week 6: 14/10/24, Week 7: 21/10/24, Week 8: 4/11/24

1. **Use the sentence builder to write 3- 5 sentences in French**
2. **Translate your sentences into English**
3. **Now close your knowledge organiser and try to translate your 3 sentences back into French without looking**
4. **Correct in purple pen**

	noun	time marker	past tense phrase	connective time marker	future tense phrase	future tense	adjective
Ma passion est (My passion is)	la lecture. (reading) la cuisine. (cooking) la musique. (music) la mode. (fashion) la natation. (swimming) les jeux vidéos. (video games) le sport. (sport)	Hier (Yesterday)	j'ai lu un livre (I read a book) j'ai fait un repas (I made a meal) j'ai écouté des chansons (I listened to songs) j'ai acheté des vêtements (bought some clothes) je suis allé(e) à la piscine (I went to the pool) j'ai joué sur ma console (I played on my console) j'ai joué au + sport (I played…)	mais demain (but tomorrow)	je vais lire un livre (I'm going to read a book) je vais faire un repas (I'm going to make a meal) je vais écouter des chansons (I'm going to listen to songs) je vais acheter des vêtements (I'm going to buy clothes) je vais aller à la piscine (I'm going to the pool) je vais jouer sur ma console (I'm going to play on my console) je vais jouer au + sport (I'm going to play + sport)	ce sera (it will be)	passionnant (exciting) amusant/ drôle (funny) agréable (pleasant) bien (good) formidable (terrific) génial (great)

Y9Fr LC1 SB4 Que fais-tu sur ton portable ? What do you do on your phone?

Week 9: 11/11/24, Week 10: 18/11/24

1. **Use the sentence builder to write 3- 5 sentences in French**
2. **Translate your sentences into English**
3. **Now close your knowledge organiser and try to translate your 3 sentences back into French without looking**
4. **Correct in purple pen**

Future tense	noun		verb phrase	connective	adjective	opinion	adjective
Ce soir je vais utiliser (This evening I'm going to use) Demain je vais utiliser (Tomorrow I'm going to use) Je ne vais pas utiliser (I'm not going to use)	mon portable (my smartphone) mon ordinateur (my computer) ma tablette (my tablet) ma liseuse numérique (my e-reader) ma console de jeux (my games console)	pour (for)	faire des achats (making purchases) surfer sur internet (surfing the internet) regarder des vidéos/la télé (watching videos/TV) suivre des influenceurs (following influencers) lire des e-mails/messages/SMS (reading emails/messages/texts) prendre des photos/des selfies (taking photos/selfies) écrire des e-mails/messages/SMS (writing emails/messages/texts) jouer aux jeux (playing games) aller sur les réseaux sociaux (go on social media)	car c'est (because it's)	pas cher (cheap) dangereux (dangerous) inquiétant (worrying) moderne (modern) puissant (powerful) rapide (quick) social (social) sûr (safe) facile (easy)	je pense que c'est (I think it's)	bon pour la santé (good for the health) mauvais pour la santé (bad for the health) une perte de temps (a waste of time) essentiel (essential)

Year 9 Cycle 1 Geography Knowledge Organiser – Development and globalisation

<table>
<tr><th colspan="2">Week 1 – Friday 13th September 2024</th><th colspan="2">Week 2 – Friday 20th September 2024</th></tr>
<tr><th>Lesson 1 – Classifying countries</th><th>Lesson 2 – Measuring development</th><th>Lesson 3 – What is HDI?</th><th>Key Word Practice</th></tr>
<tr>
<td>Key Terms:
Development: A positive process of change that affects peoples' lives.</td>
<td>Key Terms:
Development indicators: A numerical measure of quality of life in a country and show the development of a country.</td>
<td>Key Terms:
Human Development Index (HDI): A summary measure of health (life expectancy), education (school years) and standard of living (GNI per capita)</td>
<td rowspan="3">TASK: For the 10 key words below, either write each one out 3 times using look, cover, write, check, OR define each one.

1. Development

2. Newly emerging economies

3. Indicator

4. Social

5. Illiteracy

6. Expectancy

7. Economic

8. Gross National Income

9. Human Development Index

10. Accurate</td>
</tr>
<tr>
<td>Content:
HIC: High Income Countries e.g., UK, Japan, France, USA.
LIC: Low Income Countries e.g., Kenya, Haiti, Democratic Republic of Congo.

Newly Emerging Economies (NEE): A country that is rapidly developing, usually based on manufacturing.
The first group of NEE countries:
• Asian Tigers: Taiwan, South Korea, Singapore and Hong Kong.

More recent groups include:
• BRICS: Brazil, Russia, India, China South Africa.
• MINTs: Mexico, Indonesia, Nigeria and Turkey.</td>
<td>Content:
Social indicators:
• Adult Illiteracy: The percentage of adults that cannot read and write
• Life expectancy: The average age people are expected to live.
• Food Intake per capita (calories): The average amount of calories that a person eats.

Economic indicators:
• Gross National Income (GNI): (US$)- the total earnings of the country.
• Gross National Income (GNI) per capita: (US$) – the total earning of the country divided by its population.
• Energy consumption per capita (tonnes of oil) – the amount of energy consumed per person</td>
<td>Content:
Development indicators on their own can be misleading:

UKs GNI is $3.327 trillion
China GNI Is $27.06 trillion
BUT…
UKs GNI per capita is $49,420
China GNI per capita is $19,160

This problem with using GNI is only an average and does not mean everyone get this amount of money.

HDI is more accurate as it uses 3 development indicators. It does not take into account equality and environmental issues.

HDI gives a country a score between 0 and 1.</td>
</tr>
<tr>
<td colspan="2">Questions:
1. What is development?
2. What does HIC, LIC and NEE mean?
3. Name the original NEE group
4. Which countries are in the recent NEE groups?
5. What are development indicators?
6. Give 3 social indicators
7. Give 3 economic indicators
8. What is the difference between GNI and GNI per capita?</td>
<td>Questions:
1. What does HDI stand for?
2. What 3 measures does HDI use?
3. What is the problem with using GNI?
4. Why is HDI more accurate?
5. Copy out the 10 key words 3 times</td>
</tr>
</table>

Year 9 Cycle 1 Geography Knowledge Organiser – Development and globalisation

<table>
<tr><th colspan="2">Week 3 – Friday 27th September 2024</th><th colspan="2">Week 4 – Friday 4th October 2024</th></tr>
<tr><th>Lesson 4 – Introducing Africa</th><th>Lesson 5 – Kibera: What did it grow?</th><th>Lesson 6 – What is poverty like?</th><th>Key Word Practice</th></tr>
<tr>
<td>Key Terms:
Africa: A continent south of Europe and between the Atlantic and Indian Oceans. It contains 54 countries.</td>
<td>Key Terms:
Kibera: A neighbourhood of Nairobi (Capital of Kenya) and is Africa's largest informal settlement.

Informal settlement: The government do not have to supply water, electricity, sewerage or rubbish collection</td>
<td>Key Terms:
Poverty: A state where a person lacks the financial resources and other essentials for a minimum standard of living.</td>
<td rowspan="3">TASK: For the 10 key words below, either write each one out 3 times using look, cover, write, check, OR define each one.

1. Africa

2. Country

3. Latitudinal

4. Kibera

5. Informal settlement

6. Urbanisation

7. Crop failure

8. Poverty

9. Infant mortality

10. Sewers</td>
</tr>
<tr>
<td>Content:
There are 5 regions to Africa: North, West, East, Central and Southern.

Africa has different climate zones. It has different biomes which stretch in broad, latitudinal belts east to west.
• Hot Desert: e.g., Sahara
• Savanna: grasslands.
• Tropical Rainforest: e.g., Congo.
• Semi-Desert: e.g., Kalahari

The Great Rift Valley is a tectonically active area.
 
</td>
<td>Content:
Growth: Rapid growth and uncontrolled urbanisation as a result of rural to urban migration (people moving to the city from rural areas).

Pull Factors: The negative aspects of the city: jobs, school, and health care.

Push Factors: The negative aspects of the countryside: crop failure, land seizure, lack of jobs.
  </td>
<td>Content:
Life in Kibera
• 1 million people live in 1 mile^2.
• There are high levels of crime, gang violence, drugs and alcohol abuse
• Buildings are made of mud, wood, scrap sheet metal.
• 1/5 children will die before their first birthday (infant mortality)
• Emptying toilets is the second highest paid job
• Open sewers and no running water,
• Limited electricity
• 1 toilet per 1000 people.
• Average wage is 60p per day.
• 15% of people live with HIV.
• Very few free school places.
• £3 per week for school.</td>
</tr>
<tr>
<td>Questions:
1. Where is Africa?
2. Name the 5 regions of Africa
3. Name the 4 latitudinal belts
4. What is the tectonically active area called?</td>
<td>5. What is Kibera?
6. What is an informal settlement?
7. Name 3 pull factors
8. Name 3 push factors</td>
<td>Questions:
1. What is poverty?
2. How many people live in Kibera?
3. What is the highest paid job?
4. What is the average wage?
5. Copy out the 10 key words 3 times</td>
</tr>
</table>

Year 9 Cycle 1 Geography Knowledge Organiser – Development and globalisation

<table>
<tr><th colspan="2">Week 5 – Friday 11th October 2024</th><th colspan="2">Week 6 – Friday 18th October 2024</th></tr>
<tr><th>Lesson 7 – The development gap</th><th>Lesson 8 – Trade</th><th>Lesson 9 – Trade and development</th><th>Key Word Practice</th></tr>
<tr>
<td>Key Terms:
Development gap: Widening gap between the richest and poorest countries.
Landlocked: A country surrounded by land and has no access to the ocean.</td>
<td>Key Terms:
Trade: Exchange of goods and services between countries and parts of the world.</td>
<td>Key Terms:
Trade deficit: When LICs import higher values goods and export lower value goods meaning they make little profit.</td>
<td rowspan="3">TASK: For the 10 key words below, either write each one out 3 times using look, cover, write, check, OR define each one.

1. Development gap

2. Landlocked

3. Environmental

4. Socio-economic

5. Trade

6. Resources

7. Surplus

8. Debt

9. Cash crops

10. Manufacture</td>
</tr>
<tr>
<td>Content:
Environmental Reasons:
• Landlocked countries don’t have a coast so trade is limited.
• Some countries have rich soil and can grow natural resources (e.g. tea, coffee) but these are low value
Socio-Economic Reasons:
• Very few get a secondary education, if at all.
• Diseases such as Malaria and TB are common. People can’t work.
• Spend a lot of their time looking for food, water and firewood.
Historical Reasons:
• European countries developed early due to the Industrial Revolution. Europeans took over countries as colonies. Little was done to develop the colonies.</td>
<td>Content:
Not all countries have the same natural resources. Not all countries have the machinery or tools to make something out of the resources available.

Trade allows all countries to access the resources and some are worth more.

Events can impact trade, such as tropical storms, civil war or financial crisis.

If there is a surplus, then prices decrease as demand goes down and vice versa.

Trade is not always fair.</td>
<td>Content:
Debt: Many African countries received loans during the 1970s, they have had to pay these back slowly but now can’t even pay back the interest so they have to borrow more.

Terms of Trade: Poorer countries often export raw materials like as cash crops such as tea, sugar, coffee and fruit. These are unprocessed and sell for a low price which fluctuates (varies).

HICs manufacture or process these products, such as cocoa into Chocolate and this adds value and they make more money. 1 kilo of unprocessed coffee can be worth as little at $0.39. This can make 80 cups of coffee that are sold for $3-4 each.</td>
</tr>
<tr>
<td>Questions:
1. What does landlocked mean?
2. State 2 environmental reasons
3. State 2 socio-economic reasons
4. State 2 historical reasons</td>
<td>5. What is trade?
6. What does trade allow?
7. What events can impact trade?
8. What happens when there is a surplus?</td>
<td>Questions:
1. What is a trade deficit?
2. What are the terms of trade?
3. What do HICs do?
4. What happens to the price of coffee?
5. Copy out the 10 key words 3 times</td>
</tr>
</table>

Year 9 Cycle 1 Geography Knowledge Organiser – Development and globalisation

<table>
<tr><th colspan="2">Week 7 – Friday 25th October 2024</th><th colspan="2">Week 8 – Friday 8th November 2024</th></tr>
<tr><th>Lesson 10 – Fair trade</th><th>Lesson 11 – What is globalisation?</th><th>Lesson 12 – Causes of globalisation</th><th>Key Word Practice</th></tr>
<tr>
<td>Key Terms:
Exports: Goods sold to another country.

Imports: Goods brought in from another country.</td>
<td>Key Terms:
Globalisation: The lengthening and deepening of links between countries. They are becoming more interdependent.

Interdependent: When two or more things rely on each other.</td>
<td>Key Terms:
‘Switched on’: Nations, regions or cities that are strongly connected to other places.

‘Switched off’: Counties that are not included in the global economy and trade.</td>
<td rowspan="3">TASK: For the 10 key words below, either write each one out 3 times using look, cover, write, check, OR define each one.

1. Exports

2. Imports

3. Fair Trade

4. Sustainability

5. Environment

6. Globalisation

7. Interdependent

8. Switched on

9. Containerisation

10. Governments</td>
</tr>
<tr>
<td>Content:
Fair Trade involves companies ensuring a fair and guaranteed price for growers. Most major companies now do this and pass the extra cost to the consumer.

Fair trade and rainforest alliance means better prices, decent working conditions, local sustainability, respect for the environment and fair terms of trade for farmers and workers in the developing world. This allows farming communities to invest their profits in schools, medical centres, wells.</td>
<td>Content:
There are 4 flows of globalisation:
• Flows of people: People travel the world for work and for leisure.
• Flows of money: Money can easily be transferred across the world due to internet/online banking.
• Flows of Information: Information is now easily shared due to emails and the internet.
• Flows of goods: Goods are now easily shipped and flown around the world.

Positives of globalisation: Increased choice, cheap products.

Negatives of globalisation: Worker exploitation, environmental damage.</td>
<td>Content:
Containerisation has reduced transport costs by 80%. Ships can carry 18,000 containers. Jet air crafts move 500 -800 people in one flight.
Low cost, budget airlines EasyJet allow frequent travel over short distances.
Internet, smart phones and social media allows large amounts of data (ideas, information, money) to be quickly moved and shared.
Governments make trade deals with other countries. UN (193 countries including 5 members of the security council: UK, USA, France Russia, China) encourages peace, and development.
WB (World Bank) give loans to poorer countries</td>
</tr>
<tr>
<td>Questions:
1. What are exports?
2. What are imports?
3. What does Fair Trade involve?
4. What does it allow communities to invest in?</td>
<td>5. What is globalisation?
6. What does interdependent mean?
7. What are the 4 flows of globalisation?
8. State 2 positive and 2 negatives of globalisation</td>
<td>Questions:
1. What does ‘switched on’ mean?
2. What’s the impact of containerisation?
3. What does internet allow?
4. What does the UN encourage?
5. Copy out the 10 key words 3 times</td>
</tr>
</table>

Year 9 Cycle 1 Geography Knowledge Organiser – Development and globalisation

<table>
<tr><th colspan="2">Week 9 – Friday 15th November 2024</th><th colspan="2">Week 10 – Friday 22nd November 2024</th></tr>
<tr><th>Lesson 13 – Superpowers and IGOs</th><th>Lesson 14 – Fashion victims</th><th>Lesson 15 – E waste</th><th>Key Word Practice</th></tr>
<tr>
<td>Key Terms:
Superpowers: Countries that are the most the most powerful nations in the world.

IGOs (Intergovernmental organisations): Group of countries come together and agree a treaty.</td>
<td>Key Terms:
TNCs: Transnational Corporations are large companies that operate all of the world.

Positive multiplier effect: A change has a knock-on effect on other businesses or attracts new businesses.</td>
<td>Key Terms:
E-waste: Electronic products that are unwanted, not working, and nearing or at the end of their “useful life.”</td>
<td rowspan="3">TASK: For the 10 key words below, either write each one out 3 times using look, cover, write, check, OR define each one.

1. Superpower

2. Intergovernmental organisations

3. Transnational Corporations

4. Multiplier effect

5. Controversial

6. Manufacturing

7. Infrastructure

8. Ghana

9. Respiratory

10. Consumerism</td>
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<tr>
<td>Content:
The USA is the world’s main superpower. The BRICS are Emerging or Regional Powers. The EU is a powerful collective of countries.

Examples of global IGOs:
• G8 is the 8 richest economies
• UN is a peacekeeping, development and environmental IGO. The USA, UK, France, China and Russia are the most influential.
• NATO is military IGO between USA and Western Europe
• WB is a economic IGO that gives loans to LICs. The USA is most significant contributor.</td>
<td>Content:
TNCs are controversial (causes discussion/disagreement) – they bring jobs but can cause problems for workers and the environment.

Rana Plaza: Is a textiles manufacturing factory. It makes clothes for Primark, ASDA, Wrangler. In 2013, due to lax environmental laws, building codes and workers conditions, it collapsed killing 1,134 workers.

However, they also create jobs, income, people pay tax, government improves infrastructure. This can help the country out of poverty.</td>
<td>Content:
Agbogbloshie is a former wetland in Accra, Ghana. This is home to the World’s largest e-waste dumping site.

Boys and young men burn the plastic casing off copper wires. So, it can be sold and recycled.

Injuries, such as burn, untreated wounds, eye damage, lung and back problems, chronic nausea, anorexia, debilitating headaches and respiratory problems. Most workers die from cancer in their 20’s.

Consumerism causes this problem but there are questions over who is responsible for reducing the problem.</td>
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<tr>
<td>Questions:
1. What does superpower mean?
2. Who is the world’s main superpower?
3. What does IGO stand for?
4. Give 4 examples of IGOs</td>
<td>5. What are TNCs?
6. What is the positive multiplier effect?
7. Why are TNCs controversial?
8. What happened at Rana Plaza?</td>
<td>Questions:
1. What is E-Waste?
2. What is Agbogbloshie?
3. What do men and young boys do?
4. What injuries do workers get?
5. Copy out the 10 key words 3 times</td>
</tr>
</table>

Week 1		Week 2	
Lesson 1- Voting in the 19th Century	**Lesson 2- Peterloo Massacre**	**Lesson 3- Who were the Chartists?**	**Practice**
Key Phrases **Parliament-** An assembly of representatives, usually of an entire nation, that makes laws **Suffrage-** The right to vote **Franchise-** Another term for the right to vote	**Key Phrases** **Massacre-** the killing of a large number of people at the same time in a violent and cruel way **Yeoman-** A middle-class class servant or officer	**Key Phrases** **Petition-** a document signed by a large number of people requesting some action from the government	**Create a timeline of these key events of the Suffrage movement. You need to put them in chronological order.** **1867-** First debate on women's suffrage presented to Parliament **1832-** The Great Reform Act excluded women from the electorate but does include some more men (as long as they owned property) **1903-** The Women's Social and Political Union (WSPU) is founded by Emmeline Pankhurst **1837-** The Chartist movement calls for fairer representation for all **1819-** The Peterloo Massacre- 50,000 protesters called for fairer representation. Army opened fire on the crowd. 15 killed. **1897-** Formation of the National Union of Women's Suffrage Societies (NUWSS), LED BY Millicent Fawcett
Content Elections in Britain were neither fair nor representative. In order to vote, a person had to own property or pay certain taxes to qualify, which excluded most working class people. There were also constituencies with several voters that elected two MPs to Parliament, such as Old Sarum in Salisbury. These were called Rotten Boroughs.	**Content** The Peterloo Massacre (or Battle of Peterloo) happened at St Peter's Field, Manchester, England, on 16 August 1819. It was when cavalry charged into a crowd of 60,000 to 80,000 gathered at a meeting to demand changes to the voting system. 15 people were killed and about 600 were injured.	**Content** Moral Force Chartism led by William Lovett wanted to achieve reform through peaceful protest and presented petitions to Parliament. Physical Force Chartism led by Feargus O'Connor felt that only a violent campaign would achieve the vote for all men. He gave speeches about how Chartists should be prepared to die for the cause. His speeches became more threatening as time went by.	
Follow the link Answer the questions https://www.bbc.co.uk/bitesize/guides/z6c6cqt/revision/1 1. What sort of people were MPs? 2. What was the distribution of power like? 3. What began happening in 1832?	Follow the link Answer the questions https://www.bbc.co.uk/bitesize/guides/z6c6cqt/revision/2 1. What type of people gathered to protest at St. Peter's Fields? 2. What were they protesting for? 3. How did the government react? 4. Why was tax on newspapers increased?	Watch the video Answer the questions https://www.youtube.com/watch?v=oW_p3YLkScM 1. What was passed in 1832? 2. How does the presenter criticise the act? 3. What was included on the Chartist's Charter? 4. 3 places where riots were crushed?	

Week 3		Week 4	
Lesson 4- Victorian view of women	**Lesson 5 What is the difference between the Suffragettes and Suffragists?**	**Lesson 6- What methods of protest did people use?**	**Practice**
Key Phrases **Different spheres-** The idea that men lived life in the public sphere and women lived life in the private sphere	**Key Phrases** **Protest-** to show or express strong disagreement with or disapproval of something **Militant-** someone who acts aggressively for their cause	**Key Phrases** **Direct Action-** action that seeks to achieve an end directly and by the most immediately effective means	**Cover and practice the spelling of the following words or write out their definitions:** 1. Parliament 2. Suffrage 3. Franchise 4. Massacre 5. Petition 6. Protest 7. Militant 8. Direct Action
Content In Victorian times, women were considered to be physically and mentally weaker than men. As a result of these attitudes, women and men lived their lives in different 'spheres' – in other words their daily lives were very different. Women lived more in the 'private sphere' which is the home and employment that was considered more homely, such as teaching or being a servant. However, men lived more in the 'public sphere' and were more involved in public jobs like politics.	**Content** On the one hand, the suffragists wanted to act **within the law** and follow the route of political persuasion to win support for their cause. On the other hand, suffragettes felt that it was okay to pursue a course of civil disobedience and direct action, even if that meant breaking the law. They felt that if they caused enough problems for the authorities, then the government would be forced to address the issue. Both groups wanted women's suffrage.	**Content** The use of direct action in order to achieve progressive change has always been debated throughout history. Many argue against direct action because of the violence it creates and think that persuading others is a better means of achieving one's aims. "Deeds not words" was the WSPU's slogan and the momentum of the movement made the participants feel that they were finally getting the government's attention, as they were now the focus of the political world.	
Watch the video Answer the questions https://www.youtube.com/watch?v=tstBTVmm-rU 1. According to the Victorians, what was the women's role? 2. What was the vast majority of women doing?	Watch the video Answer the questions https://www.youtube.com/watch?v=pw0IAFIhVfA 1. Summarise the Suffragists 2.Summarise the Suffragettes	Watch the video Answer the questions https://www.youtube.com/watch?v=MFa9i_31Zok 1. What is direct action? 2. What sort of direct action did Emmeline Pankhurst take?	

Week 5		Week 6	
Lesson 7- What was the Cat and Mouse Act?	**Lesson 8- Emily Davison**	**Lesson 9- Women's Suffrage Movement in WW1**	**Practice**
Key Phrases **Hunger Strike-** Refusing to eat for political reasons **Force Feeding-** Using a tub to force food into someone's body to prevent them from dying	**Key Phrases** **Martyr-** someone who is willing to die for his or her beliefs. Usually this inspires others to join the cause	**Key Phrases** **Consequence-** a result or effect **Ammunition-** a supply or quantity of bullets and shells	**Create 5 multiple choice questions. One for each of the topics below:** **1.Voting before 1832** **2. Chartists** **3. Victorian view of women** **4. Methods used by Suffragettes** **5. Cat and Mouse Act**
Content Many protesting Suffragettes went to prison. Suffragettes would go on hunger strike (stop eating) in prison. To stop them from becoming ill, they would often be held down and force-fed by prison staff in a particularly unpleasant procedure! To prevent any Suffragettes on hunger strike from dying in prison, Parliament introduced the "Cat and Mouse" Act. This meant that hunger-strikers were temporarily released from prison until they recovered – before being re-arrested and locked up again!	**Content** Emily Davison died at the Epsom Derby on the 8th June 1913. She was a British activist who became a martyr to the cause of women's suffrage when she entered the racetrack during the 1913 Epsom Derby and moved in front of King George V's horse, which struck her while galloping at full force. She never regained consciousness. Historians are unsure whether she meant to kill herself.	**Content** At the start of 1914, there were two groups of women campaigning for the right to vote: the suffragists and the suffragettes. At the outbreak of World War One, the two groups agreed to suspend their campaigns and support the war effort. In 1918, just before World War One ended, the government finally passed a law giving some women the right to vote for the first time.	
Watch the video Answer the questions https://www.youtube.com/watch?v=BeheUQnLFRE 1. What tactic caused the Cat and Mouse Act? 2. Explain how the Cat and Mouse Act worked?	Watch the video Answer the questions https://www.youtube.com/watch?v=-W_URTWjgR0 1. What new information does the video reveal about Emily Davison? 2. What item has recently come to light?	Follow the link Answer the questions https://www.bbc.co.uk/bitesize/topics/zxwg3j6/articles/zsjg3j6#z3hw8hv 1. What had women proven after WW1? 2. What did the government introduce in 1918? 3. What year did women achieve voting equality with men?	

Week 7		Week 8	
Lesson 10- Democracy and Dictatorships	**Lesson 11- Russian Revolution and Communism**	**Lesson 12- Stalin, Terror, and Propaganda**	**Practice**
Key Phrases **Democracy-** a country in which the people choose their government by voting for it **Dictatorship-** a government where one person makes all the rules and decisions without input from anyone else	**Key Phrases** **Tsar-** The Ruler of Russia (a monarch) **Proletariat-** The workers **Bourgeoise-** Rich capitalists **Revolution-** Time of great change **Manifesto-** A list of political ideas	**Key Phrases** **Terror-** A method used in dictatorships to control the people **Propaganda-** The spreading of information in support of a cause	**Create a timeline of these key events of showing the rise of dictatorships in the 20th century. You need to put them in chronological order.** **1934-** Hitler becomes the Führer (the leader) in Germany **1917-** Russian Revolution- Russia becomes communist **1924-** Stalin takes control in Russia **1935-** Nuremberg Laws passed- a set of laws created to discriminate against Jews **1932-33-** Holodomor- a man made famine that occurred in Ukraine caused by Stalin **1922-** Benito Mussolini becomes Prime Minister in Italy
Content In a democracy the leader of the party with the most votes is in control, but they still have to answer to their political party, and the voters. In a dictatorship there is just one leader and the government disregards the rights of individual citizens such as freedom of speech, religion and fair trial.	**Content** In February, the people forced Tsar Nicholas II to step down from power. Then, in October, the Bolsheviks, led by Vladimir Lenin, took control. They wanted to create a society where everyone was equal and shared everything, based on ideas from Karl Marx. The Bolsheviks changed Russia into the Soviet Union in 1922. They aimed to get rid of rich and poor classes and make sure everyone had the same amount of resources and power. However, this often led to strict government control and limited freedoms for the people.	**Content** Stalin kept control over the Soviet Union by using terror and propaganda. He scared people with secret police and sent many to prison camps or executed them if they didn't agree with him. Stalin also used propaganda, like posters and movies, to make himself look like a hero and make people think he was always right. This way, people were too scared to oppose him and believed he was a great leader.	
Watch the video Answer the question https://www.youtube.com/watch?v=LBFXD06fudM 1. Would a dictatorship be considered authoritarian? 2. What are the key features of a democracy?	Watch the Video https://www.youtube.com/watch?v=KOK1TMSyKcM 1. What were the causes of the revolution? 2. What did the Bolsheviks eventually become?	Watch the video https://www.youtube.com/watch?v=cOI8wKFCEIA 1. Why was Stalin arrested in his youth? 2. When did Stalin take over? 3. How did the 5 year plans go? 4. How did Stalin use terror?	

Week 9		Week 10	
Lesson 13- Treaty of Versailles	**Lesson 14- Hitler's rise to power**	**Lesson 15- Hitler in Power**	**Practice**
Key Phrases **Land-** Germany lost land like the Ruhr **Army-** Germany's army was limited to 100,000 **Money-** Germany had to pay reparations of 6.6 billion **Blame-** Germany got the blame for WW1	**Key Phrases** **Reichstag-** German Parliament building **Enabling Act-** March 1933- this gave Hitler absolute power to make laws **Night of the Long Knives-** June 1934- Hitler orders the deaths of 'disloyal' officers in the SA. Rids himself of in party opposition	**Key Phrases** **Schutzstaffel (SS)-** Hitler's personal bodyguard unit **Gestapo-** Nazi's secret police force **Sicherheitsdienst (SD)-** An intelligence gathering agency	**Cover and practice the spelling of the following words or write out their definitions:** 1. Gestapo 2. Reparations 3. Reichstag 4. Enabling Act 5. Night of the Long Knives 6. Schutzstaffel 7. Gestapo 8. Sicherheitsdienst 9. Propaganda 10. Dictator
Content The Treaty of Versailles was a peace agreement made after World War I. It was signed in 1919 and blamed Germany for the war. Germany had to pay a lot of money, give up land, and reduce its army. This treaty was supposed to prevent future wars, but many Germans were very unhappy with it. The harsh terms of the treaty eventually helped lead to World War II because people wanted to regain their pride and power.	**Content** Hitler's rise to power started in Germany after World War I. The country was in trouble, with people poor and unhappy. Hitler, a powerful speaker, promised to make Germany strong again. He led the Nazi Party, which blamed Jews and others for Germany's problems. In 1933, he became the leader, or dictator, of Germany. He used propaganda and violence to control people and make sure no one could challenge his power.	**Content** By August 1934 Hitler was a dictator with absolute power. In order to maintain this power he needed organisations that could control the population to ensure absolute loyalty to the Führer. He introduced the Gestapo, SS and SD to keep a tight control over the population.	
Watch the video Answer the questions https://www.youtube.com/watch?v=0jycVFL8CNM 1. Name one territorial term 2. How was Germany's army changed? 3. What were the financial terms?	Follow the link Answers the questions https://www.bbc.co.uk/bitesize/guides/zsvhk7h/revision/1 1. What was the consequence of the Reichstag Fire? 2. What was the consequence of the Enabling Act? 3. What was the consequence of the Night of the Long Knives?	Follow the link Answer the questions https://www.bbc.co.uk/bitesize/guides/zsvhk7h/revision/2 1. What was the role of the Gestapo? 2. How did the Nazi party control judges and the justice system?	

Week 11		Week 12	
Lesson 13- Rise of Mussolini	**Lesson 14- Mussolini's Fall from power**	**Lesson 15- Hitler Youth**	**Practice**
Key Phrases **Fascism-** Fascist leaders believe that the strength of the country is more important than the well-being of the people. They rule as dictators, or rulers with unlimited power. They often use violence.	**Key Phrases** **Coup d'état-** the sudden, violent overthrow of an existing government by a small group	**Key Phrases** **Indoctrination-** the process of repeating an idea or belief to someone until they accept it without criticism	**Create 5 multiple choice questions. One for each of the topics below:** **1. Communism** **2. Stalin** **3. Treaty of Versailles** **4. Hitler** **5. Mussolini**
Content Benito Mussolini was an Italian leader who started as a journalist. He formed a group called the Fascists, who believed in strong, strict government. In 1922, Mussolini and his followers marched to Rome and demanded control. The king of Italy was worried and made Mussolini the prime minister. Once in power, Mussolini made himself a dictator, taking away people's freedoms and ruling Italy with strict, harsh policies until World War II.	**Content** Benito Mussolini's fall from power began during World War II when Italy started losing battles. In 1943, his own government lost faith in him and removed him from his position as leader. He was arrested but later rescued by German soldiers. Mussolini tried to keep control in Northern Italy, but it didn't last. In 1945, as the war was ending, he was captured by Italian fighters and executed, marking the end of his rule.	**Content** The Hitler Youth was a group in Nazi Germany for boys and girls, created by Adolf Hitler. It started in the 1920s and became very important in the 1930s and 1940s. Boys learned to be soldiers and girls learned to care for homes and families. They were taught to follow Nazi ideas and to see Hitler as a hero. The group aimed to make young people loyal to Hitler and prepare them to serve his plans during World War II.	
Follow the link Answer the questions https://www.bbc.co.uk/history/historic_figures/mussolini_benito.shtml 1. Who were the Black Shirts? 2. Name one similarity between Hitler's rule and Mussolini's	Watch the video Answer the questions https://www.bbc.co.uk/history/historic_figures/mussolini_benito.shtml 1. What Mussolini's title? 2. Why did Mussolini have to flee Italy? 3. How was Mussolini's body treated?	Watch the video Answer the questions https://www.youtube.com/watch?v=uHERiyU7jcM 1. Why wouldn't the father buy the boy a shirt? 2. What advice did the father give the boy about Hitler Youth?	

Life Skills Knowledge Organiser

Lesson 1 and 2– Different types of families and parenting	Lesson 3 and 4 – Homophobia, transphobia and sexism
Places to access support https://www.nspcc.org.uk/keeping-children-safe/support-for-parents/	**Places to access support** https://www.mind.org.uk/for-young-people/your-rights/understanding-my-rights/ SSO Team
Content: **Nuclear family** - A family unit consisting of two adults and any number of children living together. The children might be biological, step or adopted. **Extended family** - Grandparents, aunts, uncles, and cousins, either all living nearby or within the same household. **Reconstituted family** - Also known as a step family. A family where one or both adults have children from previous relationships living with them. **Single parent family** - Consists of a parent not living with a partner, who has most of the day-to-day responsibilities for raising the children. The children will live with this single parent for the majority of the time, but they may still have contact with their other parent. **Same-sex family** –Same-sex couples cannot conceive together, so their children may be adopted or be the biological children of one member of the couple. They may also be from a sperm donor or a surrogate birth mother. **Parental responsibility**: provide a home for the child, protect and maintain the child You're also responsible for: • disciplining the child • choosing and providing for the child's education • agreeing to the child's medical treatment • naming the child and agreeing to any change of name, looking after the child's property.	**Content:** **Homosexual-** A medical definition for a person who is attracted to someone with the same gender. **Homophobia**– a hate or fear of homosexual people **Transgender-** A person whose gender identity is the binary opposite of their biological sex, who may undergo medical treatments to change their biological sex **Transphobia**- dislike of or prejudice against transsexual or transgender people **LGBTQ+** Lesbian, Gay , Bisexual , Trans , Queer / Questioning + = Other **Sexism-** prejudice, stereotyping, or discrimination on the basis of sex **The Equality Act (2010)** provides a legal framework to protect the rights of individuals and advance equality of opportunity for all. It provides Britain with a discrimination law which protects individuals from unfair treatment and promotes a fair and more equal society. It makes all people equal in regard to sex, age, race, sexuality, religion, disability (this means the same laws apply to everyone).
Questions 1. What is an extended family? 2. What is meant by an reconstituted family? 3. Give an example of what a nuclear family might look like 4. Give an example of two parental responsibilities 5. Which parental responsibility do you think is the most important and why?	**Questions** 1. What is homophobia? 2. What is transphobia? 3. What doe the Q in LGBTQ+ stand for? 4. When might a person experience sexism? 5. What is the Equality Act?

Lesson 5 and 6– Relationships, media and pornography	Lesson 7 and 8 – Sex and Consent
Places to access support https://www.healthforteens.co.uk/relationships/sexting/sexting-just-the-facts/ SSO team	**Places to access support** https://www.brook.org.uk/resources/ SSO team, Family Doctor
Content: **Pornography-** Printed or visual material containing the explicit description or display of sexual organs or activity, intended to stimulate sexual excitement. **Soft Porn-** Films, magazines, photographs etc. that show sexual images such as nudity but not sexual acts **Hardcore Porn-** Films, magazines, photographs etc. that shows sex in a very detailed way, or shows very violent or unpleasant sex. **Revenge Porn-** Revealing or sexually explicit images or videos of a person posted on the Internet, typically by a former sexual partner, without the consent of the subject and in order to cause them distress or embarrassment. **Pornography Laws in the UK** -The legal age to buy pornographic material is 18, be this magazine, DVD's or internet access. The internet tries to prevent under-age access using credit cards or disclaimers. -Under 18's who film or take sexual pictures of themselves or others can be charged with child pornography offences which can lead to prison sentences of up to 10 years. Even if all involved agreed. -It is illegal to watch pornography with an under 18, this is considered a form of abuse. -It is illegal to make and/or distribute pornographic photographs or films without all participants knowledge and consent. This can lead to up to 2 years in prison.	**Content:** **The Law** The age of consent for sex in England is 16. This applies to everyone. Anybody under the age of 13 is not legally capable of consenting to sexual activity. This is an offence under the Sexual Offences Act 2003. **Sexual Consent**- The giving of permission by a person to engage in any form of sexual activity including penetrative and oral sex. Consent can be withdrawn at any time. **When can consent not be given?** 1. When a person is drunk or high, to the point that they are unable to speak or look after themselves. 2. Asleep or Passed Out – if they are not conscious they are unable to agree to any sexual activity. If someone passes out whilst engaging in sexual activity – STOP! 3. They are Underage – Legally a person under the age of 16 cannot give consent to any sexual activity. 4. Mental disability or learning difficulties which mean they are unable to fully understand what they are consenting to.
Questions 1. What is the difference between soft and hardcore pornography? 2. What is revenge porn? 3. What should someone do if they have been a victim of revenge porn? 4. Is it legal to take sexually explicit pictures of yourself if you are under 18? 5. If someone is charged with child pornography, how many years in prison might they face?	**Questions** 1. What is sexual consent? 2. Who is not legally capable of giving sexual consent? 3. What is the age of consent in the UK? 4. When can consent not be given? 5. Can consent be withdrawn at any time?

Lesson 9 - Contraception

Places to access support

https://www.brook.org.uk/resources/

SSO team, Family Doctor

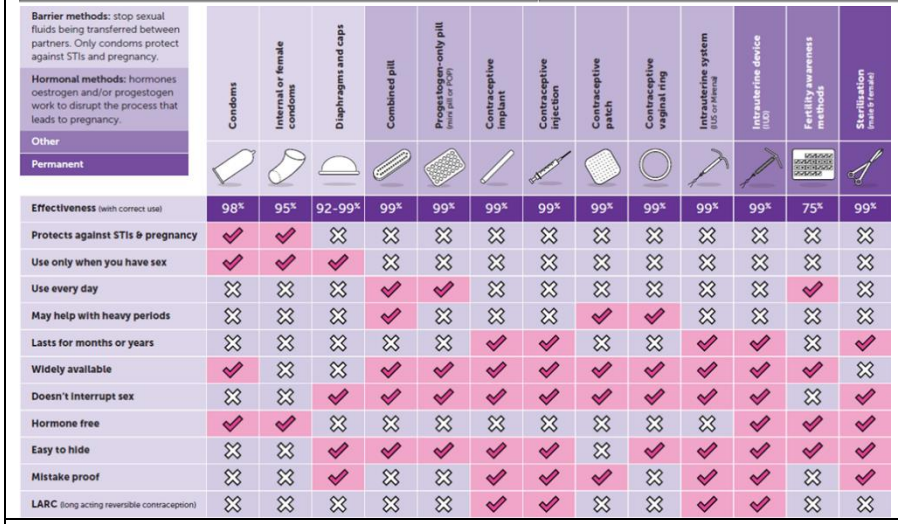
Content:

Natural Methods- Contraceptive methods which do not use hormones or barriers, mostly focused on fertility awareness

Combination Methods- Contraceptive methods which use both hormonal and barrier methods to prevent pregnancy.

Hormonal Methods- Contraceptive methods with use hormones to prevent pregnancy, usually used by Women only.

Barrier Methods- Contraceptive methods which prevent pregnancy by stopping the sperm from reaching the egg.



Questions

1. Give an example of hormonal contraceptive methods.
2. Give an example of a barrier method.
3. Which method of contraception is 98% effective at preventing STI and unwanted pregnancy?
4. Which is the only method of contraception that protects against STIs?
5. Is contraception free from the NHS?

Lesson 10 - 11 - Grooming and Gangs

Places to access support

https://www.barnardos.org.uk

SSO team, Police

Content:

Grooming is when someone builds a relationship, trust and emotional connection with a child or young person so they can manipulate, exploit and abuse them. Children and young people who are groomed can be sexually abused, exploited or trafficked

Exploitation- treating someone unfairly in order to benefit from their work

A Gang can be a group of friends that all like doing the same things. The word takes on a new meaning when a group of friends gets involved in criminal activity. Although it is not illegal to be a member of a gang, much of the activity that criminal street gangs get caught up in is for example – drug dealing, violence and abuse.

County Lines- refers to illegal drugs being moved across the country. The drugs usually cross local authority boundaries. Young people and children as young as eight are often used to transport the drugs and anyone can be affected, regardless of background or gender.

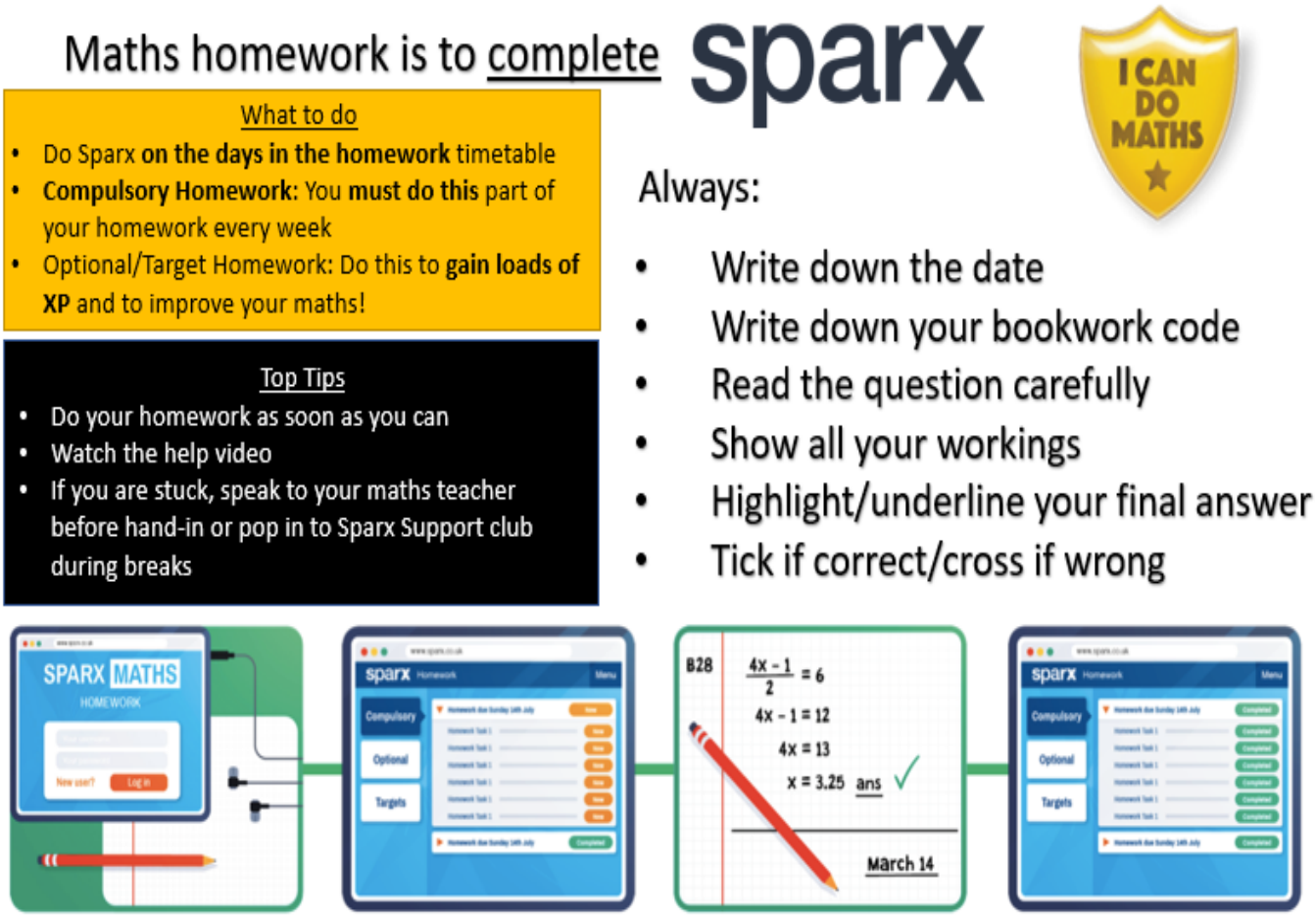
Questions

1. What is meant by 'grooming' a child?
2. What is exploitation?
3. Give an example of gang activity
4. What is 'County Lines'?
5. Where can you seek help if you are concerned about gangs?

Y9C1 Key Maths Knowledge

Your Maths Homework is to complete your sparx

Use this guide to make sure you know **what to do, when to do it and how to do it**:



We want you to do well with your maths and doing Sparx will help.

If you've tried something, watched the video and are still not sure how to do something make sure you ask for help!

You're expected to complete it every week and catch up if you haven't.

EDUCATION SOUTH WEST

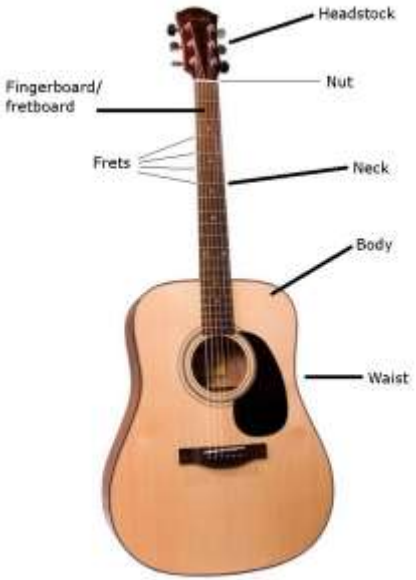
Y9C1 **Your Maths Homework is to complete your sparx**

Item	Description
Simultaneous	Means '*at the **same time**'*
P(A)	Means '*the **probability** of event A occurring'* *example*: P(A) = 0.2 means there is a 0.2 = 20% $= \frac{2}{10}$ chance of event A occurring.
Volume of a prism formula	$volume = area\ of\ cross\ section \times length$
Volume of a cone or pyramid formula	$volume = \frac{1}{3} base\ area \times height$
Volume of a sphere formula	$volume = \frac{4}{3}\pi \times radius^3$
The density formula	$density = \frac{mass}{volume}$
Truncation/truncate	To **truncate** something is to **cut it off**. Eg. Compare these statements: 3.7 can be **truncated** to 3 3.7 can be ***rounded*** to 4
Quadratic	Refers to the presence of a **square term** in an equation or expression. For example $\boldsymbol{x^2}$ and $\boldsymbol{b^2} + 3b - 4$ are quadratics x and $2b - 4$ are not quadratics
The quadratic formula to find solutions of $ax^2 + bx + c = 0$	$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$

YEAR 9

KNOWLEDGE ORGANISER – Musical Futures

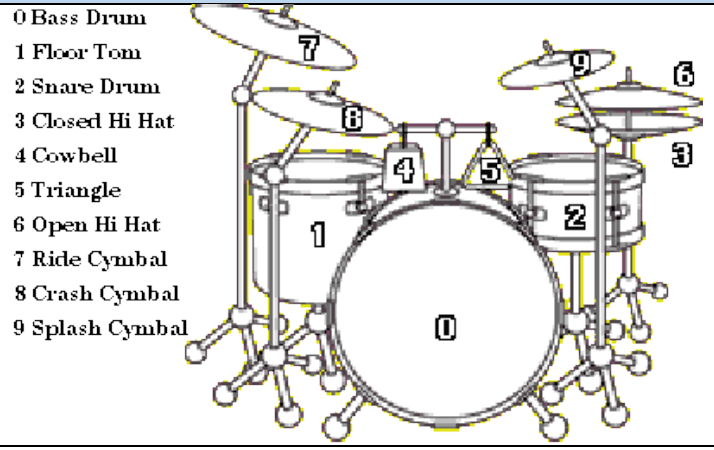
ELEMENTS OF MUSIC



SYNOPSIS

You will work together in small groups to produce a band performance of one of the songs on our repertoire list. We want you to know how it feels to be a musician; not only the hard work you will have to do, but also how great it feels when you put together a polished performance.

DRUM KIT



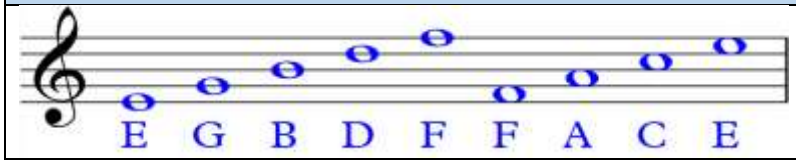
KEYWORDS

Rhythm	The main musical or melodic idea in a piece of music.
Hook	The catchy part of the song
Melody	Another word for melody is 'tune'. A melody is a mixture of moving by step, and moving by leap. If the tune goes up in pitch, it is called '***ascending***'. If the tune goes down in pitch, it is called '***descending***'.
Major/Minor	There are 2 types of chord: **Major** (sounds happy) and **Minor** (sounds sad). The difference is 1 **semitone**. The middle note in a minor chord is a semitone lower
Chord	A chord is 3 notes played at the same time. This type of chord is called a ***triad***. The chords we play in this project have to have a space of 1 white note keyboard key between them. There are 2 types of chord: Major and Minor.
Riff	A repeated melody or pattern. A riff is usually catchy and memorable.
Form	The form refers to the structure of the song. Most pop songs are in verse/chorus form.
Style/Genre	The characteristics to a piece of music
Pop	Stands for popular music. Popular music of today generally has a sung melody, chords on the keyboard or guitar, a riff on the bass line and a drum kit playing the beat.

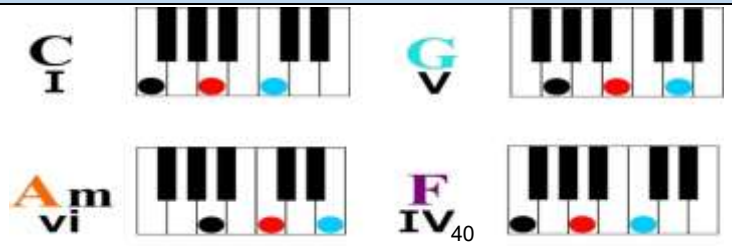
HOW CAN I IMPROVE?

- Practise playing each chord separately, using the correct fingers.
- Try changing to the next chord without making a mistake.
- Play the chords in the correct order and in time.
- Try playing in time with my band.
- Try playing a rhythm on the chord so it sounds different. Then do a different rhythm in the verse and chorus.
- Add a solo section.

NOTE NAMES IN THE TREBLE CLEF



COMMON CHORDS IN POP MUSIC



What Makes a Good Song?

Exploring Popular Songs and Musical Arrangements

A. Popular Song Structure

SONG STRUCTURE – How a song is made up of or divided into different sections (see below) and the order in which these sections occur. To work out the structure of a song, it's helpful to analyse the **LYRICS and** listen to a recording for the song (for instrumental sections).

INTRO – often shortened to 'intro', the first section of a song which sets the mood of the song and is sometimes, but not always, an instrumental section using the song's chord pattern.

VERSES – songs normally have several verses. Verses introduce the song's theme and have the same melody but different lyrics for each verse which helps develop the song's narrative and story. Songs made up entirely of verses are called **STROPHIC**.

LINK – a optional short section often used to join different parts of a song together, often instrumental, and sometimes joins verses together or appears at other points within a song.

PRE-CHORUS – an optional section of music that occurs before the **CHORUS** which helps the music move forward and "prepare" for what is to come.

CHORUS – occurs several times within a song and contains the most memorable **HOOK/RIFF**. The chorus relays the message of the song and is repeated with the same melody and lyrics each time it is heard. In popular songs, the chorus is often repeated several times towards the end of the song.

MIDDLE 8/BRIDGE – a section (often 8 bars in length) that provides contrasting musical material often featuring an instrumental or vocal solo using new musical material allowing the performer to display their technical skill on their instrument or voice.

CODA/OUTRO – The final section of a popular song which brings it to an end (Coda is Italian for "tail"!)

B. Key Words

LYRICS – The words of a song, usually consisting of **VERSES** and a **CHORUS**.

HOOK – A 'musical hook' is usually the 'catchy bit' of the song that you will remember. It is often short and used and repeated in different places throughout the piece. Hooks can be either **MELODIC, RHYTHMIC** or **VERBAL/LYRICAL**.

RIFF – A repeated musical pattern often used in the introduction and instrumental breaks in a song or piece of music. Riffs can be rhythmic, melodic or lyrical, short and repeated.

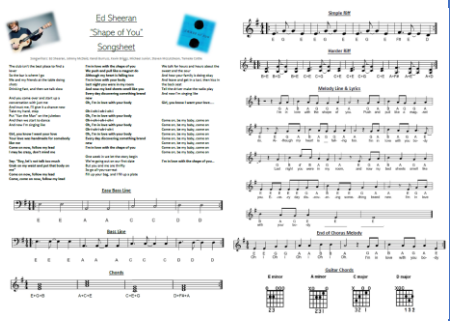
MELODY – The main tune of the song often sung by the **LEAD SINGER**.

COUNTER-MELODY – An 'extra' melody often performed 'on top of' the main melody that 'fits' with it a **DESCANT** or **INSTRUMENTAL SOLO**.

TEXTURE – The layers that make up a song *e.g., Melody, Counter-Melody, Hooks/Riffs, Chords, Accompaniment, Bass Line*.

C. Lead Sheet Notation and Arrangements

A **LEAD SHEET** is a form of musical **NOTATION** that contains only the essential elements of a popular song such as the **MELODY, LYRICS, RIFFS, CHORDS** (often as guitar chord symbols) and **BASS LINE**; it is not as developed as a ***FULL SCORE ARRANGEMENT*** and is open to interpretation by performers who need to use and adapt the given elements to create their own musical **ARRANGEMENT:** their "version" of an existing song.



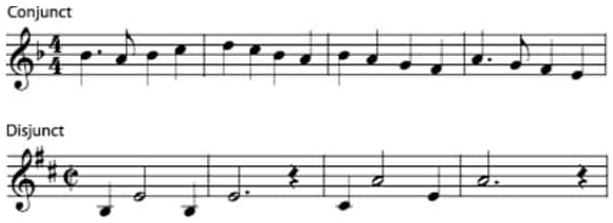
COVER (VERSION) – A new performance, remake or recording by someone other than the original artist or composer of the song.

D. Conjunct and Disjunct Melodic Motion

CONJUNCT MELODIC MOTION – Melodies which move mainly by step or use notes which are next to or close to one another.

DISJUNCT MELODIC MOTION – Melodies which move mainly by leap or use notes which are not next to or close to one another.

MELODIC RANGE – The distance between the lowest and highest pitched notes in a melody.



E. Song Timbre and Sonority (Instruments that are used to Accompany Songs)

Pop Bands often feature a **DRUM KIT** and **PERCUSSION** to provide the rhythm along with **ELECTRIC GUITARS** (**LEAD GUITAR, RHYTHM GUITAR** and **BASS GUITAR)** and **KEYBOARDS**. Sometimes **ACOUSTIC INSTRUMENTS** are used such as the **PIANO** or **ACOUSTIC GUITAR**. **ORCHESTRAL INSTRUMENTS** are often found in pop songs such as the **STRINGS**, **SAXOPHONE, TROMBONE** and **TRUMPET.** Singers are essential to a pop song - **LEAD SINGER** – Often the "frontline" member of the band (most famous) who sings most of the melody line to the song. **BACKING SINGERS** support the lead singer providing **HARMONY** or a **COUNTER-MELODY** (a melody that is often higher in pitch and different, but still 'fits with' the main melody) and do not sing all the time but just at certain points within a pop song e.g. in the chorus.

Year 9 Cycle 1 Sport and PE Knowledge Organiser

Week 1 and 2	Week 3 and 4	Week 5 and 6	Week 7 and 8	Week 9 and 10	Week 11 & 12
Injury Prevention	**Treatment - RICE**	**Environmental risk factors**	**Acute injuries**	**Chronic injuries**	**Symptoms of common conditions**
Sports coaches and athletes try to prevent injuries from happening. There are two factors in injury prevention, **Extrinsic** and **Intrinsic**. **Extrinsic Factors**: - Coaching & supervision – following rules and ensuring correct technique. - Equipment – Sport specific protective equipment. - Correct clothing & footwear - Environmental - weather, playing surface and other performers. **Intrinsic Factors:** - Physical preparation – warming up, being fit to play, balance of muscle strength. - Psychological factors – motivation, aggression level and anxiety level. - Individual factors – gender, age, sleep & nutrition	What do we need to know about treating injuries? - The TYPE of injury - The CAUSE of injury - The SYMPTON(S) of injury - The TREATMENT of injury **The assessment:** S - See A - Ask L - Look T - Touch A – Active movement P – Passive movement S – Strength testing **The Types:** - Heat - Massage - Bandaging - Splints & slings **RICE** – to treat *most* injuries; R - Rest I - Ice C - Compression E - Elevation	**The type of activity will often present different types and levels of risk** - The **weather** – rain, ice and snow can change the playing surface and fog can affect visibility. - The **playing surface** can affect the level of risk: Concrete, astro, ice, wooden floor etc. - **Other participants** – sometimes, an individual will have no control over the actions and decisions made by others around them. Good officiating can limit this kind of risk. - **Equipment** in the area of play – e.g. football posts or sponsor signage. 	Acute injuries are caused as a result of a sudden trauma to the body. Commonalities of acute injuries: - Immediate pain - Swelling - Loss of function - 'hard' tackle or impact with equipment. Examples: - Broken bone - Torn ligament - Instant concussion - Dislocation Acute injuries often include shock of some kind. 	These types of injuries occur and develop over a period of time. They are sometimes known as OVERUSE injuries. They are a result of continuous stress on one area of the body. If spotted and diagnosed early, they can be prevented. This will usually involve active rest or complete rest and sometimes a change in technique. Examples: - Tendonitis - Shin splints - Tennis elbow 	There are two main medical conditions: **Epilepsy:** Symptoms: - Seizures and or fits - Blurred vision - Tingling sensations - Sudden emotion - unresponsiveness Treatment: - Follow emergency care plan of individual - Keep calm - Offer reassurance - Keep airway clear **Asthma:** Symptoms: - Coughing & wheezing - Chest tightness - Pale and clammy skin Treatment: - Reassurance - Inhaler - Emergency services

RPE - Year 9 – Unit 1 – Rights & Responsibilities

Key Words			
Human rights	Everyone is treated equally, with fairness, dignity and respect.	**Human Rights Violations**	Acts that go against the rights of humans.
United Nations	An international organisation to increase political and economic cooperation among member countries.	**Peacekeeping**	The active maintenance of a truce between nations or communities, especially by an international military force.
Controversy	Prolonged public disagreement or heated discussion.	**Genocide**	The deliberate killing of a large group of people, especially those of a particular nation or ethnic group.

Key Information	
Human Rights 	• Human rights can be categorised into 7 basic principles: Life, food, equality, free speech, education, privacy and health care. • The **Convention of the Rights of the Child** sets out both rights and responsibilities for the protection of children. • Controversy can occur when Human Rights come into conflict with national security.
UN 	• **United Nations** formed after WW2 for countries to work together to avoid another large-scale global conflict. • They are engaged in several current peacekeeping missions.
Rwanda 	• The **Rwandan Genocide** resulted from a power struggle between two tribes, The **Hutus** and The **Tutsis**. • Over 1 million people lost their lives over a period of 100 days. • The United Nations were present, but only allowed to monitor and not intervene as questions were raised over whether this conflict could be called a 'genocide.'
Syria 	• The ongoing Syrian conflict arose from the '**Arab Spring'** and the desire for democracy in countries that have traditionally been dictatorships. • Syria is a civil war with both sides being supported by other nations. • There are different ethnicities involved – is this a genocide?
Christian views 	• Christianity teaches that we are all made in the **image of God**; therefore, all people are equal before God. • The **Sanctity of Life** is a Christian teaching which says that because we were all created equal before God all life should be respected, nobody is more important than anyone else and we should live according to this rule.
Buddhism 	• All humans are the same and have equal potential. **"We all want to avoid suffering and achieve happiness..." (Dalai Lama)** • Unhappiness is caused by selfish actions. To build a good society people must have respect for others.
Hinduism 	• Each person should carry out their duties (**dharma**) in life, if carried out properly they will protect the rights and freedoms of others in society. • All life is sacred, and everyone has the right to be free from violence (**ahimsa**).
Islam 	• Islam teaches that all people are creations of **Allah**; therefore, there are basic rights that should be shared by the whole of humanity. • Human rights are God given and therefore should be followed; it is the will of **Allah** (God). • Muslims are taught they should protect human rights because their existence stops tyranny, fighting and rioting. • All life is created by Allah and therefore is sacred and should be protected. • Justice should be administered fairly and equally.

Science Homework

You are expected to complete **Biology, Chemistry** and **Physics** homework tasks on **Seneca** once **every 2 weeks.**

This will be monitored and checked by your teachers.

If you have any issues with Seneca you must speak to your teacher.

Failure to complete your homework could result in a detention.

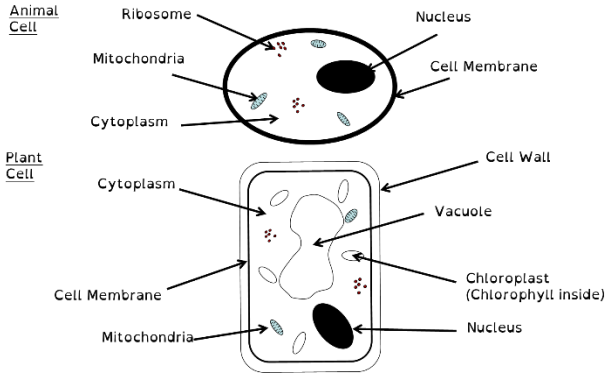
Revision Guide: Foundation pages 11-22, Higher pages 11-22

Lesson 1
Animal and Plant Cells

Cell Theory:

- All living things are made of cells
- A cell is the simplest unit of a living thing

Cells have structures inside which are called **organelles**.
Cells are too small to see with the naked eye, we need to use microscopes to be able to see them.



Function	Structure
Controls what goes in and out of the cell.	Cell membrane
Contains the genetic material (DNA).	Nucleus
Surrounds the cell and gives support.	Cell wall
Contains chlorophyll, absorbs sunlight, where photosynthesis takes place.	Chloroplasts
Contains cell sap and gives support.	Vacuole
Where all the chemical reactions happen.	Cytoplasm
Where proteins are made.	Ribosome
Where respiration takes place.	Mitochondria

Lesson 2
Prokaryotic & Eukaryotic Cells

There are two mains types of cell.

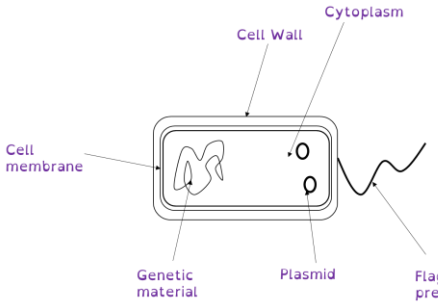
Prokaryotic cells:

- No membrane-bound organelles.
- Only ribosomes

Eukaryotic cells:

- Membrane-bound organelles

Prokaryotic (bacteria) cell:



	Prokaryotes	Eukaryotes
DNA	✓	✓
DNA enclosed in a nucleus		✓
Cell membrane	✓	✓
Cell wall	✓	
Plasmid DNA in cytoplasm	✓	
Ribosomes	✓	✓
Membrane-bound organelles		✓
Simple and oldest	✓	
Larger		✓
Single celled or multicellular		✓

Lesson 3
Specialised Cells

Specialised cell:
A cell that has a special shape and features to help it do it's job.

Examples of specialised cells:

- Fat cells
- Root hair cells
- Palisade mesophyll (leaf) cells
- Sperm cells
- Red blood cells
- White blood cells
- Nerve cells (Neurons)
- Phloem cells

How do cells become specialised?
As organisms develop, cells **differentiate** to form different specialised cells.

Differentiation:
The process by which cells become specialised to do their different functions.

- Most types of animal cell differentiate at an early stage.
- Many types of plant cells retain the ability to differentiate throughout life.

Lessons 4 & 5 Types of Microscope & Microscope Required Practical	Lesson 6 Chromosomes	Lesson 7 Mitosis & The Cell Cycle
Microscopes allow us to see things which we cannot see with the naked eye. There are two main types of microscope: • Light microscope • Electron microscope Electron microscopes have a **higher magnification** and **higher resolution**, this allows you to study cells in much finer detail and see organelles. **Magnification equation:** $\text{Magnification} = \frac{\text{Image size}}{\text{Real size}}$ **Microscope required practical:** 1. Place the microscope slide on the stage, illuminate using a light source or correctly positioning the mirror. 2. Rotate the nosepiece to select the lowest objective lens (x4) 3. Starting with the stage at the lowest position slowly twist the focusing knob until the cells are clear. 4. Produce a drawing for the cells that you see. 5. Label the structures of the cells. 6. State the magnification of the microscope on the drawing.	Key words in order of size (biggest to smallest): Cell Nucleus Chromosomes DNA Gene The genetic information of all organisms is contained in the nucleus, in **chromosomes,** made of DNA. • Human body cells have 46 chromosomes, or 23 pairs. • Each chromosome in a pair has the same type of genes along its length. • One set of 23 chromosomes is inherited from the biological mother (from the egg), and the other set is inherited from the biological father (from the sperm). **Gene:** A section of DNA that codes for a protein which controls a particular characteristic. E.g. natural hair colour, natural eye colour.	Cells in the body need to divide for **growth and repair**. Cells divide to produce two new cells which are exact copies of the original cell by a process called **mitosis**. **Cell Cycle:** A cell which is dividing goes through a series of stages called the cell cycle. The cell cycle has 3 main stages • Interphase • Mitosis • Cytokinesis Steps of the cell cycle: 1. **Interphase** - the cell grows. The number of sub-cellular structures, e.g. mitochondria and ribosomes, increases. 2. The DNA replicates - to form two copies of each chromosome. 3. Further growth occurs and the DNA is checked for errors and any repairs made. 4. **Mitosis** – the chromosomes move apart and two nuclei form. 5. **Cytokinesis** - the cytoplasm divides into two and the new cell membrane separates off to give two new, identical cells (daughter cells). 6. Temporary cell resting period, or the cell no longer divides, e.g. a nerve cell.

Lesson 8 Stem Cells

Stem Cell:
A cell that has not yet become a specialised cell.
Other features:

- It can replicate many times
- Has the potential to become different types of cell.

Where are stem cells found?
In humans - Embryos (embryonic stem cells), adult stem cells – bone marrow, brain, heart etc. (adult stem cells)
In plants - Shoot meristems, root meristems

Human Stem Cells:

- Embryonic stem cells can differentiate into any type of specialised cell in the body.
- Adult stem cells can only differentiate into specialised cells in the tissue in which they are found.

Therapeutic cloning:
The process of creating stem cells with the same genes as the patient.

1. Nucleus taken out of a human egg cell
2. Nucleus from a patient's cell put into the egg cell
3. Egg cell stimulated to divide develop into an embryo
4. Stem cells taken from the embryo after 4-5 days
5. Stem cells grown in a container of warm nutrients
6. Stem cells treated to develop into required cell types for a patient.

Lessons 9 & 10 Diffusion & Factors which affect diffusion

Diffusion:
The net movement of particles from a high concentration to a low concentration (down the concentration gradient).

- Diffusion is a passive process (doesn't require energy).
- Happens in liquids and gases.
- The particles move randomly until they are evenly spread.

The rate of diffusion depends on:

1. The distance the particles have to travel
    - The larger the distance, the slower the rate of diffusion.
1. The concentration gradient
    - The steeper the concentration gradient, the faster the rate of diffusion.
2. The surface area
    - The larger the surface area, the faster the rate of diffusion.
3. The temperature
    - The higher the temperature, the faster the rate of diffusion.

Lesson 11 Osmosis

Osmosis:
The movement of water molecules from an area of high concentration to an area of low concentration through a partially permeable membrane.

- The cell membrane of a cell is partially permeable, it has small pores and only lets small molecules through.

Similarities and differences between diffusion and osmosis:

Similarities	Differences
Is the movement from a high to low concentration	Osmosis involves a partially permeable membrane
Doesn't require energy	Osmosis involves water

Dilute solution - High concentration of water and low concentration of solute.
Concentrated solution – Low concentration of water and a high concentration of solute.

<u>Osmosis in animals:</u>

- If the solution outside the cell becomes more dilute than the cell contents, water will move in by osmosis. The cell will swell and might burst.
- If the solution outside the cell becomes more concentrated than the cell contents, water will move out by osmosis, the cell will shrivel, the cell has become **flaccid**.

<u>Osmosis in plants:</u>

- If the solution outside the cell becomes more dilute than the cell contents, water will move in by osmosis. The vacuole swells and the cytoplasm presses against the cell wall, the cell is **turgid**.
- If the solution outside the cell becomes more concentrated than the cell contents, water will move out of the cell by osmosis. The vacuole and cytoplasm shrink and the cell membrane pulls away from the cell wall, the cell is **plasmolysed.**

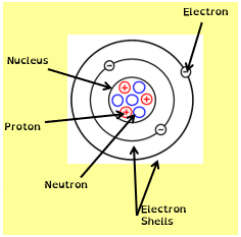
Lessons 12 & 13 Osmosis Required Practical	Lesson 14 Active Transport	Lesson 15 Exchange Surfaces
Aim: To see what happens to cells when they are put in different concentration solutions. To see how the water moves in or out. **Independent variable**: Concentration of salt or sugar solution **Dependent variable**: change in length and change in mass **Control variable**: size of potato cylinders, volume of solutions, time **Percentage change in mass:** • We calculate percentage change in mass to control for differences in the starting masses and lengths of the potato cylinders. • (Change in mass / initial mass) X 100 **Improvements to the method:** • Ensure that the pieces of potato have no skin, all taken from centre. • Use the same species and age of potato. • Calculating % change in mass allows you to compare results. • Using a water bath to keep the temperature of the solutions constant	**Active transport:** The movement of particles from a low concentration to a high concentration, against the concentration gradient, requiring energy from respiration. **Examples of uses:** • Plants use active transport to take in mineral ions from the soil • Marine animals use active transport to push salt from the organism into the sea water. • Active transport is used in animal digestion to absorb glucose from the small intestine into the blood.	**Surface area to volume ratio:** • As organisms get bigger, the surface area to volume ratio falls. The smaller the ratio, the worse the organism is at exchanging substances. • When an organism is bigger, the distance between the centre of the organism and the surface increases, diffusion is no longer enough to exchange important substances. **Calculating surface area:** Surface Area = length x width **Calculating volume:** Volume = length x width x height *These values can then be put into a ratio and simplified*. **Exchange surfaces:** Exchange surfaces are tissues specialised for the exchange of substances in the body and are adapted for this function. These adaptions include: • Thin membranes • Large surface areas • Lots of blood vessels • Ventilation Examples of exchange surfaces: Alveoli in lungs, villi in the small intestine, the leaf in plants, gills in fish.

Lessons 1 & 2 Atoms, Elements & Compounds	Lessons 3 & 4 Balancing Equations & Separation Techniques	Lessons 5 Development of the Atomic Model

• Atoms are the smallest parts of pure substances called elements.
• There are different types of atoms
• An element is a pure substance the only contains <u>one</u> type of atom.
• All elements have their own unique symbol
  • 1st LETTER IS ALWAYS CAPITAL
  • 2nd letter (if there is one) always lower case
• A compound contains atoms from different elements chemically joined in a <u>fixed</u> composition.
• To name simple compounds of metals and non-metals:
  1. Write down the name of the metal
  2. Write down the name of the non-metal (changing the end of the word to "-ide")
• A formula uses the symbols of the elements in a compound.
  • When there is more than one atom of each element, the number is always written <u>after</u> the symbol.
  • H_2O = 2 atoms of hydrogen and 1 atom of oxygen
	• **reactants** (the substances that react together in A reaction)
	• **products** (the substances that are made in a reaction).
	• $reactants \rightarrow products$
	• There must always be the same number of atoms of each element on both sides of an equation — they can't just disappear.
	• When balancing an equation NEVER CHANGE THE FORMULA of a compound.
	• However, you may change the <u>coefficient</u> in front of a compound.
	• A mixture consists of two or more elements or compounds **<u>NOT</u>** chemically combined together.
	• The chemical properties of each substance in the mixture are unchanged.
	• Soluble = A substance that is able to be dissolved in a liquid.
	• Insoluble = A substance that is not able to be dissolved in a liquid.
	• **Separation Techniques:**
	  • Filtration
	  • Crystallisation
	  • Distillation
	  • Chromatography
	  • Evaporation
		• Scientists have used the <u>results of experiments</u> to help them create a model of the atom.
		• <u>Democritus:</u> Suggested that matter cannot be cut into smaller pieces forever. Called the smallest piece the ATOM
		• <u>John Dalton:</u> Revived the idea of Democritus many year later, atoms are indivisible and indestructible, he imagined atoms as tiny spheres and created the first model (a sphere)
		• <u>Joseph Thomson:</u> Credited with the discovery of the electron and created the 'Plum Pudding model'
		• <u>Earnest Rutherford:</u> Discovered that atom has a small, positive NUCLEUS with negative electrons moving around it - mostly empty space. Created the Nuclear Model
		• <u>Niels Bohr</u>: showed that, electrons exist in different "energy levels"
		• <u>James Chadwick:</u> Discovered the nucleus also contained neutrons (as well as protons previously discovered by Rutherford)
		• <u>Current Atomic Model:</u>
		  ○ Small, dense nucleus made up of…
		  ○ positive protons,
		  ○ neutral neutrons,
		  ○ negative electrons, in "orbit" around nucleus

Lesson 6
The Atomic Model

	Proton	Neutron	Electron
Relative mass	1	1	1/2000 (very small)
Relative charge	+1	0	-1
Location	In the nucleus	In the nucleus	Orbits the nucleus in energy levels



- The nucleus is 10,000 times smaller than the atom. (1×10^{-14} m)
- Atomic number = number of protons
- Atomic mass = number of protons + neutrons

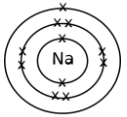
Lessons 7
Ions & Isotopes

- Atoms of the same element can have different numbers of neutrons; these atoms are called isotopes of that element.
- Isotopes have identical chemical properties, but may have different physical properties.
- Different atoms have different masses. Atoms have such a small mass it is more convenient to know their masses compared to each other.
- Carbon-12 is taken as the standard atom and has a **relative atomic mass**(A_r) of 12.
- When the Relative Atomic Mass is calculated it take into consideration all the isotopes of that element.
- $A_r = \frac{(mass\ 1 \times abundance\ 1)+(mass\ 2 \times abundance\ 2)\ldots}{100}$

- Sometimes atoms can gain or lose electrons (this usually happens when they bond with other atoms).
- An ion is an atom that has gained or lost electrons and become charged.
- Metals form positive ions.
- Non-metals form negative ions.

Lesson 8
Electronic Structure

- Rules:
  - The first electron shell can hold up to 2 electrons.
  - All other electron shells can hold up to 8 electrons.
  - Once a shell is full you can then start filling up the next shell.



[2,8,1]

- Elements in the same group have same number of electrons in their outer shell.
- All elements want to get a full outer shell. It makes them more chemically stable.
- To get full outer shells some atoms will try and lose or gain electrons.
  - Metals lose electrons form positive ions.
  - Non-metals gain electrons to form negative ions.

Lesson 1 The Periodic Table	Lesson 2 Metals & Non-Metals	Lesson 3 The Alkali Metals

• Elements are ordered by atomic number (proton number)
• Elements in the same column have the same number of electrons in their outer shell.
• <u>John Dalton:</u>
  • First person to suggested putting elements in an order, he did it by atomic weights
• <u>John Newlands:</u>
  • Arranged elements based on their atomic mass.
  • He noticed that the properties of every eighth element was similar.
  • He produced a table that he called the 'Law of Octaves'
  • He assumed all the elements had been discovered, so just filled in his table even though some elements were not familiar at all.
• <u>Dimitri Mendeleev:</u>
  • Placed the elements in order of atomic weights
  • Placed elements in a way that a periodic pattern of properties was seen
  • He Left gaps for undiscovered elements
  • Instead of leaving elements in the wrong place Mendeleev moved elements to make sure they fit his pattern
	• <u>Metals:</u>
	  • Shiny
	  • High melting points
	  • Good conductors of electricity
	  • Good conductors of heat
	  • High density
	  • Malleable and ductile
	• Found Left of the aluminium staircase.
	• Will lose electrons to form positive ions.
	
	• <u>Non-Metals:</u>
	  • Dull
	  • Low melting points
	  • Poor conductors of electricity
	  • Poor conductors of heat
	  • Low density
	  • Brittle
	• Found Right of the aluminium staircase.
	• Will gain electrons to form negative ions
		• All have 1 electron in the outer shell (Group 1)
		• All silvery-coloured metals.
		• They are soft and can be easily cut with a knife to expose a shiny surface which dulls on oxidation.
		• Have low melting points.
		• Have low densities.
		• These elements are highly reactive metals. The reactivity increases on descending the Group from Lithium to Francium.
		• React vigorously with water to produce an alkaline solution (metal hydroxide) and hydrogen gas given off.
		• All fizz (hydrogen being given off) on the surface of the water.
		• Potassium produces a lilac flame.
		• **More Reactive down the group:**
		  • The atoms become larger
		  • The outer electron is further from the *nucleus*.
		  • The force of attraction between the positively-charged nucleus and the negatively-charged outer electron becomes weaker.
		  • Outer electron is more easily lost.

Lesson 4 The Halogens	Lesson 5 Noble Gases

• Have 7 electrons in their outer shell (group 7)
• Boiling point increases down the group.
• As you go up the group, the reactivity increases.
• All halogens are molecules containing two atoms
• More reactive halogens will displace a less reactive halogen from a compound.
• Fluorine is a very reactive, poisonous yellow gas.
• Chlorine is a very reactive, poisonous dense green gas.
• Bromine is a dense, poisonous, red-brown volatile liquid.
• Iodine is a dark grey crystalline solid or a purple vapour.
• **Less Reactive down the group:**
  ○ The atoms become larger
  ○ The outer electron is further from the *nucleus*.
  ○ The force of attraction between the positively-charged nucleus and the negatively-charged outer electron becomes weaker.
  ○ Harder to attract an electron into the outer shell.
	• Very low boiling point, all gases at room Temperature
	• Like all groups Boiling point increases as you go down the group.
	• As you go down the group density increases
	• Emit light when a current is passed through
	• Very unreactive, do not need to lose or gain electrons so are very unreactive
	• Full outer shells.
	• they exist as single atoms, they are monatomic.

Lesson 1
Energy stores and transfers

Stores of energy

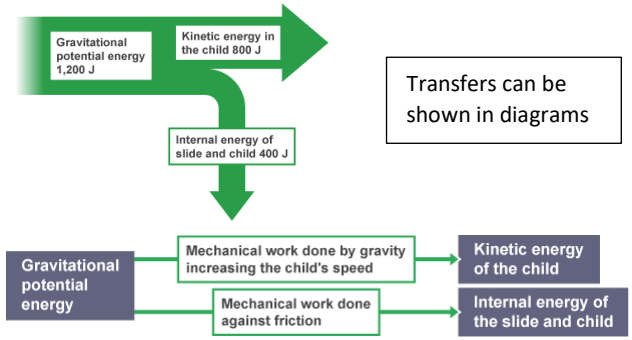
- magnetic
- internal (thermal)
- chemical
- kinetic
- electrostatic
- elastic potential
- gravitational potential
- nuclear

Energy can remain in the same store for millions of years or sometimes just for a fraction of a second. There are energy transfers going on all the time - whenever a system changes there is a change in the way some or all of the energy is stored.

Types of energy transfer:

- mechanical work - a force moving an object through a distance
- electrical work - charges moving due to a potential difference
- heating - due to temperature difference caused electrically or by chemical reaction
- radiation - energy transferred as a wave, eg light and infrared - light radiation and infrared radiation are emitted from the sun

Doing 'work' is the scientific way of saying that energy has been transferred. For example, a grazing cow, a firing catapult and a boiling kettle are all doing 'work', as energy is being transferred.



Transfers can be shown in diagrams

Lessons 2
Gravitational potential

Gravitational Potential energy: The energy of an object at height. The amount of gravitational potential energy gained by an object raised above the ground level can be calculated using the equation:

$$g.p.e = mass\ x\ gravitational\ field\ strength\ x\ height$$

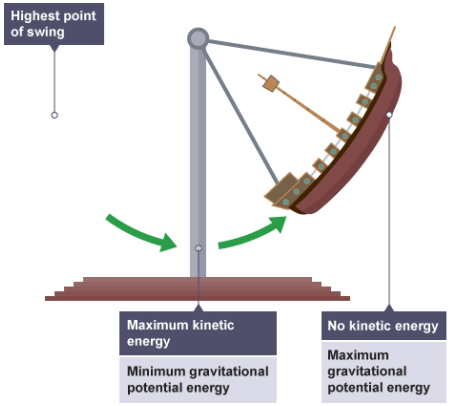
$$[Ep = m\ g\ h\ ]$$

gravitational potential energy, E_p, in joules, J
mass, m, in kilograms, kg
gravitational field strength, g, in newtons per kilogram, N/kg
height, h, in metres, m

Example:

Calculate the gravitational potential energy gained by a child of mass 30kg when it climbs upstairs of height 2.0m.

E_p = mass x g x height
= 30 x 9.8 x 2.0
= 588 J



Lesson 3
Kinetic energy

Kinetic energy:

The kinetic energy of a moving object can be calculated using the equation:

$$K.E. = 0.5\ x\ mass\ x\ (speed)^2$$

$$[EK = \frac{1}{2}\ m\ v^2]$$

Kinetic energy, E_K, in joules, J Mass, m, in kilograms, kg Speed, v, in metres per second, m/s

Example:

A car with a mass of 1,500 kg travels at a speed of 20 m/s. Calculate the kinetic energy of the car.

kinetic energy = 0.5 x mass x $(speed)^2$
= 0.5 x 1500 x 20^2
= 0.5 x 1500 x 400
= 300,000 J

The effect of Mass on Kinetic Energy: If the mass of an object doubles then it's kinetic energy doubles. Mass is directly proportional to Kinetic energy.

The effect of speed (velocity) on kinetic energy: If the velocity of an object doubles the kinetic energy increases by a factor of four. This is because velocity is squared in the Kinetic energy equation.

Remember to Square route speed when rearranging the equation.

$$K.E. = 0.5\ x\ mass\ x\ (speed)^2$$

$$(speed)^2 = \frac{K.E.}{0.5\ X\ mass}$$

$$Speed = \sqrt{\frac{K.E.}{0.5\ X\ mass}}$$

Lessons 4
Elastic potential energy and transfers between stores

Elastic potential energy:

The amount of elastic potential energy stored in a stretched spring can be calculated using the equation:

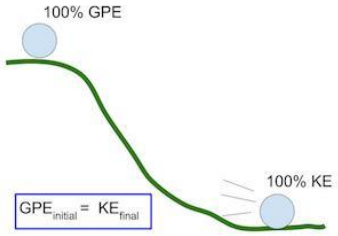
$$Elastic\ potential\ energy = 0.5\ x\ spring\ constant\ x\ (extension)^2$$

$$[Ee = \frac{1}{2}\ k\ e^2]$$

(assuming the limit of proportionality has not been exceeded)
elastic potential energy, E_e, in joules, J
spring constant, k, in newtons per metre, N/m
extension, e, in metres, m

Example
Robert stretches a spring with a spring constant of 3 N/m until it is extended by 50 cm. What is the elastic potential energy stored by the spring.

$$E_e = \frac{1}{2}\ k\ e^2$$
$$E_e = \frac{1}{2} \times 3 \times 0.5^2$$
$$E_e = \frac{1}{2} \times 3 \times 0.25$$
$$E_e = 0.375\ J$$



Gravitational potential energy to Kinetic energy

The Gravitational potential energy at the top of a slope is equal to the maximum kinetic energy at the bottom of the slope. This can be used to calculate maximum speed at the bottom.

Kinetic energy to Gravitational potential energy

The maximum kinetic energy of object as it leaves the ground is equal to the maximum Gravitational energy it can gain as it rises. This can be used to calculate the maximum possible height reached by the object.

Lessons 5 and 6
Specific heat capacity

The specific heat capacity of a substance is the amount of energy required to change the temperature of one kilogram of the substance by one degrees Celsius.

The amount of energy stored in or released from a system as its temperature changes can be calculated using the equation:

$$Change\ in\ thermal\ energy = mass\ x\ specific\ heat\ capacity\ x\ temperature\ change$$

$$[\Delta E = m\ c\ \Delta\theta]$$

change in thermal energy, ΔE, in joules, J
mass, m, in kilograms, kg
specific heat capacity, c, in joules per kilogram per degree Celsius, J/kg°C
temperature change, Δθ, in degrees Celsius, °C

The specific heat capacity of water is 4,200 Joules per kilogram per degree Celsius (J/kg°C). This means that it takes 4,200 J to raise the temperature of 1 kg of water by 1°C.

Example: Sadie is experimenting with a model steam engine. Before the 0.25 kg of water begins to boil it needs to be heated from 20°C up to 100°C. If the specific heat capacity of water is 4,180 J/kg°C, how much thermal energy is needed to get the water up to boiling point?

$$E_t = m\ c\ \Delta\theta$$
$$E_t = 0.25 \times 4,180 \times (100 - 20)$$
$$E_t = 0.25 \times 4,180 \times 80$$
$$E_t = 83,600\ J$$

Lessons 7
Power

Power is defined as the rate at which energy is transferred or the rate at which work is done.

$$Power = \frac{energy\ transferred}{time}$$

$$[P = E / t]$$

$$Power = \frac{work\ done}{time}$$

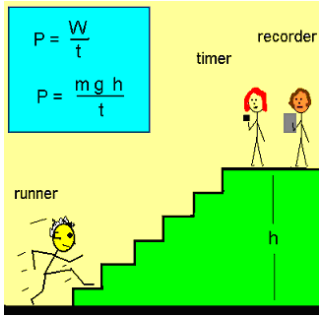
$$[P = W / t]$$

Power, P, in watts, W
Energy transferred, E, in joules, J
Time, t, in seconds, s
Work done, W, in joules, J
An energy transfer of one joule per second is equal to a power of 1 watt.

Example: A hair dryer transfers 48,000 J of energy in one minute. What is the power rating of the hairdryer?

$$P = \frac{W}{t}$$
$$P = \frac{48,000}{60}$$
$$P = 800\ W$$

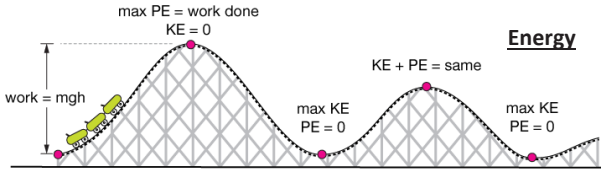
The work done climbing the stairs is equal to the gain in gravitational potential energy. Therefore, if you know your mass, the height of the stairs and the time taken you can calculate the power.



Lesson 8
Conservation of Energy

Conservation of energy

Energy can be transferred usefully, stored or dissipated, **but cannot be created or destroyed.**
During energy transfers in a closed system, **there is no change to the total energy.**



Dissipation: No system is perfect. Whenever there is a change in a system, energy is transferred and some of that energy is dissipated. Any energy that is not transferred to useful energy stores is said to be wasted because it is lost to the surroundings.

- Electrical cables warming up are a good example of this. It is not useful to have hot wires behind a television as energy is dissipated to the surrounding air.
- In a mechanical system, energy is dissipated when two surfaces rub together. Work is done against friction which causes heating of the two surfaces - so the internal (thermal) energy of the surfaces increases. Adding lubricant between the surfaces reduces this friction and so less heat is wasted, like on a conveyor belt for example.
- Energy is usually lost by heating up the surroundings though sometimes energy is dissipated as sound waves.

Lesson 9
Efficiency

The energy efficiency for any energy transfer can be calculated using the equation:

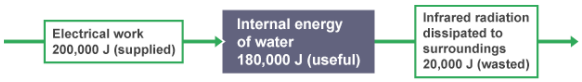
$$efficiency = \frac{useful\ output\ energy\ transfer}{total\ input\ energy\ transfer}$$

The energy supplied to a light bulb is 200 J. A total of 28 J of this is usefully transferred. How efficient is the light bulb?

$$efficiency = \frac{useful\ energy\ transferred}{total\ energy\ supplied}$$
$$efficiency = \frac{28}{200}$$
$$efficiency = 0.14$$
$$percentage\ efficiency = efficiency \times 100$$
$$percentage\ efficiency = 0.14 \times 100$$
$$percentage\ efficiency = 14\%$$

Efficiency may also be calculated using the equation:

$$efficiency = \frac{useful\ power\ output}{total\ power\ input}$$



$$efficiency = \frac{useful\ power\ transferred}{total\ power\ supplied}$$
$$efficiency = \frac{180,000}{200,000}$$
$$efficiency = 0.9$$

Lessons 10
Energy resources

The main energy resources available for use on Earth include:
Non-renewable: will runout can't be replenished

- fossil fuels (coal, oil and gas) and nuclear fuel

Renewable: An energy resource that is being (or can be) replenished as it is used.

- bio-fuel, wind, hydroelectricity, geothermal, the tides, the Sun and water waves.

The uses of energy resources include: transport, electricity generation and heating.

Energy resource	Environmental impact
Fossil fuels (oil, coal and natural gases)	Releases CO_2 (causes global warming)
Nuclear fuels	Radioactive waste (needs to be disposed of safely)
Bio-fuel	'Carbon neutral', so low impact
Wind	Takes up large areas that could be used for farming, some people say windmills spoil the view
Hydroelectricity	Local habitats are affected by the large areas that need to be flooded to build dams
Geothermal	Very low
Tides	Tidal barrages can block sewage which needs to go out to sea
Sun	Very little
Water waves	Very low

Year 9 Learning Cycle 1 Sentence Builder 1:

Week 1: 09/09/24, week 2: 16/09/24, week 3: 23/09/24

1. Use the sentence builder to write 3- 5 sentences in Spanish
2. Translate your sentences into English
3. Now close your knowledge organiser and try to translate your 3 sentences back into Spanish without looking
4. Correct in purple pen

Part 1

Está claro que = it's clear that	es importante estudiar los idiomas/las lenguas = it's important to study languages	porque = because	te permite = it lets you	abrir la mente = open the mind apreciar otros países = appreciate other countries aumentar tus posibilidades = increase your possibilities ayudar a tu cerebro = help your brain conocer a gente distinta = get to know different people conocer nuevos sitios = get to know new places encontrar un trabajo = find a job encontrar tu media naranja = meet your soulmate estudiar en el extranjero = study abroad descubrir otras culturas = discover other cultures hacer nuevos amigos = make new friends mejorar tu inglés = improve your English mejorar tus oportunidades = improve your opportunities trabajar en el extranjero = work abroad

Part 2

En el futuro = in the future 	quiero = I want to voy a = I am going to	hablar = to speak entender = to understand comprender = to understand	el español = Spanish el francés = French el alemán = German el italiano = Italian el chino = Chinese el catalán = Catalan el vasco = Basque el gallego = Gallician

Year 9 Learning Cycle 1 Sentence Builder 2:

Week 4: 30/09/24, week 5: 7/11/24

1. Use the sentence builder to write 3- 5 sentences in Spanish
2. Translate your sentences into English
3. Now close your knowledge organiser and try to translate your 3 sentences back into Spanish without looking
4. Correct in purple pen

<table>
<tr><th>Interrogative</th><th>Verb</th><th></th><th>Verb</th><th>Noun</th><th></th><th>Verb</th><th>Adjective</th></tr>
<tr><td rowspan="2">Cuando = when
  </td><td rowspan="2">fui = I went
fuimos = we went</td><td rowspan="2">al Día de los Muertos = to the Day of the Dead</td><td>me gustó = I liked</td><td>el ambiente = the atmosphere
la ofrenda
el desfile = the procession
la comida típica = the local food
la historia = the history
la cultura = the culture</td><td rowspan="2">y = and</td><td rowspan="2">fue = it was</td><td rowspan="2">aburrido = boring
alegre = cheerful
animado = lively
asqueroso = disgusting
decepcionante = disappointing
diferente = different
divertido = fun
emocionante = exciting
estupendo = amazing
excelente = excellent
extraño = strange
fascinante = fascinating
genial = great
gracioso = funny
guay = cool
hermoso = beautiful
importante = important
increíble = incredible
interesante = interesting
loco = crazy
maravilloso = marvellous
raro = weird
peligroso = dangerous
relajante = relaxing
tolerante = tolerant
único = unique
útil = useful</td></tr>
<tr><td>me gustaron = I liked</td><td>los colores vivos = the bright colours
los disfraces = the fancy dress
las flores = the flowers
las decoraciones = the decorations</td></tr>
</table>

Year 9 Learning Cycle 1 Sentence Builder 3:

Week 6: 14/10/24, week 7: 21/10/24, week 8: 4/11/24

1. Use the sentence builder to write 3- 5 sentences in Spanish
2. Translate your sentences into English
3. Now close your knowledge organiser and try to translate your 3 sentences back into Spanish without looking
4. Correct in purple pen

Time Phrase	Auxiliary Verb	Verb	Festival		
En el futuro = in the future	Me gustaría = I would like Voy a = I am going to	ir a = to go to visitar = to visit participar en = to participate in ver = to see	los Sanfermines de Pamplona	se puede = you can para = (in order) to	correr con los toros = to run with the bulls ir a la plaza de toros = go to the bullring ver una corrida = to watch a bullfight
			las Fallas de Valencia		comer paella = to eat paella saltar sobre los fuegos = jump over the fires ver los fuegos artificiales = to see fireworks
			La Tomatina de Buñol		beber vino = to drink wine pasarlo bien = to have a good time tirar tomates = to throw tomatoes
			La Feria de Málaga		escuchar flamenco = to listen to flamenco ir a un concierto = to go to a concert tocar una guitarra = to play the guitar
			La Semana Santa en Sevilla		apreciar los pasos = appreciate the 'pasos' ir a la iglesia = to go to church ver los desfiles = to see the processions

*a + el = al

Extension: Research a Spanish festival and create a poster with all the information you can find (in Spanish)

Week 9: 11/11/24, week 10: 18/11/24

1. **Use the sentence builder to write 3- 5 sentences in Spanish**
2. **Translate your sentences into English**
3. **Now close your knowledge organiser and try to translate your 3 sentences back into Spanish without looking**
4. **Correct in purple pen**

Noun	Noun	Verb phrase	Verb	Connective	Verb	Adjective
El Día de Reyes = In Epiphany En Navidad = In Christmas En Nochebuena = In Christmas Eve En Nochevieja = In New Year's Eve En Semana Santa = In Easter En Diwali = In Diwali En Eid = In Eid En Jánuca = In Hanukkah En los cumpleaños = In the birthdays Para las bodas familiares = for family weddings	mi familia y yo = my family and I mis hermanos y yo = my siblings and I mis amigos y yo = my friends and I mis compañeros y yo = my colleagues and I	abrimos los regalos. = we open the presents. comemos doce uvas. = we eat 12 grapes. tenemos una gran fiesta. = we have a big party. vamos a la iglesia/ a la plaza/ a la mezquita/ a la sinagoga / al templo. = we go to the church/ town square/ mosque/ synagogue/ temple.	Nos encanta = We love (it) Nos gusta = We like (it) No nos gusta = We don't like (it) Nos encantan = We love (them) Nos gustan = We like (them) No nos gustan = We don't like (them)	porque = because 	es = it is	aburrido = boring alegre = cheerful animado = lively apropiado = aprropriate asqueroso = disgusting decepcionante = dissapointing diferente = different distinto = different divertido = fun emocionante = exciting estupendo = amazing excelente = excellent extraño = strange fascinante = fascinating genial = great gracioso = funny guay = cool hermoso = beautiful importante = important increíble = incredible interesante = interesting loco = crazy maravilloso = marvellous raro = weird peligroso = dangerous relajante = relaxing tolerante = tolerant único = unique útil = useful