

September - October

Year 8

KNOWLEDGEABLE AND EXPERT LEARNERS



Self
Quizzing

Flash
Cards

Mind
Maps

Brain
Dumps

enjoylearn**succeed**

INDEPENDENT LEARNING BOOKLET

NAME:

TUTOR GROUP:

CONTENTS

- Homework Instructions
- Independent Learning log
- Self Quizzing instructions
- Subject Knowledge Organisers

You will need an A4 application booklet.

HOMEWORK:

- Your teacher will set specific tasks, with a deadline, on Class Charts
- Instructions for your homework and how to access it are in this booklet
- You must complete and hand in the work by the deadline

INDEPENDENT LEARNING EXPECTATIONS AND REWARDS:

- You should complete 1 task per day, 5 days a week.
- The tasks will be set on Class Charts to help you keep track of what you need to do.
- You must bring your ILB and application book to school every day.
- You can choose the subject/topic you want to work on.
- Your tutor will check your ILB regularly to see how you are getting on.
- You will be rewarded for going above and beyond expectations.

USING CLASS CHARTS



All of your homework will be set by your teachers using the Class Charts System. You should check Class Charts every day to make sure you are up to date, and that you meet all your deadlines. Below, shows you how to log on and track your homework.

Logging in to Class Charts

1. Enter your email address and password into the fields provided

Access code *
Your access code

Please enter the access code supplied by your teacher.

☒ Remember me

2. Click on the Log in button

LOG IN

3. Enter your date of birth if prompted and click on the OK button

Date of birth

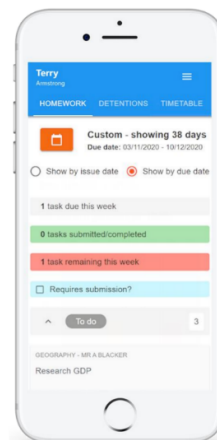
Please enter your date of birth below.

Date of Birth
12/06/2009

OK CANCEL

Homework

- Select the homework tab on our account.
- This will display a list of the homework tasks which you have been given.
- To change the date range for displayed homework tasks, click on the orange Date button.
- To display tasks in the order they are expected to be handed in, click on the Due date button.
- To mark a homework task as completed, view the homework task of your choice in more detail and tick the Completed checkbox.



To view a homework task in more detail, click on the expand icon in the bottom right hand corner of the homework tile. A popup will appear that contains the a description of the homework task, the estimated completion time and any links or attachments that may have been included.



To do

Research GDP
GEOGRAPHY - MR A BLACKER

Type: Blended Learning
Issue date: Monday 09/11/2020
Due date: Wednesday 11/11/2020
Estimated completion time: 1 hours

Please write a short paragraph on what GDP is and how it is used.

Keeping track of homework

To track your homework use the three banners above the homework status. This shows the the number of homework tasks that are due that week, how many of those tasks you have completed and how many tasks you still need to complete.

1 task due this week

0 tasks submitted/completed

1 task remaining this week

To only see homework tasks that require an attachment submission, tick the checkbox labelled Requires submission.

☐ Requires submission?

If you are viewing the Homework tab via a desktop or laptop, expanding a homework status category will display a table overview of each homework task for the selected date range.

To do							
Homework	Teacher	Lesson	Issued	Due	Estimated time	Type	Feedback
<input checked="" type="checkbox"/> Research GDP	Mr A Blacker	8F/Gg	Monday 09/11/2020	Wednesday 11/11/2020	1 hours	Blended Learning	
<input checked="" type="checkbox"/> Write a soliloquy	Mr J Kato	8y/En2	Tuesday 10/11/2020	Tuesday 17/11/2020	30 minutes	Homework	
<input checked="" type="checkbox"/> Create a poster on French food	Mrs A Abell	7YEL/Fr	Friday 06/11/2020	Thursday 19/11/2020	45 minutes	Homework	Feedback

Homework attachment submissions

For certain homework tasks, you may be asked by your teacher to upload your work as an attachment. When viewing a homework task in more detail, you will see the Upload attachment button if your teacher is expecting your work to be uploaded. To submit a homework attachment, click on the Upload attachment button and select the files of your choice. Successfully uploaded files will then appear above the button

If your teacher leaves feedback on one of your homework attachments, you will see a Feedback icon appear on the associated homework task.

To view the feedback, click on the expand icon in the bottom right hand corner of the homework tile. Your teacher's feedback will appear directly below your homework attachment

To do

Write a book review
RECREATION - CBR/RC5 - MRS A ABELL

Type: Homework
Issue date: Friday 20/03/2020
Due date: Friday 27/03/2020
Estimated completion time: 10

☐ Completed?

Write a 500 word review on the book of your choice.

My attachments

☒ My book review.doc

+ UPLOAD ATTACHMENT

You can upload a maximum of 5 attachments, each up to 250mb in size.

Supported file formats: doc, docx, pdf, xls, xlsx, ppt, pptx, pub, txt, png, jpeg, jpg, gif, rtf, mp3, odt, odp, csv, mp4, mov, m4a, sb3

RECREATION - MRS A ABELL

Write a book review

Issued: Friday 20/03/2020
Due: Friday 27/03/2020

Feedback

To do

To Do: These are homework tasks that you need to complete. Once you have completed them, tick the checkbox

Completed

Completed: These are homework tasks that you have ticked as completed but have not been marked by your teacher

Submitted late

Late: These are homework tasks that have been handed in past the deadline.

Not submitted

Not submitted: These are homework tasks that were not handed in on time.

Submitted

Submitted: These are homework tasks that have been handed in on time.

HOW TO ACCESS SENECA



Seneca learning is a free online platform that will help you revise for all your subjects.

1.

Go to
<https://senecalearning.com/en-GB/>

2.

Click 'Log In' at the top right hand corner.



Login

Sign up

3.

Select 'Continue with Microsoft'.



Continue with Microsoft

4.

Enter your school email and password.

5.

Select the course(s) you want to work on

If you need any help accessing SENECA please speak to your class teacher, or Miss Holmes.

You can also scan this QR code for a video walkthrough of how to log in as a student

SCAN HERE



INDEPENDENT LEARNING LOG

SELF-QUIZZING



Expectation this ½ term: Self-Quizzing


1. Use/Create 6 questions
2. Answer 6 questions

- This should be done once a day, for approximately 20 minutes.
- All quizzing should be evidenced in your application booklet.
- Use this log to track how what subjects you have done (see example)

Week Beginning	Monday	Tuesday	Wednesday	Thursday	Friday
EXAMPLE: 01/09/2025	English: KG1 & 2	Science: KG2 & 4	History: KG4 & 5	PSHCE: KG 1 & 2	Drama: KG 1 & 3
8/09/2025					
15/09/2025					
22/09/2025					
29/09/2025					
06/10/2025					
13/10/2025					
20/10/2025					

SELF QUIZZING – INSTRUCTIONS


1.



Identify knowledge

Identify the subject and knowledge groups you are going to cover.
Look at one knowledge group at a time.


2.



Review

Spend around 5 minutes reviewing the knowledge group you have chosen.
Use this time to create questions if you need too.
Read it to yourself
Highlight keywords


3.



Cover and answer

Cover up your knowledge and answer the questions from memory.
Take your time and where possible answer in full sentences.


4.



Revisit

Go back to the content and self-mark your answers in **green** pen.

5.



Review


Review the areas where there were gaps in knowledge, and self-quiz this area again.

SELF-QUIZZING QUESTIONS

These are taken straight from a knowledge organiser. These are examples of questions in your KO that can help you with self quizzing.

- What is happiness?
- What is gratitude?
- What is vulnerability?
- What is courage?

OR

A. Structure of the Earth and Plate Tectonics		
1		<p>Crust – The outer layer of the Earth. It is a very thin layer (think of an apple skin on an apple) and ranges between a thickness of 6 and 70 km. Broken in pieces called tectonic plates.</p> <p>Mantle – Due to the high temperatures of this thick layer, the mantle has the consistency of jam! Temperatures within the mantle range from 5000°C near the core to 1300°C just below the crust.</p> <p>Outer Core – This layer is liquid and made up largely of iron.</p> <p>Inner Core - This layer is solid and is also made of iron. Temperatures within this dense core can be 5500°C.</p>
Structure of the earth		

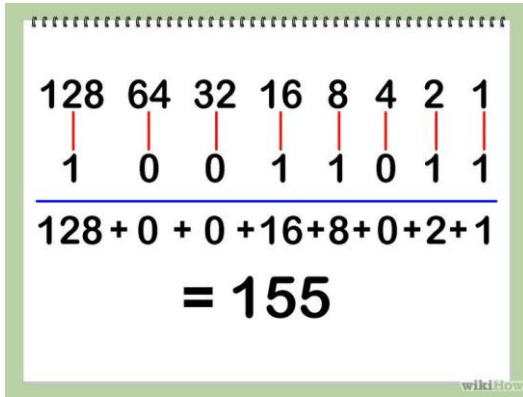
Using your KO, you can create your own questions, such as:

- Structure of the Earth**
1. What is the Crust?
 - 2.What is the Mantle?
 - 3.What is the Outer Core?
 - 4.What is the Inner Core?

You can directly answer these questions in your application book.

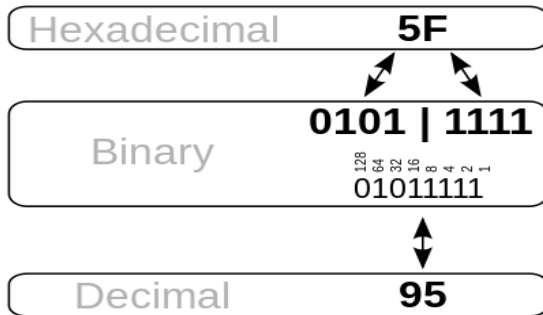
Converting between Bases

Binary to Denary



Write the column values out above your binary number. Only add the column value where the binary number is one.

Binary to Hexadecimal



Each hex character is equal to a binary nibble, join the two nibbles together to make your binary number. Practise the converting hexadecimal numbers to binary and denary method with these numbers: D2, 7A and A9

Character Sets

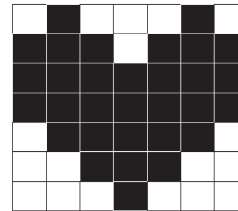
ASCII

ASCII stands for the "American Standard Code for Information Interchange". The ASCII character set is a 7-bit set of codes that allows 128 different characters. That is enough for every upper-case letter, lower-case letter, digit and punctuation mark on most keyboards. ASCII is only used for the English language.

Binary Bitmap Images

Each square is referred to as a pixel. Each pixel can either be on or off. If the pixel is blank usually you would say the value of this pixel is 0 and if the pixel is black then the value of this pixel is 1. Can you work out the binary combination for the image to the right?

A pixel is a tiny square of colour. Lots of pixels together can form an image.



Adding Binary

There are four rules for adding binary:








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



Key Vocabulary

Units of Data Storage	Bit – A single binary digit e.g. 0 or 1
	Nibble – Four binary digits e.g. 1011
	Byte – Eight binary digits e.g. 00110101
	Kilobyte (1000 bytes)
	Megabyte (1000 kilobytes)
	Gigabyte (1000 megabytes)
	Terabyte (1000 gigabytes)
Binary	This numbering system only uses two digits: 0 which means off and 1 which means on.
Denary	This numbering system uses ten digits: 0-9.
Hexadecimal	This numbering system uses sixteen characters: 0-9 and the A-F. Hexadecimal numbers is easier for humans to remember and use.
Character Set	A set of characters which are each represented using a unique binary number.
Overflow	When adding binary numbers together if your answer results with more than 8 bits an overflow has occurred. e.g. 1 11101011

1. Process; Tools & Equipment

1	Coping Saw 	Hand held tool used to cut intricate shapes in woodworking
2	Tenon Saw 	Used to cut straight lines in wood, but not deep cuts due to the 'back' on the top of the blade.
3	Hegner Saw 	A piece of machinery used to cut intricate curves and joints
4	Try Square 	Used to check and mark right angles in constructional work
5	File 	Hardened steel in the form of a bar or rod with many small cutting edges raised on its surfaces; used for smoothing or shaping objects.
6	Steel Rule 	Manufactured from stainless steel and features metric or imperial (or both) scales along its length. One end is usually flat whilst the other end is usually round.
7	Bandfacer 	A vertical bandfacer used for sanding, finishing & finishing tasks. (making surfaces flat).

2. Materials; Softwoods

A collective term for the wood which is produced by **coniferous** trees, almost all of which are **evergreen** and cone-bearing trees can take up to **20 years** before these trees can be used.

1	Pine	Furniture
2	Spruce	Roofing
3	Cedar	Cladding
4	Fir	Furniture & flooring

3. Materials; Manufactured Boards

Manufactured boards are timber sheets which are produced by **gluing wood layers or wood fibres** together. Often made use of **waste wood materials**


1	Medium Density Fibreboard (MDF)	Wood particles are combining with glue, and formed into panels by applying high temperature and pressure.
2	Plywood	Consists of two or more layers of wood glued and pressed together with the direction of the grain alternating.
5	Chipboard	Made from compressed wood chips and glues, often coated or veneered to give desired appearance

4. Materials; Plastics

A collective term for the two types of plastics that exist. Plastics are often referred to as 'polymers'

1	Thermoplastics	A thermoplastic is a plastic that can be heated and reheated over and over again. It is particularly useful when it comes to recycling Examples include; Acrylic, Polypropylene and HIPs
2	Thermosetting plastics	A thermosetting plastic (AKA a Thermoset) is a plastic that once moulded CANNOT be reheated and reshaped. Examples include; Urea Formaldehyde and Epoxy Resin

5. Process; CAD/CAM

1	Laser Cutter 	Works by directing the output of a high-power laser through lenses onto a material. Typically woods or plastics
2	Computer-aided Design (CAD)	The use of computers to aid in the creation or modification of a design idea. 2D Design / SketchUp.
3	Computer Aided Manufacturing (CAM)	The use of software and computer-controlled machinery to automate a manufacturing process. Laser cutter, CNC Lathe, A3 Router.

Sand down all wood (**P80,P120,P240,P320,P400**)

Apply **Danish Oil / Teak Oil** first followed by wax to seal the wood. Enhance its **appearance & protect** it.

1. Culinary terminology

1	Al dente	How pasta should be cooked – texture should be soft with bite.
2	Seasoning: Herbs + Spices	Herbs are generally green and spices are generally orange/brown. They are used to flavour and season food
3	Root and Shoot method	Use the claw grip to steady onion. Slice off the root, slice off the shoot and place flat edge on chopping board. Peel the skin and slice
4	Reduction method	Heating a sauce to evaporate some of the liquid to make in thicker and more intense flavour
5	Marinating	To flavour and tenderise meat by leaving food to soak in a sauce, acid, spices .
6	Kneading	Massage/work/squeeze dough. In bread it is to stretch gluten strands
7	Proving	Leaving bread to rest to allow the yeast to ferment.
8	Portion control	Ensuring each item is the same size
9	Batter	Muffin batter is different to cake batter as it should not be over mixed as it causes a tough texture
10	Roux/all in one	Methods of making a white sauce.
11	Gelatinisation	The process of thickening a liquid using starch.
12	Simmer	Temperature just below boiling point

2. Nutrition

1	Eat Well Guide	Government guideline for healthy eating.
2	Excess/deficiency	Excess is when too much and deficiency is when not enough is consumed.
3	Saturated Fat	Usually animal based savoury and sweet foods. Dairy and meat sources.
4	NSP - fibre	Also known as fibre needed for healthy digestion. Can cause constipation if deficient




Key Vocabulary

1	Multicultural	When people of different cultures come together to celebrate and share their different traditions
2	Design Scenario	Outlines the main details and expectations of the task.
3	Design Specification	A checklist of points that your design needs to meet in order to make a successful product
4	Sensory Qualities	The taste, smell, texture and appearance of food.
5	Recipe sequence	A list of steps to follow to make a dish
6	SME issues	Social, moral, ethical and environmental issues. Including; red tractor, vegetarianism, GM foods.
7	Performance review	Discussing the positives, negatives and areas for improvement



3. Food safety systems

1	Check for readiness	Independently checking if the Correct colour/texture and if cooked the internal temperature must be 75'c or above.
2	Cross contamination	When bacteria is transferred from one thing to another
3	Key temperatures	Freezer -18'c Fridge 1-5'c Danger zone 3-63'c Temperature food needs to reach during cooking 75'c All bacteria killed at 121'c
4	Temperature probe	Used to take the internal temp of food. Clean before/ after use. Insert into the centre. Record temp after it has stabilised for 2mins.
5	High/low risk foods	Low risks foods: often either high in salt. Sugar, acid and low in moisture. High risk foods provide the perfect environment for bacteria to grow (moist, high in protein, warm)
6	Safe storage	It is important to store food safety to prevent it spoiling and food poisoning bacteria growing. Make sure food is sealed properly and fully cooled down before putting into the fridge or freezer.
7	Food Waste/ Upcycling	Using leftovers to create a new meal



1. Tools & equipment

1	Free Machine Embroidery foot 	A foot used on the sewing machine to sew free machine embroidery
2	Embroidery Thread 	A thicker thread than machine thread that is shiny. It is used to hand stitch, create images and patterns on fabric.
3	Embroidery hoop 	A hoop that holds material taught whilst you sew either by hand or on the sewing machine

2. Sewing Machine Components:

1	Stitch Selector Buttons 	Changes the style of the stitches. 1 is straight stitch, 2 is zig zag stitch.
2	Dogs teeth/feed dogs 	The tracks under the base plate of the sewing machine that pull your material through. These are put down when doing FME.



3. Process: Applique

1. Applique	The technique of attaching one fabric onto another with zig zag stitch around the outside.
2. Zig Zag stitch	A stitch in the shape of a zig zag 
3. Bondaweb	Adhesive backed paper that can be ironed to fabric and peeled away to then iron onto another fabric 
4. Stitch width & length	Buttons that adjust the stitch width and length to change the shape and size of zig zag.

4. Materials:

1	Cotton	A natural fibre that comes from a cotton plant
2	Synthetic fibre	A manmade fibre that comes from oil. E.g. Polyester and Nylon.

5. Process: Free machine embroidery

1	Set up the sewing machine
2	Place your material into an embroidery hoop and make sure it is tight like a drum.
3	Replace the 'normal' foot on the sewing machine with an embroidery foot. 
4	Lower the dogs teeth/feed dogs on the machine by pressing the button at the side. 
5	Place the material and the hoop under the sewing machine foot and lower the needle and foot. Sew and move the embroidery hoop at the same time. Aim for 3-4 times over each line of stitching.

6. ACCESS FM

1	Access FM	An Acronym used to analyse products and the work of Artists
2	Aesthetics	How the product looks
3	Cost	The cost of the product
4	Customer	Who it is intended for
5	Environment	Is it environmentally friendly?
6	Safety	Is it safe?
7	Size	Is it a suitable size?
8	Function	Does it do the job it was intended for?
9	Materials	Are the materials suitable?

7. Process: Tie Dye

1. Wet	Wet the fabric to make the dye easier to absorb when choosing a spiral.
2. Twist	Twist, scrunch or fold your fabric depending on the required pattern.
3. Tie	Tie elastic bands to keep it into this shape.
4. Dye	Submerge into the dye ensuring all the fabric has been covered
5. Iron	Once dry remove the elastic bands and iron the fabric flat.





8. Contextual links/Key names

BANKSY	Banksy is an anonymous British street artist, vandal, political activist, and film director, active since the 90s. His work is based on black, white with a hint of red. He uses stencils to create his work. His work has links to greed, poverty, despair, the obsession with celebrities, the government and war. Banksy has a hidden message in all his pieces.
VILLASANA	Victoria Villasana is a Mexican textiles artist known for her unique style of embroidery. She uses photographs of famous people and transforms them using bright coloured embroidery threads that she hand stitches over their images. Villasana's art frequently highlights portraits of well-known figures. She uses bold, colourful threads to bring out their personalities, adding layers of meaning to the images.
HARING	Keith Haring was an American artist whose pop art and graffiti work grew from New York City street culture of the 80s. Haring's work was based around animated imagery and often has a continuous black line that links imagery together. His work uses black, white and primary colours. Haring's work represents a youthful nature, innocence, purity, goodness and potentials.

Techniques to create tension

1	Pauses / Silence	Leaving silent moments in your scene can help build suspense
2	Music	Music that builds in volume and pitch, or low, deep music can help to set the mood and make the audience nervous
3	Sound effects	Repetitive sounds such as ticking or beeping can make the audience feed on edge. Other sounds such as the rain or wind can also set the atmosphere.
4	Lighting	Dark lighting or lighting that creates shadows can help to create a tense atmosphere.
5	Breathing	Hearing someone breathing on stage help the audience to understand the character extreme emotions.
6	Crescendo	To gradually get louder.
7	Climax	The end of the build-up when the main event happens.

Techniques – Drama techniques we will learn in class for this topic.

1	Conscience Alley	The 2 lines represent the characters thoughts being spoken out loud. The person walking down the middle walks down the 'Alley' and hears their thoughts. 
2	Thought Tracking	Characters in a freeze frame speak their thoughts and feeling aloud. 
3	Monologue	A speech where a character speaks to the silent listener. 
4	Tableaux	A freeze frame to show a section of the scene. 

Contextual links: Schindler's list (1993 Film), Saving Private Ryan (1999 Film), My Boy Jack (Film), War Horse (play by Nick Stafford)

Key Vocabulary

1	Stagecraft Skills: Blocking	Working out the movement and positioning of all the actors on stage. WHERE you will STAND WHEN you will move
2	Physical Skills: Gestures	Using your hands to highlight meaning or convey emotion. E.g. Scratching your head if you are confused.
3	Stagecraft Skills: Stance	The way you stand, usually to do with feet positioning.
4	Vocal Skills: Tone	Tone describes the emotion behind the line. It can convey meaning. For example: an angry tone.
5	Stagecraft Skills: Levels	How high or low you are positioned on the stage.
6	Vocal Skills: Rhythm & Tempo	Rhythm is where we pause and leave gaps in speech. This could show a character is thinking or distressed. Tempo is how fast or slow the speech is. E.g. a fast tempo could show someone is excited.
7	Vocal Skills: Emphasis	Making a word stand out to add impact.
8	Vocal skills: pitch	Making your voice higher or lower to indicate character or mood.
9	Physical Skills: Facial expression	Using your face to show emotion.

Plot Summary

1	What happens in Act 1?	<ul style="list-style-type: none"> Three witches plot to meet Macbeth. King Duncan awards Macbeth's bravery in battle. Macbeth and fellow soldier Banquo encounter the Witches and are given prophecies. Duncan names his eldest son Malcolm as successor. Lady Macbeth receives a letter from Macbeth and plans Duncan's murder. Duncan arrives at Macbeth's castle but Macbeth has doubts about killing the king.
2	What happens in Act 2?	<ul style="list-style-type: none"> Macbeth has a vision of a dagger leading him to Duncan's chamber and follows it. After, he is shaken and has forgotten to place the daggers with the drugged chamberlains. Macduff finds Duncan dead. Duncan's sons flee. Macbeth is named king.
3	What happens in Act 3?	<ul style="list-style-type: none"> Macbeth, fearing the Witches' prophecy about Banquo, arranges to have him and his son Fleance killed. The murderers kill Banquo but Fleance escapes. Later at his banquet, Macbeth sees the ghost of Banquo and becomes hysterical. The witches are scolded by Hecate for their meddling. Macduff (who fled to England) is gathering an army to fight Macbeth.
4	What happens in Act 4?	<ul style="list-style-type: none"> Macbeth visits the Witches again and is given new prophecies regarding his fate. Macbeth has Macduff's wife and children murdered. Macduff and Malcolm unite.
5	What happens in Act 5?	<ul style="list-style-type: none"> Lady Macbeth has begun sleepwalking and talks of the murders in her sleep. Macbeth boasts none of woman born can harm him. Macduff and Malcolm gather at Birnam Wood. Lady Macbeth commits suicide. A messenger tells Macbeth the trees of Birnam Wood are advancing towards the castle. The battle begins. Macbeth fights without fear. Macduff is able to defeat Macbeth because he was born by caesarean, not by 'woman born.' Malcolm is proclaimed King.

Characters

1	Macbeth	The protagonist. Introduced as a brave and strong soldier but is easily persuaded to murder a king he loves. He becomes a tyrannical and destructive king.	4	The Witches	The Witches: They use prophecies to prompt Macbeth into murdering Duncan. They take pleasure in toying with human lives and emotions.
2	Lady Macbeth	Macbeth's wife. Ambitious and persuades Macbeth to murder Duncan. Eventually she becomes wracked with guilt and commits suicide.	5	Macduff	Macduff: Scottish nobleman who is dubious of Macbeth's reign from the beginning. Macbeth leads the battle against Macbeth's regime, eventually becoming the man to kill him (in line with the Witches' prophecy).
3	King Duncan	Virtuous king of Scotland murdered by Macbeth. With his death order is shattered and only restored when his son Malcolm becomes king at the end of the play.	6	Banquo	Banquo: Brave and noble soldier and friend to Macbeth. Banquo is also given prophecies but unlike Macbeth, chooses not to act on them. After being murdered his ghost haunts Macbeth.

Themes

1	Ambition	The tale of Macbeth exposes the dangers of ambition when it is not held by moral constraints. Ambition turns Macbeth into a murderous tyrant.
2	Fate versus Free Will	The audience is forced to question whether the story develops as it does because of fate or the actions Macbeth chooses to take.
3	Masculinity and Femininity	Masculinity is associated with raw aggression and femininity with weakness and kindness. Lady Macbeth manipulates Macbeth by questioning his masculinity.
4	The Natural Order	When the natural order is disturbed, disorder and chaos follow. There is only peace when the natural order is restored (Malcolm on the throne).

Key Vocabulary

1	Tragic Hero	A main character cursed by fate and possessed of a fatal flaw.
2	Hamartia	The fatal flaw of the tragic hero. Macbeth's is ambition.
3	Dramatic Irony	Some things are revealed to the audience before the characters, increasing tension.
4	Catharsis	The release of the audience's emotions through empathy with the characters.
5	Peripeteia	Sudden reversal of fortune or change in circumstances.
6	Fate	Events in a person's life predetermined by a cosmic or supernatural power.
7	Fortune	Chance or luck affecting human affairs.
8	Anagnorisis	When a critical discovery is made by a character, e.g. Macduff was not 'born of woman.'

Context

1	James 1	King James' family claim to have descended from a historical figure named Banquo. He also wrote a dissertation on witchcraft called Demonology.
2	Divine Right	Monarchs were appointed by God and any attempt to question them was to question God himself.
3	The Supernatural	In the early 17 th century belief in witches was strong and many suspected of practising so-called witchcraft were burnt at the stake.
4	Beliefs about Gender Roles	Society was patriarchal and women were considered inferior to men. Women belonged to their fathers and then their husbands. They were expected to bear children and be gentle and womanly.

Present Tense		
1	Je suis	I am
2	J'ai	I have
3	Je fais	I do/make
4	Je vais	I go
5	Je regarde	I watch
6	Je mange	I eat
7	J'écoute	I listen
8	Je visite	I visit
9	J'habite	I live
10	J'envoie	I send
11	J'achète	I buy
12	Je vois	I see
13	Je lis	I read
14	Je bois	I drink
15	Je prends	I take

Perfect Tense		
1	J'ai été	I have been
2	J'ai eu	I have had
3	J'ai fait	I did/made
4	Je suis allé	I went
5	J'ai regardé	I watched
6	J'ai mangé	I ate
7	J'ai écouté	I listened
8	J'ai visité	I visited
9	J'ai habité	I lived
10	J'ai envoyé	I sent
11	J'ai acheté	I bought
12	J'ai vu	I saw
13	J'ai lu	I read
14	J'ai bu	I drank
15	J'ai pris	I took

Near Future Tense – I am going to...		
1	Je vais être	be
2	Je vais avoir	have
3	Je vais faire	do
4	Je vais aller	go
5	Je vais regarder	watch
6	Je vais manger	eat
7	Je vais écouter	listen
8	Je vais visiter	visit
9	Je vais habiter	live
10	Je vais envoyer	send
11	Je vais acheter	buy
12	Je vais voir	see
13	Je vais lire	read
14	Je vais boire	drink
15	Je vais prendre	take

Conditional Tense – I would like to...		
1	Je voudrais être	be
2	Je voudrais avoir	have
3	Je voudrais faire	do
4	Je voudrais aller	go
5	Je voudrais regarder	watch
6	Je voudrais manger	eat
7	Je voudrais écouter	listen
8	Je voudrais visiter	visit
9	Je voudrais habiter	live
10	Je voudrais envoyer	send
11	Je voudrais acheter	buy
12	Je voudrais voir	see
13	Je voudrais lire	read
14	Je voudrais boire	drink
15	Je voudrais prendre	take

être phrases		
1	c'est	it's
2	c'était	it was
3	ce sera	it will be
4	ce serait	it would be

il y a		
1	il y a	there is/are
2	il y avait	there was/were
3	il y aura	there will be
4	il y aurait	there would be

Structures with infinitives		
1	J'aime aller/faire/télécharger	I like going/doing/downloading
2	Je n'aime pas aller/faire/passé	I don't like going/doing/spending
3	il faut aller/jouer/dormir	you have to go/play/sleep
4	on peut aller/faire/trouver	you can go/do/find

Sentence Starters

1	je pense que	I think that
2	à mon avis	in my opinion
3	je dirais que	I would say that

Signposting Time Frames

1	l'année dernière	last year
2	avant	before
3	mardi dernier	last Tuesday
4	aujourd'hui	today
6	plus tard	later
7	après	after
8	l'année prochaine	next year

Who with

1	avec ma famille	with my family
2	avec mes amis	with my friends
3	avec mon père	with my dad
4	avec ma mère	with my mum
5	avec mon frère	with my brother
6	avec ma soeur	with my sister

Connectives

1	donc	therefore
2	ou	or
3	ensuite	then
4	parce que	because
5	comme	as
6	mais	but
7	pourtant	however
8	aussi	also

Frequency

1	tous les jours	every day
2	de temps en temps	now and again
3	une fois par semaine	once a week
4	deux fois par mois	twice a month
5	ne...jamais	never
6	en ce moment	at the moment
7	souvent	often
8	quelquefois	sometimes

Possessives

1	mon/ma/mes	my
2	ton/ta/tes	your
3	son/sa/ses	his/her
4	notre/nos	our

Intensifiers

1	un peu	a bit
2	assez	quite
3	très	very
4	vraiment	really
5	beaucoup	a lot
6	trop	too
7	surtout	especially
8	plutôt	rather

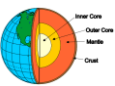
Adjectives

1	nouveau/elle	new
2	chouette	great
3	passionnant	exciting
4	effrayant	scary
5	gratuit	free
6	ennuyeux	boring
7	nul	rubbish
8	cher	expensive

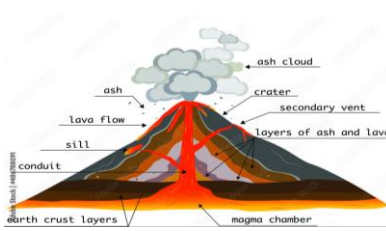
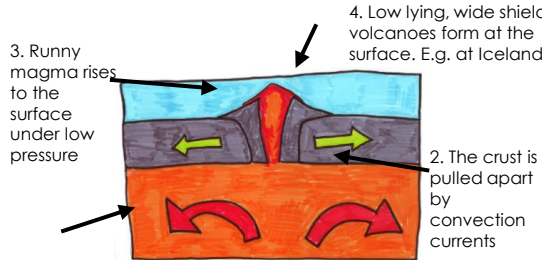
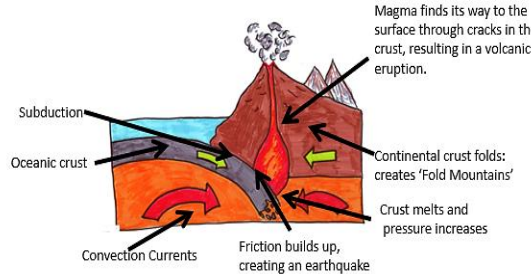
Describe Myself and Others

1	beau/belle	handsome/beautiful
2	moche	ugly
3	vieux/vieille	old
4	heureux/heureuse	happy
5	gourmand/gourmande	greedy
6	mûr/mûre	mature
7	sensible	sensitive
8	casse-pieds	annoying
9	méchant/méchante	nasty/mean/naughty
10	paresseux/paresseuse	lazy
11	rigolo/rigolotte	funny
12	débrouillard/débrouillard de	sad

A. Structure of the Earth and Plate Tectonics

1		<p>Crust – The outer layer of the Earth. It is a very thin layer (think of an apple skin on an apple) and ranges between a thickness of 6 and 70 km. Broken in pieces called tectonic plates.</p> <p>Mantle – Due to the high temperatures of this thick layer, the mantle has the consistency of jam! Temperatures within the mantle range from 5000°C near the core to 1300°C just below the crust.</p> <p>Outer Core – This layer is liquid and made up largely of iron.</p> <p>Inner Core - This layer is solid and is also made of iron. Temperatures within this dense core can be 5500°C.</p>
2	Theory of Plate Tectonics	<p>Scientists believe that 220 million years ago, today's continents may have all been joined together as one supercontinent called Pangaea.</p> <p>They looked at maps and saw the continents looked like they fit together like a puzzle. They also found that there are similar rock types, deserts and fossils in the places where the continents look like they would join.</p>
3	Convection currents	<p>Convection currents move through the mantle due to heat from the earth's core. As they move they cause the plates on the earth's crust to move. This movement is responsible for hazards like earthquakes and volcanoes.</p>

B. Volcanoes

1	Main features	
2	Formation at a constructive boundary: Shield Volcano	
3	Formation at a destructive boundary: Composite Cone	

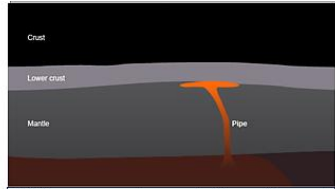
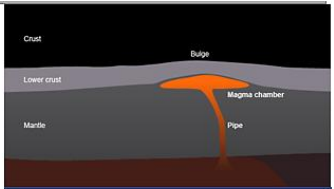
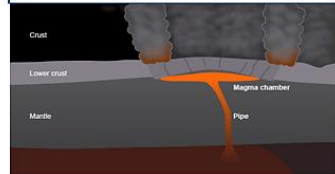
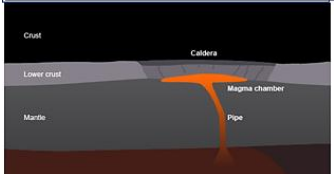
C. Types of Volcano

1	Composite Cone	Composite volcanoes are found on <u>Destructive</u> plate edges Here the magma builds up in the magma chamber with <u>lots of pressure</u> under the earth's crust The high pressure makes the lava <u>thick</u> so it doesn't run far making the volcano have <u>very steep</u> .
2	Shield Volcano	Shield volcanoes are found on <u>constructive</u> plate edges Here the magma rises up to the surface when the plates move <u>apart</u> so therefore there is <u>little pressure</u> on the magma The low pressure makes the lava <u>runny</u> so it runs a long way making the volcano have <u>flat sides</u> .

D: Iceland: Eyjafjallajökull

1	Location	On the Mid-Atlantic Ridge, a constructive plate boundary.												
2	Impacts of the eruption	<table><thead><tr><th></th><th>Primary effects</th><th>Secondary effects</th></tr></thead><tbody><tr><td>Local</td><td>The 150m thick ice cap above the volcano melted. Homes and roads were damaged, including 20 farms. Crops were damaged by the heavy ash falls. Local water supplies were contaminated with fluoride from the ash.</td><td>The melted ice caused major flooding. Around 700 people were evacuated because of this. Parts of Route 1 (the main road in southern Iceland) were damaged by the flood waters.</td></tr><tr><td>National</td><td>Agricultural production affected as crops were covered by a thick layer of ash.</td><td>Drop in tourist numbers which affected Iceland's economy and people's jobs and incomes. Road travel was disrupted due to road damage and closures.</td></tr><tr><td>International</td><td>Flights were cancelled across Europe and North America due to the ash in the atmosphere, around 100000 flights over an eight day period.</td><td>10 million air passengers had their travel disrupted. It is estimated the airlines lost over \$2 billion in total. Freight transport was disrupted, food and flowers produced in Kenya could not be flown to European supermarkets before they perished. Sporting events including the Japanese Motorcycle grand prix and the Boston Marathon were affected as people couldn't travel.</td></tr></tbody></table>		Primary effects	Secondary effects	Local	The 150m thick ice cap above the volcano melted. Homes and roads were damaged, including 20 farms. Crops were damaged by the heavy ash falls. Local water supplies were contaminated with fluoride from the ash.	The melted ice caused major flooding. Around 700 people were evacuated because of this. Parts of Route 1 (the main road in southern Iceland) were damaged by the flood waters.	National	Agricultural production affected as crops were covered by a thick layer of ash.	Drop in tourist numbers which affected Iceland's economy and people's jobs and incomes. Road travel was disrupted due to road damage and closures.	International	Flights were cancelled across Europe and North America due to the ash in the atmosphere, around 100000 flights over an eight day period.	10 million air passengers had their travel disrupted. It is estimated the airlines lost over \$2 billion in total. Freight transport was disrupted, food and flowers produced in Kenya could not be flown to European supermarkets before they perished. Sporting events including the Japanese Motorcycle grand prix and the Boston Marathon were affected as people couldn't travel.
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E: Why live near a volcano?		
1	Farming	Volcanic soil is extremely nutrient rich and is perfect soil for growing crops, this attracts people to live here for the rich soil which can be used to grow food and provide employment. Example: Wine is produced from grapes grown on the fertile slopes of Mt Etna, Italy.
2	Geothermal energy	Volcanic activity close to the surface of the crust can provide heat for Geothermal energy that can produce electricity. This is also a renewable energy source and will not run out. Example: Geothermal energy provides 30% of all of Iceland's electricity.
3	Mining	Many minerals can be found in volcanic areas. Sulphur produced by volcanoes is valuable mineral used for making matches, in medicine and fertiliser. Mining provide employment for local people, however the mining of this is very dangerous and can impact the environment. Example – Sulphur mining in Ijen Volcano, Java, Indonesia.
4	Tourism	Visiting a volcano is a very popular attraction for tourists, more than a million people visit volcanoes each year. This provides employment opportunities for local people. Example: 4.5 million people visited Yellowstone USA in 2018.

F Super volcanoes:		
1	Facts	They are much bigger than volcanoes They emit AT LEAST 1,000Km ³ of material Mount Saint Helens emits 1KM ³ They do not have a cone like a volcano They are actually a large depression called a CALDERAS They have a higher rim of land around the edges
2	How they form: <div>  <p>1) Magma cannot escape to the surface and collects under the lower crust.</p>  <p>2) As the magma builds up the surface starts to bulge.</p>  <p>3) Gas and ash escape through fissures in the surface causing a massive eruption.</p>  <p>4) The surface collapses into the old magma chamber forming a caldera.</p> </div>	
3	Case Study: Yellow Stone, USA	<p>Yellowstone is one example of a super-volcano. Three huge eruptions have happened in the last 3 million years. The last eruption was 630,000 years ago, and was 1,000 times bigger than the Mount St Helens eruption in 1980.</p> <p>The large volume of material from the last Yellowstone eruption caused the ground to collapse, creating a depression called a <i>caldera</i>. The caldera is 55 km by 80 km wide. The next eruption is predicted to have catastrophic worldwide effects.</p>

(1) Constructive plate margin - Tectonic plate margin where rising magma adds new material to plates that are diverging or moving apart	(7) Volcanic vent - an opening exposed on the earth's surface where volcanic material is emitted. All volcanoes contain a central vent underlying the summit crater of the volcano
(2) Destructive plate margin - Tectonic plate margin where two plates are converging or coming together and oceanic plate is subducted. It can be associated with violent earthquakes and explosive volcanoes.	(8) Magma chamber - a reservoir of magma within the earth's crust beneath a volcano
(3) Tectonic plate - A rigid segment of the Earth's crust which can 'float' across the heavier, semi-molten rock below. Continental plates are less dense, but thicker than oceanic plates.	(9) Primary effects - The initial impact of a natural event on people and property, caused directly by it, for instance the ground buildings collapsing following an earthquake.
(4) Plate margin - The margin or boundary between two tectonic plates.	(10) Secondary effects - The after-effects that occur as indirect impacts of a natural event, sometimes on a longer timescale, for instance fires due to ruptured gas mains resulting from the ground shaking.
(5) Crater - A volcanic crater is a roughly circular depression in the ground caused by volcanic activity. It is typically a bowl-shaped feature within which occurs a vent or vents.	(11) Prediction - Attempts to forecast when and where a natural hazard will strike, based on current knowledge. This can be done to some extent for volcanic eruptions (and tropical storms), but less reliably for earthquakes.
(6) Volcanic vent - an opening exposed on the earth's surface where volcanic material is emitted. All volcanoes contain a central vent underlying the summit crater of the volcano.	(12) Super volcano - A large volcano having the potential to produce an eruption with major effects on the global climate and ecosystem.

Present Tense

1	Ich mache	I do/make
2	Ich gehe	I go
3	Ich spiele	I play
4	Ich esse	I eat
5	Ich trinke	I drink
6	Ich sehe	I watch
7	Ich wohne	I live/stay
8	Ich fliege	I fly
9	Ich lese	I read
10	Ich trage	I wear
11	Ich nehme	I take
12	Ich kaufe	I buy

Past Tense

1	Ich bin geflogen	I flew
2	Ich bin gegangen	I went
3	Ich habe gespielt	I played
4	Ich habe gegessen	I ate
5	Ich habe getrunken	I drank
6	Ich habe gesehen	I saw
7	Ich habe gewohnt	I lived/ stayed
8	Ich habe gemacht	I did/mad e
9	Ich habe gelesen	I read
10	Ich habe getragen	I wore
11	Ich habe genommen	I took
12	Ich habe gekauft	I bought

Future Tense – I will

3	Ich werde machen	I will do/make
4	Ich werde gehen	I will go
5	Ich werde spielen	I will play
6	Ich werde essen	I will eat
7	Ich werde trinken	I will drink
8	Ich werde sehen	I will watch
9	Ich werde wohnen	I will live/ stay
10	Ich werde fliegen	I will fly
11	Ich werde lesen	I will read
12	Ich werde tragen	I will wear
13	Ich werde nehmen	I will take
14	Ich werde kaufen	I will buy

Conditional Tense – I would like to...

3	Ich möchte machen	do/make
4	Ich möchte gehen	go
5	Ich möchte spielen	play
6	Ich möchte essen	eat
7	Ich möchte trinken	drink
8	Ich möchte sehen	watch
9	Ich möchte wohnen	live/stay
10	Ich möchte fliegen	fly
11	Ich möchte fahren	travel
12	Ich möchte tragen	wear
13	ich möchte nehmen	take
14	ich möchte kaufen	buy

There is...

1	Es gibt	There is/are
2	Es gab	There was/were
3	Es wird geben	There will be

Imperfect Tense

1	Ich war	I was/I used to be
2	Ich hatte	I had/I used to have
3	Es war	It was

Structures with infinitives

1	Ich mag...gehen/machen	I like going/doing
2	Ich mag...gehen/machen nicht	I don't like going/doing
3	Man muss...gehen/machen	you have to go/do

Sentence Starters

1	Ich finde	I find
2	Meine Meinung nach	in my opinion
3	Ich würde sagen, dass	I would say that

Signposting Time Frames

1	letztes Jahr	last year
2	letzte Woche	last week
3	gestern	yesterday
4	normalerweise	normally
6	heute	today
7	nächste Woche	next week
8	nächstes Jahr	next year

Who with

1	mit meiner Familie	with my family
2	mit meinen Freunden	with my friends
3	mit meinem Vater	with my dad
4	mit meiner Mutter	with my mum
5	mit meinem Bruder	with my brother
6	mit meiner Schwester	with my sister

Possessives

1	mein/meine/mein	my
2	dein/deine/dein	your
3	sein/seine/sein	his
4	ihr/ihre/ihr	her

Question Words

1	wer	who
2	was	what
3	wann	when
4	wo	where
5	warum	why
6	wie	how
7	wie viel	how much

Connectives

1	und	and	5	denn	because
2	oder	or	6	weil	because
3	mit	with	7	jedoch	however
4	ohne	without	8	auch	also

Frequency

1	immer	always
2	ab und zu	now and then
3	oft	often
4	zuerst	first of all
5	einmal pro Woche	once a week
6	nie	never
7	manchmal	sometimes
8	zweimal pro Jahr	twice a year
9	früher	before

Intensifiers

1	also	so
2	zu	too
3	total	totally
4	gar nicht	not at all
5	sehr	very
6	nicht	not
7	nur	only

Adjectives

1	groß	big
2	klein	small
3	laut	loud
4	ruhig	quiet
5	lecker	tasty
6	kurz	short
7	lang	long
8	schön	beautiful
9	toll	great
10	das macht Spaß	that's fun
11	klassisch	classic
12	teuer	expensive
13	billig	cheap
14	alt	old
15	schrecklich	terrible
16	spannend	exciting
17	gesund	healthy
18	weit	far/wide
19	sonnig	sunny
20	windig	windy
21	heiß	hot
22	kalt	cold
23	wolkig	cloudy
24	neblig	foggy

1. The Industrial Revolution

- | | |
|--|---|
| 1 What was Britain like before the revolution? | <ol style="list-style-type: none"> 1. The population was smaller and spread out in rural areas 2. Agriculture was the main work for most people and they would provide for their village/town 3. Any production of goods was done in the home – the domestic system |
| 2 What caused the Revolution? | <ol style="list-style-type: none"> 1. With inventions like the Spinning Jenny, production of materials like cloth sped up 2. Richard Arkwright developed the spinning frame and then created the first factory 3. This was the beginning of the end of the domestic system |

2. How did the Revolution affect the country?

- | | |
|---------------------------------|---|
| 1 Growth of cities-urbanisation | <ol style="list-style-type: none"> 1. People began to move to the cities to find work in new factories 2. This made cities grow rapidly and the population exploded |
| 2 Change in transport | <ol style="list-style-type: none"> 1. Steam engines allowed faster transport between places 2. The need to transport goods around the country led to the invention of canals – This connected towns and cities and allowed them to grow bigger and richer |
| 3 New inventions | <ol style="list-style-type: none"> 1. Steam powered engines allowed machines to work reliably all day instead of relying on water power 2. The discovery of how to generate electricity allowed new inventions like the first telephones improving communication 3. New construction methods allowed bigger and stronger structures like iron bridges. |

3. Life during the Industrial Revolution

- | | |
|--|--|
| 1 What were cities like? | <ol style="list-style-type: none"> 1. Cities were over-crowded and dirty 2. House-building wasn't regulated and back to back housing meant lots of houses were built close together 3. Disease was common |
| 2 What was it like to work in a factory? | <ol style="list-style-type: none"> 1. Factory work was tough with long hours, low wages, no breaks and strict rules 2. Working around the machines was dangerous and losing limbs was common 3. There was no accident compensation or sick pay |
| 3 What was it like to work in mines? | <ol style="list-style-type: none"> 1. Mining work was as hard as factory work 2. Children were often used as 'trappers' because they were small 3. Cave ins and deaths from gas exposure were common |
| 4 The workhouse | <ol style="list-style-type: none"> 1. The workhouse would give the poorest people food and shelter in exchange for work 2. People were separated from their families and kept in horrible conditions 3. This reflected Victorian attitudes towards the poor – they thought poverty was their own fault. |
| 5 The rich | <ol style="list-style-type: none"> 1. Britain in the 1800s was a highly divided society 2. Most rich people at this time didn't have to work as they owned factories, land or trading companies 3. They would have lovely houses out of the dirty city centres, servants and the children would go to a good school |

4. Key word**Definition**

Agriculture	Farming, growing food & looking after animals
Back to back housing	Houses built with another house attached to the back
Canal	Built to move goods from factories to other towns and cities
Class	A system of dividing society by wealth
Domestic system	A production system that is based in the home
Factory	A building built for production using new machines.
Industrial revolution	When Britain changed from an farming nation to an industrial one from the 18 th Century
Industry	Producing man made goods – often in factories or with machines
Mine	Where natural resources are taken from the ground
Population	The number of people living in an area or country
Poverty	The state of being extremely poor
Railway	Spread across the country to move goods and people
Sanitation	Clean living conditions
Steam engine	Invention that used steam to move parts & wheels
Urbanisation	Increasing number of people living in towns and cities
Workhouse	A place where the poor could go for work & shelter

5. Beginnings of change

- | | | | |
|---|----------------------------------|----|--|
| 1 | What changes did Reformers make? | 1. | Various Factory acts put different limits on working hours for women and children of different ages. |
| | | 2. | 1833 Factory Act – banned children under 9 working |
| | | 3. | 1842 Mining act – banned women and girls working in mines and put an age limit on boys |
| | | 4. | 1871 Trade Unions Act – set up Trade Unions to protect workers |
-
- | | | | |
|---|---------------|----|---|
| 2 | The Chartists | 1. | Working class people were unhappy they couldn't vote because of rules about owning property |
| | | 2. | The Chartists made the People's Charter demanding the right to vote and MPs to be paid so working class people could be MPs |
| | | 3. | They collected signatures on a petition, which was rejected. |
| | | 4. | They encouraged strikes and marches, but were stopped by the government |

6. Bradford case study

- | | | | |
|---|-------------------------------------|----|---|
| 1 | Why was Bradford rich in this time? | 1. | Bradford became the centre of the wool trade in the whole country |
| | | 2. | Canals allowed Bradford to be connected to the rest of the country and transport its products around. |
| | | 3. | Bradford benefited from immigration from Germany bringing new workers and expert businessmen |
-
- | | | | |
|---|----------------------------|----|--|
| 2 | What were conditions like? | 1. | Bradford was known for being one of the worst polluted cities at the time |
| | | 2. | Life expectancy in Bradford was just over 18, one of the lowest in the country. |
| | | 3. | Bradford grew quickly and there were lots of facilities, including the Bradford Exhibition |

7. Saltaire

- | | | | |
|---|---------------------|----|---|
| 1 | Who was Titus Salt? | 1. | A business man who owned factories and wanted to change the conditions of his workers |
| | | 2. | He was elected mayor of Bradford at one point |
-
- | | | | |
|---|----------------------------|----|--|
| 2 | Why did he build Saltaire? | 1. | Salt wanted to bring workers out of the polluted city centre |
| | | 2. | Salt wanted to make a new model of factory work and living |
| | | 3. | There were lots of natural resources around the area |
| | | 4. | The canal made the area easy to access |
-
- | | | | |
|---|---------------------------------------|----|--|
| 3 | What was it like to live in Saltaire? | 1. | Titus Salt had strict rules for living in Saltaire – these rules were punishable by fines and eviction |
| | | 2. | The rules included not being late, not swearing or being drunk, washing on a regular basis, not being out too late |
| | | 3. | Living conditions were much better than other towns – every workers house had a living room |
| | | 4. | There were shared bath houses for the residents of the village |
| | | 5. | Wages were fairer than other factories in the country |

9. Key word


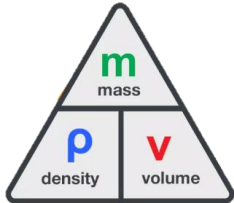
Definition

- | | |
|--------------------|---|
| Chartist | A movement to give the working class the vote |
| Petition | A formal letter to ask parliament for something |
| Strike | When people refuse to work to protest something |
| Trade Union | An organisation of people from the same job |

8. Salt - Hero or Villain?

- | | |
|---------|---|
| Hero | 1. He was the first Bradford the first employer introduce the ten-hour day
2. He gave away around £500,000 to good causes
3. Salt took some of his workers on holidays
4. Salt supported the working class right to vote
5. In 1835 Salt helped to start the Bradford Reform Association |
| Villain | 1. Salt did not allow any of his workers to strike for better pay.
2. Salt employed young children in his factories and was totally opposed to the 1833
3. He may have been motivated by money when he made his workers more comfortable
4. Salt refused permission for his workers to join trade unions |

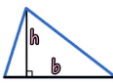

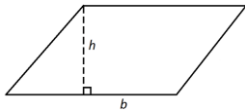
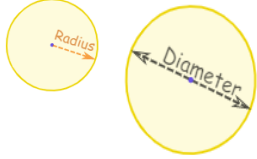
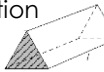
Ratio, Proportion and Rates of Change - Scales

1	Speed	<p>Distance = Speed x Time</p>  <p>Speed = $\frac{\text{Distance}}{\text{Time}}$ Time = $\frac{\text{Distance}}{\text{Speed}}$</p>
2	Density	

Algebra – Equations

1	Solving one-step and two-step equations	<p>Using inverse (opposite) operations to find out a missing number.</p> <p>Example 1:</p> $x + 6 = 11 \text{ (subtract 6)}$ $x = 5$ <p>Example 2;</p> $3x - 2 = 10 \text{ (add 2)}$ $3x = 12 \text{ (divide by 3)}$ $x = 4$
2	Solve equations with brackets	<p>Expand the bracket</p> $2(x + 3) = 3$ <p>Solve</p> $2x + 6 = 3$ $2x = -3$ $x = -1.5$

Geometry and Measure – Area, Perimeter and Volume

1	Triangle base x height ÷ 2	 
2	Parallelogram base x perpendicular height	
3	Circle (Area) $A = \pi r^2$	
4	Circumference $C = \pi \times \text{diameter}$	
5	Volume of any regular Prism	<p>Area of the cross section (shaded) x length</p> 

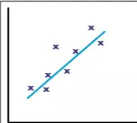
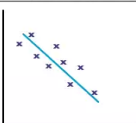
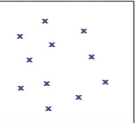
Geometry and Measure – Pythagoras

1	Finding the hypotenuse (longest side) $a^2 + b^2 = c^2$	$a^2 + b^2 = c^2$ $3^2 + 4^2 = 25$ $\sqrt{25} = 5$
2	Finding a shorter side $a^2 = c^2 - b^2$	$a^2 = c^2 - b^2$

Key Vocabulary

1	Area	The space inside a shape.
2	Surface area	The total area of the surface of a 3-dimensional (3D) shape.
3	Volume	The amount of 3D space a shape takes up.
4	Diameter and Radius	The diameter is 2 times the radius.
5	Correlation	The relationship between different sets of data.
6	Line of best fit	Shows the general direction a group of points seems to follow.
7	Hypotenuse	The longest side of a right-angled triangle.

Statistics – Scatter Graphs

1	Causality	When one variable influences another variable
2	Line of best fit	A straight line that best represents the data on a scatter graph
3	Positive, Negative or No Correlation	<div> <div> <p>Positive correlation</p>  </div> <div> <p>Negative correlation</p>  </div> <div> <p>No correlation</p>  </div> </div>

1. Key blues terms

1	Slavery	Where people are forced to work for no financial benefit, often in terrible conditions.
2	Slaves	People who worked people without pay, these people invented the blues.
3	Slave trade	The buying and selling of slaves from Africa to other parts of the world.
4	12 bar blues	A chord pattern that lasts for 12 bars and is repeated over and over again to create a piece of blues music.
5	Blues scale	A set of notes that is used in the blues to give it its characteristic sound. In C, this is C, Eb, F, G and Bb.
6	Flattened note	A note in a scale that has been flattened (made lower) compared to normal. In blues the 3 rd , 5 th and 7 th degrees are flattened.

2. Blues music composition and performance terms

1	Primary chords	The three most important chords that a key is constructed with. They are built from the 1 st , 4 th and 5 th note of the scale. In C major, this would be C, F and G.
2	C major chord	A happy sounding chord using the notes C, E and G
3	F major chord	A happy sounding chord using the notes F, A and C
4	G major chord	A happy sounding chord using the notes G, B and D.
5	Seventh chord	A chord that has the seventh note of that scale added, for example a C7 chord would have C, E, G and Bb in it, where Bb is the 7 th .

3. Key Vocab - Musical elements

1	Melody	The main tune, played on instruments or sung.
2	Chords	Two or more notes played at once.
3	Triad	A chord with 3 notes in.
4	Bass line	The lowest part in music, provides the harmonic structure of the music.
5	Improvisation	Making music up on the spot.
6	Chord sequence	A pattern of chords used in music.
7	Syncopation	A rhythmic effect where the music lands on the off beat.
8	Swing	A rhythmic device to give the music a relaxed feel by making a group of two quavers have one long quaver, followed by a short one.
9	Dynamics	The volume of the music
10	Texture	How the instruments are combined, for example monophonic, homophonic, melody and accompaniment.
11	Instrumentation/Timbre	The instruments used to create the music, and how they are played.
12	Tempo	The speed of the music.
13	Major Key	A group of notes that generally sound happy when used together.
14	Minor key	A group of notes that generally sound sad when used together.

Other musical styles linked to this: Lots of these techniques are used in both TV and radio adverts, and also in film music.

Suffering		
1	Does suffering have purpose?	Some does, e.g. childbirth is painful but leads to new life.
2	Why suffering doesn't have purpose	Some suffering is so bad that it shouldn't be justified e.g. the Holocaust
3	The Problem of Evil?	If God is all-loving, knowing and powerful, why do He let evil exist?
4	Inconsistent Triad?	Evil defeats belief in God
5	Examples	Natural Disasters, viruses, human illness, wars

Original Sin		
1	When did Original Sin begin?	It happened after the Fall, in Genesis 3 of the Old Testament
2	How did it begin?	Adam and Eve disobeyed God's command and so were punished. They thought they could be as powerful as God.
3	What is its impact?	We feel guilt, greed and are more likely to be sinful.
4	Impact on the world?	There are wars, cruelty, slavery and other evils.

Christian Responses		
1	Should Christians pray?	Prayer is a way of seeking support and guidance in hard times. It encourages trust
2	Should they help?	The Parable of the Sheep and Goats tells Christians to help others as a way of showing love to God.
3	Should they believe?	In the Bible, Job's faith was tested. The moral is that no matter how much evil you face, you must still trust God.
4	Should we embrace evil?	Irenaeus suggested that evil exists to bring moral growth. We learn from hardship and will become better people. Everyone will be rewarded for their perseverance in heaven

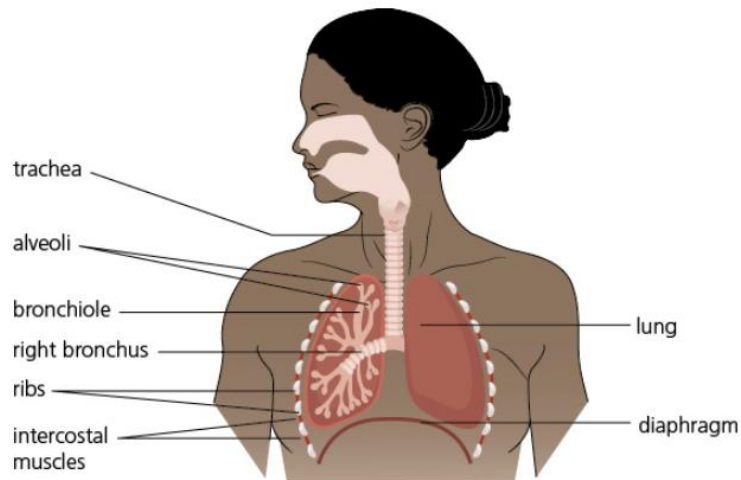
Can we forgive God?		
1	Why might we blame God?	Evils like the Holocaust were so tragic that it seems ridiculous for God to allow it to happen
2	Elie Weisel?	A Holocaust survivor who stopped believing in God
3	Eva Mozes Kor?	A Holocaust survivor whose faith allowed her to forgive the Nazis

Key word	Definition
Evil	Someone or something that is inherently wicked or immoral
Natural evil	Caused by events that have nothing to do with humans, and which are to do with the way the world is, e.g. natural disasters such as volcanic eruptions, floods or earthquakes.
Suffering	The state of undergoing pain, distress, or hardship
Morals	The standards of behaviour and principles of right and wrong.
Benevolent	All loving
Omniscient	All knowing
Omnipotent	All powerful
Justifiable	Able to be shown to be right or reasonable; defensible.
Unjustifiable	Not able to be shown to be right or reasonable.
Moral evil	Suffering caused by humans acting in a way that is considered morally wrong e.g. bullying, murder, rape, theft or terrorism
Freewill	God has given people free will – the ability to choose between right and wrong for themselves.



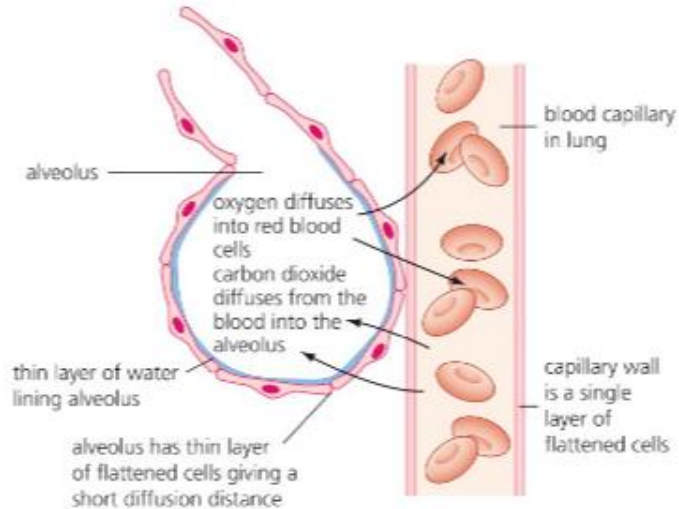
- The Problem of Evil is a very old, philosophical problem for the Abrahamic faiths
- Many theists choose to accept the problem of evil but also trust that God will save them from such sin.
- Modern scholars like Hannah Arendt believe that evil is nothing.... Do you agree?

Respiratory System



Diffusion of Gases

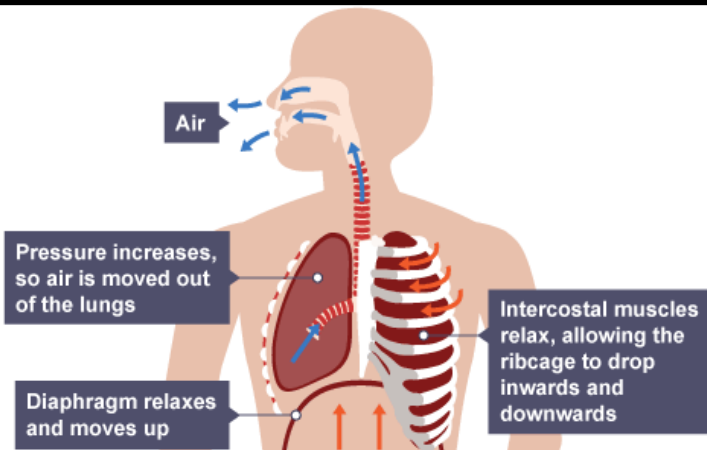
▼ Diffusion of gases from the alveoli to the blood



Key Vocabulary

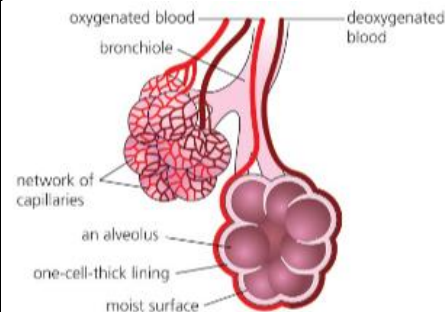
Respiratory System	A system that allows air to pass in and out of the body.
Ventilation	Movement of gases in and out of the lungs.
Gas exchange	The movement of oxygen into your blood and carbon dioxide out at the alveoli.
Inhale	Breathing in
Exhale	Breathing out
Diaphragm	A sheet of muscle underneath your lungs
Alveoli	When gas exchange takes place.
Asthma	When the lining of the airways from the mouth to the lungs becomes irritated and swells up.

How we breathe out..



Adaptations of the alveoli

- Alveoli have a large surface area
- Surrounded by a network of capillaries to give a good blood supply
- Lining is one cell thick to make diffusion quicker
- Moist surface helps diffusion of gases.



Exercise, Asthma and Smoking

	Question	Answer
1	What happens to a person's breathing rate when they exercise?	Increases
2	What is asthma?	The lining of the airways becomes irritated and swells up
3	What affect does smoking have?	Damages the cilia of the cells, irritates the bronchi, reduces surface area of alveoli
4	What is the effect of tar in cigarette smoke?	Can cause mouth, throat or lung cancer.

Key Vocabulary

1	Gametes	The sex cells. 'Sperm' cells for males and the 'Ovum' (Egg cell) for females.
2	Sexual reproduction	Reproduction involving two different sexes.
3	Zygote	A fertilised egg cell.
4	Fertilisation	When an egg cell and a sperm cell fuse together.

Fetal development

Uterus	The zygote is embedded here. It's function is to help the embryo/fetus to develop.
8 Weeks	The time it takes for an unborn human baby to become an embryo.
Gestation	The name for when a baby is growing in the uterus.
Umbilical cord	Passes oxygen and nutrients from mother to fetus. Passes waste from fetus to mother.

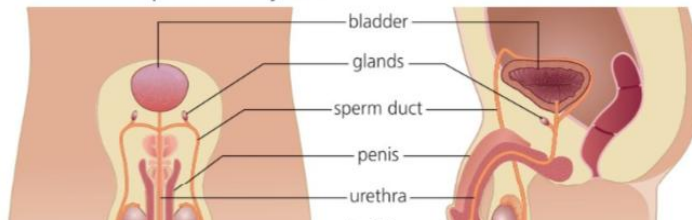
The menstrual cycle

28 days	How long the menstrual cycle lasts
Menstruation	The loss of blood through the vagina, happens at the start of the menstrual cycle
Ovulation	The ovaries release an ovum (Egg cell). This occurs around day 14.
If fertilisation doesn't occur	After day 14, the uterus lining starts to break down.

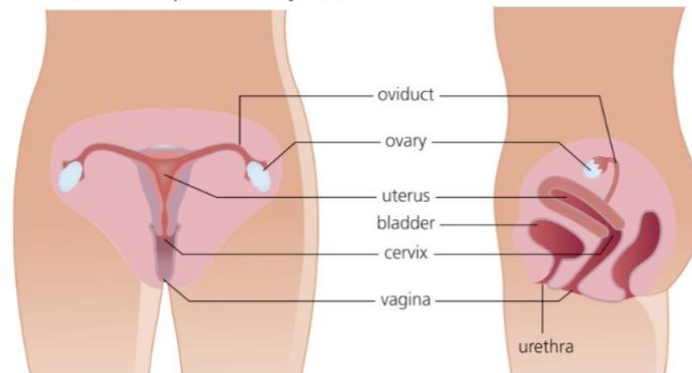
Plant reproduction

Pollen	The male sex cells in plants.
Ova	The female sex cells in plants.
Stigma	The female sex organ that receives pollen
Main types of pollination	Insect pollination and wind pollination

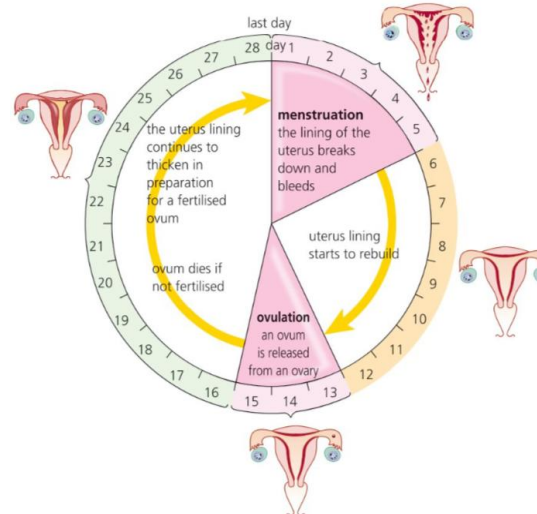
▼ **The male reproductive system**



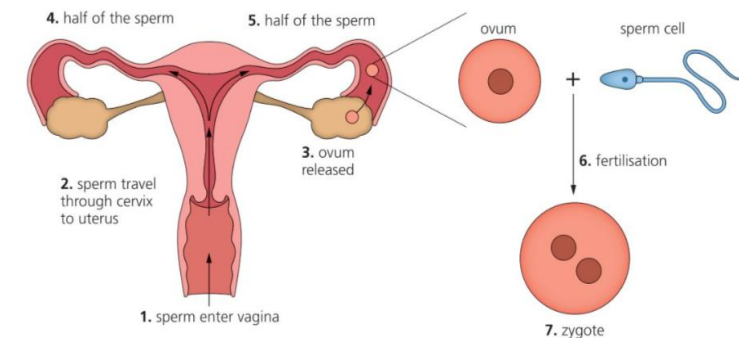
▼ **The female reproductive system**



▼ **The menstrual cycle**



▼ **Fertilisation of the ovum by the sperm**



Worked example

Calculating pressure

An object feels a force of 15 N on an area of 3 m². Calculate the pressure on the object.

Equation	pressure = force ÷ area $P = F \div A$
Values	$P = ?$ $F = 15 \text{ N}$ $A = 3 \text{ m}^2$
Enter values	$P = 15 \div 3$
Result	$P = 5$
Y(units)	$P = 5 \text{ N/m}^2$

Pressure in liquids

- 1 Particles in liquids are already touching which means liquids cannot be compressed.
- 2 Liquids transfer pressure that is applied to them.
- 3 As water gets deeper the pressure increases because there are more water particles above, meaning there is more weight pushing down.

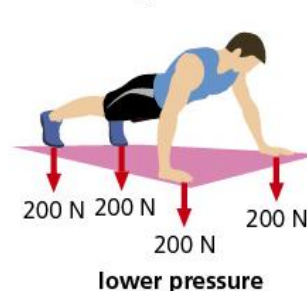
Key Vocabulary

1	Fluid	Substances that flow
2	Liquid and Gases	States of matter that are fluids
3	Upthrust	Force caused by an object pushing down on an object
4	Atmosphere	A thin layer of gases around the earth
5	Pressure	The force exerted on 1m ²
6	Pressure	Force divide by area
7	Atmospheric pressure	The pressure that the air exerts on you all of the time

weight = 800 N



weight = 800 N



8800 m

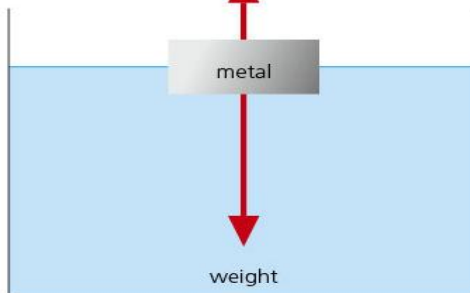
low pressure



high pressure

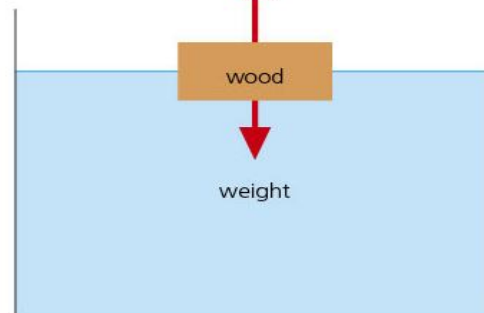


upthrust



sinks

upthrust



floats