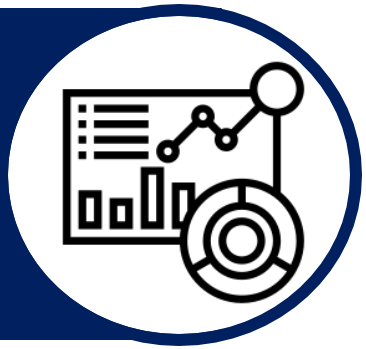
WINTERSTOKE HUNDRED ACADEMY

Knowledge Organisers



Term 5 and 6

Year 8

Contents

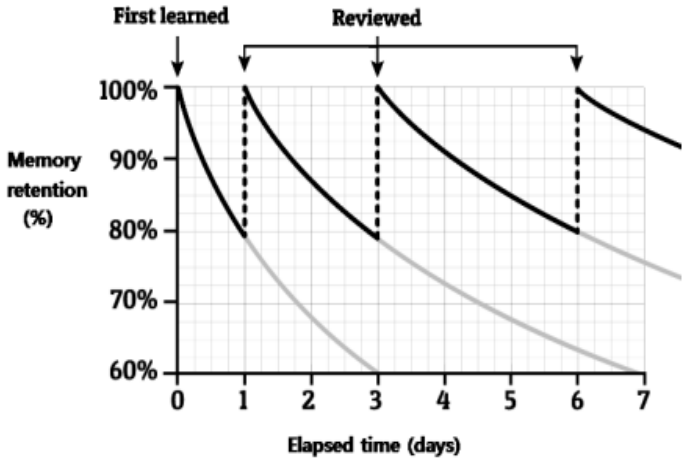
How to revise

Successful Learning Takes Place Over Time

It's rare for anyone to be completely comfortable with something they learn for the first time. This could be a new piece of music, dance move, language or chemistry. We all have to practice. In most instances, the aim is to be at your optimum on the day it matters, e.g. the performance, race or exam. Everything leading up to this point is part of the process of improving. It's about the long-term rather than the short-term, which also means there are no quick fixes. During this period, it's okay to make mistakes; it's okay to feel frustrated. What matters is what you do about it.

Space out your learning on a subject

Spacing out your learning over time is far more effective than last-minute cramming. This is based on research into how we forget and how we remember. The speed at which we forget something will depend on many factors such as the difficulty of the material, how meaningful it was to us, how we learned it and how frequently we relearn or remember it. The last factor tells us that when we learn something for the first time, we need to review it quickly afterwards. The more times we force ourselves to remember something, the longer the gap between reviews, which the diagram below illustrates nicely. The Leitner system and Cornell Notes mentioned earlier provides a wonderful way of achieving this, but the principle applies to all of the learning strategies mentioned in this booklet



Revision strategies

List It

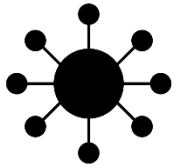
This is a simple free recall task that is very versatile. It can feel challenging, but this is a good thing, and it provides clear feedback on what you do and don't know. Choose a topic, set yourself a time limit and…

- List as many keywords as you can
- List as many facts as you can
- List as many key events/quotes/individuals as you can
- List as many causes of X as you can
- List as many consequences of Y as you can

Flashcards

Flashcards have the potential to be a powerful learning aid. However, how successful this is will depend on the thought you put into making them in the first place and then how they're used. It's very important to remember that they're for testing, not summarising

Mapping



Mapping is a brilliant way of organising and learning information, demonstrated on various pages in this booklet. It helps you break down complex information, memorise it, and see the connections between different ideas.

Self-testing

Research has shown that every time you bring a memory to mind, you strengthen it. And the more challenging you make this retrieval, the greater the benefit. Self-testing improves the recall of information, transfer of knowledge and making inferences between information. Equally, there are many indirect effects, such as a greater appreciation of what you do and don't know, which helps you plan your next steps.

Flashcards

Flashcards are small sheets of paper or card with matching pieces of information on either side. They are a useful tool for learning facts and allow you to quickly check whether you have remembered something correctly.

When making and using flashcards:

Do:

- ✓ …make flashcards quickly.
- ✓ …put a single piece of information of each flashcard.
- ✓ …sort your flashcards according to your confidence with them (see below).
- ✓ …test yourself on the flashcards from memory.

Don't:

- X …spend more time making flashcards than actually using them.
- X …put lots of information onto each flashcard.
- X …revise the flashcards in the same order every time that you use them.
- X …only read through flashcards.

1861	groynes	osmosis	Where is the pharmacy?
Pasteur published his paper about germ theory.	A low wall on the coastline which slows longshore drift	Net movement of water from a high concentration to low concentration across a partially permeable membrane	Où est la pharmacie?

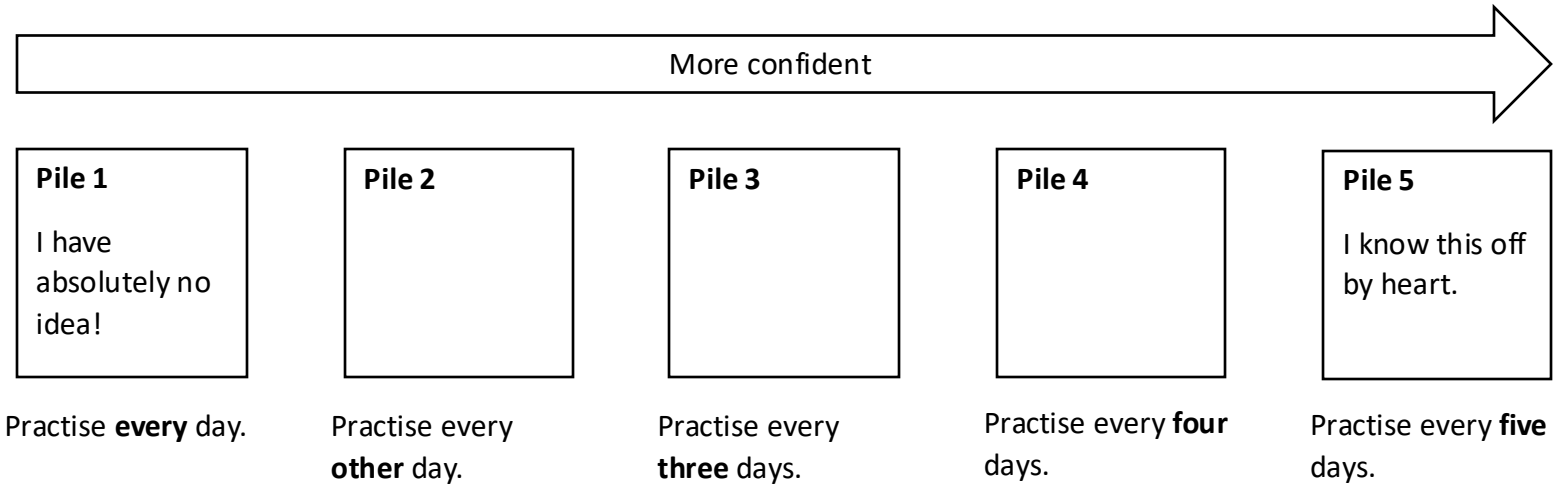
How to make flashcards:

- You can by a set of flashcards or use a free website such as Quizlet.
- Find the information you want to put onto flashcards using your existing revision resources (e.g. a knowledge organiser).
- Fold a piece of A4 paper into 10.
- Write the questions on the top half of the paper.
- Write the answers on the bottom half of the paper.
- Cut the paper along the dotted lines shown here.
- Fold the strips of paper so that the writing is on either side.

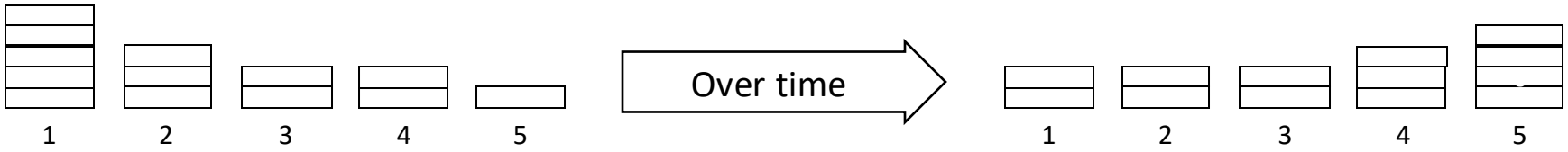
Definition 1	Definition 2	Definition 3	Definition 4	Definition 5
Answer 1	Answer 2	Answer 3	Answer 4	Answer 5

How to use flashcards:

1. Test yourself using the flashcards.
2. As you test yourself, sort the flashcards into up to five piles according to how confident you are with the content.
3. Put the piles into numbered envelopes (1-5).
4. Test yourself on the different piles on different days (see below):



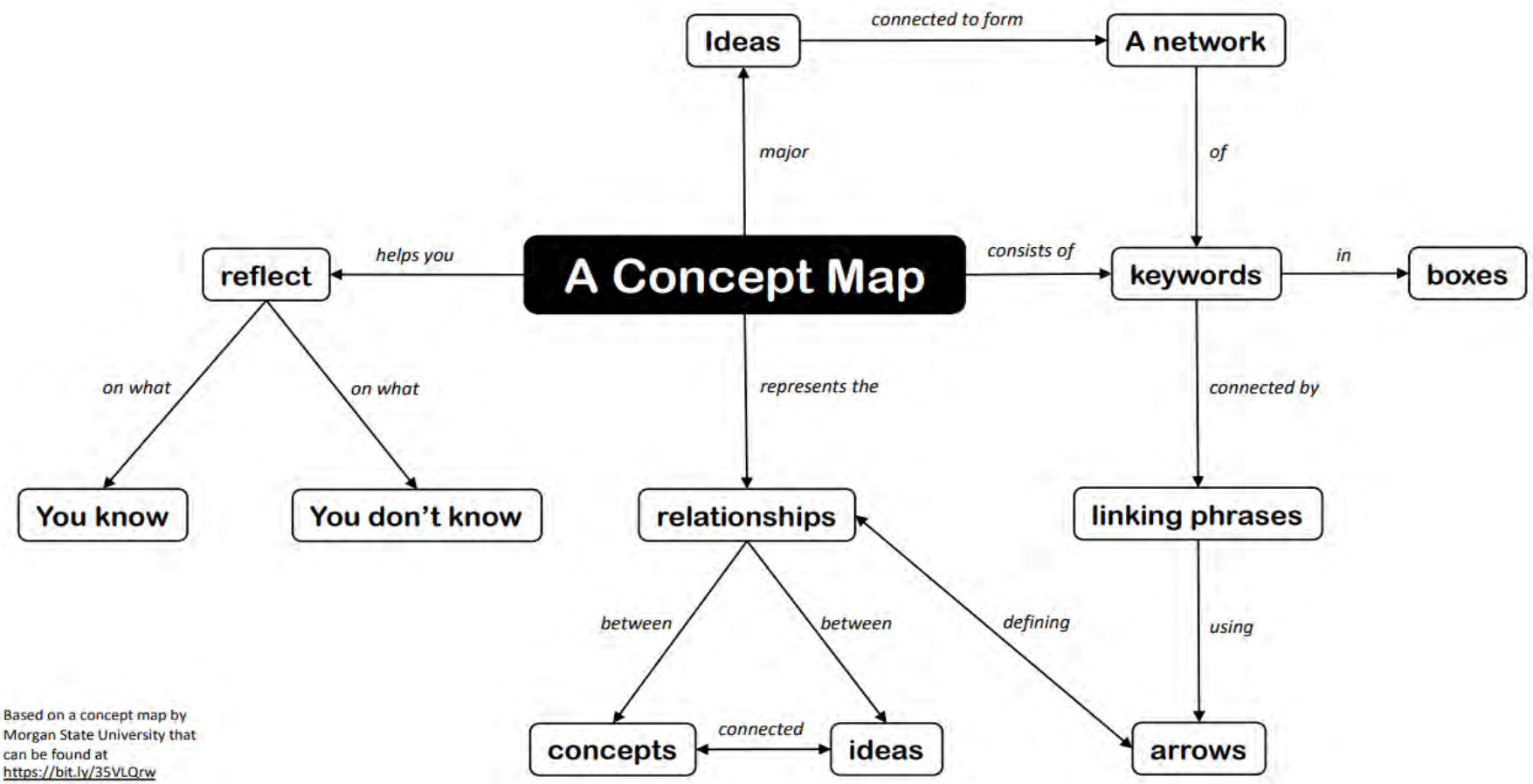
5. As you test yourself on the different piles, move the cards into different piles as you become more confident



Useful resources:

www.quizlet.com – This free website allows you to quickly create flashcards which you can print, use on a computer, or use on your phone.

Mapping



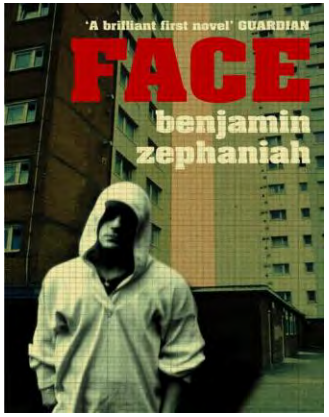
Based on a concept map by Morgan State University that can be found at https://bit.ly/35VLQrw

English

Modern Playscripts

Context

- Benjamin Zephaniah wrote 'Face' in 1999.
- The story is set in the 1990s where gangs and youth crime is on the increase.
- The book is set in a fairly ethnically diverse area of East London where it is very multicultural
- The novel was adapted into a play in 2008
- It's an exciting and powerful piece of theatre, full of lively dialogue and relevant contemporary themes.



Plot

- The story is set in London
- Martin is a Year 10 student who is about to enjoy a summer of fun when a night out at Dancemania goes wrong.
- Martin is severely injured in a car accident
- He has to tackle life as a teenager with injuries that mean people may be prejudiced towards him.
- Initially, Martin isn't someone who follows societal rules, but gradually his horrific experience changes him considerably as a person, along with his attitude towards life
- Eventually Martin realises his life is up to him, and how he looks is nothing to do with it.

English

Modern Playscripts

Characters	
Narrative Martin Turner	This version of Martin looks back on his life objectively and sees the transformation he has experienced. He explains things to the audience and gives them information as a narrator
Past Martin	Past Martin appears to be a lively and confident character, but a little indifferent. He's willing to do anything in order to be popular and he likes taking risks.
Present Martin	He's a contrast to Past Martin. He is now in hospital following the accident
Mark Thorpe	Martin's friend and copycat.
Matthew	More laid-back than the other two, prefers to do things himself.
Natalie Hepburn	Martin's girlfriend, who initially suggest rap music to him.
Mr Lincoln	Martin's form tutor
Alan Green	Martin's counsellor
Anthony	Martin's friend in hospital. . He's a symbol of someone who has accepted himself, his appearance and his image. He's a positive character, living with his disability

English

Modern Playscript

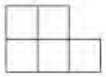
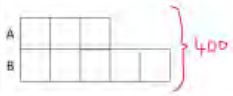
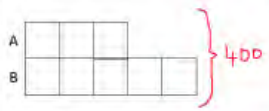
Key Vocabulary 1			
Narrators	The character that tells the story	**Multicultural**	Where there are examples of people from lots of different backgrounds and ways of living
Chorus	Plays the part of linking the audience to the action on stage	**Obituary**	The ability to make your own choices independent of any other influence
Prologue	A part that comes at the beginning of a play or novel	**Freewill**	The ability to make your own choices independent of any other influence
Epilogue	A section or speech at the end of a book or play that comments on what has happened	**Self determination**	The ability to make decisions for yourself
Inclusive	Where there are examples of people from all kinds of backgrounds and abilities included in an event	**Resilience**	The ability to recover from injustice or hardship
Peer pressure	Where groups of people of a similar age influence others	**Identity**	The fact of being you – the ingredient that make you, you
Trauma	Severe and lasting shock from a past difficult experience	**Resistance**	The refusal to accept or comply with something
Vanity	Excessive pride in or admiration of one's own appearance.	**Disability**	A physical or mental condition that limits a person's movements, senses, or activities.
Disfigurement	Something which spoils the appearance of something or someone	**Discrimination**	Unjust treatment of others on the grounds of age, race, gender, disability etc

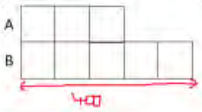
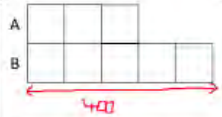
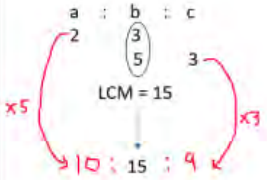
English

Modern Playscript

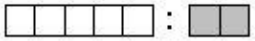
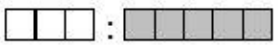
Key Vocabulary 2		
Colloquial language	Informal language we associate with speech	
Idiom	An everyday expression e.g. 'It's a piece of cake'	
Morphology	The study of words and their parts	
Rhetoric	The art of persuasion- using ethos, pathos and logos	
Direct address	Where the writer or characters speak directly to the reader/audience	
Dialogue	Words spoken between two or more characters in a text	

Ratio

Simplify 12:18:30	2:3:5
Write 3:9 in the form 1:n	 1:3
If a:b:c = 2:3:5 what fraction is b?	$\frac{3}{10}$
If the question says share into a ratio 2:3…	Draw a bar model 
Alice and Ben share £400 in a ratio of 3:5 How would you draw and label the bar model?	
 How would you work out 1 part in this bar model?	400 ÷ 8 = 50
 How much would Alice receive in this bar model?	400 ÷ 8 × 3 = 150

Alice and Ben share money in a ratio of 3:5. Ben receives 400. How would you draw and label a bar model?	
 How much would you work out 1 part in this bar model?	400 ÷ 5 = 80
 How much would Alice receive in this bar model?	400 ÷ 5 × 3 = 240
Alice and Ben share money in a ratio of 3:5. Ben receives 400 more than Alice. How would you draw and label a bar model?	
 How would you work out 1 part in this bar model?	400 ÷ 2 = 200
 How much would Alice receive in this bar model?	400 ÷ 2 × 3 = 600
Combining ratios… a : b = 2 : 3 b : c = 5 : 3 Write the ratio a : b : c in its simplest form	

Ratio, fractions and linear functions

$x : y$	visual representation	x as a fraction of whole	y as a fraction of whole	x as a fraction of y	y as a fraction of x	Linear equation	$x = \ldots$	$y = \ldots$
5 : 2		$\frac{5}{7}$	$\frac{2}{7}$	$\frac{5}{2}$	$\frac{2}{5}$	$2x = 5y$	$x = \frac{5}{2}y$	$y = \frac{2}{5}x$
3 : 4				$\frac{3}{4}$		$4x = 3y$		
1 : 7			$\frac{7}{8}$					
								
						$3x = 7y$		

Maths

Scale Diagrams

Map scales: A scale of 1 : 200 means	1cm on map = 200cm in real life OR 1cm on map = 2m in real life
The scale 1 : 250,000 means…	For every 1cm in the image there are 250,000cm in real life.
Write the scale 1 : 250,000 with units.	$1 : 250{,}000$ 1cm in the **image** corresponds to 250,000cm in **real** life. $1cm : 250{,}000cm$ $1cm : 2{,}500\ m$ $1cm : 2.5\ km$

Draw and interpret scale diagrams

A picture of a car is drawn with a scale of 1:30

For every 1cm on my image is 30cm in real life

The car image is 10cm

Image	Real life
1cm	30cm
10cm	300cm

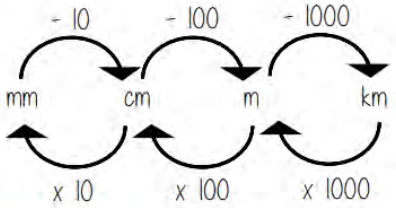
(×10 between 1cm and 10cm; ×10 between 30cm and 300cm)

The car in real life is 210cm

Image	Real life
1cm	30cm
7cm	210 cm

(×7 between 1cm and 7cm; ×7 between 30cm and 210 cm)

Interpret maps with scale factors



1 cm : 250 m

Ratios need to be in the same units

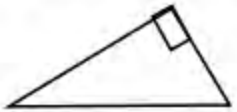
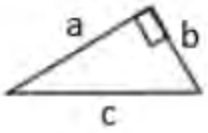
1 cm : 250m

1 cm : 25000cm

250 x 100 = 25000

For every 1cm on my map is 25000cm in real life

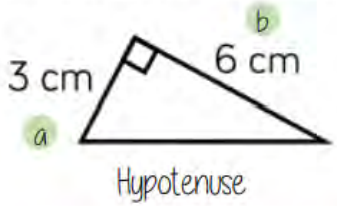
Pythagoras' Theorem

Conditions needed to use Pythagoras	Right angled triangle Finding a length 2 other lengths known
Hypotenuse means	Longest side (opposite the right angle)
Pythagoras' theorem formula is	$a^2 + b^2 = c^2$
Label a, b and c where c is the hypotenuse 	
The first 3 Pythagorean triples are	3,4,5 6,8,10 5, 12, 13
Finding the hypotenuse (longest side c) use…	Square Add Square root
Finding a shorter side (a or b) use	Square Subtract Square root

Maths

Pythagoras' Theorem

Calculate the hypotenuse



Either of the short sides can be labelled a or b

$a^2 + b^2 = \text{hypotenuse}^2$

1. Substitute in the values for a and b

$3^2+6^2 = \text{hypotenuse}^2$

$9 + 36 = \text{hypotenuse}^2$

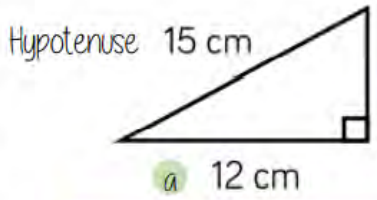
$45 = \text{hypotenuse}^2$

2. To find the hypotenuse square root the sum of the squares of the shorter sides

$\sqrt{45} = \text{hypotenuse}$

$6.71cm = \text{hypotenuse}$

Calculate missing sides



Either of the short sides can be labelled a or b

$a^2 + b^2 = \text{hypotenuse}^2$

$12^2+b^2 = 15^2$

1. Substitute in the values you are given

$144 + b^2 = 225$

$-144 \quad -144$

Rearrange the equation by subtracting the shorter square from the hypotenuse squared

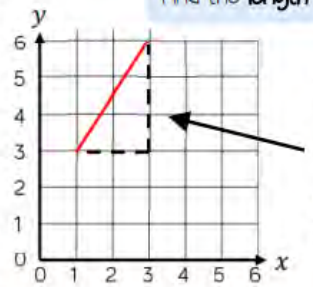
Square root to find the length of the side

$b^2 = 111$

$b = \sqrt{111} = 10.54\ cm$

Pythagoras' theorem on a coordinate axis

Find the **length** of the line segment



The segment can be made into a right-angled triangle by adding the sides on the diagram

The line segment is the **hypotenuse**

$a^2 + b^2 = \text{hypotenuse}^2$

The lengths of a and b are the sides of the triangle

Be careful to check the scale on the axes

Maths

3D shapes

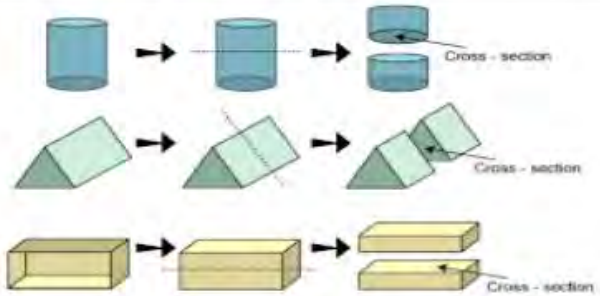
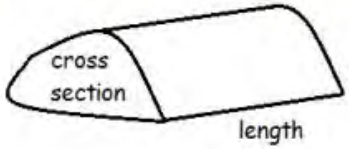
Vertices are	The corners of the object
Edges are	The lines that join the vertices
Faces are	The flat surfaces of the shape
A prism is	A 3d object that has the same cross-section running through

Picture	Name and is it a prism?	Faces	Edges	Vertices
	Cube Yes	6	12	8
	Cuboid Yes	6	12	8
	Tetrahedron No	4	6	4
	Square based pyramid No	5	8	5
	Triangular prism Yes	5	9	6

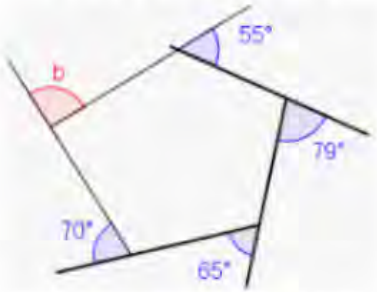
	Cylinder
	Cone
	Sphere

Maths

Volume

You use volume when the question talks about	Capacity How much a 3d object can hold
Units of volume are	$units\ cubed\ \ e.g\ \ cm^3\ m^3$
A prism is	A 3d object where the cross-section is the same shape throughout. If you cut it, it will look the same throughout
Example of prisms where the cross-section is the same throughout	
Volume of a prism can be found by	Area of cross section x length 
Volume of a cuboid can be found by	Length x width x height
Volume of a triangular prism can be found by	Length x width x height ÷ 2
Volume of a cylinder can be found by	$\pi \times radius^2 \times height$
1 litre = ____ cm^3	1000

Calculating Angles

Angle fact: 	Vertically opposite angles are equal
Vertically opposite angles are formed when…	Two straight lines intersect (cross)
Formula for sum of interior angles in a polygon 	$(n-2) \times 180$, where n is the number of sides
Angles in a triangle sum to	180°
Angles in a quadrilateral sum to	360°
Angles in a pentagon sum to	540°
Angles in a hexagon sum to	720°
Exterior angles in any polygon sum to ____  Calculate the angle marked b	Exterior angles in any polygon sum to **360°** $180 - (55 + 79 + 65 + 70) = 91^0$
An interior and exterior angle lie on a _____ so sum to ____	An interior and exterior angle lie on a **straight line** so sum to **180°**
To calculate one exterior angle in a regular polygon…	$360 \div n$, where n is the number of sides

Science

Photosynthesis and Ecosystems

1. Photosynthesis in Plants

Animals need to eat food to get their energy. But green plants and algae do not. Instead they make their own food in a process called **photosynthesis**. Almost all life on Earth depends upon this process. Photosynthesis is also important in maintaining the levels of oxygen and carbon dioxide in the atmosphere.

Word equation

carbon dioxide + water → glucose + oxygen

from the air — from the ground — their food — released into the air

Symbol equation:

$6CO_2 + 6H_2O \rightarrow C_6H_{12}O_6 + 6O_2$

2. Location of photosynthesis in plants

Photosynthesis takes place inside the **chloroplasts** of the plant cells, these contain a green pigment, **chlorophyll**. This absorbs the light energy needed to make photosynthesis happen. The leaf is a plant organ adapted to carry out photosynthesis. The table describes some of its adaptations:

Thin	a short distance for CO2 to move by diffusion
Chlorophyll	Absorbs light
Stomata	Allows CO2 to move in by diffusion
Guard cells	open and close the stomata depending on the conditions
Tubes	To transport water (xylem) and glucose (phloem)

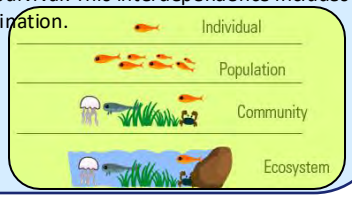
3. Measuring the effect of light intensity on photosynthesis

Method:

1. Leave for five minutes for the pondweed to acclimatise to the new
2. Count the number of bubbles given off in one minute.
3. Move the light 10 cm further back.
4. Leave for five minutes for the pondweed to acclimatise again.
5. Count the number of bubbles given off in one minute.
6. Repeat by moving the lamp away by 10 cm intervals until 50 cm is reached.

4. Habitats and Ecosystems

An **ecosystem** consists of **communities** of different living things, in single species **populations** living in their habitats. Examples of these include habitats include coral reefs, marshes and lakes. All the living things (**biotic factors**) and non-living things (**abiotic factors**) in an ecosystem depend upon each other for survival. This interdependence includes through feeding, pollination.



5. Sampling Techniques

Sampling is done to look at the organisms in a population within an ecosystem in a practical way as counting each one individually is not always feasible. This is usually done using quadrats which marks off small areas to then use to estimate the population. A quadrat is usually a square made of wire. It may contain further wires to mark off smaller areas inside, such as 5 × 5 squares or 10 × 10 squares. The organisms underneath, usually plants, can be identified and counted. Quadrats may also be used for slow-moving animals, eg slugs and snails.

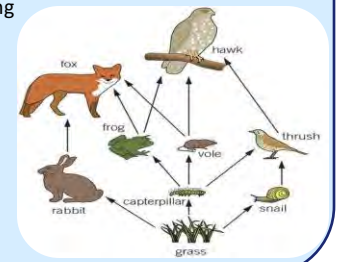
6. Food Chains/Biomass

A food chain shows the different species of an organism in an ecosystem, and what eats what. Organisms at each level have different terms:

The population of each organism in a food chain can be shown in a bar chart called a pyramid of numbers or a pyramid of biomass where the bars are drawn to scale. Energy is lost to the surroundings as we go from one level to the next, so there are usually fewer organisms at each level in this food chain.

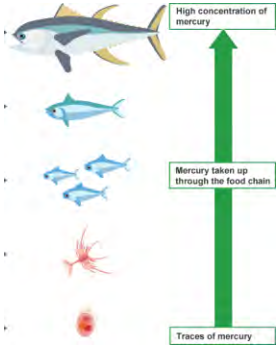
7. Food Webs

When all the food chains in an ecosystem are joined up together, they form a **food web.** Although it looks complex, it is just several food chains joined together. This leads to some interesting effects if the population in the food web decreases. Some animals can just eat more of another organism if food is in short supply, while others may starve and die. This in turn can affect the populations of other organisms in the food web.



8. Pollution and Pesticides

Some pollutants (including pesticides) quickly break down in the environment whilst others do not. These bio-accumulate in the food chain and damage the organisms in it. The predators at the end of the chain are most effected because compounds cannot be excreted and travel up the food chain.



Science

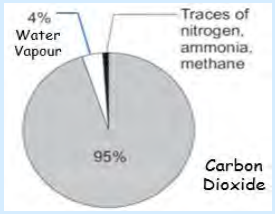
Earth & Atmosphere

1. Composition of the Earth

The Earth's crust, it's atmosphere and the oceans are the only sources of natural resources for human life!
The Earth has four layers:
– Crust (thin and rocky)
– Mantle (properties of solid but flows easily)
- Outer core (made from nickel and iron)
– Inner core (made from nickel and iron)

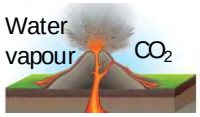
2. Composition of the Early Atmosphere

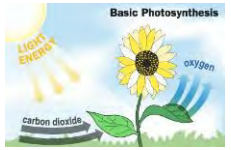
The Earth's early atmosphere was composed of 95% carbon dioxide, 4% water vapour and 1% of trace gases which included Nitrogen, Ammonia and Methane.



3. Evolution of Atmosphere

In the 4.5 billion years since the Earth formed it's atmosphere has changed considerably. This has happened in three main stages:

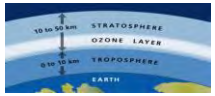




<u>Stage 1 – Volcanoes:</u>
The majority of the early atmosphere was carbon dioxide and water vapour. This was produced by volcanoes. After a time the water vapour condensed and formed the oceans.

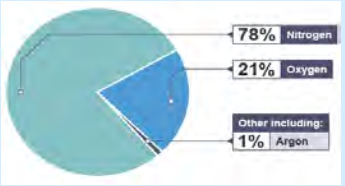
<u>Stage 2 – Green plants:</u>
Green plants and algae evolved and used the carbon dioxide for photosynthesis. They also produced oxygen. Basic organisms evolved that were able to use the oxygen.

<u>Stage 3– Complex animals:</u>
The oxygen allowed more complex organisms to form. The ozone layer formed and this allowed further evolution of complex organisms.



4. Composition of the Today's Atmosphere

Nitrogen is the most abundant gas in today's atmosphere at 78%. Today's atmosphere contains 21% Oxygen and 1% Argon.



5. Fossil Fuels

About three-quarters of the electricity generated in the UK comes from power stations fuelled by fossil fuels. Energy from the burning fuel is used to boil water. The steam turns turbines, and these turn electrical generators.

6. Generating Electricity

Crude oil, coal and gas are fossil fuels. They were formed over millions of years from the remains of dead organisms. Coal was formed from dead trees and plant matter. Crude oil and gas were formed from dead marine organisms.

7. Non Renewable Energy Sources

Non renewable energy sources include fossil fuels such as coal, oil and natural gas. These sources are a finite resource, which means when they have been used up, they cannot be replaced. Worryingly, humans are using them faster than they are forming!

8. Renewable Energy Sources

Scientists are trying to find alternative methods of generating electricity using renewable energy sources.

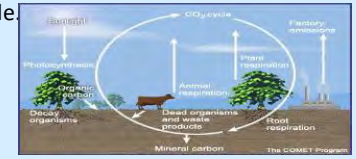
These are energy sources that will not run out or produce carbon dioxide and other greenhouse gases. They are 'cleaner' and more sustainable although they do come with advantages and disadvantages.

9. Renewable Energy Resources

Resource	Adv.	Disadv.
Wind	no CO_2	Unsightly, not always windy
Solar	No CO_2	Expensive, not always sunny
Hydroelectric	No CO_2	Destroys habitat
Geothermal	No CO_2	Specific locations

10. Carbon Cycle

All cells - whether animal, plant or bacteria - contain carbon. Carbon is passed from the atmosphere (as carbon dioxide) to living things, passed from one organism to the next and returned to the atmosphere as carbon dioxide again. This is known as the carbon cycle.



11. Carbon Cycle

Step 1: Removing carbon dioxide from atmosphere
Green plants remove carbon dioxide from the atmosphere by photosynthesis. The carbon becomes part of complex molecules such as proteins, fats and carbohydrates in the plants.

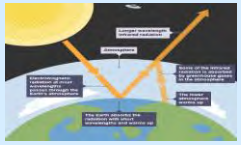
Step 2: Returning carbon dioxide to atmosphere
Organisms return carbon dioxide to the atmosphere by respiration. It is not just animals that respire. Plants and microorganisms do, too.

12. Carbon Cycle

Step 3: Passing carbon from one organism to next
When an animal eats a plant, carbon from the plant becomes part of the fats and proteins in the animal. Microorganisms and some animals feed on waste material from animals, and the remains of dead animals and plants. The carbon then becomes part of these microorganisms and detritus feeders.
Step 4: Returning carbon dioxide to the atmosphere
When fossil fuels are burned (combustion) in factories or transportation, carbon is released into the atmosphere as carbon dioxide gas.

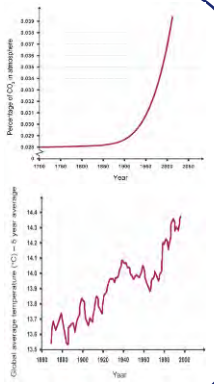
13. Greenhouse Effect

The greenhouse effect is when greenhouse gases (carbon dioxide, methane and water vapour) in the Earth's atmosphere trap radiation from the sun and heat up the planet. Without the greenhouse effect the Earth would be too cold for us to survive on it.



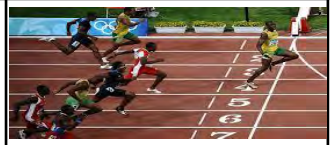
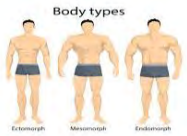
14. Global Warming

The extra greenhouse gases released by human activity lead to the enhanced greenhouse effect. More heat is trapped by the atmosphere, causing the planet to become warmer than it would be naturally. The increase in global temperature this causes is called global warming.



WHA PE

Components of Fitness

	Physical Components	Definition	Sporting example
1	**Aerobic Endurance**	The ability to exercise your cardio respiratory system for a long period of time.	
2	**Muscular Endurance**	The ability to exercise your muscular system for a long period of time.	
3	**Muscular Strength**	The maximum force that a muscle or muscle group can produce.	
4	**Flexibility**	The range of movement around a joint.	
5	**Speed**	The distance covered over time (metres per second	
6	**Body Composition**	The ratio of fat mass to fat free mass in the body.	

	Skill Components	Definition	Sporting example
7	**Balance**	The ability to maintain a centre of mass above a base of support.	
8	**Coordination**	Being able to use two or more body parts at once to complete a motor task efficiently.	
9	**Reaction Time**	The time taken to respond to a stimulus.	
10	**Power (Explosive Strength)**	The combination of speed and strength.	
11	**Agility**	The ability to change direction at speed without losing balance.	

8.5 Food and Drink
FRENCH

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Est-ce que tu aimes... ?
Do you like...?

OPINION	NOUN	JUSTIFICATION	INTENSIFIERS	ADJECTIVES
Je préfère I prefer **J'adore** I love **J'aime** I like **Je n'aime pas** I don't like **Je déteste** I hate **À mon avis** In my opinion **Je pense que** I think that	**le pain (bread)** **le poisson (fish)** **le fromage (cheese)** **le beurre (butter)** **le lait (milk)** **le café (coffee)** **le thé (tea)** **le coca (coke)** **le jus d'orange** **le sucre (sugar)** **le jambon (ham)** **le chocolat chaud (hot chocolate)** **la pomme (apple)** **la viande (meat)** **la confiture (jam)** **la glace (ice-cream)** **les haricots verts (green beans)** **les légumes (m) (vegetables)** **les frites** (chips) **les chips (crisps)** **les épinards (spinach)** **les champignons (mushrooms)** **les oeufs (eggs)** **l'eau (water)** **Le poulet (chicken)** **La nourriture (food)**	**parce que c'est** because it is	**très** very **assez** quite **un peu** a bit **trop** too	**agréable** (pleasant) **délicieux/euse** (delicious) Frais / fraiche **savoureux/euse** (tasty) **sain/e** (healthy) **horrible** (horrible) **terrible** (awful) **Sucré /doux/douce** (sweet / soft) **aigre** (sour) **dégoûtant/e** (disgusting) **épicé/e** (spicy) **salé** (salty) **gras/se** (fatty) **bon/bonne pour la santé** (good for your health) **mauvais/e pour la santé** (bad for your health) ⚠ **NO ADJECTIVAL AGREEMENT AFTER C'EST** (after **C'EST the adjective is always MASCULINE)**

AU RESTAURANT	**IN THE RESTAURANT**
Qu'est-ce que vous voulez manger? Est-ce que je peux vous aider?	**What would you like to eat? Can I help you?**
Le menu/ la carte	The menu
Un plat végétarien	A vegetarian dish
Comme entrée	For the starter
Comme plat principal	For the main
Comme dessert	For dessert
Comme boisson	For drinks
Je voudrais	I would like
Manger/boire	To eat/ to drink
Je prends...	I'll take (have)
Un serveur/ une serveuse	A waiter/ waitress
L'addition s'il vous plaît	The bill, please
Le pourboire	The tip
C'est tout	That's all
Merci	Thank you

les repas	**Meals**
Le petit déjeuner	Breakfast
Le déjeuner	Lunch
Le goûter	Snack
Le dîner	Evening meal/tea

AU SUPERMARCHÉ	**AT THE SUPERMARKET**
Tu voudrais...?	**Would you like...?**
Un paquet de	A packet of
Un litre de	A litre of
Un kilo de	A kilo of
Un demi kilo de	Half a kilo of
Une bouteille de	A bottle of

Past holidays 8.8 French Knowledge Organiser

Reflexive verbs, the perfect tense (past tense)

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A **verb** is a doing, being or having word. e.g. to speak, to eat, to be. **Reflexive verbs** in French are verbs which usually mean an action done to yourself (e.g. straighten your hair, brush your teeth, etc.). Many are regular -er verbs and they need an extra **reflexive pronoun**.

Subject pronouns	Reflexive pronoun
je (I)	**me**
tu (you)	**te**
il (he), **elle** (she), **on** (we)	**se**
nous (we)	**nous**
vous (you) (pl)	**vous**
ils/elles (they)	**se**

Examples:
Se lisser les cheveux - to straighten one's hair
Je **me** lisse les cheveux > I straighten my hair
Se brosser les dents – to brush one's teeth
On **se** brosse les dents > we brush our teeth
Se doucher - to shower
Tu **te** douches le matin ou le soir? Do you shower in the morning or in the evening?

The perfect tense:
You can talk about the past by using the **perfect** tense (*le passé composé*). The perfect tense has 3 parts:
1. The subject pronoun (eg. Je,nous)
2. The auxiliary (*avoir* or *être*)
3. The past participle
To form the past participle, take off the infinitive endings (**–er**, **-ir** or **–re)** and add the following endings instead:
-ER verbs > - é
-IR verbs> - i
-RE verbs > - u
Examples:
J'**ai** acheté des baskets au centre commercial. *I **have bought** trainers at the shopping mall.*
Hier il **a** joué au foot dans le parc. *Yesterday he play**ed** football in the park.*
Je **suis** allé en ville hier? *I **went** to town yesterday?*

The 2 auxiliary verbs are AVOIR or ÊTRE.
- **Use AVOIR with most verbs.**
- **Use ÊTRE with reflexive verbs and DR. MRS VANDERTRAMP verbs. [*D*evenir** (to become), ***R*evenir** (to come back), ***M*onter** (to go up), ***R*etourner** (to return), ***S*ortir** (to go out), ***V*enir** (to come), ***A*ller** (to go), ***N*aître** (to be born), ***D*escendre** (to go down), ***E*ntrer** (to enter), ***R*entrer** (to go home/to return), ***T*omber** (to fall), ***R*ester** (to remain), ***A*rriver** (to arrive), ***M*ourir** (to die), ***P*artir** (to leave).]

AVOIR	ÊTRE
J'**ai**	Je **suis**
Tu **as**	Tu **es**
Il /elle **a**	Il /elle **est**
Nous **avons**	Nous **sommes**
Vous **avez**	Vous **êtes**
Ils /elles **ont**	Ils /elles **sont**

Remember!
When using *ê*tre to form the perfect tense your past participle must agree with the subject pronoun.

Add –e if feminine e.g. elle est allé**e**

Add –s if plural e.g. ils sont allé**s**

Add –es if feminine plural eg. elles sont allé**es**

Typical holidays Year 8 German 8.7 vocab. list

Wohin fährst du	Where do you travel?
Ich reise …	I travel…
Ich fahre…	I go …
nach Berlin/ London	To Paris / to London
nach Frankreich	To France
nach Spanien	To Spain
nach England	To England
nach Schottland	To Scotland
nach Irland	To Ireland
nach Polen	To Poland
nach Deutschland	To Germany
nach Österreich	To Austria
nach Wales	To Wales
nach Italien	To Italy
in die Schweiz	To Switzerland
in die Türkei	To Turkey
in die Karibik	To the Caribbean
nach Amerika	To the States
In die USA	To the States
nach Europa	To Europe
ins Ausland	abroad

Wie fährst/reist du?	How do you travel?
zu Fuß	On foot
mit dem Fahrrad	By pushbike
mit dem Motorrad	By motorbike
mit dem Auto/Wagen	By car
mit dem Zug	By train
mit dem Schiff	By boat
mit der U-Bahn	By tube/underground
mit dem Reisebus	By coach
mit dem Bus	By bus
mit dem Flugzeug	By plane

mit der Straßenbahn = by tram
mit der Fähre = by ferry

Wo bleibst du?	Where do you stay?
Ich bleibe in……	I stay in..
einem Hotel	A hotel
einer Ferienwohnung	A holiday flat
auf einem Campingplatz	A campsite
einer Jurte	A yurt
einem Wohnwagen	A caravan
einem Zelt	A tent
einer Jugendherberge	A youth hostel
einem Mobilheim	A static caravan
bei meinen Großeltern	At my grand-parents'

In der Stadt	In the town
Ich besuche	I visit…
Wir besuchen	We visit…
der Supermarkt	The supermarket
die Brücke	The bridge
das Schwimmbad	The swimming pool
das Eisstadion	The ice rink
die Stadtmitte	The town centre
das Kino	The cinema
das Museum	The museum
das Theater	The theatre
das Verkehrsamt	The tourist information office
das Einkaufszentrum	The shopping centre
das Freizeitzentrum	The leisure centre
der Markt	The market
das Stadion	The stadium
der Freizeitpark	The theme park
das Krankenhaus	The hospital
die Monumente	The monuments
die Geschäfte	The shops
die Kirche	The church
der Bahnhof	The train station

Was machst du in den Ferien?	What do you do on holidays?
Sich entspannen (ich entspanne mich)	To relax (I relax)
Spaß haben/es macht Spaß	To have fun (it is fun)
sich sonnen (ich sonne mich)	To sunbathe
Denkmäler besuchen	To visit monuments
zum Strand gehen	To go to the beach
ins Restaurant gehen	To go to the restaurant
einkaufen gehen	To go shopping
spazieren gehen	To go for walks
Fotos machen	To take photos
Souvenirs kaufen	To buy souvenirs
Wassersport machen	To do water sports

Wo ist…?	Where is…?
Es ist weit	It's far
Es ist in der Nähe	It's nearby
Es ist 5 Minuten von hier entfernt	It's 5 minutes away
Es ist 300 Meter entfernt	It's 300 metres away
Gehen Sie geradeaus	Go straight on
An der Ampel	At the traffic lights
Zum Kreisverkehr	To the roundabout
Gehen Sie links	Go left
Gehen Sie rechts	Go right
Nehmen Sie die erste/zweite Straße	Take the first / second road
über die Brücke	over the bridge

Wie ist das Wetter?	What is the weather like?
Es ist schön	It is good weather
Es ist heiß	It is hot
Es ist sonnig	It is sunny
Es ist kalt	It is cold
Es ist 25 Grad	It is 25 degrees
Es ist schlecht	It is bad weather
Es regnet	It is raining
Es schneit	It is snowing
Es ist windig	It is windy
Es ist wolkig	It is cloudy
Es gibt einen Regenbogen	There is a rainbow

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Typical holidays Year 8 German Term 4 vocab. list

Nationalitäten	**Nationalities**
europaïsch	european
deutsch	German
französisch	French
spanisch	Spanish
Englisch	English
der Deutscher /	German person (m)
die Deutsche	German person (f)
Berliner	A person from Berlin
britisch	British
international	International
österreichisch	Austrian
türkisch	Turkish

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Past holidays 8.8 German Vocab list

	past participles
machen → gemacht	To do → did
nehmen → genommen	To take → took
trinken → getrunken	To drink → drank
sehen → geshen	To see → saw
lesen → gelesen	To read → read
wollen → gewollt	To want → wanted
sagen → gesagt	To say → said
werden → geworden	To become → became
haben → gehabt	To have → had
schreiben → geschrieben	To write → wrote

Die Meinungen	Opinions
Es war	It was ...
wunderbar	Great
fantastisch	Fantastic
interessant	Interesting
rührend	Moving (emotionally)
unvergessbar	Unforgettable
unglaublich	Incredible
zu kurz	Too short
langweilig	Boring
zu lang	Trop long
spannend	Exciting
rührend	Emotional

Wann?	When?
Heute	Today
Normalerweise	Normally
gewöhnlich	Usually
manchmal	Sometimes
Während der Pause / Reise	During breaktime/the journey
Am Wochenende	On the weekend
Nach der Schule	After school
Zweimal pro Woche	Twice a week
oft	Often
immer	Always
selten	Rarely
gelegentlich	occasionally
Am Montag	On Monday
gestern	Yesterday
In letzter Zeit	Recently
Letztes Wochenende	Last weekend
Letzte Woche	Last week
Letztes Jahr	Last year
Vor einem Monat	A month ago
morgen	Tomorrow
bald	Soon
In der Zukunft	In the future
Nächstes Wochenende	Next weekend
Nächste Woche	Next week
Nächstes Jahr	Next year
In einem Monat	In a month

Was machst du normalerweise?	What do you do normally?
Sich entspannen (ich entspanne mich)	To relax
Sich amüsieren (ich amüsiere mich)	To have fun
Sich baden (ich bade mich)	To bathe
Sich anziehen (ich ziehe mich an)	To get dressed
Aufstehen (ich stehe auf)	To get up
Sich waschen (ich wasche mich)	To wash
Aufwachen (ich wache auf)	To wake up
Sich verstehen mit (ich verstehe mich mit)	To get on with
Sich die Zähne putzen (ich putze mir die Zähne)	To brush teeth/hair
Sich duschen (ich dusche mich)	To shower
Sich schminken (ich schminke mich)	To put on make-up

Wie war das Wetter?	What was the weather like?
Es war schön	It was good weather
Es war heiss	It was hot
Es war kalt	It was cold
Es war 25 Grad	It was 25 degrees
Das Wetter war schlecht	the weather was bad
Es hat geregnet	It was raining
Es hat geschneit	It was snowing
Es war windig	It was windy
Es war wolking	It was cloudy
Es war stürmisch	It was stormy
Es war nebelig	It was foggy
Es war sonnig	It was sunny

Past holidays 8.8 German Vocab list

What	When	How	Who with	Where	Past auxiliary (HABEN)	Activities (past participle)	Opinion
Ich bin... gefahren I went **Du bist .... gereist** You travelled **Sie ist ... geblieben** She stayed **Man hat in ... übernachtet** We stayed in	**Gestern** Yesterday **In letzter Zeit** Recently **Letztes Wochenende** Last weekend **Letzte Woche** Last week **Letzten Monat** Last month **Letzes Jahr** Last year **Vor zwei Jahren** Two years ago	**mit dem Auto** By car **mit der Fähre** By ferry **mit dem Reisebus** By coach **mit dem Flugzeug** By plane **Mit dem Zug** By train	**mit meiner Familie** With my family **mit meinen Eltern** With my parents **mit meinen Großeltern** With my grandparents **mit meinen Freunden** With my friends **mit meiner Schule** With my school **allein** On my own	**nach / in Bristol** to/in Bristol **nach / in London** to/in London **Nach / in Frankreich** to/in France **Nach / in Spanien** to/in Spain **Nach / in Deutschland** to/in Germany **Nach / in Portugal** To/in Portugal **In die vereingten Staaten** To/in the USA	**Ich habe** (I) **du hast** (you) **er hat** (he) **sie hat** (she) **es hat** (it) **man hat** (we) **wir haben (**we) **ihr habt** (you informal pl) **Sie haben (**you formal) **sie haben** (they)	**Ski gefahren / Wassersport gemacht** (went skiing / did water sports) **Souvenirs gekauft** (bought souvenirs) **typisches Essen gegessen** (ate local dishes) **Cocktails getrunken** (drank coktails) **Strandvolleyball gespielt** (played beach volley) **Monumente besucht** (visited monuments) **Fotos gemacht** (took photos) **Im Meer geschwommen** (swam in the sea)	**Das war...** it was ... **Super** great **Fantastisch** fantastic **Interessant** interesting **bewegend** emotional **rührend** moving **unvergessbar** unforgettable **unglaublich** incredible **Zu kurz** too short **Langweilig** boring **Zu lang** too long **spannend** exciting
Wie war das Wetter?	**What was the weather like?**				**Past auxiliary (SEIN)**		
es war heiss **es war kalt** **Es war sonnig** **Es war windig** **Es hat geregnet** **Es hat geschneit**	It was hot it was cold It was sunny It was windy It was raining It was snowing				**Ich bin** (I) **du bist** (you) **er ist**(he) **sie ist** (she) **es ist** (it) **man ist** (we) **wir sind (**we) **ihr seid** (you informal pl) **Sie sind (**you formal) **sie sind** (they)	**einkaufen gegangen** (went shopping) **früh losgefahren** (left early) **rechtzeitg angekommen** (arrived on time) **spät zurückgekommen** (came back late) **Abends losgegangen** (went out in the evening) **fünf Tage/ eine Woche geblieben** (stayed for five days / one week)	

*Weather phrases in the **past tense**, it's so easy! Use the same phrases from previous topic, and change **es ist > es war.***

8.6 Past holidays
SPANISH

Cabot Learning Federation

Las opiniones	Opinions
Fue genial	It was great
Fue fantástico	It was fantastic
Fue interesante	It was interesting
Fue emocionante	It was exciting
Fue inolvidable	It was unforgettable
Fue increíble	It was incredible
Fue demasiado corto	It was too long
Fue demasiado largo	It was too short

¿Qué tiempo hacía?	What was the weather like?
Hacía buen tiempo	It was nice weather
Hacía mal tiempo	It was bad weather
Hacía sol	It was sunny
Hacía calor	It was hot
Hacía frío	It was cold
Hacía viento	It was windy
Llovía	It was raining

¿Qué hiciste durante las vacaciones?	What did you do on holidays?
Fui a la playa	I went to the beach
fui al restaurante	I went to the restaurant
fui de compras	I went shopping
Me quedé	I stayed
Comí	I ate
Bebí	I drank
Vi	I saw
Probé	I tried (food)
Hice deportes acuáticos	I did watersports
Descansé	I rested
Me relajé	I relaxed
Me divertí	I had fun
Visité monumentos	I visited monuments
Di paseos	I went walking
Saqué fotos	I took photos
Compré recuerdos	I bought souvenirs
Tomé el sol	I sunbathed

La vida cotidiana	Daily life
La gente	People
Los habitantes	Inhabitants
Hablar	To speak
Vivir	To live
Celebrar	To celebrate
Preparar	To prepare
Ir a trabajo	To go to work
Ir al instituto	To go to school
Volver a casa	To go back home
Ver la tele	To watch TV
Cenar	To have dinner
Bañarse	To have a bath
Ducharse	To have a shower

¿Cuando?	When?
Ayer	Yesterday
La semana pasada	Last week
El fin de semana pasado	Last weekend
El mes pasado	Last month
El año pasado	Last year
Hace dos días	Two days ago
El otro día	The other day

Past tense holidays 8.6 Spanish Knowledge Organiser

Reflexive verbs, the preterite (past tense)

Cabot Learning Federation

A **verb** is a doing, being or having word. e.g. to speak, to eat, to be.
Reflexive verbs in Spanish are verbs which usually mean an action done to yourself (e.g. wash yourself, shower etc.). Many are regular -ar verbs and they need an extra **reflexive pronoun**. We know a Spanish verb is reflexive because it will have «se » on the end of its infinitive
eg. lavarse (to wash) and levantarse (to get yourself up).

Subject pronouns	Reflexive pronouns
yo (I)	**me**
tú (you)	**te**
él (he), **ella** (she)	**se**
nosotros/as (we)	**nos**
vosotros/as (you) (pl)	**os**
ellos/ellas (they)	**se**

Examples:
lavarse - to wash
me lavo > I wash
levantarse– to get up
nos levantamos > we get up
Ducharse- to shower
Te duchas > you shower

The **preterite** is the past tense used in Spanish to describe a completed action at a specific time in the past (e.g. ayer (yesterday), el año pasado (last year)). For regular we take off –ar, -er – ir and add the below endings :

	-AR	-ER / -IR
I	é	í
You (sg)	aste	iste
He/she/it	ó	ió
We	amos	imos
You (pl)	asteis	isteis
They	aron	ieron

Examples:

Tomar = to take
To form " I took"

TOMAR > tom > tomé

Hablar = to speak
To form "she spoke"

HABLAR > habl > habló

Careful! Not all verbs are regular in the preterite. Some key irregulars are :

Hacer (to do)	hice, hiciste, hizo, hicimos, hicisteis, hicieron
Ir (to go)	fui, fuiste, fue, fuimos, fuisteis, fueron
Ser (to be)	fui, fuiste, fue, fuimos, fuisteis, fueron
Tener (to have)	tuve, tuviste, tuvo, tuvimos, tuvisteis, tuvieron

WHA DT

Food Tech

Health and Safety

Carry knives pointing down.

Wash up with hot water and washing liquid.

Clean surfaces and equipment to kill bacteria.

Wash hands with soap after touching raw meat.

Wipe up spills straight away to avoid slips.

Chopping board colour coding

- Red - Raw meat
- Blue - Raw fish
- Yellow - Cooked meat
- Green - Salad and fruit
- Brown - Vegetables
- White - Bakery and dairy

Knife Skills

- Always carry knives pointing downwards
- Always pass knives by the handle
- Never run or fight with knives
- Keep the knife blade away from your fingers when cutting
- Never cut towards yourself
- Never leave a knife in the sink
- Never try and catch a knife if it falls

When using a knife there are TWO techniques we can use to ensure knife safety when cutting ingredients.

Claw grip

Arch grip

Nutrient	Use in the body	Sources
Carbohydrates	To provide energy.	Potatoes, pasta, bread, rice, lentils, noodles, flour.
Protein	For growth, repair and some energy.	Eggs, milk, yoghurt, cheese, fish and seafood, nuts, seeds, soya, meat.
Fat	To provide energy. Also to store energy in the body and insulate it against the cold.	Animal fats: Lard, butter, fish. Plant based: Olive oil, sunflower oil.
Minerals	Needed in small amounts to maintain health e.g. calcium for bone health.	Calcium: Milk, cheese, dairy , green leafy vegetables. Iron: Clams, liver, sunflower seeds, nuts, beef, lamb, beans, whole grains, dark leafy greens.
Vitamins	Needed in small amounts to maintain health.	Vitamin D: Fish oils, fatty fish, mushrooms, beef. Vitamin B: Cereals.
Fibre	Helps to keep the food moving through the gut.	Cereals, bread, beans, lentils, fruit & vegetables.

Food Tech

Common Food Poisoning Pathogens

Pathogen	Sources	Symptoms
E coli	Raw meat, untreated milk and water.	Vomiting, blood in diarrhoea, kidney damage or failure.
Listeria	Soft cheese, pate, unpasteurised milk, under cooked meat.	Mild flu, meningitis and pneumonia.
Clostridium perfringens	Dirt from soil containing animal faeces.	Diarrhoea, stomach cramps.
Salmonella	Raw meat, eggs, seafood, dairy products.	Diarrhoea, vomiting, fever.
Bacillus cereus	Cooked rice, pasta, cereal foods.	Nausea, vomiting, diarrhoea.
Staphylococcus Aureus	Anything touched by hand, dairy products.	Nausea, vomiting, diarrhoea.

Common Food Allergies

A food allergy is when the body's immune system reacts unusually to specific foods. Although allergic reactions are often mild, they can be very serious.

A food intolerance is difficulty digesting certain foods and having an unpleasant physical reaction to them. These include coeliac disease (allergic to gluten) and lactose intolerance (allergic to a type of sugar mainly found in milk and dairy).

Cooking Processes

Radiation
Heat from an oven or grill.

Denaturation
When the protein in cheese unravels (melting).

Gelatinisation
When starch granules swell.

Mis-en-place
A French word to describe preparing Ingredients and getting everything ready for cooking.

Convection
The scientific process that occurs when liquids boil in a pan.

Stock
The juice from cooked meats, fish, and vegetables.

Enzymic Browning
A reaction that occurs in some fruit and vegetables when left to react with air.

Gluten
The protein particles contained in flour.

Shortening
Rubbing flour and fat together to make a crumbly mixture.

Dextrinisation
A chemical process that turns food brown/black when cooking.

Resistant Materials

Workshop Tools

Coping saw

Tenon saw

Woodwork file

Pillar drill

Belt sander

Bench hook

Timbers

Timber comes from trees. Trees have to grow to full maturity (between 25 and 100 years) before they can be cut down for wood.
Timber is grouped into three categories; hardwood, softwood and manufactured boards.

Hardwoods

Hardwoods come from deciduous trees, which have large flat leaves that fall in the autumn.
Hardwoods take longer to grow, are not easily sourced and are expensive to buy.

A tree has a ring for every year it grows, the darker part of the ring is strong.
Hardwoods have closely packed rings because they grow slower. This makes them hard.

Ash, Beech, Mahogany, Oak and Balsa are examples of hardwoods.

Softwoods

Softwoods come from coniferous trees. These often have pines or needles, and they stay evergreen all year round - they do not lose leaves in the autumn.
They are faster growing than hardwoods, making them cheaper to buy, and are considered a sustainable material.

A tree has a ring for every year it grows, the darker part of the ring is strong.
Softwoods have big growth gaps between the rings making them softer.

Larch, Pine and Spruce are examples of softwoods.

Manufactured boards

Manufactured boards are usually made from timber waste and adhesive.

To make them more aesthetically pleasing they are often veneered (a thin layer of wood, applied to give a nice surface). They are cheap to buy.

Medium-density fibreboard (MDF), Plywood and Chipboard are examples of manufactured boards.

Resistant Materials

We use **ACCESS FM** to help us write a **specification** - a list of requirements for a design - and to help us **analyse and describe** an already existing product.

ACCESS FM - Helpsheet

A is for **Aesthetics**

Aesthetics means **what does the product look like?**
What is the: Colour? Shape? Texture? Pattern? Appearance? Feel? Weight? Style?

C is for **Cost**

Cost means **how much does the product cost to buy?**
How much does it: Cost to buy? Cost to make?
How much do the different materials cost? Is it good value?

C is for **Customer**

Customer means **who will buy or use your product?**
Who will buy your product? Who will use your product?
What is their: Age? Gender?
What are their: Likes? Dislikes? Needs? Preferences?

E is for **Environment**

Environment means **will the product affect the environment?**
Is the product: Recyclable? Reuseable? Repairable? Sustainable? Environmentally friendly? Bad for the environment?
6R's of Design: Recycle / Reuse / Repair / Rethink / Reduce / Refuse

S is for **Size**

Size means **how big or small is the product?**
What is the size of the product in millimeters (mm)? Is this the same size as similar products? Is it comfortable to use? Does it fit? Would it be improved if it was bigger or smaller?

S is for **Safety**

Safety means **how safe is the product when it is used?**
Will it be safe for the customer to use? Could they hurt themselves? What's the correct and safest way to use the product? What are the risks?

F is for **Function**

Function means **how does the product work?**
What is the products job and role? What is it needed for? How well does it work? How could it be improved? Why is it used this way?

M is for **Material**

Material means **what is the product made out of?**
What materials is the product made from? Why were these materials used? Would a different material be better? How was the product made? What manufacturing techniques were used?

Key Vocabulary

ACCESS FM
ACCESS FM is a method used in Design and Technology to effectively analyse a product.

Design Brief
A paragraph outlining what you intend to design, using as much detail as possible.

Design Specification
A specification is a list of bullet points that tells the designer exactly what the product has to do and what the requirements are. You can use ACCESS FM to help you write it. This needs to be very detailed..

Product analysis
Product analysis can take different forms but in general it means asking questions about a product and forming answers. It can mean experts analysing a product or members of the general public or potential customers/groups of people. Product analysis can take place at almost any stage of the design process.

Sustainability
Causing little or no damage to the environment and therefore, able to continue for a long time.

WHA DT

Textiles

Fibres are small hair like structures that are used to make fabrics.

On their own they are very weak but when twisted to make yarn they become stronger.

TYPES OF MATERIAL

There are two main groups of fibres Natural and Manmade, these are also divided into sections.

Natural Polymers/Fibres:
These are from animals or plants and are all **biodegradable** (rot away) and are **sustainable** as they will grow again so are environmentally friendly if they are produced **organically**.

Plant	Cotton	Flax (linen)	Hemp	Jute	Bamboo	Soya
Animal	Wool (sheep)	Mohair (goat)	Cashmere	Angora (rabbit)	Alpaca	Llama
Insect	Silk (worm)					

Cotton is produced from plants. To be totally environmentally friendly plant fibres must be produced **organically**. Most cotton is produced using pesticides which as well as killing the insects or diseases is also bad for the environment and makes the workers ill.

Manmade (Manufactured) Polymers/Fibres:
Synthetic: These are made from chemicals which come from oil or coal. These fibres are not environmentally friendly.
Regenerated fibres: These are made from a combination of chemicals and cellulose (tree products).

Synthetic	Acrylic	Polyester	Nylon	Lycra	Elastane	Polypropylene
Regenerated	Viscose	Rayon	Acetate	Lyocell (Tencel)		
Smart Fibres	Materials that's change when exposed to change in temperature, pressure or light.					

Cotton (natural, plant based fibre)
Properties/Characteristics:

① Absorbent	② Soft	③ Cool	④ Good resistance to heat
⑤ Fine	⑥ Strong	⑦ Highly flammable	⑧ Poor elasticity

Used in everyday clothing items, coffee filters, fishing nets and book binding.

Wool (natural, plant based fibre)
Properties/Characteristics:

① Warm	②Very absorbent	③ Medium strength	④ Good elasticity
⑤Does not burn easily	⑥ Susceptible to being attacked by pests, such as clothes moths.		

Used in everyday clothing, blankets, horse rugs, carpets and upholstery.

Silk (natural, animal based fibre)
Properties/Characteristics:

① Very absorbent	② Soft	③ Fine	④ Lustrous
⑤ Very good resilience	⑥ Good elasticity	⑦ Can be damaged by deodorants and perfumes	

Used in luxury clothing and bedding, rugs and wall hangings.

Polyester (synthetic fibre)
Properties/Characteristics:

① Extremely strong	② Flame resistant	③ Thermoplastic	④ Poor absorbency
⑤ Good elasticity and resilience	⑥ Damaged by acids	⑦ Resistant to solvents and alkalis	

Used in ropes, belts, upholstery padding and low-cost clothing.

Elastane (synthetic fibre)
Properties/Characteristics:

① Lightweight	② Fairly strong	③ Very poor absorption	④ Medium-to-coarse filaments
⑤ Extremely elastic	⑥ When stretched it returns to original shape		⑦ Not damaged by sunlight or sea water

Used in sportswear, swimwear, tights.

Felted Fabric (non-woven fabric)
Properties/Characteristics:

① Does not fray	② Warm	③ Matted together using moisture, heat and pressure
④ Little strength	⑤ No elasticity	⑥ Made from wool fibres/ animal hair

An expensive fabric. Used in hats, slippers, handicrafts and embellishing.

Polycotton (blended fibre)
Properties/Characteristics:

① Non-iron / easy to iron	② Moisture absorbing	③ Polyester and cotton blend
④ Strong	⑤ Durable	

Used in bedding and clothing.

We need to talk about the empire...

History

Between 1815 and 1914, the **British Empire** covered 10 million square miles of territory (quarter of the world's land surface) and 450 million people. At the time of the British Empire Exhibition of 1924 Britain was the 'Mother Country' of a worldwide empire and Britannia 'ruled the waves'. But should we be proud of the British Empire?

History Knowledge Organiser 8.3
The British Empire

Key Events

- **1612** – East India Company began a small empire of trading posts in India.
- **1757** – victories by Robert Clive drive out the French and established British control in India
- **1788-1868** – Convicts transported to Australia
- **1807** - Slave trade outlawed (but does not outlaw slavery itself)
- **1833** - Slavery abolished in British Empire
- **1839-1842** First Opium War
- **1857** - rebellion in India (Indian Mutiny). British government took over India from the East India Company.
- **1877** - Queen Victoria declared 'Empress of India'.
- **1881-1919** - The 'Scramble for Africa' – Britain acquired colonies in Africa stretching from Cairo to Cape Town.
- **1919** - British government massacred a peaceful gathering at Amritsar, India.
- **1947** - India and Pakistan given independence.
- **1997** Hong Kong is given back to China

Key People

Queen Victoria	Reigning monarch of Britain from 1837 - 1901
Gandhi	Indian activist who was the leader of the Indian independence movement against British colonial rule. Used non-violent methods

Modern Context

The First and Second World Wars left Britain weakened and less dominant of its **empire**. Many parts of the **empire had contributed** troops and resources to the war effort, some with the promise of more independence in the future. This led to a steady **decline** of the **empire** after 1945. Some of the empire evolved into the British Commonwealth & Britain is still sovereign in many parts of the world.

Key Terms

empire	Group of countries, people or land ruled by one single country referred to as "mother" country.
imperialism	The act of building an empire.
Colony	Country that is part of an empire.
Legacy	What someone or something leaves behind, is remembered for, has an impact
Nationalism	Wanting your country to be the best or to be free from someone's empire
Britannia	female figure used to symbolise British Empire
The Raj	Period of British rule in India after 1857. From the Hindi word for reign.
Commonwealth	A group of countries that were once part of Britain's Empire
Opium	A drug made from poppies
Transportation	The punishment for convicts who were sent to Australia.

India

- Invested in infrastructure
- Destroyed parts of Indian culture.
- Taken over by the East India Company.
- Partitioned after religious tensions between Muslims and Hindus.

Australia

- Settled by convicts.
- Sheep farming established.
- Gold found which led to the gold rush.
- Destruction of Aboriginal culture.

Hong Kong

- Leased to Great Britain after the First Opium War.
- Tensions after the return to China.
- Hongkongers treated as inferior.
- Adopted many aspects of British culture.

How and why has democracy in Britain changed 1819-1928?

History

Key groups in the campaign for women's enfranchisement.

The Suffragists

"We Demand the Vote"

Officially called the **National Union of Women's Suffrage Societies** who joined together in 1897 led by **Millicent Fawcett.**

Campaigned peacefully for the vote by:

- Holding meetings.
- Going on peaceful marches.
- Wrote letters and prepared petitions.
- Made posters.
- Tried to get Members of Parliament on their side.

The Suffragettes

"Deeds Not Words"

Officially called the **Women's Social and Political Union** founded by **Emeline Pankhurst** in 1903.

Campaigned with militant action

- Interrupted debates in Parliament.
- Chained themselves to railings.
- Smashed windows.
- Burned down churches.
- Began a campaign of arson and bombing targeting important politicians.

Government	The group of people with the power to govern a country or state.
Democracy	A system of government usually through elected representatives.
Representation	The act of speaking or acting on behalf of someone else.
Protest	The action of expressing objection to something.
Peterloo Massacre	An event in 1819 where many people were injured and killed.
Yeomanry	A volunteer cavalry force.
Cavalry	Soldiers on horseback
Magistrates	The people in charge of law and order in an area
Rotten Borough	An area that no longer exists but can still elect an MP
Perspective	Point of view
Parliament	The place in London where laws are discussed and agreed on.
Population	The number of people in a country
Constituencies	A group of voters in a particular area.
Significant	Important to show us something
Chartist	A group who wanted changes to the voting system
Trade Union	A group that campaign for better rights pay or conditions for workers
Suffragette	A militant group who campaigned for the vote using the motto 'deeds not words.'
Suffragists	A group who campaigned for votes for women using peaceful methods.
Terrorist	a person who uses violence and intimidation, against civilians, in the pursuit of political aims.
Black Friday	A day of violence and assault on women.
Force Feeding	Happened to women in prison who went on hunger strike.

Key Individuals

Henry Hunt **Peterloo Massacre**

William Lovett **Chartist**

John Frost **Chartist**

William Cuffay **Chartist**

Annie Bessant Wrote about Match Girls

Millicent Fawcett **Suffragist**

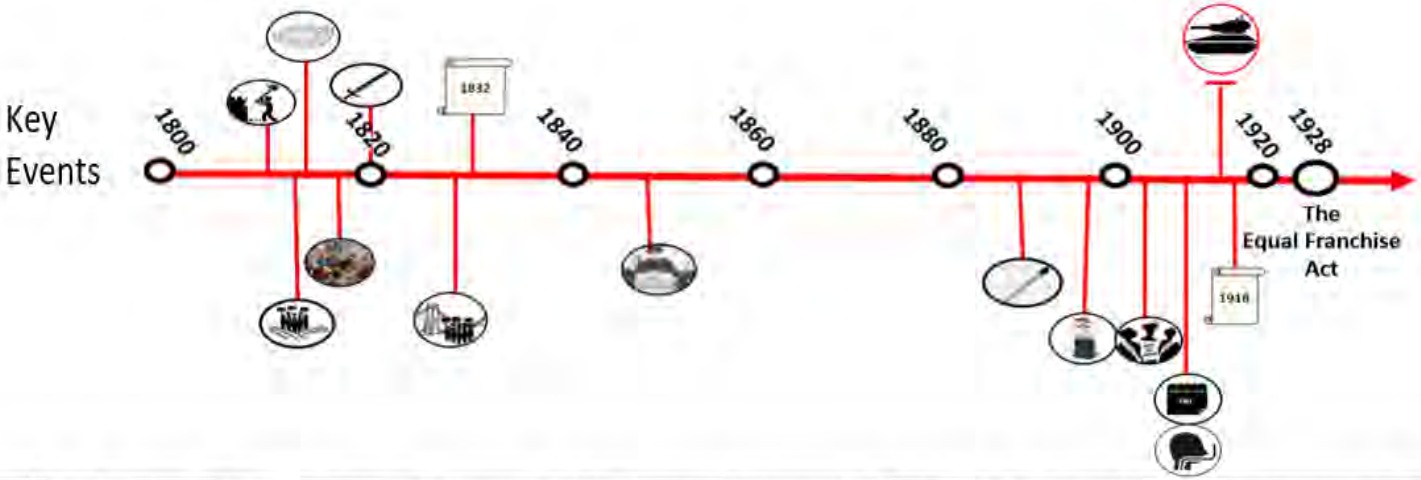
Emmeline Pankhurst **Suffragette**

Emily Davison **Suffragette**

Kitty Marion

How and why has democracy in Britain changed 1819-1928?

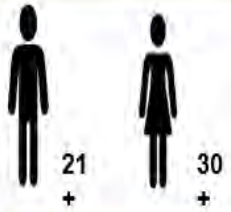
History



1	In the late 1700s revolutions in France and America and a rebellion in Ireland encouraged the British people to demand change to their government. Books by Thomas Paine and Mary Wollstencroft were read by thousands of people and called for a fairer system of democracy especially for the working class.
2	At the start of the 19th Century less than 2% of the population of Britain could vote. Big cities such as Manchester had no MPs, whereas 'rotten boroughs' with very few people were still represented. 60,000 protestors gathered at St Peter's Field and were attacked. This became known as the Peterloo Massacre.
3	Between 1815 and 1832 protests put pressure on the Government to be more representative. The Luddites destroyed weaving machines, Blanketeers marched to protest against job losses, riots took place in Spa Fields & Bristol, and a group planned to execute members of parliament.
4	In 1832 the Great Reform Act was passed. 200,000 more people were given the right to vote. 56 'rotten boroughs' were abolished, and industrial towns like Manchester, Birmingham, and Leeds got an MP. Only 4% of the population had the vote: Most working class men and all women were excluded.
5	In 1832 William Lovett wrote the People's Charter calling for changes to democracy including the vote for all men over 21. The Chartists presented three petitions to Parliament but these were all rejected. The Chartists disagreed on using violence to protest and whether or not women should be able to vote.
6	In June 1888 Annie Besant wrote an article called *White Slavery in London* about the terrible working conditions of women in the Bryant & May match factory. 1400 Matchgirls went on strike and a delegation protested outside Parliament. Bryant & May agreed to improve working conditions for their workers.
7	In the late 1800s the women's suffrage movement grew. The Suffragists led by Millicent Fawcett campaigned peacefully and tried to get members of parliament to change the law. The Suffragettes led by Emeline Pankhurst protested violently, burnt down buildings, and targeted politicians. On Black Friday many women experienced violence. During this time, Suffragettes went on hunger strike in prison and were force fed. This led to the Cat and Muse Act.
8	When WWI started in 1914 the suffragettes stopped campaigning and many women worked in munitions factories. The government worried that violent suffragette campaigning would start again when the war was over. The Representation of the People Act was signed in 1918 giving the vote to all men over 21 and women over 30 who owned property or were married to a man who owned property.
9	In 1928 another Representation of the People Act was signed, known as he Equal Franchise Act. This gave the vote to all men and women over 21. Women finally had voting rights on the same terms as men.

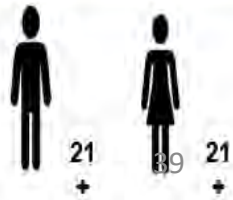
Representation of the People Act 1918

The act of 1918 gave the vote to all men over age 21 and all women over age 30, which tripled the electorate.



Representation of the People Act 1928

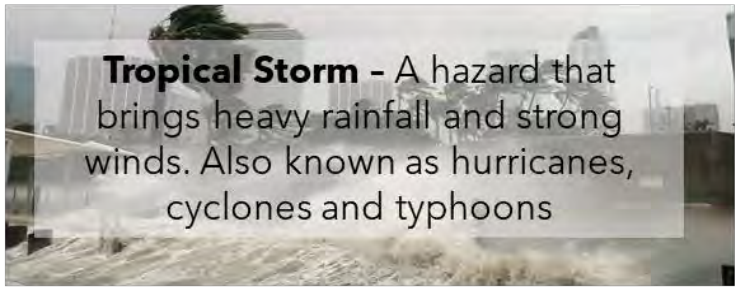
The act of 1928 extended the franchise to women aged 21–30



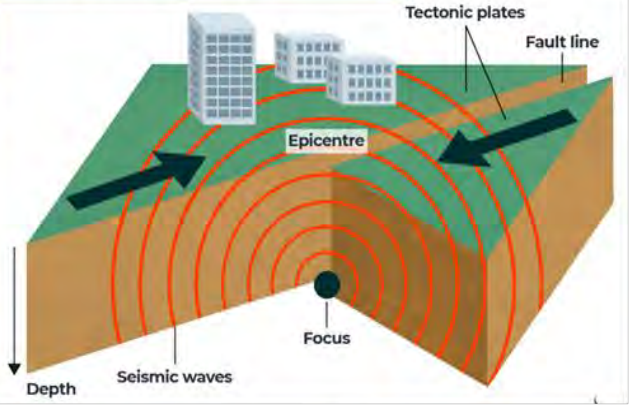
Geography

Why do so many people live in hazardous areas?

Keyword	Definition
Natural Hazard	The potential threat to humans from a naturally occurring process/event
Earthquake	A sudden, violent shaking of the ground as a result of movements of the earth's crust
Epicentre	The point on the earth surface directly above the focus of an earthquake
Focus	The origin of an earthquake beneath the earth's surface
Magnitude	The strength of an earthquake
Oceanic Crust	The thinner, denser part of the earth's crust which underlies ocean basins
Continental Crust	The thicker, less dense part of the earth crust which forms large land masses
Lahars	A a destructive mudflow, usually as a result of a volcanic eruption
Pyroclastic Flow	A dense, destructive mass of very hot ash, lava fragments and gases ejected explosively from a volcano and typically flowing at great speed



Tropical Storm – A hazard that brings heavy rainfall and strong winds. Also known as hurricanes, cyclones and typhoons



Primary effect – An effect which is a direct consequence of the natural hazard

Secondary effect – An effect which is a consequence of the primary effects of a natural hazard

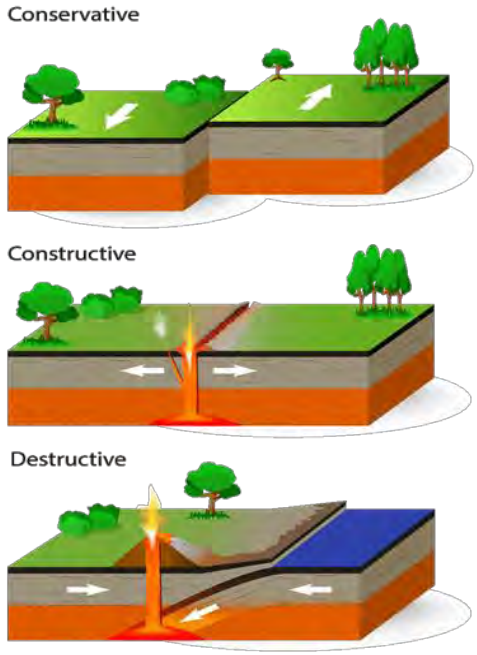
Immediate response – Something which usually occurs within the first three days of a natural hazard

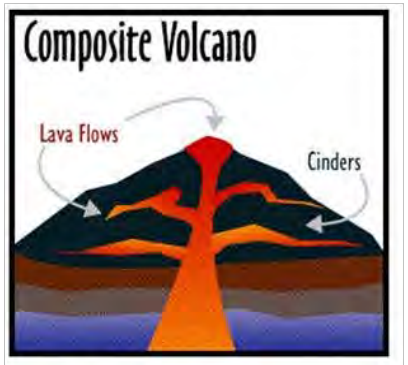
Long-term response – Something which occurs weeks, months or years after a natural hazard

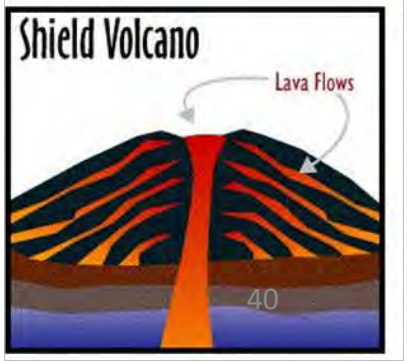
Prediction – Involves trying to forecast when the natural hazard will occur

Preparation – Putting procedures in place to limit the loss of life and increase the chance of survival

Protection – Building to an appropriate standard and using designs to withstand the natural hazard



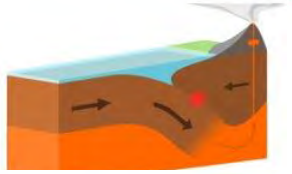




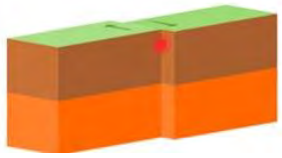
Geography

Why do so many people live in tectonically active areas?

At a constructive plate margin the plates move apart from one another. When this happens the magma from the mantle rises up to make (or construct) new land in the form of a shield volcano. The movement of the plates over the mantle can cause earthquakes.



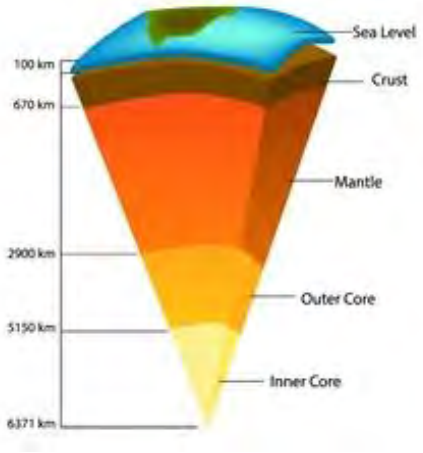
A destructive plate margin usually involves an oceanic plate and a continental plate. The plates move towards one another, and this movement can cause earthquakes. As the plates collide, the oceanic plate is forced beneath the continental plate. This is known as subduction. This happens because the oceanic plate is denser (heavier) than the continental plate. At this plate boundary you will find composite volcanoes.



At a conservative plate margin, the plates move past each other or are side by side moving at different speeds. As the plates move, friction occurs and plates become stuck. Pressure builds up because the plates are still trying to move. When the pressure is released, it sends out huge amounts of energy, causing an earthquake.

The Earth is composed of four layers.

- The outer layer is the crust; this is solid and relatively thin.
- The mantle is underneath the crust; this is made of semi molten rock. Underneath the mantle, we have the outer core; this is liquid and is made of iron and nickel.
- At the centre of the Earth, we find the inner core made of solid iron and nickel. Scientists believe the core may be as hot as 5,500°C or hotter than the surface of the sun



Atmospheric hazards	Terrestrial/ Geological hazards	Water based hazards	Biological Hazards
Created in the atmosphere, by the movement of air and water	Created by the movement of the Earth's tectonic plates or surface rock and soils	Created by rivers, sea or oceans	Any biological substance that poses a threat to the health of people
Hurricane	Earthquakes	Tsunami (both?)	COVID-19
Drought	Landslides	Coastal/tidal floods	Malaria
Forest Fires	Volcanoes	River flooding	

Evil and Suffering Knowledge Organiser

NEED TO KNOW WORDS

Angels	Follow the orders of Allah including protecting us from harm.
Atheist	Someone who do not believe in a god
Evil	Something wicked and immoral
Free will	The ability to make your own choices
Humanist	A belief that humans should be free to give meaning to their own lives.
Immoral	Doesn't meet the accepted moral standard.
Karma	The belief that our actions have consequences
Moral	Standards of good behaviour
Moral evil	Suffering caused by our behaviour (e.g. bullying)
Natural evil	Suffering caused by nature (e.g. natural disasters)

Inconsistent triad: The problem of evil and suffering

Various types of evil and suffering are evident in the world. This can cause problems for many believers, as they believe in a loving, powerful and all-knowing God:

If God was all - knowing (**omniscient**), He would know that we were suffering.
If God was all - powerful (**omnipotent**), He would be able to stop our suffering.
If God was all -loving (**omnibenevolent**), He would want to stop our suffering.

We know evil and suffering exist so how can God exist?

Free Will

Free will is the ability to make choices and act upon them without being forced to do so. In many religions, people believe that God gives us free will so that we can make our own choices in life.

Sometimes, when we make choices that are not good, they can lead to negative consequences like sadness, pain, or suffering. However, God also gives us the ability to make good choices, and when we do, it can bring happiness and positive things into our lives.

So, while we might experience suffering or difficulties in life, it is not necessarily because God is punishing us. Instead, it can be a natural result of our choices or circumstances.

Soul making

The belief is that when we face challenges, we are given the opportunity to develop our character, cultivate virtues like courage, compassion, and perseverance, and deepen our relationship with God.

For example, when we face difficulties, we can learn to be more empathetic and understanding towards others who are going through similar experiences. Or, when we overcome obstacles, we can become stronger and more resilient, and learn to trust in God's guidance and grace.

So, even though pain and suffering can be difficult to bear, they can also be seen as opportunities for growth and transformation, and for strengthening our spiritual lives.

Life is a test

The idea that life is a test means that our time on earth is meant to challenge us and help us grow. It's like taking a test at school - we are given the chance to show what we know, and to learn from our mistakes.

In life, we are given the opportunity to choose between good and bad, and to act in ways that show our values and beliefs. By doing the right thing, helping others, and being kind and fair, we are passing the test and we can show that we are worthy of a good and happy life, and of eternal reward.

Evil and Suffering Knowledge Organiser

NEED TO KNOW WORDS

Nature	Characteristics we inherit from our parents
Nurture	Influences from our environment
Original Sin	inherited from Adam in consequence of the Fall
Omnipotent	All-powerful
Omnibenevolent	All-loving
Satan	A force that tempts people from God
Soul making	The idea that suffering helps us develop
Suffering	the state of undergoing pain, distress, or hardship.
Upbringing	the treatment and instruction received by a child from its parent (s) or caregiver throughout its childhood

Nature	Nurture
• Refers to the genetic traits and features that we inherit from our parents • Includes things like eye colour, height, and personality traits • Cannot be changed or controlled by us • Plays a role in determining who we are and how we behave	• Refers to the environmental factors that shape our development • Includes things like our upbringing, social environment, and life experiences • Can have a big impact on our beliefs, values, and behaviours • Can be influenced and changed by us, and by the people and experiences around us

The Role of Angels in Islam

Angels are spiritual beings in Islam who are created by God to carry out various tasks. They are believed to have no free will and always obey God's commands.

According to Islamic teachings, angels are responsible for many things, including recording people's good and bad deeds, guarding and protecting humans, and communicating messages from God to His prophets.

Angels do not cause suffering or allow it to happen. Instead, it is believed that God allows suffering to occur for a variety of reasons, including to test people's faith, to help them grow and learn, and to bring

Book of Job

The story follows a man named Job, who is a faithful servant of God. One day, Satan challenges God, saying that Job only loves and serves God because he has a good life. God allows Satan to test Job's faith by taking away everything he has, including his family and his possessions.

Despite all the suffering he endures, Job remains faithful to God and refuses to curse Him or give up his faith. In the end, God rewards Job's faithfulness by restoring everything he lost and giving him even more than he had before.

The Book of Job teaches us that suffering is not always a punishment for something we have done wrong. Sometimes, good people suffer for reasons that we may not understand, and it is important to trust in God and remain faithful, even in the face of hardship.

Art

ENVIRONMENTAL ISSUES

Content: In this project you will…
Understand- Greater awareness of current environmental issues.
Develop skills- Drawing, watercolour brushwork, washes and colour mixing. Along with layout and composition skills.
Outcome- 'Save the Bee's' poster. Artwork inspired by Martyna Zoltaszek.

Analogous colours are groups of THREE colours that are next to each other on the colour wheel. Red, orange, and red-orange are examples.

There are numerous species currently in danger of extinction.
Most of them are caused directly or indirectly by man: climate change, destruction of their habitat, illegal hunting, etc

1. Javan rhinoceros.
2. Snow leopard
3. Tiger
4. Red tuna
5. Asian elephant.
6. Vaquita porpoise.
7. Mountain gorilla.
8. Sumatran orangutan
9. Baulan turtle
10. Polar bear
11. Magellanic penguin

ENVIRONMENTAL ISSUES:

- By 2050 there will be more plastic than fish in the ocean.
- On average <u>one</u> reusable water bottle saves using 167 plastic water bottles per person in just one year.
- Every 26 minutes an elephant is poached in Africa to meet the demand of the Ivory trade. Some of this trade is still legal in the UK.

Keywords:

Annotation: a note by way of explanation or comment added to a text or diagram.
Collage - a piece of art created by combining photos, clippings or small objects onto a surface
Typography - is the art of arranging letters and text in a way that makes the copy legible, clear, and visually appealing to the viewer.
Render - Colouring your art, shading it, or adding texture to it to add realism and a 3D quality
Observational Drawing - drawing what you see
Value Drawing - a black and white drawing

Artist's who made art inspired by environmental issues:
Banksy
Lorenzo Quinn
Martyna Zoltaszek
Dean Russo
Alex Lucus
Bunnie Reiss

Assessment:
(D) Demonstrate a deepening- knowledge, understanding and skills
(O+)On Track- Demonstrate some- knowledge, understanding and skills
(O-)On Track- Demonstrate some- knowledge, understanding and skills
(Y)Yet to be on Track- developing some- knowledge, understanding and skills
(A)Earlier Stage-minimal knowledge, understanding and skills

Analysis

All artist research pages should be annotated. You must include the following:

<u>Other artists artwork</u>

- Describe the work - what does it look like? Use the formal elements i.e. colour, line etc.
- What techniques/ materials were used?
- What is your opinion of the work? How is it relevant to your own idea?

Sentence starters

- I like/dislike the way the artist has used…because
- I think the colour scheme used is effective because…
- I think the artist has been inspired
- by…because

<u>Evaluation of Your Artwork-</u>

- What inspired you to create the piece?
- What techniques did you use and why?
- What does it mean to you?
- How is it relevant to your
- idea?

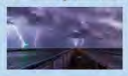
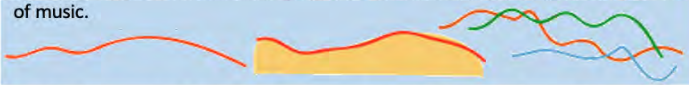
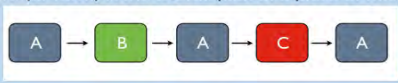
Sentence starters

- The technique I have used is…
- The skill/technique I found most difficult was…because…
- I think my work is successful because…

Music

Glastonbury 2

Elements of Music

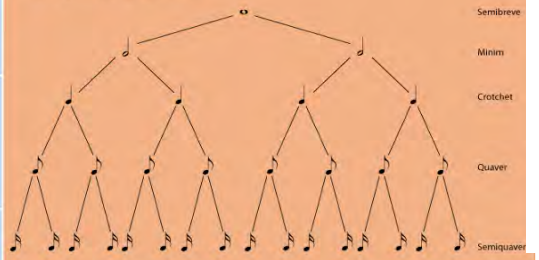
Program Music	A piece of music which either **tells a story** or **describes something**.   
Pitch	Pitches is how high or low a piece of music, or a particular note, is.  
Rhythm/ Duration	Duration/rhythm means how long or short a note is.  
Dynamics	Dynamics are how loud or quiet the music is played.  
Tempo	Tempo is how fast or slow a piece of music is played.  
Texture	Texture describes how melodies, rhythms and harmonies are layered in a piece of music. 
Timbre/ Sonority	Timbre (or sonority) describes the particular sound quality of an instrument or voice.   
Structure	Structure (or form) is the overall plan of a piece of music.  

It's Theory Time!

Note Values

This is a *Rhythm Tree* – it is designed to help you identify what the symbols for different note values are, and how they relate to one another. Here are the note values!

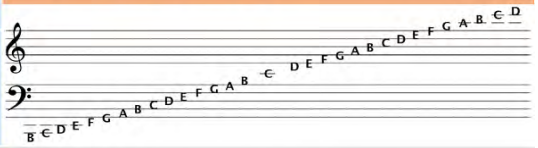
Semibreve = 4 beats
Minim = 2 beats
Crotchet = 1 beat
Quaver = ½ beat
Semiquaver = ¼ beat



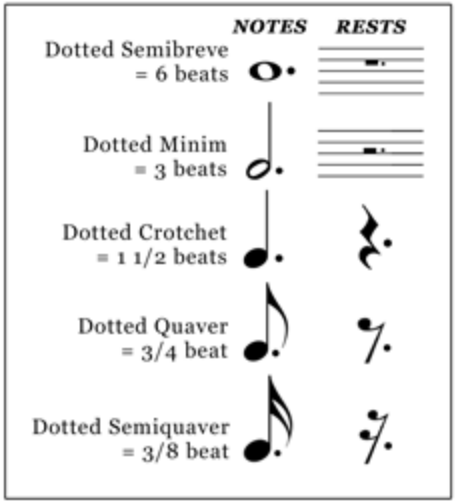
Notes on the Stave

Here are the notes of the **treble** (top line) and **bass** (bottom line) clefs. When the notes fall outside the five lines of music paper, we add extra lines called **ledger** lines. Here are some phrases to help you remember where the notes go!

Treble Clef Lines: **E**very **G**reen **B**us **D**rives **F**ast
Treble Clef Spaces: **F A C E** (in the space!)
Bass Clef Lines: **G**reen **B**uses **D**rive **F**ast **A**lways
Bass Clef Spaces: **A**ll **C**ows **E**at **G**rass

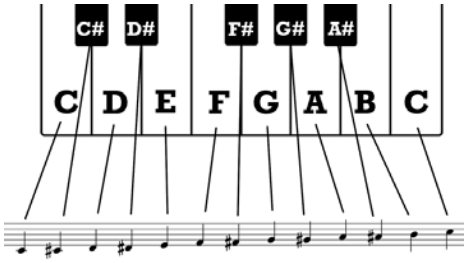


Dotted Note Values



Chromatic Scale

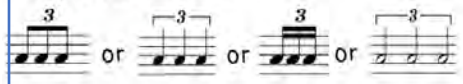
(piano)



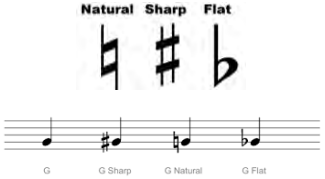
Triplets

A triplet is group of three notes, or notes and rest that are played in the same time as two notes of the same value. Triplets are only found in simple time.

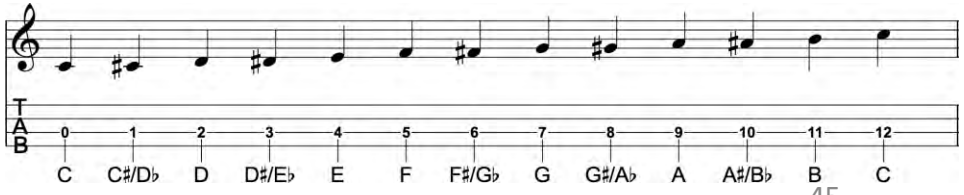
They can look like this...



Accidentals



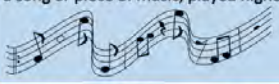
(Ukulele)



Music

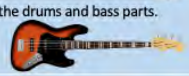
Glastonbury 2

Song writing Knowledge Organiser

Verse	The part of the song that sets up the chorus and tells the story. 
Chorus	The part of the song that is usually the most memorable, and includes the title. This is typically the part of the song that people remember and sing along with! 
Bassline	The lowest pitched part of the music often played on bass instruments such as the bass guitar or double bass. Creative and distinctive basslines make your song stand out! 
Melody	The main "tune" of a song or piece of music, played higher in pitch that the **bassline.** 
Chord Sequence	The pattern of chords used to create the harmony of the song for the melody 
Lyricist	The person responsible for writing the lyrics during the song writing process. 
Strophic	A structure of a popular song which is simply Verse, Verse, Verse etc. It can also be referred to as A-A-A-A etc. 
Verse-Chorus Form	A structure of a popular song which makes use of verses and choruses – there's usually an intro, bridge and outro somewhere in there too! 

Key Artists – Go the extra mile!

Adele (b.1988) 	Adele is often cited as the one of the most successful female singers in history, selling over 40 million albums and 50 million singles in just five years. Here one of her most famous songs, Someone Like You, here. Can you work out the structure? https://www.youtube.com/watch?v=hLQl3WQQoQ0
Ed Sheeran (b.1991) 	Ed Sheeran is a singer-songwriter, famous for his honest and emotional songwriting. His two albums '+' and '÷' are two of the best selling UK albums of all time. Listen to one of his most emotive songs, Supermarket Flowers, here: https://www.youtube.com/watch?v=bIB8EWqCPrQ
Taylor Swift (b.1989) 	Taylor Swift is an American singer-songwriter who has her roots in Country music, and has moved more into mainstream pop music in recent years. Have a listen to her song *Love Story* released in 2008. Can you name the instruments used? https://www.youtube.com/watch?v=8xg3vE8Ie_E

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. 
Ostinato	A repeated musical pattern. The same meaning as the word **riff,** but used when describing repeated musical patterns in *Classical* and some *World music.* 
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. 
Melodic Hook	A hook based on the instruments and the singers.  
Rhythmic Hook	A hook based on the patterns in the drums and bass parts.  
Chord	Two or more notes played simultaneously on a piano or guitar. There are three chords needed for the standard 12-bar blues:
Major Key	A musical key which sounds happy. 
Minor Key	A musical key which sounds sad. 

Popular Song Structure

(the sections within a song and the order they are played in)

Intro | Verse | Chorus | Verse | Chorus | Bridge | Chorus | Outro

Computer Science

Network

LANs

1. Stands for **Local Area Network**
2. A LAN is when devices are connected over a **small geographical area**
   - Examples: School, home
3. You can connect to a LAN using **WiFi** or **Ethernet**

Typical hardware used to create a LAN.

Ethernet cable

Router

Switch

Wifi extender

Peripherals

Network interface card

WANs

1. Stands for **Wide Area Network**
2. A WAN is when networks are connected over a **large geographical area**
   - Example: The internet
3. You can connect to a WAN through your telephone connection, mobile data (GPRS) or cable/satellite.
4. WANs connect using a **modem**. Nowadays these are built into the **router**.

WPANs

1. Stands for **Wireless Personal Area Network**
2. A WPAN allows us to **pair** devices together over a short range.
   - Examples
     - A speaker connected to a phone
     - A smartwatch connected to a smartphone
3. You can connect to a WPAN using bluetooth.

Advantages and disadvantages of different connection types.

	Advantages	Disadvantages
Wifi	Good for connecting **portable** devices to a LAN.	Slower **data transfer speed** compared to Ethernet. Limited **range** (unless you use a wifi extended) Can be **hacked** by **unauthorised users**
Ethernet	Faster **data transfer speed** compared to wifi. Has a **range** of 100 metres.	Cables are more **expensive** than using a wifi connection.
GPRS	Can be used on the move. Good for mobile devices such as smartphones.	Mobile data can be **expensive** - requires a SIM card. Limited/slow connection speed in some locations.
Bluetooth	Up to 7 bluetooth devices can be **paired** at once.	Can be hacked by **unauthorised users** The **range** is quite short.

Computer Science

Network

Firewall

- **Controls** which **programs** can **send** or **receive** **data packets** from your computer or network.
- Stops **intruders/unauthorised users** from accessing your computer system.
- Only **trusted** programs should be allowed to send and receive data packets.

Programs: You might know these as "apps". For example, Microsoft Word, Google Chrome, Norton Antivirus and Sonic the Hedgehog!

Unauthorised users: Users who are not allowed to access your computer or network.

Trusted programs: These are downloaded or purchased from safe sources. "Free software" should always be checked by reading online reviews and then scanned for viruses before installing.

Antimalware

- **Scans** your computer **periodically** for **malware.**
- **Quarantines** malware so that it doesn't spread to other files or computers.
- You need to scan all **downloads** and email **attachments** before opening them.
- Needs to be **updated** regularly in order to keep up to date with the latest **threats.**

Malware: Malicious software which can harm your compu For example viruses, trojan horses, worms and zombies.

Attachments: Files which are joined to an email messag For example, an image or a text file. Any type file can be attached to an email, so be careful!

Periodically: For example daily, weekly, after each login

Quarantines: Isolates (keeps away) from other files so that other files do not get infected on the computer or network.

Encryption

- Scrambles data packets using a **cipher** so that they cannot be read by unauthorised users.
- You need a **key** to decrypt the data packets so that they can be read.
- Websites which require you to send personal information should be encrypted **(HTTPS).**
- **WiFi connections** should also be encrypted to stop **unauthorised users** from accessing your network.

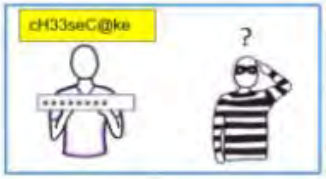
Encrypt: Scramble the data packet so it can't be read.

Decrypt: Unscramble the data packet so that it can be read.

Cipher: A method (way) of encrypting a data packet. 128bit encryption is just 1 example. **Key:** The code needed to decrypt the data packet.

Personal information: For example your username, password, address, email address, telephone numbers and bank details. There are people out there who want to steal your identity!

Passwords



- Needs to be at least 8 characters long.
- Should include UPPERCASE, lowercase, numbers and Symbols (e.g. ! $ @ -).
- Stops **unauthorised users** from accessing your account/profile and changing/deleting/stealing your files.

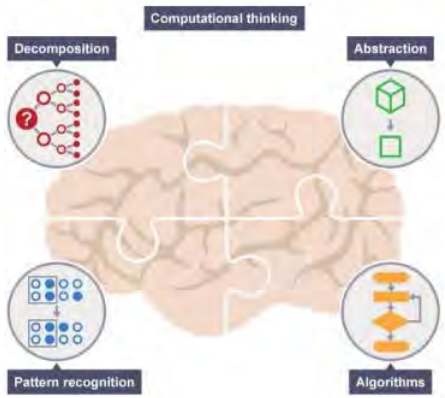
Profile: Your account when you login. A profile has your personal files and settings.

Phishing

- Is a cybercrime in which a target or targets are contacted by email, telephone or text message.
- By someone posing as a legitimate institution to lure individuals into providing sensitive data.
- Sensitive data -such as personally identifiable information, banking and credit card details, and passwords

Computer Science

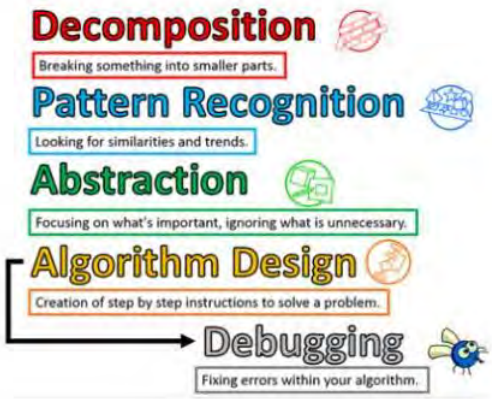
Computational thinking

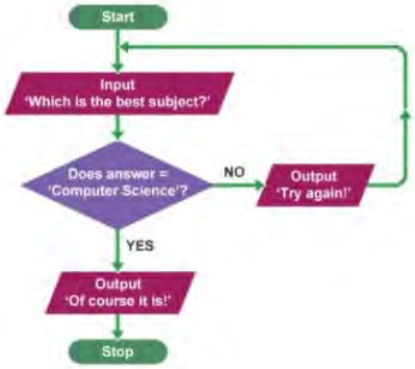


Computational Thinking	Abstraction	Decomposition	Pattern Recognition	Algorithms	Sequence	Selection
Computational thinking allows us to take a complex problem, understand what the problem is and develop possible solutions. We can then present these solutions in a way that a computer, a human, or both, can understand.	Focusing on the important information only. Ignoring the details that are not needed.	Breaking down a complex problem or system into smaller, more manageable parts.	Looking for similarities among and within problems. Looking for patterns.	Developing a step-by-step solution to the problem, or the rules to follow to solve the problem.	Following an ordered set of instructions.	Making a decision within a computer program to decide which instruction to carry out next.

Keywords

Variable	Stores data in a computer program. This has the ability to change when the program is running.
Data type	The type of data which is being stored in the variable. Variables use the following data types: • Character (single character) • Real (Decimal numbers) • Integer (Whole numbers) • Boolean (True/False) • String (More than 1 character)
Increment	When a variable increases in value (e.g. score **increments** by 100).
Decrement	When a score decreases in value (e.g. lives **decrements** by 1).



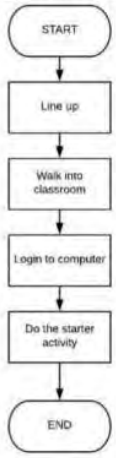


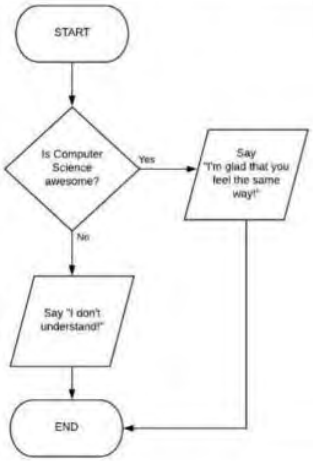
Computer Science

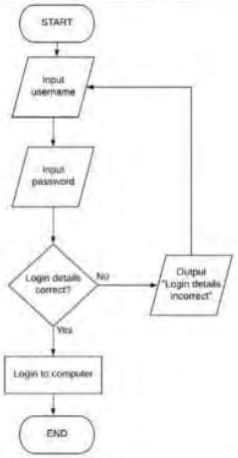
Computational thinking

Programming Construct Examples

Sequence	Selection	Iteration
A series of instructions carried out in a specific order.	When decisions are being made (IF / ELSE).	When you repeat a sequence of instructions (loops).







Definitions (use these when completing your tasks).

Algorithm	A set of step by step instructions in order to solve a problem.
Flowchart	An algorithm which is a visual representation of the steps needed to solve a problem.
Pseudocode	An algorithm which uses text to show the steps needed to solve a problem.
Decomposition	Breaking a complex problem down into smaller, more manageable problems.
Abstraction	Focusing on what is important and leaving out unnecessary detail.
You need to know the three main programming constructs:	
Sequence	A series of instructions carried out in a specific order.
Selection	When decisions are being made (IF / ELSE).
Iteration	When you repeat a sequence of instructions (loops).

What is an algorithm?

- A series of steps to solve a problem.
- They are not just about computers, we use them all the time in our everyday lives.
- There can be many algorithms to solve the same problem.

Terminator - This either contains **START** or **END**.

Input/Output - This shows something that is going in or out of the system.

Process - This shows something that is happening.

Decision - We use these when we need to make a choice. **Decisions** must have two exits, **YES** and **NO**.

Connector - Shows the direction of data through the **flowchart**.

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8.5 - Data Representation: Knowledge Organiser

@HPAComputing #ReadyToCode

Keywords - Binary - Character Sets	Bit	Nibble	Byte	Kilobyte	Megabyte	Gigabyte	Terabyte
	A single 1 or 0	4 bits	8 bits	1024 Bytes	1024 Kilobytes	1024 Megabytes	1024 Gigabytes

Binary	Denary/Decimal	Base 2	Base 10	ASCII	UNICODE
A number system that contains two symbols, 0 and 1. Also known as base 2.	The number system most commonly used by people. It contains 10 unique digits 0 to 9 Also known as decimal or base 10.	The binary counting system, uses two symbols - 0 and 1	The denary counting system, uses ten symbols - 0 to 9	A 7-bit character set used for representing English keyboard characters	A 32-bit character set. Is capable of representing over 2 billion different characters including a wide range of emoji

BINARY ADDITION

There are four rules that need to be followed when adding two binary numbers. These are:

0+0=0
1+0=1
1+1=10 (binary for 2)
1+1+1=11 (binary for 3)

OVERFLOW ERROR

	1	0	1	0	1	1	0	0
+	0	1	1	0	1	1	0	1
1	0	0	0	1	1	0	0	1

Sometimes, when adding two binary numbers we can end up with an extra digit that doesn't fit.

This is called an **overflow error.**

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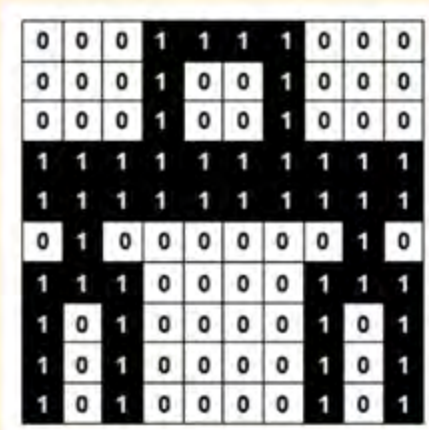
Digital Images

Digital images are made up of pixels. Each pixel in an image is made up of binary numbers.

The more pixels, the higher the resolution. This means the file size increases as the quality increases



Colour Depth

The number of bits used to store each pixel is called the colour depth.

Number of colours	Bits Required
2	1
4	2
8	3
16	4
32	5
64	6

Impact

If you increase the colour depth and/or resolution of an image, you are using more binary.

This means that the file size increases as the quality of the image increases.

BITMAP FILES (RASTER)

Bitmap files are images that are made up from a number of tiny square pixels.

A **Pixel** is known as the smallest identifiable part of an image.

Each **pixel** can only be **one single colour** at a time, however when thousands of pixels are used together they can create very detailed images.

Each pixel can determine what colour to display as it is **represented by a binary** value that corresponds to a colour e.g. 1101 might be dark green.

Resolution is the concentration of pixels that are within a specific area i.e. an image. The greater the number of pixels within a specific area, the higher the image quality.