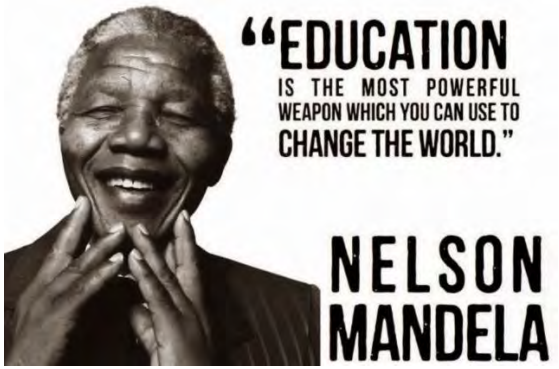
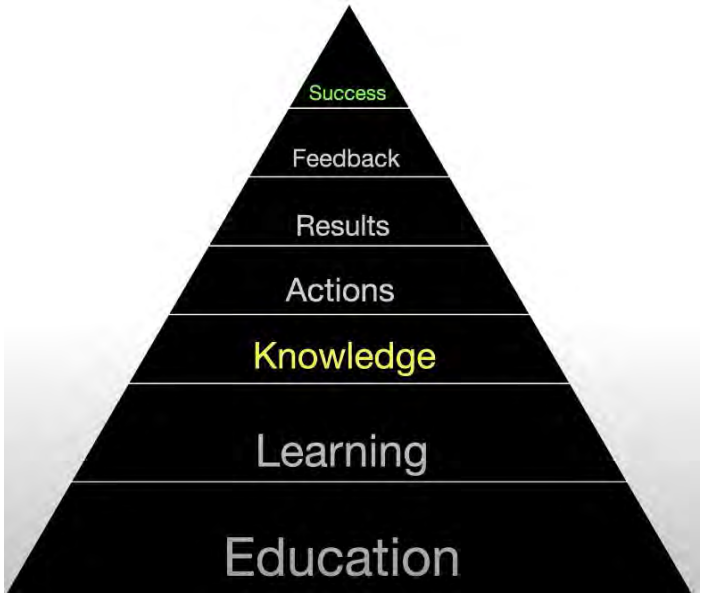
Westhoughton High School

Year 8 – Autumn Term -

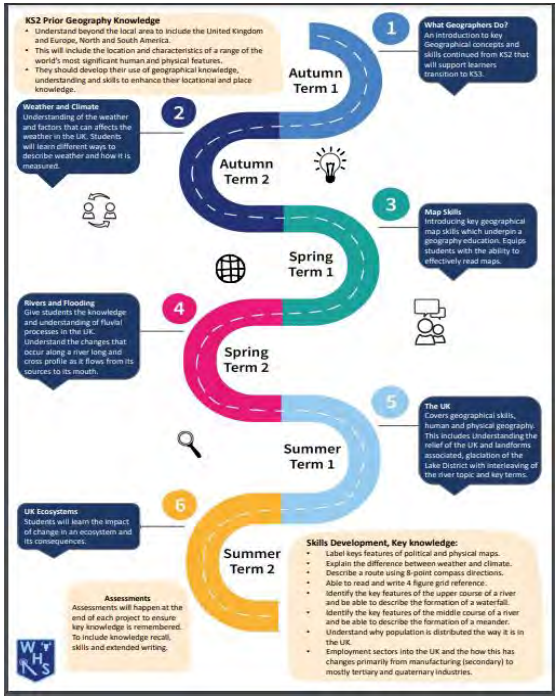




the "Knowledge" pyramid

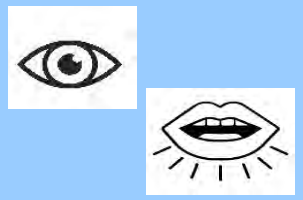
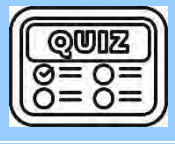
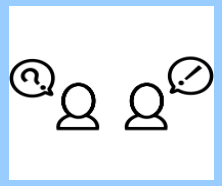
Introduction

The curriculum in each of your subjects at WHS has been carefully planned to help you learn new things, building upon what you know and preparing you for learning in the future. This is mapped out as a learning journey which each teacher will share with you so you understand how your learning fits together as a whole. Each subject's roadmap is here https://www.westhoughton-high.org/subjects/.

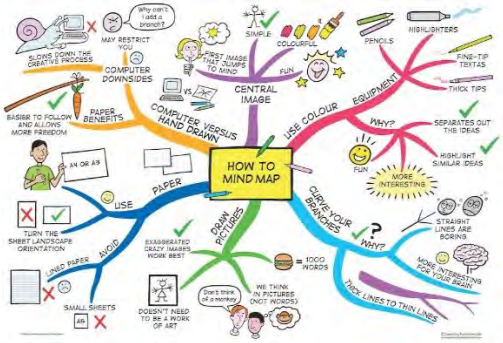
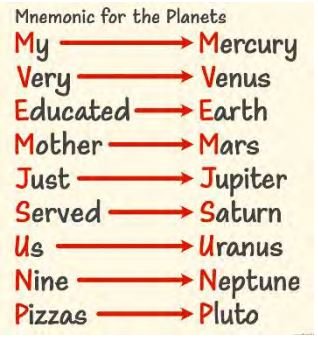
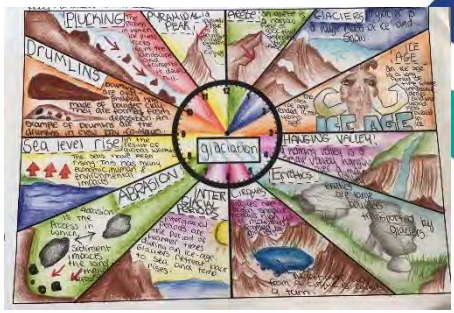


This booklet contains knowledge organisers for all the topics you will study in each subject this term. These give an overview of the essential knowledge that you MUST remember to be as successful as possible in Year 8 and as you move through each year of school. Your teachers will expect you to use them during lessons to find out about what you are going to be learning in a new topic, to retrieve information during a connect activity – connecting your brain to what you are going to learn that lesson and to test yourself or others to recall knowledge. You will also use them to complete home learning activities, to regularly revise from so that you begin to remember more knowledge over time, to discuss what you have been learning with family and friends and to catch up on any learning you might have missed due to absence. You must bring your booklet to school every day and keep it safe at the end of each term as you will continue to use it to support ongoing revision.

Learning Techniques to use with KOs – using them regularly is vital to make knowledge stick in your long-term memory (remember you need to revisit information at least 10 times before it is embedded in your memory).
Try using these ideas, choose different techniques to learn small sections of knowledge each day.

	Look, Say, Cover, Write, Check	Key Word Definitions	Flash Cards	Self Quizzing	Mind Maps	Paired Retrieval
STEP 1	Look at and read aloud a specific area of your KO. 	Write down the key words and definitions in two columns. 	Use your KO to condense and write down key facts or information onto flash cards. 	Use your KO to create a mini quiz. Write down your questions relating to the information. 	Create a mind map with the information on your KO. 	Ask a partner, friend or family to use the KO or your flash cards. 
STEP 2	Cover or flip the KO over and write down everything you remember. 	Repeat the above but don't look at your KO 	Add pictures that might help you remember. Then self-quiz using the flash-cards. 	Answer the questions, remember to use full sentences. 	Check your KO to make sure there are no mistakes on your mind map. 	Make sure they test you on different sections of the KO and also on previous topics.  
STEP 3	Check what you have written down. Correct any mistakes and add anything you missed in purple pen. 	Use a purple pen to check and correct your work 	Ask a friend or family member to quiz you on your knowledge. 	Ask a friend or family member to quiz you using the questions. 	Try to make more connections, link the information together where you can. 	Repeat this regularly so that you are frequently looking at KOs past and present. 

How to make learning stick…

Mind Mapping	Flash Cards	Look, Say, Cover, Write, Check	Key Word Mnemonics	Revision Clocks
				
Mind mapping is a great way of representing key information from a topic in a visual way. Use colour and images to represent the knowledge you need to learn. Keep writing to a minimum; use only keywords/phrases. Watch the clip for more tips and advice.	Make flash cards using your KO. Write a question on one side and the answer on the other or record key- words and definitions. Test yourself frequently. For more advice scan the code.	This technique is one that has been well used from primary school upwards. It is useful for rehearsing keywords, definitions and spellings. Look at the information, read it aloud, cover it up, write it down and then check it is correct.	A mnemonic is a sentence you make up where each word begins with the same letter as the word you want to remember. It is a useful technique for remembering a group of facts/words in a certain order.	Draw a basic clock and break your KO down into 12 chunks. Make notes on each chunk in the 12 clock sections, use colour and images to make it memorable. Revise each section for 5 minutes, turn over and test how much you can recall. Watch the clip for more tips and advice.

CHARACTER ILLUSTRATION: KNOWLEDGE ORGANISER

Throughout this project you will learn about the processes and techniques that illustrators and cartoonists employ to create anthropomorphic characters. **How to** reflect on your own distinctive features before designing your own cartoon characters.

Rationale:

We want you to become familiar with the work and careers of Illustrators & cartoonists. Through these investigations you will explore different styles of drawing; application of line; colour choices & blending. Your final outcomes will rely on imagination and thoughtfulness!
We will ask you to expand your knowledge of this topic by reading/watching great examples of animation and experimenting with drawing.

CEAIG: Read these interviews with real illustrators and animators:

https://characterdesignreferences.com/blog-interviews-5/thibault-leclercq
https://www.youtube.com/watch?v=dzibT_SjeoM

Look at this:
https://characterdesignreferences.com/art-of-animation-7/art-of-zootopia-part-1

http://jimmedway.com/comics

Try this:
https://justsketch.me/
https://characterdesignreferences.com/character-anatomy

Watch these:
https://www.bbc.com/culture/article/20180817-the-female-cartoonists-who-draw-for-change

https://www.bbc.co.uk/iplayer/episodes/b006mhc1/arthur

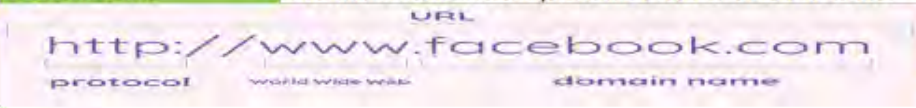
	Key words & Definitions	
	Illustrator	Artist who draws pictures to explain written material
2	Identity	Who a person is, or the qualities of a person or group that make them different from others.
3	Cartoon	A drawing or series of drawings that make people laugh or think.
4	Imagination / Imaginative	The power of the mind to form a an image of something or someone that is not present to the senses.
	Anthropomorphic	Ascribing/giving human characteristics to something non human.
	Proportions	The relationship in number or size of two things: ratio
	Distinctive features	Individual facial features eg/ small nose.
	Characteristics	Typical or special quality of a person or thing.
	nimator	A person who creates moving cartoons.
10	Harmonious Colours	Colours that blend well together : near to each other on the colour wheel.
11	Complementary Colours	Colours that are opposite on the colour wheel; they pop next to each other.

Computing-Networks KO

Network	A group of **devices** connected together, either wirelessly or with a network cable.
Protocol	A set of rules
Network cable	Used to connect different devices together. They are often made up of a number of wires.
Hub	Connects a number of computers together. Ports allow cables to be plugged in from each connected computer.
Server	A powerful computer which provides services to a network
Router	Used to connect two separate networks together across the internet
Wired	Wired networks send data along cables.
Wireless	Wireless networks send data through the air using radio waves
3G /4G /5G	Wireless communications standards designed to provide different speeds for mobile devices, such as smartphones, tablets, and wireless hotspots
WiFi	a facility allowing computers, smartphones, or other devices to connect to the Internet or communicate with one another wirelessly within a particular area.
Bandwidth	Bandwidth is the amount of data that can be moved from one point to another in a given time.
Broadband	a high-capacity transmission technique using a wide range of frequencies, which enables a large number of messages to be communicated simultaneously.
Data capacity	How much **data** the storage type can hold, measured in **bits**
Buffering	In streaming audio or video from the **Internet**, **buffering** refers to downloading a certain amount of data before starting to play the music or movie.

Layer	Protocols in this layer cover	Protocol Examples
1	Passing data (as electrical signals) over the physical network	**Ethernet**
2	Making connections between networks and directing data	**IP** (Internet protocol)
3	Controlling data flow eg checking data is sent and delivered	**TCP** (Transmission Control Protocol)
4	Turing data into websites and other applications and vice versa	**HTTP / FTP / SMTP**

Internet	The internet in a network of networks.
Internet Protocol	a set of rules governing the format of data sent over the Internet or other network.
IP address	a unique string of numbers separated by full stops that identifies each computer using the Internet Protocol to communicate over a network.
VoIP	Voice Over Internet Protocol - the set of rules that makes it possible to use the Internet for telephone or videophone communication.
IoT	A network of **Internet** connected objects able to collect and exchange data.
Spam	Unsolicited messages sent over the Internet, typically to a large number of users, for the purposes of advertising, phishing, spreading malware, etc.
WWW (World Wide Web)	Part of the internet that contains websites, web pages, and the links between them.
Web browser	A **browser** is a software application used to locate, retrieve and display content on the World Wide **Web**, including webpages, images, video and other files. FOR example Chrome / FireFox
Web server	A *web server* is a computer that runs websites. ... The basic objective of the *web server* is to store, process and deliver *web* pages to the users.
Web page	A hypertext document connected to the World Wide Web.
Search engine	A type of website that allows you to look up information on the World Wide Web.
URL	Uniform Resource Locator (**URL**) is another name for a web address
HTTPS	Stands for Hypertext Transfer Protocol Secure. This encrypts messages between a browser and the website so the messages cannot be understood by other devices.
HTTP	Stands for Hypertext Transfer Protocol. Messages are sent between a browser and a website in plain text and can be read and understood by other devices.
Domain Name	A **domain name** is a unique **name** that identifies a **website**.



Advantages of wireless network
No trailing/trips/hazards
It is quick and cheap to connect to new devices
Allows portability

Disadvantages of wireless network
Lower bandwidth
Wireless connections can be weakened by walls and ceilings
Less Secure

Advantages of a wired network
Faster connection (little to no interference)
Higher bandwidth
Better security

Disadvantages of a wired network
Cables can be a trip hazard and look unpleasant
More expensive and time-consuming to add devices, as each device needs cables
Devices are in fixed positions (no portability

COMPUTING— Scratch https://scratch.mit.edu Name_____

KEY TERMS

Word	Definition	Image
Sprite	The name of a **character** in Scratch.	
Scratch	The name of the **programming lan-**	
Turn # # degrees	How far to the left or right you want to move your sprite. # is replaced with the number.	
Block	A single instruction in our algorithm.	

Scratch blocks and program example

Algorithms

An **algorithm** is a **sequence** of step-by-step **instructions** to solve a problem.

Algorithms can be written in code, or be a **sequence** of BLOCKS.

We can use **algorithmic prediction** to guess what will happen. My **Sprite** is going to get bigger!

The **repeat loop** in this example, will move ten times. This is **more efficient** than writing out ten **commands.**

The **turn # degrees block** will turn my sprite. This **algorithm** will turn my **sprite.**

Instructions	Detailed information about how something
Execute	When you create a program for a computer, you give it a set of commands to execute.
Sequence	The order the instructions need to be in.
Selection	Making choices.
Iteration	Doing the same thing more than once **Iteration** in computing is the process of repeatedly executing instructions.
Repeat	The block that makes and instruction happen more than once.
Variables	A **variable** is a name that refers to data being stored by the computer, which can change.
Subroutines	In computer **programming**, a **subroutine** is a sequence of program instructions that
If block	Allows us to check a **condition** and perform an operation if the condition **evaluates** to 'true'.
Debugging	Finding errors in our code.
Abstraction	Taking away all the information that isn't needed.
Decomposition	Breaking down a problem.
Count-controlled	Count-controlled iteration will execute the commands a set number of times.
Condition-controlled	Condition-controlled will execute the commands until the condition you set is no longer being met.

To put together

Practical activity

1. Assemble
2. Build
3. Construct

MAKE

In Year 8 we will be **making** a light.

You will use tools to **make** the parts.

It will be **made** from acrylic.

Computer Aided Design & Computer Aided Manufacture

Computer Aided Design (CAD) and Computer Aided Manufacture (CAM) are used to design and manufacture products. Both have helped in the transition from product design to product manufacture and have greatly affected workplace efficiency.

CAD = Designing using a Computer

CAD allows users to draw, design and model products in both 2D and 3D using specialist software.

- CAD stands for **Computer Aided Design**.
- It involves designing products on a computer, rather than using a pencil and paper.
- CAD software packages allow you to make 2D and 3D designs. Examples of CAD software include, Fusion360, Solidworks, Illustrator and CorelDraw.
- CAD helps designers model and change their designs quickly. It is easy to experiment with alternative colours and forms and often helps to spot any problems before making anything.

CAM = Making using a Computer

- CAM stands for **Computer Aided Manufacture**.
- It is the process of manufacturing products with the help of computers.
- Examples of CAM equipment includes laser cutters and 3D printers.

Advantages of CAD

- More accurate than hand drawings.
- Enables designs to be amended and tested before production.
- Allows several designers to work on the same project at the same time.
- Offers views of models from different angles.

Disadvantages of CAD

- Can be difficult to learn.
- Can require large amounts of memory.
- Expensive software.

Advantages of CAM

- High level of accuracy.
- Increases the speed and efficiency of the production process.
- Products can be manufactured directly from CAD.
- Can operate 24 hours a day.

Disadvantages of CAM

- Expensive equipment.
- Requires maintenance.
- Replaces human workforce.

Laser Cutter (CAM)

Laser cutters use a laser to cut through materials. The machine makes cuts by following a design that's loaded into it. This then instructs where to cut the material. Laser cutters are called CAM machines and they use 2D designs made by CAD.

Laser cutters can only cut in 2D, so they have to be used on sheets of materials. These can be sheets of plastic, wood, cardboard, fabric and some metals. Laser cutting has high precision and accuracy and it is able to follow complex patterns, even on a small scale. This is helped by the tiny width of the laser beam.

To put together

Practical activity

1. Assemble
2. Build
3. Construct

DESIGN

In Year 8 we will be **designing** a light.

You will use freehand sketches and CAD to **design** the parts.

It will be **designed** using CAD.

Sketching and Annotation

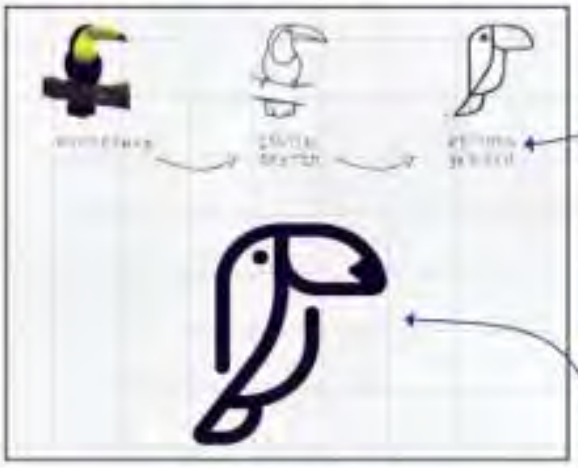
To get your design across, you're going to need to draw it on paper. Here are a few techniques to help you communicate your design in the best way possible. **Remember, pactice makes perfect...**

Freehand Sketches

Freehand means drawing without using any equipment (except a pencil).

Is the quickest way of getting your initial designs on paper before an idea is forgotten. Freehand sketches are often done without a ruler or template and instead are produced quickly and freely.

NOTE: Sketches aren't meant to be perfect - they are only needed to get your ideas across!



Formal Drawings

Are a more precise style of drawing; they can be done by hand or with Computer Aided Design (CAD) packages in either 2D or 3D.

Formal hand drawings would use tools such as rulers and set squares to ensure accuracy and neatness. Using CAD allows the user to quickly make changes, and the drawings can be digitally shared and copied with ease.

Orthographic Projection is one type of formal drawing which shows 2D views of a 3D object.

An Orthographic drawings show a 3D object as a set of 2D drawings viewed from different angles - a front view, a plan view (as seen from above) and a side view. Each 2D view is drawn accurately to scale and the dimensions are always given in millimetres.

Annotations

Annotations are written explanations or critical comments added to art or design work that record and communicate your thoughts.

There are several reasons annotation may be used, for example to:

- Analyse the work of an inspirational artist or designer
- Record a technique
- Record ideas
- Explain the thinking behind an idea
- Analyse the success of a technique, idea or composition
- Explain how a particular artist or designer's style or technique has influenced your work

Modelling + Prototyping

Modelling - A model tends to lend itself to the aesthetics side of things, used to demonstrate how a design will look and feel.

Making a model allows designers to visualise and test how a product looks and performs in 3D and is a great way of checking a product's viability.

What is a Vector drawing?

Vector graphics are computer designs made up of curved points and lines which create a clean, infinitely scalable picture when combined in vector artwork. This means that they can be scaled up or down without losing any quality.

- To look at
- To examine in detail to explain and interpret

TEXTILES

In Year 8 we will be making a Tote Bag
You will ANALYSE different bag styles
You will ANALYSE the designer Lulu Guiness

1. Psychedelic
2. intense colours
3. wiggling lines
4. blending of objects that appear to be melting and oozing into each other

EVALUATE

When we ANALYSE Products or a Designer we look at:
Shape, Colour, Line , Pattern Texture
OR
Function, Appearance, Construction, End User

Founder's Philosophy:
I like things that give a sense of being vintage without actually being vintage. That's the philosophy behind my own designs.

History
Lulu Guinness founded her eponymous brand in 1989 at the age of 29, inspired by the idea of a fashion briefcase for women. This concept eventually morphed into a new idea for vintage style rose basket bags, reflecting Lulu's instincts for fashion's edgier boundaries.

Inspiration
Driven by her own style - vintage-inspired and ladylike, with a tongue-in-cheek twist - Lulu began creating the hand-held treasures that made her name. Her first design was a basket of red roses. One of her earliest influences was the Surrealist French designer, Elsa Schiaparelli. "She worked with emerging talents, like Picasso and Cocteau.

Impact
Milton Glaser is credited for the creation of the famous Push Pin movement which is characterized by strong outlines, bright colours, and slightly exaggerated forms.

Legacy:
One of Glaser's most recognizable works is his 'I Love New York' logo. It's aim was to increase tourism as New York was seen to be a dangerous place to visit.

Key Products:
A turning point came in 1993 when the Victoria & Albert Museum bought the Florist's Basket bag. "I felt I could call myself a designer. But in this business, you're only as good as your latest idea."

Global Reach:
Accessories label Lulu Guinness was founded in 1989 with the original concept of a briefcase for women, which then evolved into vintage-style basket bags. Fast-forward almost 30 years and Lulu Guinness has become one of the most recognised labels worldwide thanks to its distinctive red lip design.

Relevance Today:
She has put her name to shoes, jewellery, a Mini. "I've done it all." High-street partnerships brought her wares to a wide audience: "I've never been interested in the top tier of the market. I don't have rules. I can't stand snobbishness," says Guinness, who has a cult following in Asia where "they appreciate things that are a bit different. We've always been the alternative to the It bag."

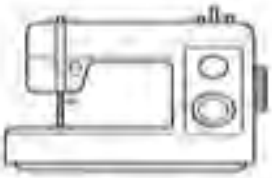
Lulu Guinness Design

Contrasting Colours:
Lulu often uses bright and contrasting colours, such as black and white, red and blue.

Geometric and Organic shapes:
Use of geometric and Organic shapes and patterns, including wavy and curved lines.

To judge the quality and performance of a product

1. Assess
2. Judge
3. Gauge



TEXTILES

EVALUATE

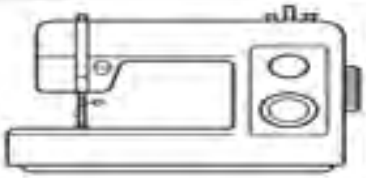
In Year 8 we will be **EVALUATING your outcome**
You will look at the successes of your product, and what you could do differently next time

Evaluate Step	Definition	Question stems
Function	work or operate in a proper or particular way.	Does it do the job? What is the function and purpose of the product? How well does it work? Could it be improved?
Appearance	the way that someone or something looks	Does it look like your original design? What does the product look like? What is the colour, texture, pattern and decoration of the product? Is the colour/texture of the product effective? is it what the customer wants? Does the product look good? Is it stylish? Is the style to the customers liking.?
Construction	the action of building or making something	What materials and components have been used to make the product? Why were these materials and components used? How has the product been made? What joining methods/ techniques have been used? Is the product well-constructed or will it fall apart when in use? Will it scratch easily?
End User	a person or other entity that consumes or makes use of the goods or services produced	Did the design link to the user? Who would buy the product and when would they use it? How well does the product do its job when compared to others? How marketable is it to the user?

- Statements made are backed up with evidence
- *Statements are written in sentences with comments that are relevant.*
- *Discussed the positive and negatives*
- *Clear PEE structured used*
- *Connectives used*
- *Purposeful facts – useful information identified*

1. Assemble
2. Build
3. Construct

To put together
Practical activity



In Year 8 we will be **making** a Tote Bag

You will use APPLIQUE and FRENCH SEAMS to MAKE parts

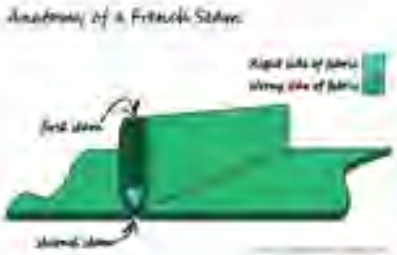
TEXTILES

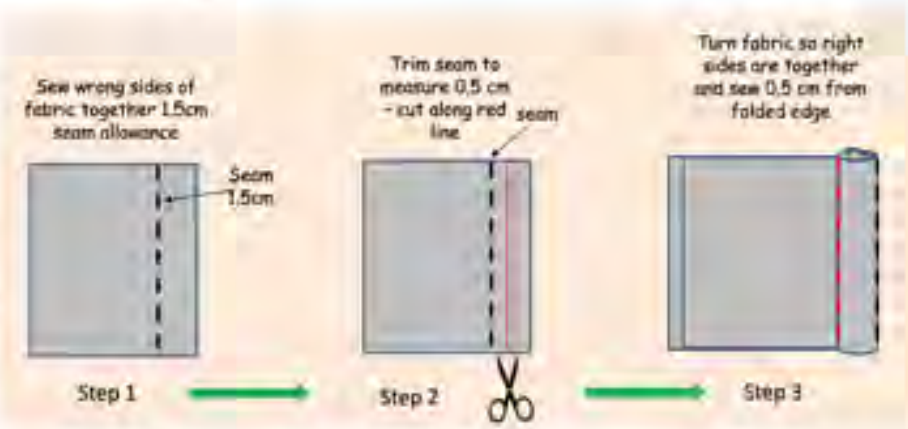
MAKING

Tote Bag

- Applique: When is design is cut out of different coloured fabric shaped and layered on top of a base fabric and sewn in place
- French seam: a seam in which the raw edges of the cloth are completely covered by sewing them together, first on the right side, then on the wrong.

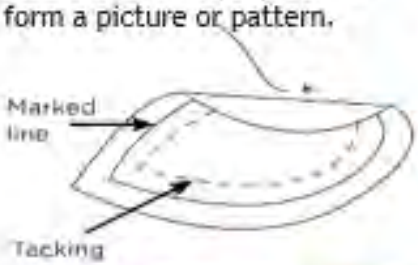
FRENCH SEAM





APPLIQUE

pieces of fabric are sewn or stuck on to a larger piece to form a picture or pattern.



1 - Place your 1st shape in the centre of the pocket fabric.

2 - Place the edge of the felt square in the centre of presser foot.
Then straight stitch around the edge of the shape.
REPEAT with the next layer of the design.

Sewing Machine

1. Sharp needle
2. Take-up lever pulls the thread through the machine
3. Different types of stitch patterns
4. Used to sew lots of different types of fabrics
5. Balance wheel can move the position of the needle

Year 8 Drama Knowledge Organiser – Darkwood Manor

Darkwood Manor

Your characters see a poster advertising a cash prize to stay the night in Dark Wood Manot. Each lesson is going to be a different episode in the story , which you will create within your groups, mastering your story development skills you first used in Cluedo., during Year 7

Performance Techniques	
Split Scene	Two or more scenes which are performed on stage at the same time.
Narrative captions	Sentences that explain a freeze frame fully to an audience
Characterisation	The creation of a fictional character.
Tone	The emotional quality of your voice
Storyline development	Process of creating and improving a story.

Tasks for this topic:

- Using your voice to create tension and suspense when telling stories
- Creating and developing storyline for a horror piece
- Using split scenes to represent different scenes happening at the same time
- Using narrative captions to enhance a freeze frame
- Creating characters that a different yourself

YEAR 8 AUTUMN TERM KNOWLEDGE ORGANISER:
THE MONSTER IN THE MIRROR
THE YELLOW WALLPAPER BY CHARLOTTE PERKINS-GILMAN

Plot Overview: Set in 1890's New England, Charlotte Perkins Gilman's classic short story, "The Yellow Wallpaper" tells the story of a young woman's gradual descent into psychosis.

	Plot Summary
Beginning	• The unnamed narrator begins her journal entry describing at the house and grounds her husband has taken her to for the summer due to her nervous depression. • The narrator writes that John, the narrator's husband and doctor, mocks her illness and her perspective. • John has prescribed the 'rest cure' treatment. • The narrator reveals that she disagrees, and feels that activity, freedom and interesting work would help her condition. She begins her secret journal for this reason. • The narrator notes how the house used to be beautiful but has been neglected for years due to its emptiness. • At the very top floor of the house, the narrator finds what she assumes is a nursery with yellow wallpaper. The strange pattern disturbs the narrator.
Middle	• As the weeks pass, the narrator manages to hide her journal from her husband. • The narrator writes about her frustration with John's treatment choice- the rest cure. She takes a new interest in the yellow wallpaper. • John worries about her strange obsession and refuses to re-paper the room. • The narrator describes her bedroom and assumes it was used as a nursery due to the paper being torn off in spots, the huge scratches on the floor and the furniture being fixed to the wall. • John's sister Jennie, who is also staying with them as a housekeeper and nurse, keeps interrupting the narrator's writing. • The Fourth of July passes, and the narrator writes that her family came to visit which made her very tired. • John threatens to send her to Weir Mitchell, the fearsome real-life doctor who treated the author and caused her great suffering. • The narrator reveals in her journal that she is alone most of the time and often studies the wallpaper as she finds it entertaining. • The narrator shares that she starts to see a woman 'stooping down and creeping' behind the pattern on the wallpaper which, at nighttime, looks like the bars of a cage. • John thinks his wife's condition is improving, but the narrator is barely sleeping and believes she can smell the wallpaper over the house. • The narrator reaches the conclusion that there is a woman trapped in the wallpaper at night, and escapes during the day.
End	• Suspecting that John and Jennie know of her obsession, the narrator decides to destroy the wallpaper by peeling it off during the night. • The next day, the narrator goes mad, biting and tearing the paper in order to free the trapped woman. • The narrator is hopelessly insane and is convinced that there are many women creeping in the wallpaper and so grabs a chair and a rope to reach more of the paper. • The narrator starts to think she has also come out of the wallpaper. • John breaks into the locked room and sees her insanity. • John faints in the doorway. • The narrator 'creeps over him.'

Key Characters

The Narrator (Jane)
Protagonist / narrator / young married woman / a new mother/ upper-middle class/ suffers with postnatal depression / manipulated / highly imaginative/ obsessive.

Doctor John
Husband/ doctor/ practical and logical / attempts to control his wife/ dominant/ believes in the rest-cure.

Jennie
John's sister/ housekeeper / traditional / content with performing a domestic role/ suspects the narrator is more troubled than she lets on.

The Woman in the Wallpaper
A figment of the narrator's imagination/ trapped/ desperate/ prisoner of the wallpaper.

Mary
Nurse who looks after the narrator's baby/ embraces her domestic role/ subservient.

Weir Mitchell
Real-life doctor/ created the rest-cure/ cruel/ lack of empathy for women/ treated the author in real life.

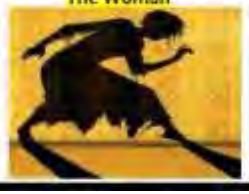
Key Symbols

Wallpaper

Journal

Light/dark

The Woman



The Bedroom

YEAR 8 AUTUMN TERM KNOWLEDGE ORGANISER:
THE MONSTER IN THE MIRROR
THE YELLOW WALLPAPER BY CHARLOTTE PERKINS-GILMAN

Big Ideas

Patriarchy
A system of society or government in which men hold the power and women are Excluded from it.

Manipulation
To influence or control another, usually in an unfair or cruel way.

Deceit
The act of convincing one or many people of untrue information by concealing or misrepresenting the facts.

Perception
The way in which something is regarded, understood, or interpreted.

Trauma
When we experience stressful, frightening or distressing events that are difficult to cope with or out of our control.

Context – *The Yellow Wallpaper* written by Charlotte Perkins-Gilman is a semi-autobiographical short story and was published in 1892.

Charlotte Perkins-Gilman: author /born in 1860 in Connecticut, USA/ lived in poverty after her father abandoned her family/ moved all over America during her childhood and teenage years/ wasn't allowed to make friends or read books to keep her 'domesticated' for her future husband/ suffered with her mental health after the birth of her daughter.

Hysteria: the medical term for what we now understand to be mild depression or anxiety. Some symptoms included: anxiety, shortness of breath, fainting, nervousness, insomnia, fluid retention, irritability and loss of appetite. This condition was associated with female patients. The Hysteria Theory was invented by Sigmund Freud, the famous Austrian psychoanalyst.

Silas Weir Mitchell: An American doctor, scientist, novelist and poet. Pioneered the rest-cure to treat women suffering from 'melancholia' or modernly known as post-natal depression. Weir Mitchell treated Charlotte Perkins-Gilman using the rest cure, which she used as her inspiration for *The Yellow Wallpaper*.

Melancholia: an illness that caused delusions and hallucinations which often led to the patient being diagnosed with psychosis (insanity) Today, we could refer to this illness as chronic depression or other forms of mental health conditions such as bipolar disorder or schizophrenia.

The Rest Cure: A form of treatment developed by Weir Mitchell in the 1800's for 'melancholia' also known as 'hysteria.' It was a strictly enforced regime of six to eight weeks of bed rest and isolation, without any creative or intellectual activity. Most patients considered the 'cure' to be worse than their original illness.

19th Century Attitudes Towards Mental Health: Mental health conditions weren't recognised in medicine during the 1800s therefore people didn't understand the symptoms of common mental health conditions such a depression and anxiety. This caused fear and panic to spread amongst society, which led to cruel treatments such as the rest cure to be carried out on mainly female patients behind closed doors.

YEAR 8 AUTUMN TERM KNOWLEDGE ORGANISER: THE MONSTER IN THE MIRROR
TECHNICAL ACCURACY & KEY DEVICES

'FOUR FOR MORE'-THE 4-PART SUCCESS STORY

Part	Key Features
SETTING 	• Introduce your story by focusing on the setting • Describe the weather / environment / surroundings / objects • DEVICES: Personification / pathetic fallacy / symbolism / prepositions
CHARACTER 	• Describe your character(s) within your setting • One or two characters – keep it minimal • Craft their actions / behaviour to reflect their personality and emotions • DEVICES: Sensory language / similes / metaphors / minimal dialogue
FLASHBACK 	• Include a flashback to teach the reader something about your character and / or their world • Begin this section with a trigger • This memory should contrast your character's current situation • DEVICES: Sensory language / juxtaposition / light imagery / similes / metaphors / symbolism
RETURN TO THE SCENE 	• Begin this section with a trigger that forces your character back to their current world • Offer a glimpse of change / a subtle change to end your story • Return to something that you described in your opening paragraph to create a cyclical structure • DEVICES: Sensory language / personification / pathetic fallacy / symbolism / cyclical structure

Device / Feature/ Skill

Metaphor
Describing something by stating it is something else


Anthropomorphism
Giving human characteristics or behaviour to a god, animal, or object.


Juxtaposition
Contrasting ideas / images


Personification
Giving living qualities to something non-human


Show Not Tell
Describing a character through their actions and facial expressions


Sensory language
Five senses


Temporal Reference
Using a time reference to indicate a flashback


Simile
Comparing something to something else: 'as', 'like'


Punctuation

Apostrophes
To show that letters are missing in a word
To show possession


Semi-colons
-To help join closely connected ideas in a sentence.


Tenses

PAST
Something that has already happened
Had / went / said / walked

PRESENT
Something that is currently happening
Have / go / say / walk

FUTURE
Something that will happen
Will have / will go / will say / will walk

Common Homophones

There / Their / They're

Your / You're

Its / It's

Which / Witch

Word Classes

Adjective
Describes a noun or pronoun.
Blue / young / powerful


Adverb
How, when or where something happens.
Furiously / yesterday / here


Preposition
Where something is; the time, direction or cause of something.
On / under / above


Pronoun
Words that replace nouns or noun phrases.
She / he / they


Noun
Person, place, thing, idea or state of being.
Manchester / cat / love


Verb
An action or state of being.
Jump / write / be


To review

To look back at

1. Discuss
2. Compare
3. Judge

ANALYSE

In Year 8 we will be **Analysing** information on Farm to Fork issues

Food miles are the distance, in miles, from the site of production to the site of production for an item of food. The higher the food miles are the more GLOBAL the food is.

Some advantages of buying global food are:

- Access to food that we would not otherwise have available- e.g. chocolate and foods which are not in season.
- Helps economies of poorer nations who get money from selling produce to the UK.
- Food can be cheaper

Disadvantages of buying global food are:

- Food produces more pollution and contributes to climate change as it has had to travel thousands of miles.
- Food needed by local people in poor countries may not be available as it has been sent to other counties.
- Jobs are lost in the UK as more food is bought in from overseas.
- Deforestation occurs in poorer countries to make room for fields to farm.
- You never quite know where your food has come from.

Buying food from **local** sources is seen as a better alternative than buying lobal food, this is because:

- Less fossil fuels are used to transport food meaning less pollution.
- Money is kept in the local community as food is bought from local people.
- You know exactly what you are eating and where it has come from.

Functional characteristics of ingredients

Ingredients provide a variety of functions in recipes, such as:

- browning, e.g. flour in a bread roll (dextrinisation),
- raising, e.g. yeast in bread (aeration),
- setting, e.g. scrambled eggs (coagulation),
- thickening, e.g. flour in a roux sauce (gelatinisation).

Threats to food supply

In the future our global food supply may be threatened by:

- **Climate change**- some places will be too hot whilst others too wet
- **Population growth**- more people will need feeding
- **Urbanisation**- more people in cities need food which is away from the rural areas where it is produced
- **Conflict**- issues to do with land and access lead to conflict
- **Environmental damage of farming**- Some farming practises damage land making it less fertile
- **Increasing fuel prices**- energy needed to produce food is more expensive
- **Water stress**- in some areas there is not enough water to farm.
- **Changing consumption patterns**- some parts of the world are eating more dairy and meat than ever before, putting pressure on the industries.
- **Rising food prices**- difficulties in farming make food prices higher, meaning many people cannot afford food.

Sustainable food supply

Methods of farming which may be more sustainable include:

- Organic farming- no use of chemicals
- Local food- buying food locally
- Permaculture- mirroring natural ecosystems
- Seasonal food- buying what is in season
- Urban farming- growing food in cities

Selecting ingredients

Ingredients are chosen for a number of reasons, such as:

- to add flavour, colour or texture,
- to provide a particular function, e.g. to thicken,
- to provide nutrients or change the nutritional profile of a dish, e.g. to increase fibre,
- to extend the shelf life, e.g. vinegar for pickling or chemical preservatives,
- cost and availability, e.g. fruit in season,
- to satisfy a need to buy food with a certain provenance, e.g. Red Tractor.

To put together

Practical activity

1. Assemble
2. Mix
3. Stir

FOOD & NUTRITION

MAKE

In Year 8 we will be **making** a range of baked goods.

You will use equipment to **make**.

It will be **made** following a recipe.

Knife Skills and Techniques

Bridge Method: Make a bridge with your fingers and thumb, place the knife underneath and cut downwards, repeat to cut ingredients to size.

Claw Method: Make a claw with your hand by curling your fingers and then place the knife near your claw sliding it away from the knife as you slice each piece

Hygiene rules in the food room

Wash your hands with anti-bacterial soap

Wear a clean apron

Tie hair up

Make sure your nails are clean and short—no nail varnish

Cover cuts and sores with a blue plaster

Clean work surfaces with sanitiser

Use clean dishcloths and tea towels

Make sure all equipment has been cleaned thoroughly in hot soapy water

Key Terms	Description	
Aeration	The ability of some fats to trap lots of air bubbles when beaten together with sugar i e egg white for meringue	
Coagulation	The joining together of lots of denatured protein molecules, which changes the appearance and texture	
Starch Based Sauce	During cooking the starch granules absorb the liquid until they reach boiling point, burst and completely thicken the sauce.	
Denaturation	The chemical bonds have broken and the protein molecules has unfolded and changed shape.	
Shortening	The ability of fats to shorten the length of gluten molecules in pastry	
Cross contamination	When bacteria spreads from raw food onto ready to eat food e.g through hands, utensils or food	
Sensory characteristics	How food tastes, looks and feels in the mouth	

Type of pastry	Examples of products	Characteristics of the pastry
Shortcrust pastry	Bakewell tart , Lemon meringue pie, quiche	Crumbly texture, pale in colour Ratio -fat to flour 1:2
Choux pastry	Profiteroles, eclairs, choux buns	Darker in colour, liquid turns steam when baked, light and airy. Can be filled. Ratio– fat to flour 2:3
Filo pastry	Spring rolls, apple strudel , Filo parcels	Very thin, crispy, delicate
Rough puff pastry	Sausage rolls, savoury tarts, pies,	Flaky pastry, high quantity of fat ratio fat:flour– 3:4
Hot water crust	Pork pie;	Dark in colour, made using boiled fat and water mixed with flour

Equipment	Uses	Picture
Scales (weighing)	Weighing ingredients	
Measuring jug	Measuring liquids The side of the jug is usually marked with millilitres (ml)	
Measuring cups	Some American recipes use cups for dried ingredients such as flour and sugar	
Measuring spoons	Measure an accurate teaspoon or tablespoon One teaspoon is 5 ml, one tablespoon is 15 ml	

Year 8 Topic 1: Qu'est-ce que tu fais? - What do you do?

Je lis des livres sur les animaux
- I read some books about animals
Je lis des magazines sur les célébrités
- I read celebrity magazines
Je lis des roman policiers
- I read crime novels/thrillers
Je lis des romans d'amour
- I read love novels

J'adore les livres sur les animaux
- I love books about animals
Je n'aime pas les magazines sur les célébrités
- I don't like celebrity magazines
Je déteste les romans policiers
- I hate crime novels/thrillers
J'aime beaucoup les romans d'amour
- I really like love novels

Je regarde les films d'action
- I watch action films
Je regarde les films d'amour
- I watch love films
Je regarde les films d'horreur
- I watch horror films
Je regarde les films de science-fiction
- I watch science-fiction films
Je regarde les comédies
- I watch comedies

Mon émission préférée, c'est...
My favourite programme is...
Mon film préféré, c'est...
My favourite film is...
Mon acteur / actrice préféré(e), c'est...
My favourite actor/actress is...
Mon livre préféré, c'est...
My favourite book is...
Mon personage préféré, c'est...
My favourite character is...

Je regarde les documentaires
- I watch documentaries
Je regarde les émissions de sports
- I watch sports programmes
Je regarde les infos / informations
- I watch the news
Je regarde les séries
- I watch TV series
Je regarde les séries policières
- I watch crime/police series
Je regarde les comédies
- I watch comedies

Je lisais des (romans policiers)
- I used to read some (crime novels/thrillers)
Je regardais les (séries)
- I used to watch (series)
J'aimais les (films d'amour)
- I used to like (love films)
Je détestais les (documentaires)
- I used to hate (documentaries)

Je ne regarde pas de comédies
I don't watch comedies
Je ne lis jamais de documentaires
I never watch documentaries
Je ne fais que les quiz
I only watch quizzes

Je fais beaucoup de choses
- I do lots of things
Je fais des recherches pour mes devoirs
- I do research for my homework
Je fais des achats
- I do online shopping (I make purchases)
Je fais des quiz
- I do quizzes
Je joue à des jeux en ligne
- I play games online
Je vais sur mes sites préférés
- I go on my favourite websites
J'envoie des emails
- I send emails
Je poste des commentaires
- I post comments

J'ai discuté
- I discussed/chatted
J'ai écouté la radio
- I listened to the radio
J'ai joué à des jeux en ligne
- I played games online
J'ai posté des photos
- I posted photos
J'ai regardé la télé
- I watched the TV
J'ai regardé des clips vidéo
- I watched video clips
J'ai téléchargé des chansons
- I downloaded songs

Aller – to go
Je vais – I go
Tu vas – you go (singular / informal)
Il va – he goes
Elle va – she goes
On va – we go
Nous allons – we go
Vous allez – you go (plural / polite)
Ils vont – they go (m / m+f)
Elles vont – they go (f)

Quelquefois – sometimes
Normalement – normally
D'habitude – usually
En ce moment – at the moment
Souvent – often
Tous les jours – every day
Tous le soirs – every evening
Tout le temps – all the time
De temps en temps – from time to time
Une fois par mois – once a month
Deux fois par semaine – twice a week
Rarement – rarely
Après le dîner – after dinner/tea
Avant de me coucher – before going to bed
Hier – yesterday
Hier soir – yesterday evening/last night
Le weekend dernier – last weekend
Avant – before
Dans le passé – in the past

À mon avis – In my opinion
Je pense que – I think that
J'aime – I like
J'adore – I love
Je préfère – I prefer
Je n'aime pas – I don't like
Je déteste – I hate
Je trouve que – I find that
Je pense que – I think that
Je crois que – I believe that
parce que / car - because
car - because
Je trouve que – I find that
Je pense que – I think that
Je crois que – I believe that
c'est – it is
ce n'est pas – it isn't
c'était – it was
Je trouve ça – I find that
très - very
assez - quite
un peu – a bit
important - important
intéressant - interesting
marrant – funny
génial / chouette – great
ennuyeux / barbant – boring
nul – rubbish

Faire – to do/make
Je fais – I do/make
Tu fais – you do/make (singular / informal)
Il fait – he does/makes
Elle fait – she does/makes
On fait – we do/make
Nous faisons – we do/make
Vous faites – you do/make (plural / polite)
Ils font – they do/make (m / m+f)
Elles font – they do/make (f)

D'abord / Tout d'abord – firstly / first of all
Puis - then
Ensuite - next
Après - after
Un peu plus tard – a bit later
Finalement - finally

Regarder – to watch
Je regarde – I watch
Tu regardes – you watch (singular / informal)
Il regarde – he watches
Elle regarde – she watches
On regarde – we watch
Nous regardons – we watch
Vous regardez – you watch (plural / polite)
Ils regardent – they watch (m / m+f)
Elles regardent – they watch (f)

Lire – to read
Je lis – I read
Tu lis – You read (singular / informal)
Il lit – he reads
Elle lit – she reads
On lit – we read
Nous lisons – we read
Vous lisez – you read (plural / polite)
Ils lisent – they read (m / m+f)
Elles lisent – they read (f)

Year 8 Topic 1: Transferable language

Year 8 Topic 1: Vamos – Let's go

¿Cómo te llamas? – What are you called?
Me llamo (María) – I am called (María)
Mi amigo se llama (Juan) – My friend is called (Juan)
¿Cómo se escribe tu nombre? – How do you write your name?
Mi nombre se escribe... – My name is written...

¿Qué tienes en tu bolsa? – What do you have in your bag?
En mi bolsa – In my bag
¿Qué tienes en tu estuche? – What do you have in your pencil case?
En mi estuche – In my pencil case

tengo	- I have
veo	- I see
hay	- there is
necesito	- I need
un estuche	- a pencil case
un boli	- a pen
un lápiz	- a pencil
una goma	- a rubber
una regla	- a ruler
un cuaderno	- an exercise book
un libro	- a book
una agenda	- a diary/planner

No tengo (bolígrafo) - I don't have (a pen)

¿Dónde vives? – Where do you live?
Vivo en (Bolton) – I live in (Bolton)
Mi amigo (m) / Mi amiga (f) vive en (Salford) - My friend lives in (Salford)
En el futuro me gustaría vivir – In the future I would like to live

en	- in
el norte	- the north
el este	- the east
el sur	- the south
el oeste	- the west
el centro	- the centre
de	- of
España	- Spain
Europa	- Europe

las Islas Canarias - the Canary Islands
las Islas Baleares - the Balearic Islands
el Reino Unido - the United Kingdom (*del Reino Unido – of the UK)
América Latina / Latinoamérica - Latin America

Soy español / española	– I am Spanish
Soy europeo / europea	– I am European
Soy canario / canaria	– I am Canarian
Soy balear	– I am Balearic
Soy del Reino Unido	– I am from the United Kingdom

Soy latinoamericano / latinoamericana – I am Latin American

Year 8 Topic 1: Transferable Knowledge

The

El – masculine singular
La – feminine singular
Los – masculine plural
Las – feminine plural

A / an / some

un – masculine singular
una – feminine singular
unos – masculine plural
unas – feminine plural

¡Hola!	**- Hello!**
Buenos días	**- Good morning/day**
Buenas tardes	**- Good afternoon**
Buenas noches	**- Good evening**
Adiós	**- Goodbye**
¡ Hasta luego!	**- See you later**
¡ Hasta pronto!	**- See you soon**

¿Qué tal?	**- How are you? (informal)**
¿Cómo estás?	**- How are you? (Informal)**
¿Cómo está usted?	**- How are you? (formal)**
Estoy bien	**- I am good**
Estoy muy bien	**- I am very good**
Estoy bastante bien	**- I am quite good**
Tengo frío	**- I am cold**
Tengo calor	**- I am hot**
Tengo hambre	**- I am hungry**
Tengo sed	**- I am thirsty**

y	**- and**
o	**- or**
también	**- also**
pero	**- but**
porque	**- because**
ya que	**- since**
dado que	- given that
sin embargo	- however
no obstante	- however

Tener - to have

Tengo	**- I have**
Tienes	**- You have (singular / informal)**
Tiene	**- He has/ She has**
Tenemos	- We have
Tenéis	- You have (plural / polite)
Tienen	- They have

Ser – to be

Soy	**- I am**
Eres	**- You are (singular / informal)**
Es	**- He is/ She is**
Somos	- We are
Sois	- You are (plural / polite)
Son	- They are

Llamarse - to be called

Me llamo	**- I am called**
Te llamas	**- You are called (singular / informal)**
Se llama	**- He is/ She is called**
Nos llamamos	- We are called
Vos llamáis	- You are called (plural / polite)
Se llamans	- They are called

Vivir - to live

Vivo	**- I have**
Vives	**- You have (singular / informal)**
Vive	**- He has/ She has**
Vivimos	- We have
Vivís	- You have (plural / polite)
viven	- They have

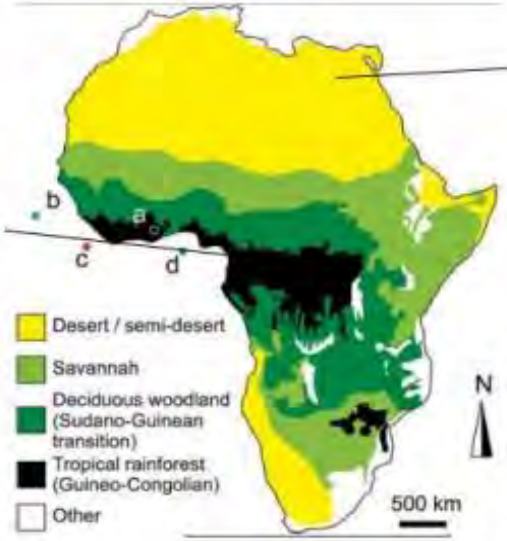
1. Africa Knowledge Organiser

Africa, the **second-largest continent**, **to the north is the Mediterranean Sea**, to the east is the **Indian Ocean**, and to the west is the **Atlantic Ocean**. It is divided in half almost equally by the Equator.

There are 54 countries in Africa. The largest country in Africa is Algeria and the smallest is the Seychelles. The most populated country is Nigeria.

Africa is the **second largest country** and Africa is also the world's **second most populous continent**. Africa is one of the most diverse places on the planet with a wide variety of terrain, wildlife, and climates.

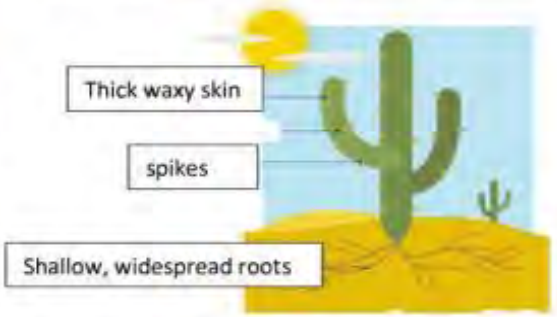
Key Terms	
Continent	One of the seven major land masses on the earth.
Biome	A large ecosystem (collection of plants and animals) for example deserts.
Desert	A place that receives under 250mm of rainfall per year.
Plate tectonics	The earths surface is divided into series of plates which slowly move.
Poverty	The state of being poor. When peoples income is below 60% of the countries average.
Economic Development	Increasing wealth and quality of life within a country.
Diversity	This is differences. It could be about animals, ecosystems people and plants.
Quality of Life	The level of comfort and wellbeing a person enjoys. Linked to wealth and happiness.
Tourism	Travelling to a place for pleasure and leisure.



Desert Biome

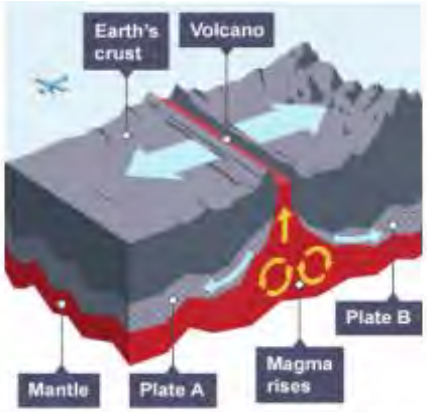
What is a desert? Deserts are dry or arid areas that receive less than 250 mm of rain each year. They contain plants and animals that are specially adapted to these extremely dry conditions.

Plants and animals in the desert have to cope with very little water. There is also a big variation in temperature between day and night. They do this by **adapting to their surroundings**.



The continent of Africa is a very diverse place with different climates, ecosystems and cultural landmarks making certain places very popular with tourists. For example the Pyramids in Egypt, The Savannah's of Kenya where you can see lions and elephants on Safari as well as hot places with beautiful beaches such as Madagascar, The Seychelles, Tunisia. Plus rainforests in the East.

The Great Rift Valley



At a constructive plate boundary two tectonic plates are moving apart. This has created the Great Rift Valley and also surrounding mountains and volcanoes as the plate plates crack and split.

The Great Rift Valley is the location of many of Africa's most famous physical features. Mount Kilimanjaro is a large volcano in the Rift Valley and also Africa's highest mountain. In places the valley has filled with water creating huge lakes such as Lake Victoria and waterfalls such as Victoria Falls.

Life in the Horn of Africa

Life in Africa is very different depending where you live as it is the second biggest continent and places have different climates, ecosystems and countries have different levels of wealth. We studied the Horn of Africa which is located in North Eastern Africa and includes the countries of Ethiopia, Djibouti, Eritrea and Somalia.

Physical Features of the Horn of Africa

Mountains, rivers, lakes, deserts, beaches, volcanoes ... the Horn of Africa has them all.

The Ethiopian Highlands are largest area of high land in Africa. They are divided in two by the Rift Valley, which holds a string of lakes. All of the rivers on the map start in the Ethiopian Highlands. The Blue Nile leaves Ethiopia and heads north to join the White Nile to form the River Nile, which flows on to Egypt. The Horn of Africa is in the tropics, and quite close to the
Equator. So it is generally hot all year, on the low land. But the higher you go, the cooler it gets. Rain is in very short supply in some places.

Peoples lives in the Horn of Africa

This table gives some data about the countries of the Horn, and the UK. You can see that compared to the UK the wealth of the countries (GDP) is low. $37,500 in the UK per person on average and only $600 per person in Somalia.

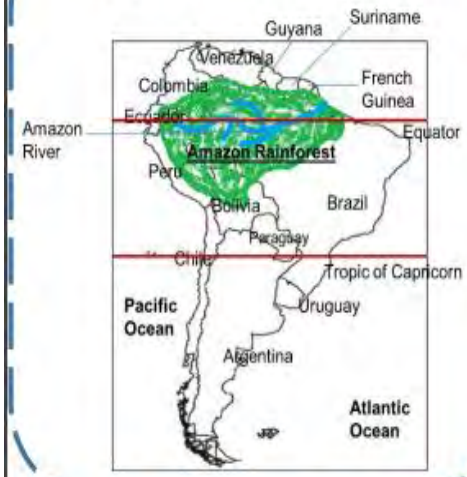
	Djibouti	Eritrea	Ethiopia	Somalia	UK
Population (millions)	0.9	5.9	85.2	9.8	64
% aged 14 or under	34	41	44	44	17
% living in towns and cities	77	21	17	38	80
How long a new baby is likely to live for (years)	62	63	60	51	80
% of population with access to clean safe water	29	61	44	29	100
What % of workforce are farmers?	under 30	80	85	71	1.4
GDP per person (PPP) (in dollars)	$2700	$800	$1300	$600	$37,500

Today, the countries of the Horn of Africa are not well off. There are many causes of poverty. But for these countries, one factor is the years of conflict they have suffered. The good news is ...
They may be poor today – but the good news is that the countries of the Horn are developing quite fast, and especially Ethiopia.
More and more factories are opening.
Education and healthcare are improving, with help from other countries.
Peoples lives can be very different in Ethiopia many people are coffee farmers, in Djibouti (the smallest country) they work in the ports. In the semi-desert areas of Somalia and Ethiopia many people are animal farmers and nomadic (they move with their animals always looking for food and water). In Ethiopia Addis Abiba is the biggest city and is developing fast but there are problems with people living in slums. Much is being done to improve the area economically though and Ethiopia is experiencing rapid economic development.

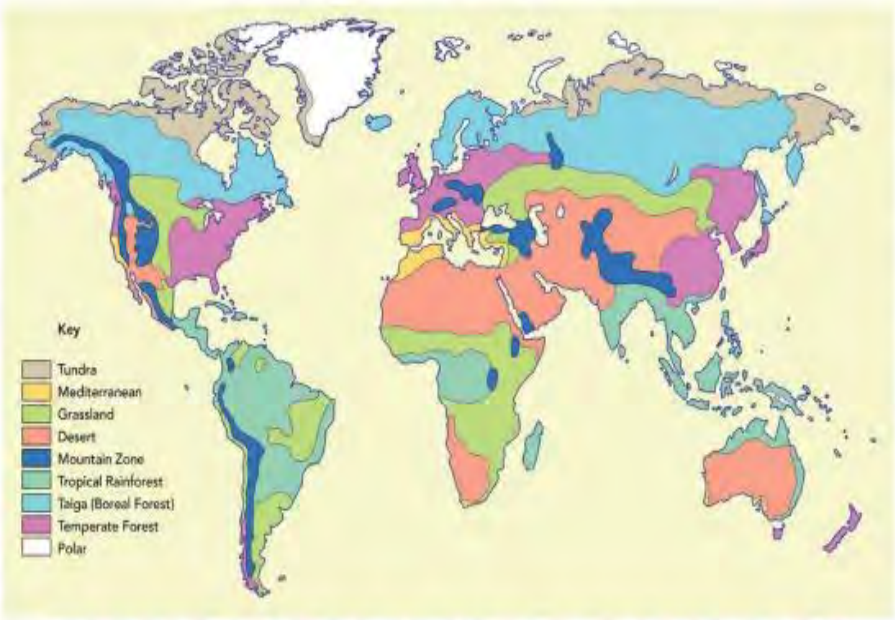
Biomes and Rainforests

Climate is important because it determines the types of plants and animals—the ecosystem—that can survive in a biome.

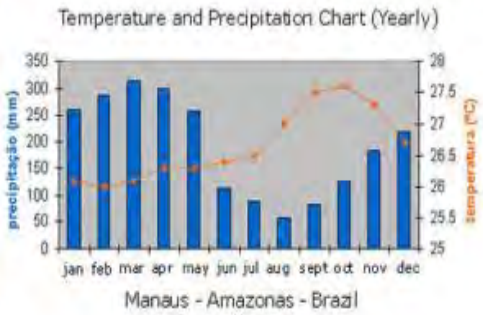
Location of the Amazon Rainforest



The Amazon Rainforest is in the continent of South America. The ocean to the east is the Atlantic Ocean. The rainforest includes the longest river in the world which is called the Amazon River. The Amazon Rainforest stretches across a number of countries including: Brazil, Columbia and Peru. The Amazon Rainforest has an annual average temperature of 27 °C and annual rainfall of 2104 mm



Climate graph and why it rains



Evapotranspiration creates clouds.
Loss of water from evaporation pulls more water up from the soil.
The heavy clouds cause precipitation to occur where they are formed.

Characteristics of Biomes

Tropical **rainforests** are **hot** and **wet** all year round. They are home to **half** of all the different types of **plants** and **animals** on the planet.

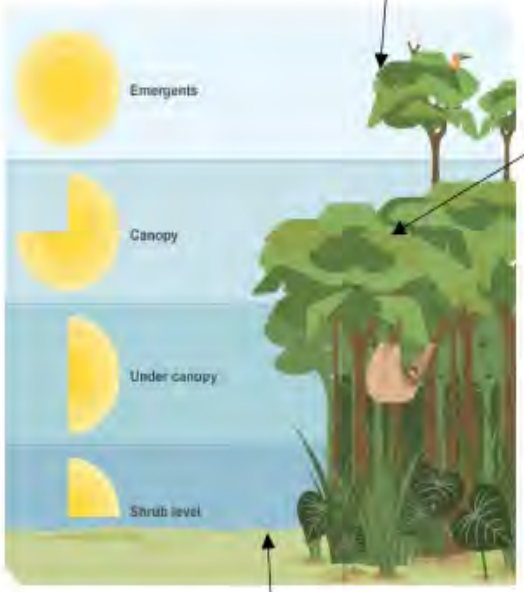
Deserts are **hot** and **dry** all year round. The only things that grow are **cacti** and small **shrubs** because the soil is shallow and rocky. Animals come out at **dusk** when it is **cooler**.

The **savannah** is **hot** all year round with a long, **dry season**. Only **grasses** and **shrubs** grow here but it is home to lots of different types of animals such as **elephants, zebras and wildebeest.**

The **tundra** is the **coldest** of all the **biomes**. There is very little **rain** or **snow** and the temperatures are **freezing**. Winters are **long** and summers are **short.** Part of the soil is **frozen** all year round, although the top part **defrosts** in summer and plants such as **mosses** can grow

The layers of the Rainforest

Emergents. These are the tops of the tallest trees in the rainforest. These are much higher, and so are able to get more light than the average trees in the forest canopy.



The canopy. This is where the upper parts of most of the trees are found. The canopy is typically about 65 to 130 feet (20 to 40 metres) tall. This leafy environment is home to insects, birds and some mammals.

The under canopy. It is the second level up. There is limited sunlight. Saplings wait here for larger plants and trees to die, leaving a gap in the canopy which they can grow into. Woody climbers called lianas are also found here

The shrub layer. It is dark and gloomy with very little vegetation between the trees. During heavy rainfalls this area can flood.

The climate in the Tropical Rainforest

Very wet with over 2,000 mm of rainfall per year.

Very warm with an average daily temperature of 28°C. The temperature never drops below 20°C and rarely exceeds 35°C.

The atmosphere is hot and humid.

The climate is consistent all year round.

Animals and plants have to adapt to the climate in the Tropical Rainforest

Drip tips - plants have leaves with pointy tips. This allows water to run off the leaves quickly without damaging or breaking them.

Buttress roots - large roots have ridges which create a large surface area that help to support large trees.

The sloth uses camouflage and moves very slowly to make it difficult for predators to spot.

Threats to the Tropical rainforest

The tropical rainforests of the Amazon Basin face the threat of deforestation. Deforestation is happening due to the following reasons: Farming, logging, mining, roads and population growth- All of these threats have one thing in common- **HUMANS**

But what can we do?

- **Education** - It is important that local people, businesses and politicians understand the true value of the tropical rainforest .
- **Ecotourism** - this encourages sustainable tourism that creates jobs for local people whilst ensuring that the money generated is used to pr otect and conserve the tropical rainforest for future generations to enjoy.

Y8 - Knowledge Organiser - Empire and Slavery - Was the British Empire a good thing?

What do I need to know?

- Why did Britain want an Empire?
- Why and how did India come under British control and was British rule in India a good thing or a bad thing?
- What were the causes of the Indian Mutiny?

Key vocabulary	
Colony	A country that is controlled by another leading country.
Sepoy	An Indian soldier serving British authorities
Mutiny	A rebellion against authority usually by soldiers or sailors.
Empire	A collection of areas of land that are ruled over and controlled by one leading country.

Why did Britain want an empire?	
Social	• Spreading Christianity • To civilise natives • To develop other societies in the British way
Economic	• To protect trade • To provide a market for British goods • To provide raw materials
Political	• To make Britain stronger than other countries e.g. France
Military	• To give Britain more soldiers for her army

How and why did India come under British Control?

- East India Company established **trading posts** in India in 1600.
- India was a country of many smaller Kingdoms and was **not unified.**
- There was lots of **competition between France and the United Kingdom** for control of India – this caused a war to break out.
- The British agreed to help and support any ruler who would support them.
- 1757, Robert Clive convinced a general to fight with him against the ruler of Bengal at the Battle of Plassey. They defeated the **Ruler of Bengal and Clive was celebrated as a hero in Great Britian.**

What was the Indian Mutiny, 1857

Causes

- **Disrespect of Indian values** – The British rulers forced many Indians to be Christians and tried to introduce new laws.
- **Money** – The British took a lot of land away from the Indian peoples and charged them high taxes and rents. They also made Indian farmers grow 'cash crops' (tea, cotton) instead of food.
- **The treatment of the Sepoys** – Many Sepoy soldiers were not given promotions and were paid less than their British counterparts
- **The introduction of the Lee Enfield Rifle** – Loading it involved biting the end off the cartridge, which was lubricated with beef and pork fat. Hindus saw cows as sacred, and Muslims saw pigs as unclean. Soldiers refused to use the rifle.

Consequences

- **Violence** – Indian rebels murders hundreds of British men, women and children. The British then took revenge, murdering innocent civilians.
- **Government response** – The East India Company could no longer be trusted in India, in 1858 the British parliament introduced British Rule in India called the British Raj

Was British rule in India a positive or negative?

Positive	Negative
• Britain built **roads, canals and railways** in India • Britain invested in Indian farming including funding **large irrigation projects.** • Industrialization began, **providing millions of jobs.** • Communication improved as Britain created a **telegraph and postal system.** • India received **1/10 of British overseas investment** - £230 million. • The number of schools increased from **170 to 2,900.** • Land used for farming increased from **400,000 acres to 2.2 million acres.**	• India became **poorer** • British settlers tried to make natives **change to Christianity** • **The Salt Tax** was introduced to make money for the British which many Indians could not afford. • Too many Indians were growing **cash crops** (tea, cotton) for Britain and not enough staple foods needed to feed the population. • There were **24 famines** between 1850 and 1899 with 19 million dying from starvation and disease.

Y8 - Knowledge Organiser - Empire and Slavery - What was Britain's role in the slave trade?

What do I need to know?

- What was the slave trade?
- What was Britian's role in the Slave Trade?

Key word	Definition
Abolition	The action of ending a system of practice, often used to mean the end of slavery
Plantation 	A large farm where one crop is grown, e.g. sugar, rice, cotton
Transatlantic slave trade 	The system of transporting slaves from Africa to the Americas
Migration	The movement of people
Resistance	Fighting back, either physically or otherwise

	What was the slave trade?
Britian and Europe	• Lots of industry was starting to appear in Europe at this time. **Places like cotton mills were becoming extremely profitable.** • As there were people gaining **large amounts of wealth, they spent this money on luxury items such as sugar and tobacco.** These things were hard to grown in Britian. • Many people saw an opportunity to **make a profits from providing goods** such as cotton, tobacco and sugar. • **Raw products arrived from the Americas and turned into finished products such as guns, cooking pots and clothes would then be taken to Africa to be traded.**
Africa	• By European standards, **large parts of Africa were still 'underdeveloped'.** Many people within Britain believed that Africans should be shown how to live 'correctly'. • Also, many Europeans had **racist views around black people** and believed they were 'beneath' them in social hierarchy. • They believed it was right to forcibly capture and traffic African to be used as a **slave labour force in the production of goods such as cotton, tobacco, and sugar.** This became known as the **'middle passage'** • **Finished products would be sold or swapped for African people. Enslaved African people would then be transported to the Americas.**
North and South America	• The climate in South America, the Caribbean and the southern states of America was **perfect for growing crops such as cotton, tobacco and sugar.** • Many people owned large amounts of land and **built large plantations** where raw products could be farmed. • **Raw products would be sold or swapped for enslaved Africans. These would then be transported to Britian and turned into finished products.**

What was Britian role in the slave trade?

- Slave traders like **John Hawkins** captured slaves and sold them.
- **Coffee shop owners demanded the sugar** that was grown by slaves on plantations.
- Charles II was a partner in the **Royal African Company** – responsible for capturing and selling enslaved people
- Liverpool – **half of its trade was linked to slavery**.
- **Banks provided the money** needed to buy slave ships (Barclays was started by slave traders)

Y8 - Knowledge Organiser - Empire and Slavery - What was the experience of slavery for Africans?

What do I need to know?

- What was life like in Africa before the arrival of Europeans?
- What did enslaved people experience when they were captured?
- What did enslaved people experience when they arrived in the Americas?
- Why was the slavery abolished?

What was life like in Africa before the arrival of Europeans?

- Africa is a **diverse continent**, with a range of rich cultures and backgrounds.
- Many **Europeans had incorrect stereotypes of Africans**, and believed they were uncultured and 'heathens'.
- There were **many Kingdoms, City-states** and other political arrangements in Africa.
- **Many African countries were massively rich**, for example the kingdom of Benin.

What did enslaved people experience when they were captured?

- White slave captures from Europe would **come to West Africa to capture enslaved people.**
- They would sometimes **employ or threaten with capture other African people to help enslave Africans.**
- When captured, enslaved Africans would be **physically abused, often whipped and beaten, put in manacles** and taken to the coast to board a ship.
- They would be **stowed on ships** – either tight packed or loose packed – and transported across the **middle passage.** This journey could take 6 months, and many enslaved people would get sick or try to starve themselves. Around 10 –15% of enslaved people died on the middle passage. **During their time on the middle passage, they would remined chained together, only going on deck to be cleaned with salt water or made to dance for exercise.** They would be whipped and beaten if they tried to resist. They would be given food in the form of rice and beans that was boiled and mushed together.

What did enslaved people experience when they arrived in the Americas?

- After they had arrived, they would be **cleaned, and wounds sealed or hidden with tar.** Then many enslaved people would be **sold either in an auction or a scramble.** Families would be split up and sold. Stong men would sell for more as they could carry out more manual labour. Women would be brought to do domestic work within the plantation house.
- Many enslaved people would then go to **work on a plantation where they would have to do manual labour for many hours a day.** During this time, they would be severally mistreated through verbal and physical abuse. The overseers would keep watch on the enslaved people, and they would usually work from sunrise to sunset, with very few brakes.
- Many enslaved people resisted their enslavement **through active and passive means.** They would kill livestock and try to escape, or they would work slowly. Famously in Haiti from 1791 – 1804 there was a slave revolution led by Toussaint L'Ouverture.

Why was the Slave trade Abolished?

- Some slave owners **realised that they would not have the costs of housing and feeding their slaves if they were free.** Instead, they could just pay them a low wage for their work. Plantation owners could save money if slavery was abolished.
- Due to **religious reasons** politicians in the UK, such as **William Wilberforce,** spent 20 years trying abolish slavery and believed God would not want people to treat each other in such a way.
- The British Government was **tired of sending British troops all the way to the Caribbean to crush slave revolts.** Many British soldiers died of disease in the hot, damp climate in Jamaica to protect white plantation owners.
- Some people realised that the **slave trade was cruel and led to the deaths of thousands of Africans** in terrible conditions on the Middle Passage. They believed it was unchristian to treat other human beings in this way
- Many freed slaves had fought with the British army and navy in the wars against the French in the 1800s. Their fighting skills won admiration from white soldiers. **There was pressure on the Government to end slavery and gain the loyalty of African Americans in the Caribbean.**

Y8 - Knowledge Organiser - Industrial Revolution - How did industrialisation change the way people worked?

What do I need to know?

- How did life change between 1750 and 1900?
- What was the domestic and factory system?
- What new inventions were there and how did they change the textile industry?
- What was it like to work in a factory in the 19th century?

How did life change between 1750 and 1900?

What was life like in the 1750s?

- **11 Million** people in Britain.
- **Farming was the most common job**, even people with other jobs still farmed their food.
- **The only way to travel is by foot , horse or boat.** The journey from Edinburgh to London would take 12 days.
- At this time there were lots of **killer diseases, such as smallpox.** Operations were painful because patients were awake when they were done.
- **No one knew dirt made them ill.** Many women died during childbirth, and many children died before their first birthday.

What was life like in the 1900s?

- **40 million** people in Britain.
- Many **people worked in factories** which relied on steam power.
- At this time there were **railways all over Britian.** It took 9 hours to get from London to Edinburgh on the train.
- **Doctors learnt about the causes of infection** and used anaesthetics to put people to sleep during operations.
- People found out about germs and what made them ill. **Water was piped into town; waste was piped away.** Streets were cleaned up.

What new inventions were there?

- **Flying shuttle** - Invented by John Kay, in Burnley, Lancashire, in 1733. Allows for **quicker weaving** and **wider cloth.** This meant **fewer weavers** were needed. It could be hand powered and used at home.
- **Spinning jenny -** Made by James Hargreaves, in Blackburn, Lancashire, in 1767. Allowed spinners to **weave 8 threads at once**, it made **fine but weak thread.** It allowed people to spin at home.
- **Water frame -** Made by Richard Arkwright, in Preston, Lancashire, in 1796. This was powered by a water wheel so could not be used at home. **Created strong thick yarn.** 1 factory **produced 60 times more yarn** than a family at home.
- **Spinning mule -** Made by Samuel Compton, in Bolton, Lancashire, in 1779. **Created a finer and stronger thread** than what the hand spinners could make. It did not require a worker to power it.
- **Power loom - Made by Edmund Cartwright in Leicestershire, in 1785.** The Power Loom meant that **weavers could keep up with the spinners.** Due of its size, it had to be used in factories, meaning **thousands of handloom weavers lost their jobs.**

Key vocabulary

Domestic system	When cloth and clothing was produced in peoples' homes.
Factory system	When machines were invented, and the producti on moved into larger buildings- mills or factories.

What was it like to work in a factory in the 19th Century?

- **Long working hours - Normal shifts were usually 12-14 hours a day,** with extra time required during busy periods.
- **Low wages** - Typical wage for male workers was about 15 shillings (75p) a week, but **women and children were paid much less**, with women earning seven shillings (35p) and children three shillings (15p).
- **Cruel discipline** - There was **frequent strapping** (hitting with a leather strap), **hanging iron weights** around children's necks, hanging them from the roof in baskets and **nailing children's ears to the table.**
- **Fierce systems of fines** - These were imposed for **talking or whistling or having a little dirt on a machine.**
- **Accidents** - Forcing children to crawl into dangerous, unguarded machinery led to many accidents. Up to 4**0 per cent of accident cases at Manchester Infirmary in 1833 were factory accidents.**

Y8 - Knowledge Organiser - Industrial Revolution - Who had the biggest impact on public health during the 19th century?

What do I need to know?

- Why were towns and cities so filthy?
- How important was John Snow's discovery about the cause of cholera?
- How important was Florence Nightingale's work for improvements in hospital care?
- Who had the biggest impact on improving public health?

Why were towns so filthy?

Back-to-back housing - Landlords and builders took advantage of the **lack of building regulations**. They packed as many houses as they could onto small plots of land. Some better-off working-class people rented 'through' houses, which had their own outside spaces. **Many people lived in shared accommodation with 8/9 people per room.**

Waste - T here would be privies connected to cesspits (big underground pools of waste) and sewers which whole streets shared. **The sewer systems would be old and would leak into the water supply making people ill.**

Food - It was difficult to get fresh fruit and vegetables and diets usually consisted of **bread and potatoes**. There was **little food regulation** therefore sellers added things to products to make them go further, such as adding chalk to milk. This caused malnutrition and illness.

Water - All water was unsafe throughout the 19th century. This was because **the water companies took water from the rivers, which were contaminated by human waste and pollution** from industry. Even rainwater might be unsafe as it had fallen through the smoke from factories.

Key vocabulary	
Disease	An illness or sickness that affects a person.
Public health	The health of the population as a whole.
Epidemic	An outbreak of disease that affects people of the same area.
Hygine	Conditions or practices used to maintain health and prevent disease.

John Snow and Cholera

Who is he? John Snow was a prominent **19th-century Doctor** and considered one of the founding figures in researching epidemics. His work during the cholera outbreak in London in 1854 **changed our understanding of disease transmission** and had a lasting impact on public health.

Why is he important? Cholera Investigation (1854): John Snow gained recognition for his investigation during the Broad Street cholera outbreak in London. He created a **map of the affected area**, in Soho, London, marking the locations of cholera cases. This **helped him identify a contaminated public water pump** on Broad Street as the likely source of the outbreak.

Did he have a big impact?

Florence Nightingale and hospital improvements

Who is she? Florence Nightingale, born in 1820, is celebrated as the **founder of modern nursing** and a pioneer in healthcare reform. Her dedication to patient care, innovative statistical methods, and advocacy for sanitation **transformed nursing practices** and significantly impacted public health.

Why is she important? She gained prominence during the Crimean War, where she and a team of nurses cared for wounded soldiers. Her emphasis on hygiene, cleanliness, and proper nutrition reduced the death rate among soldiers. She then established the first nursing school at St Thomas' Hospital in London in 1860. She wrote about nursing education and standards, making nursing a respected and skilled profession.

Did she have a big impact?

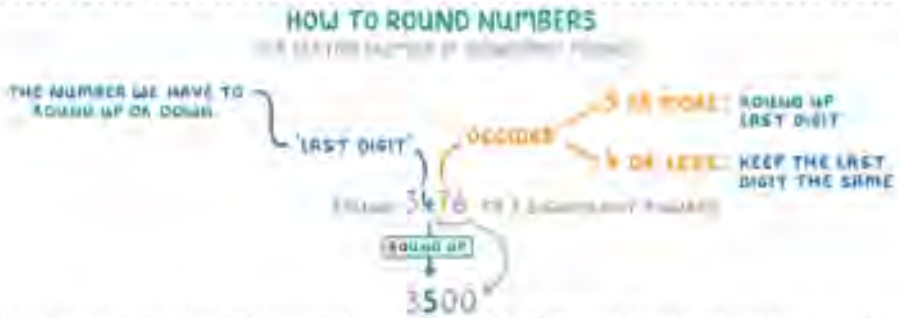
Rounding

What do I need to be able to do?

- To round numbers to the nearest 10, 100, 1000 etc.
- To round numbers to nearest 1, 2 & 3 decimal places
- Round numbers to the nearest 1 significant figure.
- Round numbers to the nearest 2 or 3 significant figures

Key Vocabulary

Round	Making a number simpler but keeping its value close to what it was. The result is less accurate
Significant	The number of digits that are meaningful; they have an accuracy matching our measurements
Integer	A number with no fractional part
Decimal	Based on 10. Decimal number is often used to mean a number that uses a decimal point
Lower Bound	A value that is less than or equal to every element of a set of data
Upper Bound	A value that is greater than or equal to every element of a set of data



Round to	Circle, Underline, Decide	Answer
Nearest 1000	(5)7 8 3 . 1 9 9	= 6000
Nearest 100	5 (7) 8 3 . 1 9 9	= 5800
Nearest 10	5 7 (8) 3 . 1 9 9	= 5780
Nearest integer	5 7 8 (3) . 1 9 9	= 5783
1 d.p	5 7 8 3 . (1) 9 9	= 5783.2
2 d.p	5 7 8 3 . 1 (9) 9	= 5783.20

Rounding decimal places

1. Identify the position of the decimal place to be rounded to, e.g. 2 d.p. would be the 2nd digit after the decimal place.
2. Then look to the right of this digit, this is called the decider, this number now decides whether the decimal place is rounded up or kept the same.
3. If the decider is 5 or more then round the digit up
4. If the decider is 4 or less, then leave the digit as it is.

Significant Figures

The first significant figure is the first non-0 digit, as you read from left to right.

Example 1

Round 3786 to one significant figure

Th H T U

4 7 8 6

The first significant figure is in the thousand's column so to the nearest thousand it is 4000

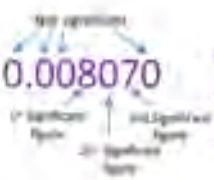
Example 2

Round 0.0145 to two significant figures

0 0 1 4 5

The first significant figure is in the thousandth's column, the 5 rounds the 4 up so to the nearest thousandth it is 0.015.

= 19000 when rounded to 2 significant figures.



= 0.0081 when rounded to 2 significant figures.

Online clips

M111, M431, M994, M131

Error Intervals

Component Knowledge

- To use understand how to round to different degrees of accuracy.
- To be able to write error intervals when rounding using correct inequality notation.
- To be able to write error intervals when rounding using correct inequality notation.

Key Vocabulary

Rounding	Rounding means making a number simpler but keeping its value close to what it was. The result is less accurate, but easier to use.
Accuracy	How close the rounded value is to the original value.
Place value	The value of the digit in a number
Lower bound	The smallest possible value that can be rounded to the number given
Upper bound	The largest possible value the rounded value can take.
Truncation	Truncation comes from the word truncare, meaning "to shorten". The number is cut off at a certain point.
Inequality notation	Symbols used to describe the relationship between two expressions that are not equal to one another.

Inequality Notation

All error intervals look the same like this:

$$\_\_\_\_ \leq n < \_\_\_\_$$

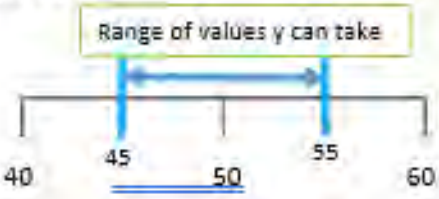
The value, n, can be greater or equal to this number.

The value, n, can only be less than this number but we use it to make any calculations easier to perform, should we need to.

Error intervals- rounding according to place value

Example 1- Frank rounds a number, y, to the nearest ten. His result is 50 Write down the error interval for y.

Begin by finding the ten, in this case, greater than and less than 50.



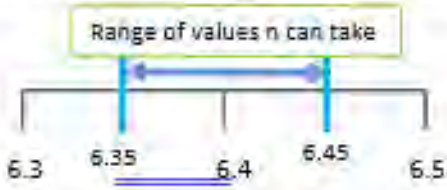
The midpoint between 40 and 50 is 45. This is the lower bound.

The midpoint between 50 and 60 is 55. This the upper bound (this can never = 55 but can be as large as 54.9999999.... 55 is easier to calculate with. Additionally, we use < as well.

The answer is $45 \leq y < 55$.

Example 2- Freya rounds a number, n, to one decimal place. Her result is 6.4 Write down the error interval for n.

Begin by finding the tenth, in this case, greater than and less than 6.4. (**Note: 1dp = tenths column.**)



The midpoint between 6.3 and 6.4 is 6.35. This is the lower bound.

The midpoint between 6.4 and 6.5 is 6.45. This the upper bound (this can never = 6.45 but can be as large as 6.49999999.... 6.45 is easier to calculate with. Additionally, we use < as well.

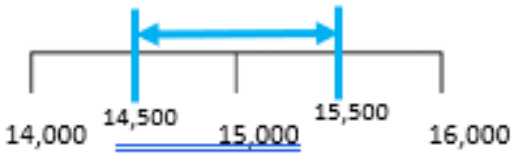
The answer is $6.35 \leq n < 6.45$.

Error intervals- rounding according to significant figures

Depending on the size of the number, the rounding will change when rounding to significant figures. Rounding like this keeps all numbers rounded to the same degree of accuracy relative to the size of the number.

Example 3- A number, g, is 15,000 when rounded to 2 significant figures. Write down the error interval.

Begin by finding the place value of the 2nd significant figure, in this case, this is 5000. This means we are rounding to 2 sig figs = rounding to nearest thousand.



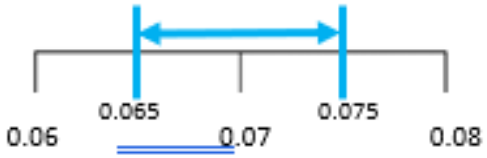
The midpoint between 14,000 and 15,000 is 14500. This is the lower bound.

The midpoint between 15,000 and 16,000 is 15,500. This the upper bound.

The answer is $14{,}500 \leq g < 15{,}500$.

Example 4- A number, x, is 0.07 when rounded to 1 significant figure. Write down the error interval.

Begin by finding the place value of the 1st significant figure, in this case, this is 0.07. This means we are rounding to 1 sig fig =rounding to nearest hundredth.



The midpoint between 0.06 and 0.07 is 0.065. This is the lower bound.

The midpoint between 0.07 and 0.08 is 0.075. This the upper bound.

The answer is $0.065 \leq x < 0.075$.

Error intervals- truncation

Be careful when reading error interval questions as truncating is not rounding like place value. The number has been "chopped", which means the value given **IS THE LOWER BOUND.** It commonly applies to decimals.

Example 5- State the error interval of 4.5 when it has been truncated to 1 decimal place.

Begin by finding the tenth, in this case, greater than 4.5. (**Note: 1dp = tenths column.**) This is the upper bound.

Remember: the value cannot equal 4.6!

The answer is $4.5 \leq n < 4.6$.

Online clip

M730

Estimation

Component Knowledge

- Estimate values of numeric problems
- Estimate values of worded problem solving questions
- Identify whether an estimation is an under-estimate or an over-estimate

Key Vocabulary

Round	Making a number simpler whilst keeping its value close to the original.
Significant figures	The number of digits in a value that carry a meaning to the size of the number.
Estimate	Find a value that is close to the right answer by rounding.

When estimating any calculation, you need to round every number to one significant figure

Significant figures

Example

Round 3786 to one significant figure

Th	H	T	U
3	7	8	6

The first significant figure is in the thousands column so to the nearest thousand it is 4000

Estimating Calculations

Estimate 39×4.85

39×4.85

40×5

$= 200$

Estimate

$$\frac{52 \times 6.78}{0.51}$$

First round all the numbers to 1 significant figure

$$\frac{50 \times 7}{0.5}$$

Then calculate the numerator

$$\frac{350}{0.5}$$

Dividing by 0.5 is the same as multiplying by 2

$$750$$

Estimation worded problems

Mr Sykes wants to buy a calculator for every student in year 11. There are 105 students in year 11. Each calculator costs £6.99

Work out an estimate for the amount of money Mr Sykes will spend on calculators

First round all the numbers to 1 significant figure

105 *students* → 100 *students*

£6.15 → £6

$100 \times £6 = £600$

Online clips

M994, M131,M878

How to decide if your solution is an underestimate or overestimate.

Decide if you have made each number bigger or smaller by rounding. When dividing remember that if you divide by a number that has been rounded up, your answer will be an underestimate and vice versa

For example: in the calculator example above we rounded the cost and number of students down so this is an under estimate of the cost.

Fractions, decimals, & Percentages

Component Knowledge

- Convert between simple fractions, decimals and percentages.
- Order fractions, decimals and percentages by converting.

Key Vocabulary

Fraction	Made up of a numerator (top) and denominator (bottom). Compares parts in question to total number of parts.
Integer	Whole number
Ascending order	Place numbers in order from smallest to largest
Descending order	Place numbers in order from largest to smallest
Percentage (percent)	'Out of' (per) one hundred (cent)
Decimal	Comparable number to a fraction or mixed number, written using place value, e.g. $\frac{2}{5} = 0.4$, or $3\frac{3}{4} = 3.75$

Convert % to fraction:

% "means out of 100" $= \frac{}{100}$

eg 65% $= \frac{65}{100}$ simplify where possible

$= \frac{65}{100} = \frac{13}{20}$ (÷5, ÷5)

Convert % to fraction to decimal

Convert to fraction out of 100, $\frac{}{100}$

as % "means out of 100" $= \frac{}{100}$

eg 9% $= \frac{9}{100}$ use place value table to write as a decimal

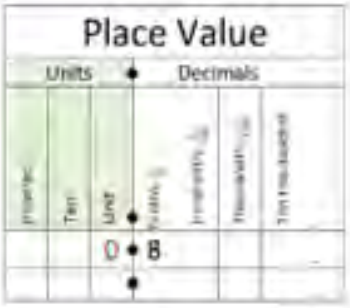
Convert decimal to a fraction

Use place value to convert to fraction out of 10, 100, 1000, etc

eg $0.8 = \frac{8}{10}$

then simplify where possible

eg $\frac{8}{10}$ becomes $\frac{4}{5}$



Convert decimal to a fraction to a percentage

Use place value to convert to fraction out of 10, 100, 1000, etc

eg $0.126 = \frac{126}{1000}$

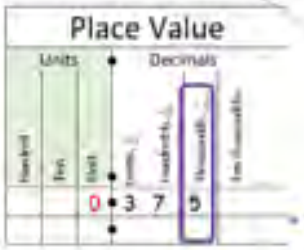
% means out of 100 so convert to equivalent fraction out of $100 = \frac{}{100}$

eg $\frac{126}{1000}$ becomes $\frac{12.6}{100} = 12.6\%$

Convert fraction to decimal

Convert to fraction out of 10, 100, 1000, etc" = $\frac{}{10}$ or $\frac{}{100}$ or $\frac{}{1000}$
then use place value to write as a fraction

eg $\frac{3}{8} = \frac{\times}{10} = \frac{\times}{100} = \frac{375}{1000}$



place the end digit

in the thousandths column

fill in with any zeros

Convert fraction to percentage

Convert to fraction out of 10, 100, 1000, etc" =

$\frac{}{10}$ or $\frac{}{100}$ or $\frac{}{1000}$

eg $\frac{3}{200} = \frac{\times}{10} = \frac{\times}{100} = \frac{15}{1000}$
then write as an equivalent fraction "out of 100" as percentage

eg $\frac{15}{1000} = \frac{15}{100}$ (÷ 10, ÷ 10) *once "out of 100" write as a percentage* = 1.5%

Ordering FDP

To be able to order FDP, we need to write them all in the same format.

Example: Order from smallest to largest $\frac{1}{4}$ 0.19 0.3 26% $\frac{1}{5}$

You can choose to convert them all into fractions, decimals or percentages as long as you convert them all into the same.

Changing them to percentages:

$\frac{1}{4} = 25\%$ 0.19 = 19% 0.3 = 30% $\frac{1}{5} = 20\%$

Rewrite the list with the numbers all in the same format.

25%, 19%, 30%, 26%, 20%

From smallest to biggest:

19%, 20%, 25%, 26%, 30%

Make sure you write your answer using the original numbers in the question.

Answer:

0.19, $\frac{1}{5}$, $\frac{1}{4}$, 26%, 0.3

Online clips

M958, M264, M553

Express a Quantity as a Fraction of Another

Component Knowledge

- Express one quantity as a fraction of another
- Express a fraction in its simplest form

Key Vocabulary

Fraction	A way to express a part of a whole
Amount	The sum total of 2 or more quantities of sums
Quantity	A certain amount or number of something
Numerator	To top number of a fraction showing how many parts of the whole
Denominator	The bottom number that names the fraction
Simplify	To reduce a fraction to a simpler form by diving the numerator and denominator by a common factor
Proportion	The comparison of the size of a share to the size of the whole

Simple Examples

What fraction of these shapes are **red**? $\frac{3}{7}$

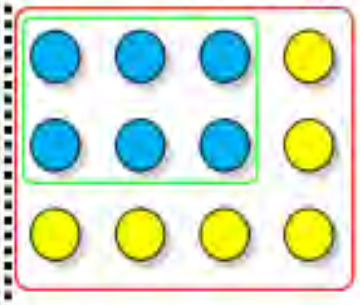
What fraction of these shapes are **circles**? $\frac{4}{7}$

What fraction of the **circles** are **red**? $\frac{1}{4}$

What fraction of the **squares** are **yellow**? $\frac{1}{3}$

What fraction of the **red shapes** are **squares**? $\frac{2}{3}$

What fraction of the **yellow shapes** are **circles**? $\frac{3}{4}$



Expressing a Quantity as a Fraction in its simplest form

What fraction of these shapes are **blue**?

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

Applied Examples

Mark buys a bag of 30 sweets.

6 of the sweets are apple. Mark eats apple.

What fraction of the sweets will Mark not eat?

$$\frac{6}{30} = \frac{1}{5}$$

one-fifth of the sweets

1 out of every 5 sweets

Eric ran 500 metres.

Dan ran 1.6 kilometres.

What fraction of how far Dan ran did Eric run?

$$\frac{500}{1600} = \frac{5}{16}$$

We must use the same units in the fraction.

What fraction of the drink is juice?

$$\frac{30}{240 + 30} = \frac{30}{270} = \frac{1}{9}$$

Online clips

U163

Percentages

What do I need to be able to do?

- Be able to write a quantity as a percentage of another
- Be able to find percentages of an amount.
- To be able to find a percentage increase and decrease
- Be able to find a percentage change.
- To be able to use reverse percentages.

Key Vocabulary

Percentage	Parts per 100. The unit is %
Equivalent	Having the same value
Convert	The change a value or expression from one form to another
Fraction	How many parts of a whole
Decimal	Based on 10. Decimal number is often used to mean a number that uses a decimal point
Growth	To increase/to grow
Reduce	To make smaller in value

To calculate any percentage it is useful to start with 10%.

30% of 120: 10% = 120 ÷ 10 = 12
30% = 3 x 12 = 36

To find 10% we divide by 10.

To find 30% we multiply 10% by 3.

80% of 120: 80% = 0.80
80% of 120 = 0.80 x 120 = 96

Change the percentage to a decimal and then multiply.

33% of 90: 33% = 0.33
33% of 90 = 0.33 x 90 = 29.7

Be careful if the percentage is less than 10.

4% of 88: 4% = 0.04
4% of 88 = 0.04 x 88 = 3.52

Take care using decimal percentages, still divide by 100.

12.5% of 42: 12.5% = 0.125
12.5% of 42 = 0.125 x 42 = 5.25

Percentage change

$$\frac{\text{Difference in values}}{\text{Original value}} \times 100$$

Percentage Increase and Decrease

Example 1) Increase £320 by 20%.
Work out 20%, (0.20 x 320 = 64) Add this onto of the original number, 320 + 64 = £384
Example 2) Decrease £50 by 12%.
12% = 0.12 x 50 = 6. Subtract this from 50 = 50 - 6 = £44.

Reverse Percentages

Original Number (100%)

16

10% = 16
1% = 1.6
100% = 160

Try to scale down to 1% or 10% and then scale back up to 100%

Original Number (100%)

84

10% = 8.4
1% = 0.84
100% = 84

Online Clips: M235, M437, M905, M476, M533, M528

Expanding single brackets

Component Knowledge

To be able to expand a single bracket, including problems with powers.

Key Vocabulary

Expression	A mathematical statement written using symbols, numbers or letters.
Simplify	In general, an expression is in simplest form when it is easiest to use
Expand	Expand is when we multiply to remove the ( )

Expanding brackets means multiplying everything inside the bracket by the letter or number outside the bracket.
For example, in the expression $3(m+7)$ both m and 7 must be multiplied by 3:

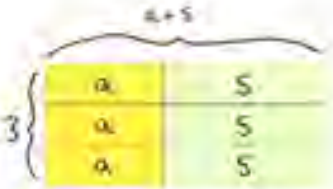
$3(m+7)$
$=3 \times m + 3 \times 7$
$=3m + 21$

Expanding brackets involves using the skills of simplifying algebra. Remember that $2 \times a = 2a$

Example
Expand $4(3n+y)$.
$=4 \times 3n + 4 \times y$
$= 12n + 4y$

Using grid method

Expand: $3(a+5)$ $3 \times (a + 5)$



$3 \times a = 3a$ $3 \times 5 = 15$

$3a + 15$

Using arrows

Expand:

$7(3 + a) = 21 + 7a$

$3x(5x + 2) = 15x^2 + 6x$

Expanding and simplifying

To expand and simplify more than one bracket, first expand each bracket then collect like terms.

$2(5 + a) + 3(2 + a) = 10 + 2a + 6 + 3a$
$= 5a + 16$

Note – collect like terms to simplify

$4(x + 2) - 2(x + 2) = 4x + 8 - 2x - 4$
$= 2x + 4$

Note: Remember the rules when multiplying negatives, -2 multiplied by x = -2x

Online clips

M237, M792

Expanding Double Brackets

Component Knowledge

- To use algebraic notation when multiplying terms.
- To be able to expand double brackets and simplify where necessary.
- Use identity notation correctly.

Key Vocabulary

Expand	Multiplying out a bracket.
Term	Either a single number or variable, or the product of several numbers or variables.
Collecting like terms	Simplifying an expression by grouping the same type of terms together.
Identity	An equality that relates one variable to another. It will be equal for ALL values of the variable, unlike an equation which gives a single solution.

Expanding double brackets

Expanding double brackets is long multiplication using algebraic terms as well as numerical values. There are 2 common ways of completing this.

Example 1 -Expand $(x+4)(x+6)$

We multiply all terms together (this can be known as FOIL method:

$$x \times x = +x^2$$

$$x \times 6 = +6x$$

$$4 \times x = +4x$$

$$4 \times 6 = +24$$

$$(x+4)(x+6) \equiv x^2 + 6x + 4x + 24$$

We now collect like terms:

$$\equiv x^2 + 10x + 24$$

Example 1 -Expand $(x+4)(x+6)$

We can also use an area model (also known as the grid method).

X	x	+4
x	$+x^2$	+4x
+6	+6x	+24

We have still multiplied all the terms together, like the previous method, but they remain in the grid. We can see all 4 terms in the expanded expression:

$(+x^2 + 6x + 4x + 24)$.

We now collect like terms:

$$(x+4)(x+6) \equiv +x^2 + 10x + 24$$

Example 2 -Expand $(x-3)(x+6)$

$$(x-3)(x+6)$$

This gives $x^2+6x-3x-18$

This simplifies to

$x^2+3x-18$

Example 3 -Expand $(2x-3)(x-5)$

$$(2x-3)(x-5)$$

This gives $2x^2-10x-3x+15$

This simplifies to

$2x^2-13x+15$

Online clips

Q976, M527

Function machines and solving 1 and 2 step equations

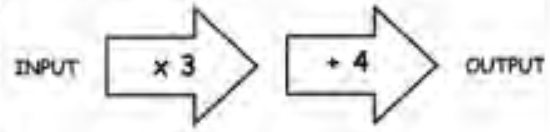
Component Knowledge

- To be able to use function machines to find the input and output value.
- To be able to solve one-step equations.
- To be able to solve two-step equations.

Key Vocabulary

Function Machine	Takes an input value, performs some operations and produces an output value.
Operation	Common operations are addition, subtraction, multiplication and division.
Inverse	The operation of another function.
Equation	a mathematical statement that shows that two mathematical expressions are equal
Solve	To find the solution

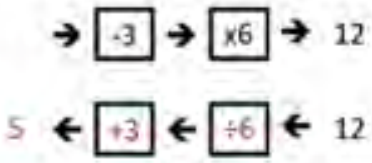
Function Machines



If the input is 5 the calculation is

5 x 3 = 15

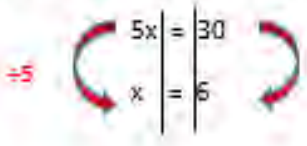
15 + 4 = 19



To find the input, start with the input and work backwards doing the inverse operations of the function machine.

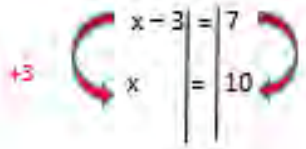
One- step equations

To solve a one-step equation, you need to do the inverse operation.



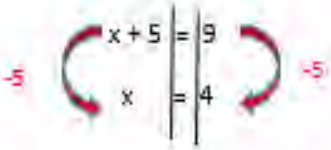
The inverse of multiplying is dividing.

We divide 30 by 5.



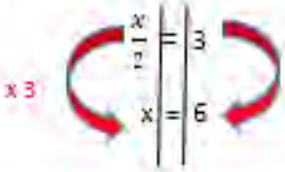
The inverse of subtracting is addition.

We add 3 to 7.



The inverse of addition is subtraction.

We subtract 4 from 9.



The inverse of dividing is multiplying.

We multiply 2 by 3.

Two- step equations

To solve a one-step equation, you need to do the inverse operation.

To solve a two-step equation or inequality we need to complete 2 inverse calculations in a specific order.

$6x + 3 = 32$

-3 The inverse of adding 3 is subtracting 3

$6x = 30$

÷ 6 The inverse of multiplying 6 is dividing by 6

$x = 5$

$4x - 3 = 13$

+3 The inverse of subtracting 3 is adding 3

$4x = 16$

÷ 4 The inverse of multiplying 4 is dividing by 7

$x = 4$

$\frac{x-5}{3} = 4$

÷ 3 The inverse of dividing by 3 is multiplying by 3

$x - 5 = 12$

+ 5 The inverse of subtracting 5 is adding 5

$x = 17$

Online clips

M175, M428, M707, M634, M647, M855, M401

Solve equations unknown on both sides

Component Knowledge

- Solve equations with unknown on both sides
- Solve equations with unknown on both sides with brackets
- Solve equations with unknown on both sides with fractions
- Solve equations with unknown on both sides after forming

Key Vocabulary

Solve	To find a value (or values) that satisfies an equation
Equation	An equation says that two things are equal
Brackets	Symbols used in pairs to group things together
Inverse	The operation that reverses the effect of another operation
Constant	The number on its own, not attached to a letter

Solve equations with unknown on both sides

Solve $5x + 1 = 2x - 8$

$-2x \quad -2x$ ←

$3x + 1 = -8$

$-1 \quad -1$ ←

$3x = -9$

$\div 3 \quad \div 3$ ←

$x = -3$

Step 1: Collect the variables (like terms) together, to do this find the inverse operation of the smallest number of x's. Whatever you do to one side, do the same to the other side.

Step 2: Complete the inverse operations to find x. Always follow the inverse of the order of operations (Bidmas). Here subtract 1 is the inverse of adding 1.

Step 3: Continue to find the inverse operations. Divide by the number in front of the unknown.

Solve equations with unknown on both sides involving brackets

$4(2x + 5) = 2(6x - 2)$

$8x + 20 = 12x - 4$ ← Expand brackets first

$-8x \quad -8x$ ← Collect the variables by finding the inverse operation of the smallest number of x

$20 = 4x - 4$

$+4 \quad +4$ ← Continue to use inverse operations to find x. Here add 4 to each side as the inverse of subtract 4.

$24 = 4x$

$\div 4 \quad \div 4$ ← Continue to use inverse operations to find x. Here divide by 4 as the inverse to multiply by 4.

$6 = x$

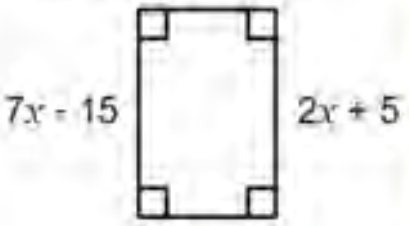
Solve equations with unknown on both sides with fractions

$$\begin{array}{rcl} 3x-15 & = & \dfrac{x+11}{3} \\ \times 3 & & \times 3 \\ 3(3x-15) & = & x+11 \\ 9x-45 & = & x+11 \\ -x & & -x \\ 8x-45 & = & 11 \\ +45 & & +45 \\ 8x & = & 56 \\ \div 8 & & \div 8 \\ x & = & 7 \end{array}$$

Start by removing any values on the denominator. To do this complete the inverse operation. Here the inverse of divide by 3 is to multiply both sides by 3. Remember every term on the LHS must be multiplied by 3. You can use expanding brackets here to remember to multiply both terms by 3.

Solve equations with unknown on both sides after forming it

Find the value of x.



This is a rectangle. Both of the sides with expressions on them are equal to each other so you can form an equation to show this and then solve as before.

$$\begin{array}{rcl} 7x-15 & = & 2x+5 \\ -2x & & -2x \\ 5x-15 & = & 5 \\ -15 & & -15 \\ 5x & = & 20 \\ \div 5 & & \div 5 \\ x & = & 4 \end{array}$$

Online clips

M554, M957

Inequalities

Component Knowledge

- Understand and use inequality notation
- Represent the solution set of an inequality on a number line
- Decide whether a number satisfies an inequality
- Form an inequality from a question and solve it

Key Vocabulary

Inequality	An inequality shows that two quantities are (may) not be equal
Less than	This is shown by the symbol $<$
Less than or equal to	This is shown by the symbol $\leq$
Greater than	This is shown by the symbol $>$
Greater than or equal to	This is shown by the symbol $\geq$
Integer	A whole number

Notation

$x > 2$ means x is greater than 2

$x < 3$ means x is less than 3

$x \geq 1$ means x is greater than or equal to 1

$x \leq 6$ means x is less than or equal to 6

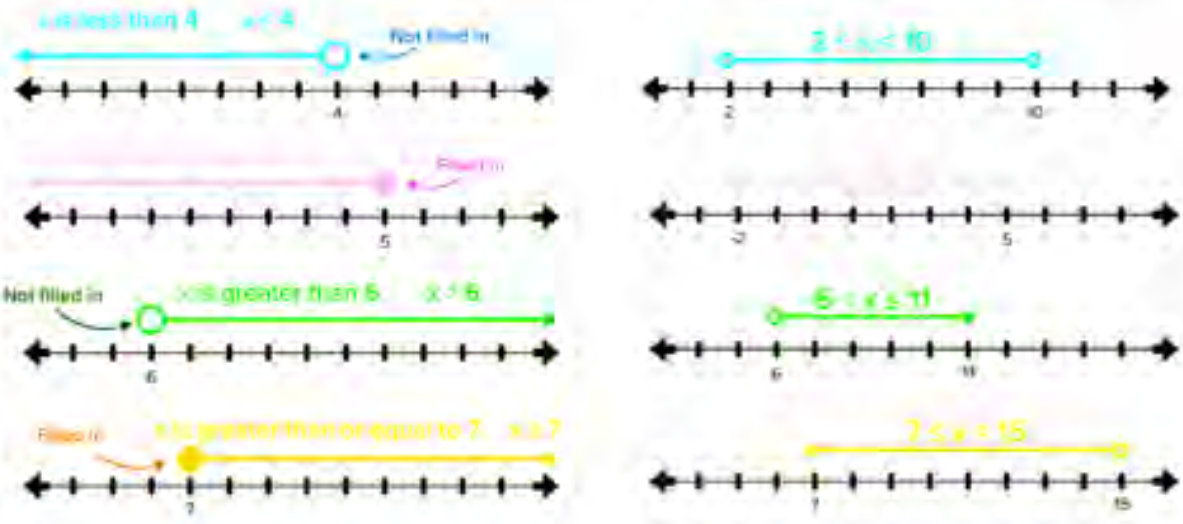
Examples:

$x \geq 1$ is **true** for $x = 6, 2.5$ and 1

$x < 5$ is **false** for $x = 10, 5.05$ and 5

The set of *integers* which **satisfy** $-2 \leq x < 3$ is $\{-2, -1, 0, 1, 2\}$

The set of numbers *satisfying* an inequality can be *represented* on a number line:



Inequalities can be **solved** by the same method as used for equations:

a) $x - 7 \leq 12$

$x - 7 \leq 12$

$+7 \quad +7$

$x \leq 19$

b) $5y > 40$

$5y > 40$

$y > 8$

c) $\frac{b}{3} \geq -2$

$\frac{b}{3} \geq -2$

$b \geq -6$

One-step solution

Inverse operation

d) $5(x - 1) < 3.5$

$5(x - 1) < 3.5$

$x - 1 < 0.7$

$x < 1.7$

e) $\frac{b}{6} + 2 \geq 1$

$\frac{b}{6} + 2 \geq 1$

$\frac{b}{6} \geq -1$

$b \geq -6$

Two-step solution

Make sure you write an inequality symbol

Online clips

M384, M118

Rearranging simple formulae

Component Knowledge

- To rearrange formulae using one inverse operation.
- To rearrange formulae using two inverse operations.

Key Vocabulary

Formula	expresses the relationship between two or more unknown values
Term	either a single number or variable, or the product of several numbers or variables
Rearrange	change the form of the equation to display it in a different way

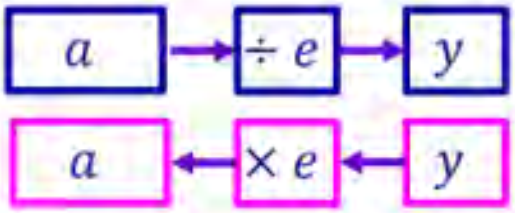
Rearranging one step equations

Make a the subject of the formula:

$$\frac{a}{e} = y$$

giving $ye = a$

We want to make a the subject, so read from the letter a.
We can draw a function machine to help us rearrange.



We can also use "tramlines" to rearrange the equation.

$$\frac{a}{e} = y$$
$$\times e \qquad \times e$$
$$a = ye$$

Further Examples:

Make x the subject (change the order of the terms so 'x' is on its own)

$x + y = c$
$x = c - y$ (−y)

The inverse of adding y to is subtracting y.

Subtract y from both sides to result in x being made the subject.

$3x = b$
$x = \frac{b}{3}$ (÷3)

The inverse of multiplying 3 by x is dividing by 3.

Divide both sides by 3 to result in x being made the subject.

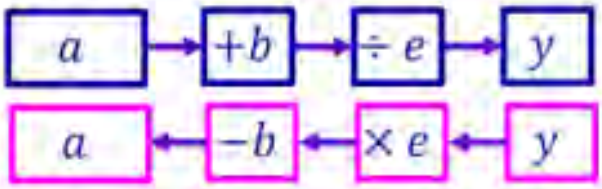
Rearranging Two step equations:

Make a the subject of the formula:

$$\frac{a+b}{e} = y$$

giving $ye - b = a$

We want to make a the subject, so read from the letter a
We can draw a function machine to help us rearrange.



We can also use "tramlines" to rearrange the equation.

$$\frac{a+b}{e} = y$$
$$\times e \quad \times e$$
$$a+b = ye$$
$$-b \quad -b$$
$$a = ye - b$$

Further Examples

Make x the subject (change the order of the terms so 'x' is on its own)

$\frac{x}{6} + 5 = w$ -5

$\frac{x}{6} = w - 5$

$x = 6(w-5)$ x 6

The first step is to do the inverse of adding 5 which is subtracting 5.

The second step is to do the inverse of dividing by 6 which is multiply by 6.

We use brackets because both the w and the -5 need to be multiplied by 6.

$x^2 - 3 = h$ +3

$x^2 = h + 3$ $\sqrt{\square}$

$x = \sqrt{h+3}$

The first step is to do the inverse of subtracting 3 which is adding 3.

The second step is to do the inverse of squaring a number which square root

Online clips

M242, M983

Substitution

Component Knowledge

- To substitute positive and negative numbers into expressions with one, or more, variables.

Key Vocabulary

Expression	A maths sentence that includes a minimum of 2 variables, including an algebraic term and at least one operation.
Term	Either a single number or variable, or the product of several numbers or variables.
Substitute	To exchange an unknown variable for a number in an expression/equation/formula.

Substitution-formula

For example: The time in minutes to cook a chicken is given by the formula:

Time = 40 minutes per kilogram plus 20 minutes

Find how long it takes to cook a 5kg chicken.

Here we substitute 5kg into the formula. **So, Time= 40 x 5 +20 = 220 minutes**

The formula for speed is shown: $Speed = \frac{Distance}{Time}$

Find the average speed when travelling 150 miles in 4 hours.

Here we substitute Distance = 150 and Time = 4 into the formula. $Speed = \frac{150}{4} = 37.5mph$

Substitution-expressions

Example 1

$f = p + 4$. find the value of f when $p = 6$.

We substitute 6 for p in the formula.

$f = (6) + 4$

$f = 10$

Example 2

$f = 2p + 4$. find the value of f when $p = -6$.

We substitute -6 for p in the formula.

$f = 2(-6) + 4$

$f = -8$

Example 3

$f = t^2$. find the value of f when $t = -6$.

We substitute -6 for t in the formula.

$f = (-6)^2$

$f = 36$

Example 4

$f = \frac{t^2}{5\gamma}$. find the value of f when $t = -6$, $\gamma = 4.2$

We substitute -6 for t and 4.2 for γ in the formula.

$f = \frac{(-6)^2}{5(2.4)}$

$f = \frac{36}{12}$

When substitute negative numbers, we must put brackets around them to ensure the correct order of operations occurs. **This very important when we use calculators.** (We can also do this with positive numbers)

From example 4. $-6^2 = -(6)^2 = -36$ is not equal to $(-6)^2 = -6 \times -6 = 36$.

Online clips: M417, M327, M208, M979

Area of trapezia & Compound shapes

Component Knowledge

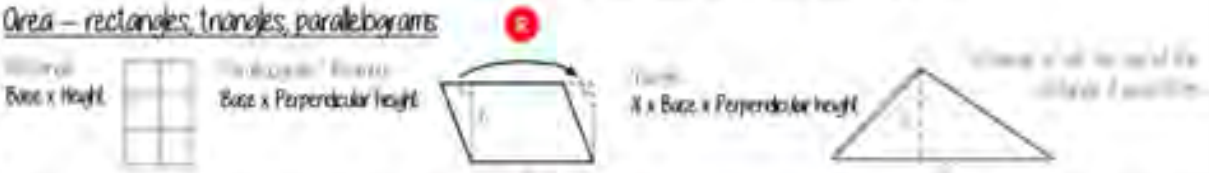
- Recall area of basic 2D shapes
- Find the area of a trapezium
- Find the area of compound shapes (excluding parts of circles)

Key Vocabulary

Area	The amount of space inside the boundary of a 2D shape
Congruent	When two shapes are identical, except one may be in a different orientation (way round)
Formula	A rule or fact written in mathematical symbols (algebra)
Perpendicular	At right angles (90°) to
Compound	Made up of more than one thing (i.e. two or more shapes 'fitted' together)
Units squared (or squared units)	Unit of area, example mm^2, cm^2, m^2

Area of rectangles, triangles & parallelograms

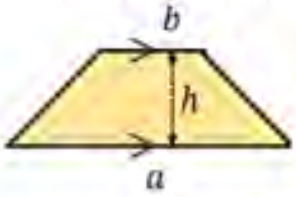
Area – rectangles, triangles, parallelograms



Area of a trapezium

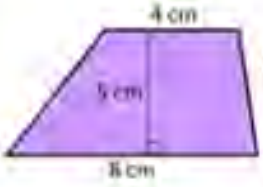
Area of a trapezium

$$\frac{(a+b)\times h}{2}$$



Why?

- Two congruent trapezium make a parallelogram
- New length (a + b) x height
- Divide by 2 to find area of one



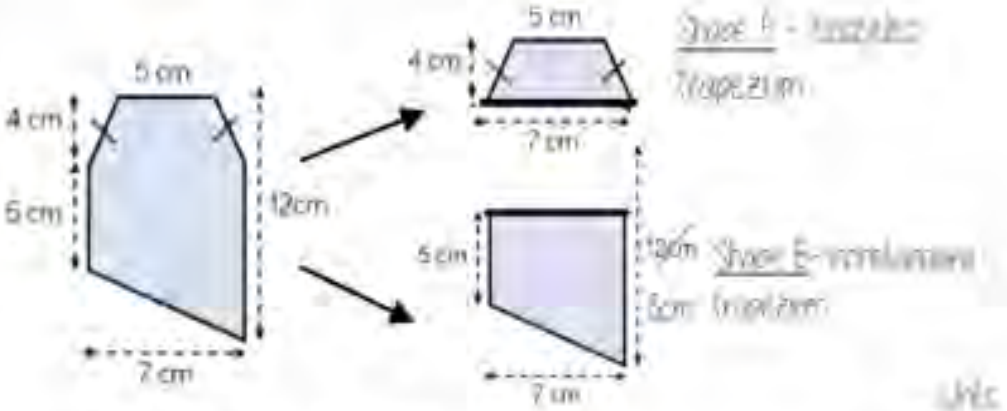
Area = 4 + 8 = 12 — Add the parallel sides

12 ÷ 2 = 6 — Divide the total by 2

6 x 5 = 30cm² — Multiply by the height

Compound shape example

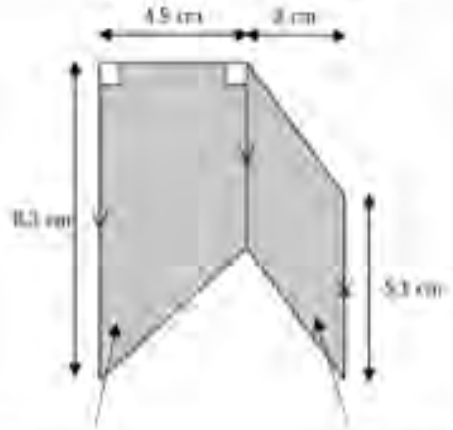
Compound shapes



Shape A + Shape B = total area

$\frac{(5+7)\times 4}{2} + \frac{(5+8)\times 7}{2} = 24 + 45.5 = 69.5\text{cm}^2$

Further example



Online clips

M705, M996, M303

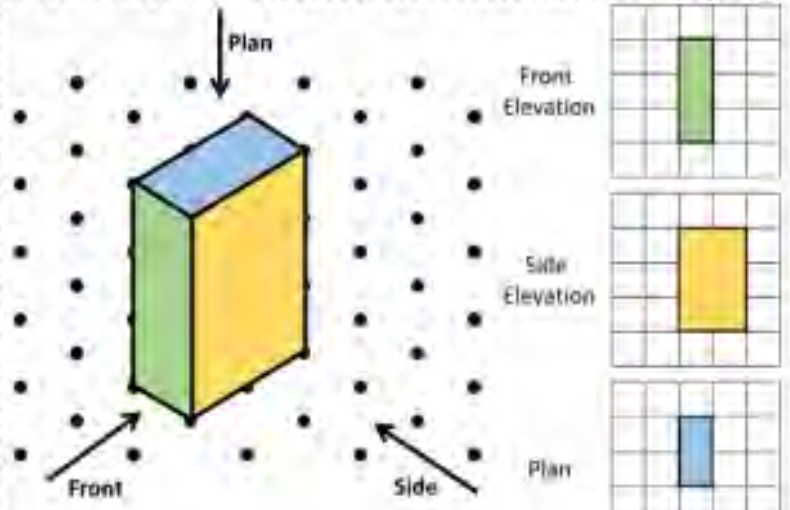
Plans and elevations

Component Knowledge

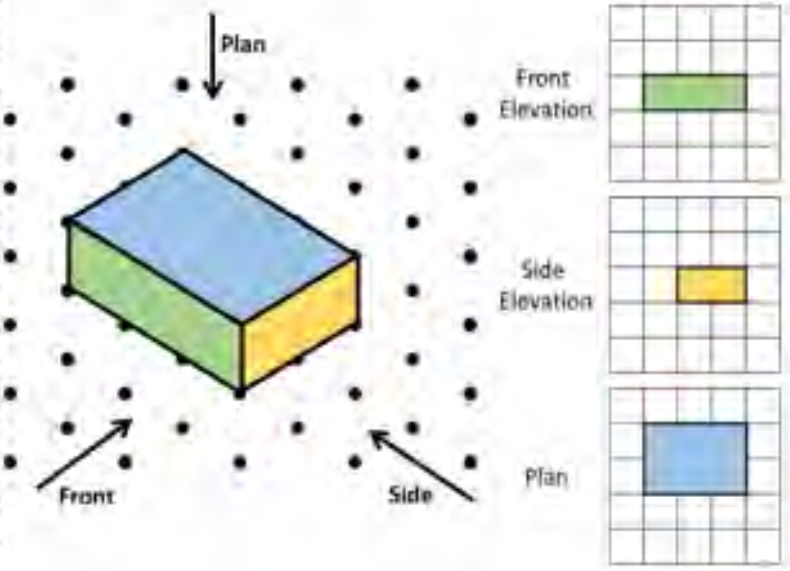
- Draw the plan of an oriented 3-dimensional shape
- Draw the front elevation (direction specified) of a 3-dimensional shape
- Draw the side elevation (direction specified) of a 3-dimensional shape

Key Vocabulary

Plan	The view of an oriented 3-dimensional shape from above
Front elevation	The view of an oriented 3-dimensional shape from a specified front direction
Side elevation	The view of an oriented 3-dimensional shape from the side



Ensure that the dimensions of the plan and the elevation are consistent with the lengths of the 3-dimensional shape.

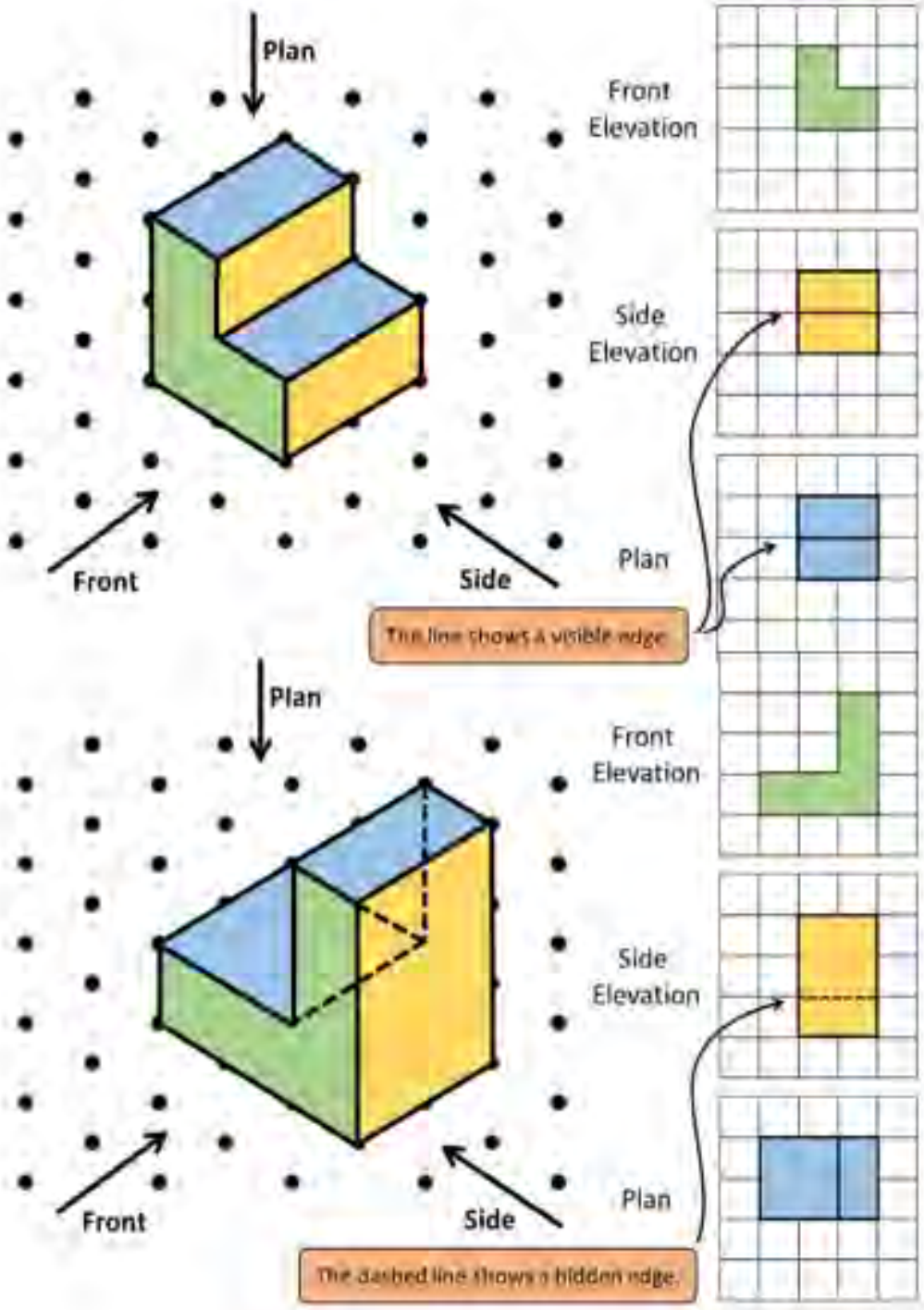


If only the front direction is specified, both the left and right-side view are acceptable as the side elevation.

(They are either the same, or mirror images)

Showing edges in plans and elevations

This provides more information about the shapes and makes it easier to identify the direction from which the plan and elevation are drawn.



Online clips

M229

Isometric Drawing

Component Knowledge

- To be able to draw a 3D shape on isometric paper

Key Vocabulary

Isometric	An isometric drawing is a drawing of a 3- dimensional shape on a two-dimensional surface. A vertical line is used as a place to start. Horizontal lines are created at 30- degree angles.
Isometric Paper	Isometric paper is paper with dots arranged in equilateral triangles.
Edge	An edge is where two faces, on a shape, come together. On 3D shapes they are the lines that separate each face.
Vertex	A vertex is a corner where edges meet.
Faces	A face is a flat or curved surface on a 3D shape.

We can draw 2D representations of 3D shapes from two different angles.

This one has a front **edge**

This one has a front **face**

We can draw cubes from this angle on isometric paper (spotty triangle paper)

We can draw cubes from this angle on square paper

To draw a single cube on the isometric paper.

Make sure you have the paper this way with the dots going down, not across

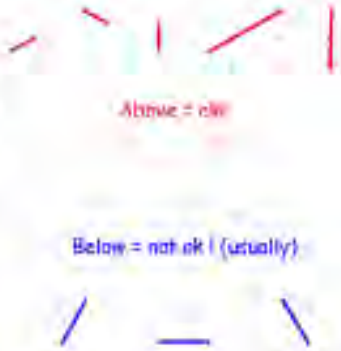
This one can never be drawn isometrically

Start by drawing just one face

Then complete the cube

When drawing objects on isometric paper, you very rarely (if ever) join dots across wider gaps

They usually join to dots directly next to them...



Online clips

hooks and riffs

Exploring Repeated Musical Patterns

A. Key Words

HOOK – A 'musical hook' is usually the 'catchy bit' of the song that you will remember. It is often short and used and repeated in different places throughout the piece. HOOKS can either be a:

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 or a

VERBAL/LYRICAL HOOK – a HOOK based on the rhyming and/or repeated words of the chorus.

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.

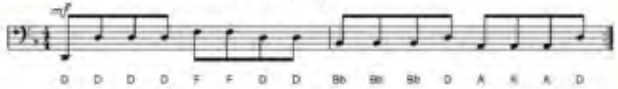
OSTINATO – A repeated musical pattern. The same meaning as the word RIFF but used when describing repeated musical patterns in "classical" and some "World" music.

BASS LINE – The lowest pitched part of the music often played on bass instruments such as the bass guitar or double bass. RIFFS are often used in BASS LINES.

MELODY – The main "tune" of a song or piece of music, played higher in pitch that the BASS LINE and it may also contain RIFFS or HOOKS. In "Classical Music", the melody line is often performed "with" an OSTINATO pattern below.

B. Famous Hooks, Riffs and Ostinatos

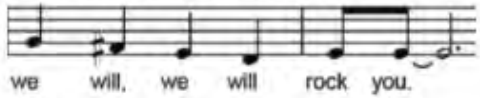
Bass Line Riff from "Sweet Dreams" – *The Eurythmics*



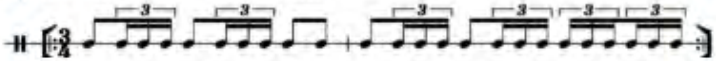
Riff from "Word Up" – *Cameo*

Rhythmic Riff from "We Will Rock You" – *Queen*

Vocal and Melodic Hook from "We Will Rock You" – *Queen*

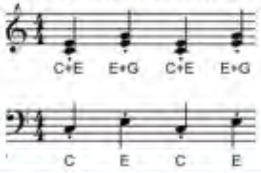


Rhythmic Ostinato from "Bolero" - *Ravel*



Bass Line Ostinato from "Habanera" from 'Carmen' - *Bizet*

Ostinato from 2nd Movement of Symphony No.101 (The Clock) - *Haydn*



C. Music Theory

REPEAT SYMBOL – A musical symbol used in staff notation consisting of two vertical dots followed by double bar lines showing the performer should go back to either the start of the piece or to the corresponding sign facing the other way and repeat that section of music.

TREBLE CLEF – A musical symbol showing that notes are to be performed at a higher pitch. Also called the G clef since it indicates that the second line up is the note G.

BASS CLEF – A musical symbol showing that notes are to be performed at a lower pitch. The BASS LINE part is often written using the BASS CLEF. Also called the F clef since it indicates that the fourth line up is the note F.

Westhoughton High School – ACTIVITY: Basketball

Passing:

Chest pass/Bounce pass:

- W shape with hands on the back of the ball
- Bring hands to chest.
- Step in push ball to partners chest or into floor for bounce pass

Shoulder pass:

- Start with the arm back behind the shoulder.
- Arm goes straight over the shoulder. Arm follows follow the path of the ball.

Overhead pass

- Two hand on the ball above your head.
- Take a step toward the teammate with your dominant foot.
- Step forward with the back foot, release the ball forward, and follow through.

Dribbling

- Keep your head up. Don't look at the ball.
- Bend knees for low centre of gravity
- Extend your arm and snap your wrists to send the ball into the ground.
- Use your fingers, not your palm, to control the ball.
- Bounce the ball to hip height and to the side of the body. That will give you more control over the ball make it harder for defenders to steal the ball.
- Use your body and your non-dribbling arm to shield the ball from defenders

Shooting:

BEEF:

- Balance- feet shoulder width apart, bend knees.
- Elbow- 90 degree angle and under ball
- Eyes- Always looking at the target (basket)
- Follow through- Shoot ball by straightening arm, wrist points downwards

Lay up:

- Dribble to the side of net.
- Place the non-shooting hand on the side of the ball, and shooting hand on top of the ball.
- The last step before the lay-up jump should ensure that take off foot is opposite to the shooting hand (left foot/right hand).
- extend the shooting knee and raise the ball up.
- Direct the wrist and fingers straight at the basket and release the ball at the highest point.

Defending

Man to Man:

- Each player marks their opposing player

Zonal:

- Each player has a zone on the court they must defence

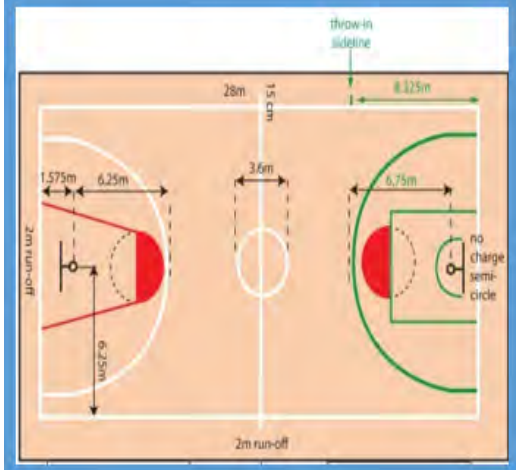
Both defence types can be done full court or half court

- Full court = applying pressure across the entire court.
- Half Court = Drop back to your own half before applying pressure.

Westhoughton High School– ACTIVITY: Basketball

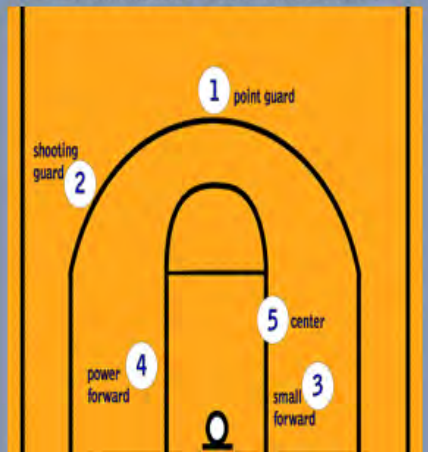
Rules:

- Each team can have a maximum of 5 players on the court at any one time
- The ball can only be moved by either dribbling (bouncing the ball) or passing the ball.
- Violations in basketball include travelling (taking more than one step without bouncing the ball), double dribble (picking the ball up dribbling, stopping then dribbling again with two hands)



Positions:

- **Point guard** direct play going forward and decide which moves the team should make.
- **Shooting guard** are the main shooter in the team but it is usually from long distance.
- **Small forward** is normally the tallest player, shooting is a large part of their game.
- **Centre** will look to score from close to the basket and also block shots and deal with rebounds
- **Power Forward** specialises on the rebounds and defence.



Scoring System:

➔Inside three-pt line

Any baskets not scored from the free throw line or from outside the three-point line will be worth two.

➔Outside the three-pt line

These baskets will be rewarded with 3 points, your feet have to be behind the 3 point line for it to count.

➔Free throw line

A free throw from the free- throw line is worth one point. It is an unchallenged shot at the basket. This is awarded after a technical foul, or a personal foul on a player in the act of shooting.

Tactics:

➔Defending tactics- Full court and half court press

➔Attacking tactics - rebounding and manipulating speed of play.

Key Words:

Chest Pass
Bounce Pass
Shoulder Pass
Intercept
Marking
Defensive Third
Centre Third
Attacking Third
Goal Circle
Net
Attacking
Defending
Centre Pass

WESTHOUGHTON HIGH SCHOOL KS3 PE KNOWLEDGE ORGANISER – ACTIVITY: FOOTBALL

Passing/ Receiving

- Head down and eye on the ball.
- Ensure that non-kicking foot is planted along side the ball.
- Side footed pass- strike the ball in the centre of the ball.
- Laces pass- strike the ball with the top of your boot to ensure ball stays along the floor.
- Chip pass- strike ball slightly under the ball to gain height.
- Follow through in the direction you want the ball to go.
- When receiving the ball, ensure head is up.
- Eye contact with the passer to receive the ball.
- On the balls of your feet.
- Check shoulder to see of any defenders

Dribbling

- Keep the ball close to your feet.
- Use the inside and outside of your foot
- Keep head up.
- Use your body to throw the defenders off balance to create space.
- Look for spaces to move the ball into.

Moving with the ball

- Big touches.
- Use the laces to knock the ball forwards so you can run onto it.
- Accelerate into the run and keep speed up

Shooting

- Lean forward when you go to kick the ball.
- Make sure your leg is fully extended.
- Lock your ankle into the kick.
- Kick the ball in the centre of the ball.

Attacking Play

- Using different tactics to beat your opponent.
- Working on attacking overloads i.e 2v1 or 3v1.
- Breaking on set plays i.e Corners or Free kicks to gain advantage.

Heading

- Use the middle of your forehead to head the ball.
- Aim for the centre of the ball.
- Attacking heading and defensive headers.

Defensive Play

- Jockeying your opponent, don't dive in and be patient.
- Force the attacker on their weaker foot.
- Be on your toes.
- Keep your eye on the ball.

Key Words:

Side foot pass
Lofted pass
Corner
Free Kick
Throw-in
Dribble
Shoot
Heading
Tackle
Jockey
Marking
Attacking
Defending
Crossing

WESTHOUGHTON HIGH SCHOOL KS3 PE KNOWLEDGE ORGANISER – ACTIVITY: FOOTBALL

Tactics:

➔ Teams attack and defend together

➔ Create width to create more space

➔ Tactics are also used in different formations and how best they suit different teams.

➔ 4-3-3, This formation is great with having the extra midfielder in the middle of the pitch which can add that overload system.

➔ 5-3-2, This formation gives more a defensive option but allows the two wing backs to push forward, giving more attacking options.

Rules:

➔ The Game is started by one team in the middle of the pitch

➔ One referee officiates the game with the help of two assistant referees

➔ Players are not allowed to use their hands or arms to control the ball unless they are the goalkeeper

➔ Usually a game consists of 45 minutes each half

➔ Depending on the level of football will depend on how many substitutes you can use

Positions:

1. Goalkeeper
2. Left Back
3. Right Back
4. Centre Back
5. Centre Defensive Midfielder
6. Centre Attacking Midfielder
7. Left Wing
8. Right Wing
9. Striker/ Number 9

- Year 7's will play 9 a side which will consist of different formations such as: 3-3-2 or 2-4-2. Year 7 will also play 30 minute games.
- Year 8-11 will be 11 a side games. 35-40 minute games.

Scoring System:

➔ To score a goal, the ball must be put over the line into the goal

➔ The team with the most goals at the end of the game wins.

➔ Incase of a cup game and both teams have scored the same, it will then go to extra time and penalties

Key Words:

Side foot pass
Lofted pass
Corner
Free Kick
Throw-in
Dribble
Shoot
Heading
Tackle
Jockey
Marking
Attacking
Defending
Crossing

WESTHOUGHTON HIGH SCHOOL KS3 PE KNOWLEDGE ORGANISER – ACTIVITY: NETBALL

Skills and Techniques:

→ Catching:
Hands form W shape behind ball. Catch at speed, catch with one hand and catch a ball at different heights

→ Passing:
Perform different types of passes selecting the right pass under pressure. Place throwing hand behind ball, move opposite foot in front of body. Full extend arm when passing, following through with pass.

→ Footwork:
Land correctly wither one foot landing or two foot landing. Pivot to send the ball in a different direction.

→ Shooting:
Ball on fingertips, use non throwing hand to steady ball. Bend knees and elbows, lifting ball up to net.

Rules:

→ Game is started by centre pass within the centre third

→ Two umpires officiate the game

→ Players are not allowed to travel with the ball

→ Players must remain within their designated zones

→ A defending player must stand three feet away from the person with the ball.

Positions:

GK - Goalkeeper
GD - Goal Defence
WD - Wing Defence

C - Centre

WA - Wing Attack
GA - Goal Attack
GS - Goal Shooter

7 players in total

Scoring System:

→ To score a goal, the ball must be put through the opposition's goal ring

→ The team with the most points at the end of the game wins.

Tactics:

→ Quick Passing
→ Dodging and changing speed to receive ball

Key Words:

Chest Pass
Bounce Pass
Shoulder Pass
Intercept
Marking
Defensive Third
Centre Third
Attacking Third
Goal Circle
Net
Attacking
Defending
Centre Pass

WESTHOUGHTON HIGH SCHOOL - PE and Sport Dance knowledge organiser

Skills and Techniques:

→ **Actions** (eg travel, turn, elevation, gesture, stillness, use of different body parts, floor work, transfer of weight)

→ **Dynamics** (eg fast/slow, sudden/sustained, strong/light, flowing/abrupt)

→ **Space** (pathways, levels, directions, size of movement, patterns, spatial design)

→ **Relationships** - lead and follow, mirroring, action and reaction,, complement and contrast, formations)

→ **Timing**

→ **Rhythm**

Choreographic devices:

→ Motif and development
→ Repetition
→ Contrast
→ Highlights
→ Climax
→ Changes in numbers of dancers
→ Unison and canon.
→ Chance Choreography

Positions and groupings:

Solo
Duet
Trio
Group

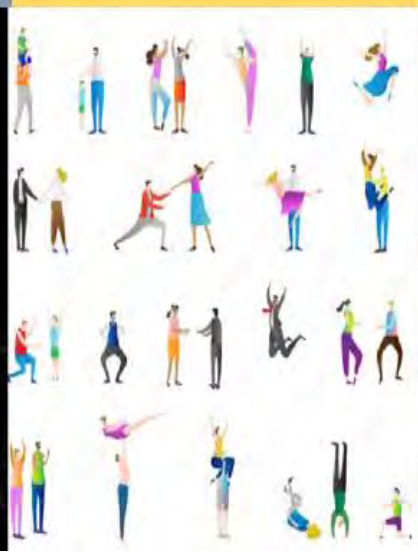
Centre stage
Upstage
Downstage
Stage Left
Stage Right
Onstage
Offstage

Performance skills:

→ Posture
→ Alignment
→ Balance
→ Coordination
→ Control
→ Flexibility
→ Mobility
→ Strength
→ Stamina
→ Extension
→ Focus

Key Words:

Choreography
Pathways
Direction
Level
Speed
Extension
Timing
Phrase
Stimulus



WARM-UP

1. Pulse Raising Activity

- Pulse raising activities gently raises the heart rate.
- E.g. Jogging, cycling, skipping.

2. Stretches

- Stretches should be dynamic (moving, not held). They prepare the muscles.
- E.g. High knees to stretch the hamstrings, heel flicks to stretch the quadriceps.

3. Skill-Based Activity

- This is the final part of the warm-up.
- This is where you familiarise yourself with the skills and actions that will be needed in the session.
- E.g. Passing the ball in rugby.

Cool down- starts with low intensity exercise such as light jogging, medium pace walking or easy cycling, anything that allows the heart rate to maintain an increased rate then gradually decrease. This is followed by stretching, which is usually more static (held) in a cool down.

Muscular system

Arms-Biceps and Triceps
Legs- Quadriceps and Hamstrings
Core-Abdominals

Year 8:Term 1: Health Knowledge Organiser

Sedentary lifestyle

A sedentary lifestyle is one with no or irregular physical activity and an excessive amount of daily sitting.

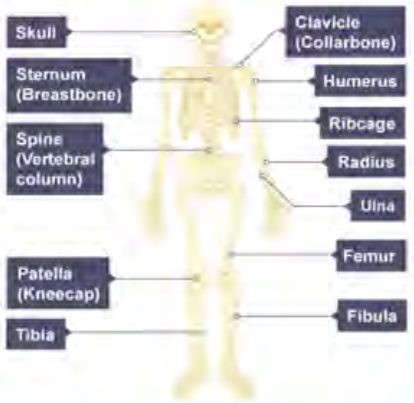
Consequences of a Sedentary lifestyle-obesity, Depression, Type 2 diabetes, Poor muscle tone, osteoporosis.

Short term effects of exercise

on HR and breathing rate =increase
Long term effect of exercise =decrease

Skeletal System

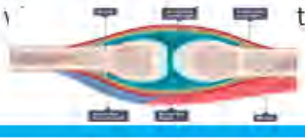
Arms-Humerus, ulna and radius
Legs-Femur, Patella, Tibia and Fibula



Key Vocabulary: Pulse raiser Sedentary. Triceps Biceps Humerus Radius. Ulna Femur Patella Tibia Fibula Abdominals

Joints

A joint is a place w t and is also called an articulation



Hinge - these can be found in the elbow, knee and ankle. They allow flexion and extension of a joint.

Ball and socket - these types of joint can be found at the shoulder and hip and allow movement in almost every direction.

Pivot - this joint can be found in the neck between the top two vertebrae. It allows only rotational movement such as moving your head from side to side as if you were saying 'no'.

Condyloid - this type of joint is found at the wrist. It allows you to flex and extend the joint and move it from side to side.

- **Short term effects of exercise**
- Cardiovascular system-Increase in stroke volume (SV); increase in heart rate (HR); increase in cardiac output (Q); increase in blood pressure (BP)
- Respiratory system-Increase in breathing rate; increase in tidal volume\
- Cardio-respiratory system-increase in oxygen uptake; increase in carbon dioxide removal
- Energy system--increase in lactate production
- Muscular system-increase in temperature of muscles; increased pliability; muscle fatigue

Long term effects of exercise

Cardiovascular system	Cardiac hypertrophy; increased stroke volume (SV); decrease in resting heart rate (HR); increase in maximum cardiac output (Q); capillarisation at the lungs and muscles; increase in number of red blood cells; increased size and strength of the heart; drop in resting blood pressure due to more elastic muscular wall of veins and arteries
Respiratory system	Increased vital capacity; increased number of functioning alveoli; increased strength of the respiratory muscles (internal and external intercostals and diaphragm); increased lung capacity and volume
Energy system	Increased production of energy from the aerobic energy system; increased tolerance to lactic acid
Muscular system	Muscle hypertrophy; increased strength of tendons; increased strength of ligaments
Skeletal system	Increase in bone density

Year 8: Term 1
Health
Knowledge Organiser

Fitness Components

Strength = The maximum force that can be generated by a muscle or muscle group.

Muscular Endurance = The ability of muscles to continually contract over a period of time against a light to moderate resistance load.

Power = The product of strength and speed.

Agility-Ability to rapidly change body direction, accelerate, or decelerate.

Cardiovascular endurance-The ability of the heart, lungs and blood to transport oxygen during sustained exercise

Fitness Test

- Strength - Hand grip dynamometer
- Maximal strength - One rep max test\
- Select the body part that is to be tested and use the weight lifting technique for that body part - for example quadriceps a leg extension, pectorals - bench press
- Cardiovascular endurance - Multi-stage fitness test
- Flexibility - Sit and reach test
- Speed - 30 metre sprint test
- Muscular endurance - 60 second press-up test
- Muscular endurance - 60 second sit-up bleep test
- Agility - Illinois agility test
- Coordination - Alternate hand wall toss test
- Reaction time - Ruler drop test
- Balance - Standing stork test
- Power - Vertical jump test

Key vocabulary: Hinge Ball and Socket. Hypertrophy. Vital Capacity. Tidal Volume Latic acid Fitness Component

KS3 Knowledge Organiser - Health

Physical Health

Impacts of poor nutrition and/or lack of exercise:

Short term:
- stress
- tiredness
- limit capacity to work

Long term:
- being overweight or obese
- tooth decay
- high blood pressure
- high cholesterol
- heart disease and stroke
- type-2 diabetes
- osteoporosis
- some cancers
- depression
- eating disorders.

The importance of sleep:
Teenagers need 8-10 hours of sleep every night.

Not enough sleep causes:
- Increased risk of obesity
- Increased risk of injury
- Increased risk of mental health issues
- Mood instability
- Forgetfulness
- Weakened immune system

Where to get more help and support:
- Parents and trusted family School Staff and Wellbeing Team
- NHS Eat Well: https://www.nhs.uk/livewell/eat-well/
- British Nutrition Foundation: https://www.nutrition.org.uk/healthyliving/lifestages/teenagers.html
- • Kids Health: https://kidshealth.org/en/teens/dieting.html

How much exercise should you do?

- Jogging or running
- Racewalking
- Hiking uphill
- Cycling more than 10 miles per hour or steeply uphill
- Swimming fast or lap swimming
- Aerobic dancing, fast dancing, step aerobics
- Heavy gardening with digging, hoeing, shoveling heavy snow, moving or pushing heavy objects, carrying loads of 50 pounds on level ground or 25 pounds or more upstairs.
- Martial arts
- Playing sports with lots of running such as basketball, hockey, soccer
- Singles tennis
- Court sports such as handball, racquetball, squash

The Eat Well Plate

Mental Health

Good mental health means:

1. You feel relatively confident in yourself and have positive self-esteem
2. You feel and express a range of emotions
3. You can build and maintaining good relationships with others
4. You engage with the world around you
5. You can live and work productively
6. You can cope with the stresses of daily life
7. You can adapt and manage in times of change and uncertainty

Take care of your mental wellbeing:

Things to Remember:
- Everyone experiences stress and anxiety at points in their lives. Only a Doctor or Mental Health Professional can diagnose Chronic Stress or an Anxiety Disorder.
- There are treatments available and coping mechanisms.
- Having a stress or anxiety disorder is not a sign of weakness and is more common than people think.

Anxiety Disorders:
- Anxiety is an evolutionary and survival mechanism which is often linked to the flight or fight response. The brain responds to a perceived threat or danger by releasing stress hormones such as adrenaline and cortisol which cause the physical symptoms of anxiety. Once the threatening situation has stopped, the body will usually return to normal. But if someone has an anxiety disorder these feelings of fear and danger can be ongoing and interrupt their daily routine long after the threat has gone. They can make them feel like things are worse than they are.
- **Symptoms can include:**
  Racing thoughts, feelings of dread, heightened alertness, problems with sleep, Changes in appetite, wanting to escape from the situation you are in, sweating, hot flushes, fast heartbeat, extreme tiredness and nausea.

Chronic stress:
- Some stress is good as it can motivate people however too much can be detrimental, especially if over a long period of time.
- **Signs and symptoms of chronic stress can include:** irritability, which can be extreme, fatigue, headaches, difficulty concentrating, rapid, disorganized thoughts, difficulty sleeping , digestive problems and changes in appetite, a perceived loss of control, frequent infections or illnesses.

Where to get more help and support:
- Parents and trusted family
- School Staff and Wellbeing Team
- GP or Practice Nurse.
- MIND - https://www.mind.org.uk Help line - 0300 123 3393 open 9am to 7pm, Monday to Friday or Text: 86463
- Young Minds - https://youngminds.org.uk Text: 85258 or Parents Helpline: 0808 802 5544
- Stem4 - https://stem4.org.uk/

KS3 Knowledge Organiser - Health

Puberty

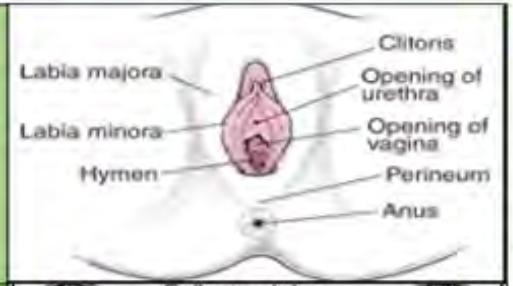
Key words:

- **Puberty:** The process of physical maturity in a person that takes place in adolescence
- **Menstruation:** Also known as a period. The process in a woman of discharging blood and other material from the lining of the uterus at intervals of about one lunar month from puberty until the menopause, except during pregnancy.
- **Hormones:** A chemical substance produced in the body that controls and regulates the activity of certain cells or organs.
- **Wet Dream:** An involuntary ejaculation that occurs whilst a person is asleep.

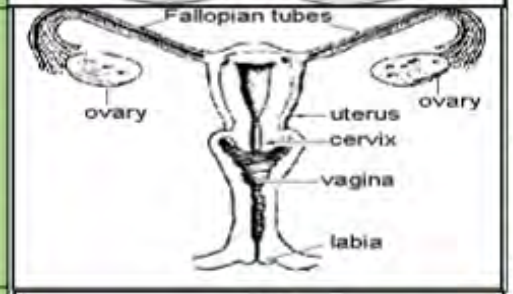
Things to Remember:

- Puberty begins at different times for different people.
- Changes will happen at different rates and in a different order for different people
- Everyone goes through puberty, you are not alone.
- A good diet and exercise can help deal with some of the physical changes.
- Puberty is normal despite feeling very abnormal.

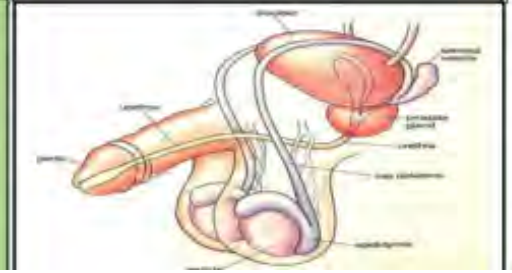
Female Genitalia – External



Female Genitalia – internal



Male Genitalia



Physical changes during puberty

Boys Only	**Starts between 10-12** • Facial hair • Voice breaking • Erections • Wet dreams • Widening of chest & shoulders
Girls Only	**Starts between 9-10** • Menstruation/periods begin • Breast growth • Stretch marks • Cellulite • Hips widen
Both	• Grow taller • Sweat more • Changes to hair and skin • Spots and pimples

Where to get more help and support:

- Parents and trusted family School Staff and Wellbeing Team
- NSPCC Helpline: 0808 800 5000 (24 hours, every day) www.nspcc.org.uk
- Childline Helpline: 0800 1111(24 hours, every day) https://www.childline.org.uk
- NHS Live Well Website www.NHS.UK/Livewell

Personal Hygiene

- **Hair:** Puberty causes the oil glands in the hair to produce more oil which can make hair more oily meaning that it needs to be washed more regularly.
- **Face:** During and after puberty people can be more prone to spots and acne. This can be managed using daily face washes. Exfoliants should be used twice weekly to remove dead skin cells.
- **Oral Care:** Brushing teeth twice a day, flossing and using a mouth wash can prevent bad breath and dental issues. Regular visits to the dentist are also important.
- **Body Odour:** Due to puberty, sweat glands not only become more active than before, but they also begin to secrete different chemicals into the sweat that has a stronger smelling odour. Daily washing is essential. Anti perspirant's will reduce the amount of sweat you produce whereas deodorants cover the smell and odour.
- **Body Hair:** Body hair in new places is something you can count on. You may want to start shaving some places where body hair grows, but whether you do is up to you. Some guys who grow facial hair like to let it develop into a moustache and beard. Some girls may decide to leave the hair on their legs and under their arms as is. It's all up to you and what you feel comfortable with.
- **Genital Hygiene Women:** The inside of the vagina never needs cleaning with the use of soap. It has a natural balance of substances that can become disturbed by washing causing any bacteria that enter to have the potential of developing into an infection. The labia should only need cleaning once a day using a mild soap and water. The area should also be cleaned following sexual intercourse. Over cleaning of the genital area can be harmful and lead to infections such as thrush.
- **Genital Hygiene Men:** The penis, scrotal area and anus, should only need cleaning once a day. No attempt should be made to try and clean the inside of the urethra; this can cause serious damage. Special care should be taken by uncircumcised men to make sure the head of the penis is cleaned. This can be done by allowing the warm water to act as a lubricant and the foreskin should be gently pulled back. Failure to clean this area properly will result in smegma collection, causing bad odours and an increased risk of infection. The area should be cleaned after sex, even if wearing a condom, to prevent bacterial build-up and unpleasant smells arising.

Menstrual Hygiene:

- Wash your hands before and after using a menstrual product.
- Change your sanitary pad or tampon every 4 hours.
- Use the lowest absorbency product needed.
- Wear breathable (cotton) clothing, especially underwear.
- Keep your genital area clean.
- Use unscented hygiene products.

KS3 Knowledge Organiser - Harm

Eating Disorders

Symptoms:

- Symptoms of eating disorders will vary between individuals and type of eating disorder. Not matching the symptoms exactly does not mean that someone does not have an eating disorder, however, some common symptoms include:
- eating very little food or eating large amounts of food in a short time in an uncontrolled way
- having very strict habits, rituals, or routines around food
- Spending a lot of time worrying about your body weight and shape
- Changes in mood
- Deliberately making yourself ill after eating
- Avoiding socialising when food may be involved
- Withdrawing from social groups, hobbies you used to enjoy or from family life
- Physical signs such as digestive problems or weight being very high or very low for someone of your age and height.

Where to get more help and support:

- Parents and trusted family or school staff and Wellbeing Team
- Your GP, Practice Nurse, or School Nurse
- Youth Access - www.youthaccess.org.uk
- The Mix - www.themix.org.uk Freephone: 0808 808 4994 (13:00-23:00
- daily)
- B-eat - www.b-eat.co.uk Helpline: 0808 801 0711 (Daily 3pm-10pm)
- Men Get Eating Disorders Too – www.mengetedstoo.co.uk
- Anorexia & Bulimia Care – www.exiabulimiacare.org.uk Helpline 03000 11 12 13 (option 1: support line, option 2: family and friends)

Self Harm

- **Self-harm** - deliberate injury to oneself, typically due to an overwhelming negative mental state.

Symptoms:

- Injuries observed on more than one occasion
- Injuries that appear too neat or ordered to be accidental Injuries on areas of the body that can be easily concealed with clothing .
- Secrecy or disappearing at times of high emotion
- Negative self-talk – feeling worthless, hopeless or aimless

Where to get more help and support:

- Parents and trusted family or school staff and Wellbeing Team
- Your GP, Practice Nurse, or School Nurse
- Ring HOPELINEUK on 0800 068 4141 or the Samaritans on 116 123
- Text SHOUT to Shout's textline on 85258
- Stem4 - Calm Harm- www.stem4.org.uk

Female Genital Mutilation

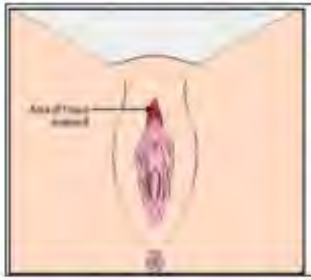
FGM: Female Genital Mutilation (FGM) comprises all procedures that involve partial or total removal of the external female genitalia, or other injury to the female genital organs for nonmedical reasons.

Why is FGM performed?

- Preservation of virginity and chastity
- Religion, in the mistaken belief that it is a religious requirement
- To ensure the girl is marriageable or to improve marriage prospect
- Belief that it increases the sexual pleasure for the male
- Mistaken belief that it enhances fertility

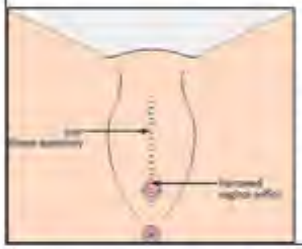
FGM and the Law:

- Over 24,000 girls under the age of 15 living in the UK are at risk of undergoing the most severe form of FGM at any one time.
- Female Genital Mutilation Act 2003 makes it illegal for FGM to be performed in the UK or anywhere in the world on UK citizens or permanent residents of any age.
- If you carry out or help in carrying out FGM or if you arrange for someone to undergo FGM you face up to 14 years in prison.
- It is also illegal to take a British national or permanent resident abroad for FGM or to help anyone trying to do this.

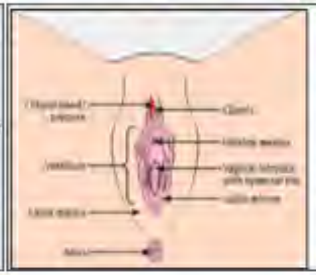


Type 1 – Clitoridectomy: partial or total removal of the clitoris and, in very rare cases, only the prepuce (the fold of skin surrounding the clitoris).

Type 2 – Excision: partial or total removal of the clitoris and the labia minora, with or without excision of the labia majora (the labia are the 'lips' that surround the vagina).



Type 3 – Infibulation: narrowing of the vaginal opening through the creation of a covering seal. The seal is formed by cutting and repositioning the inner, or outer, labia, with or without removal of the clitoris. Sometimes referred to as **Pharaonic circumcision**.



Type 4 – Other: all other harmful procedures to the female genitalia for non-medical purposes, e.g. pricking, piercing, incising, scraping and cauterising the genital area.

Where to get more help and support:

- Parents and trusted family or school staff and Wellbeing Team
- NSPCC Helpline: 0808 800 5000 (24 hours, every day) www.nspcc.org.uk
- CEOPS - https://www.ceop.police.uk/safety-centre/

KS3 Knowledge Organiser - Harm

Drug	Analgesic	Hallucinogen	Stimulant	Depressant
Caffeine			✓	
Cocaine			✓	✓
Heroin	✓			✓
Cannabis		✓		✓
Crack Cocaine			✓	
Amphetamines		✓	✓	
Ecstasy			✓	
Alcohol				✓
Inhalants		✓	✓	
Tobacco				✓
LSD		✓		
Magic Mushrooms		✓		
Steroids	✓			

Definitions:
- **Stimulant:** causes a person to feel like they have more energy.
- **Depressant:** causes a person to feel calmer or lethargic.
- **Hallucinogen**: causes a person to experience sensations that are not there. This could be visual, auditory, or physical.
- **Analgesic:** reduces the feeling of pain.

Drugs

How cannabis affects the body:
- Reduces the effectiveness of the hippocampus, this causes memory problems.
- Slows your reaction time, coordination, and reflexive responses.
- Weakens your immune system.
- Impairs judgement
- Increases heart rate and expands blood vessels (resulting in bloodshot eyes).

	Example	Sentence for Possession	Sentence for Dealing
Class A	Ecstasy, heroin, cocaine, magic mushrooms.	Up to 7 years in prison and/or an unlimited fine.	Up to life in prison and/or an unlimited fine.
Class B	Amphetamines, methylphenidate (Ritalin)	Up to 5 years in prison and /or an unlimited fine	Up to 14 years in prison and/or an unlimited fine.
Class C	Tranquilizers, Cannabis, GHB, Ketamine	Up to 2 years in prison and/or an unlimited fine.	Up to 14 years in prison and/or an unlimited fine.

Alcohol

It is against the law:
- To sell alcohol to someone under 18 anywhere.
- For an adult to buy or attempt to buy alcohol on behalf of someone under 18.
- For someone under 18 to buy alcohol, attempt to buy alcohol or to be sold alcohol.
- For someone under 18 to drink alcohol in licensed premises,
- To give children alcohol if they are under five.

Smoking & Vaping

Facts about Nicotine:
- Nicotine is both a stimulant and a depressant.
- When a body is exposed to nicotine, the individual experiences a "kick." This is partly caused by nicotine stimulating the adrenal glands, which results in the release of adrenaline

Smoking and the law:
It's illegal:
- For shops to sell you cigarettes if you are under 18
- For an adult to buy you cigarettes if you are under 18
- To smoke in all public enclosed or substantially enclosed area and workplaces.
- To smoke in a car with a child.

Facts about vaping
- Users inhale e -cigarette aerosol into their lungs. Bystanders can also breathe in this aerosol when the user exhales it into the air. E - cigarette aerosol is NOT harmless "water vapor."
- The e - cigarette aerosol that users breathe from the device and exhale contain harmful and potentially harmful substances, including:
  - Nicotine
  - Ultrafine particles that can be inhaled deep into the lungs
  - Flavouring such as diacetyl, a chemical linked to a serious lung disease
  - Volatile organic compounds C
  - Cancer-causing chemicals
  - Heavy metals such as nickel, tin, and lead

Vaping and the law:
It's illegal:
- For shops to sell you vapes if you are under 18
- For an adult to buy you vapes if you are under 18
- To vape in public areas if the property owner has banned it.
- To vape while you're driving (can result in a £2,500 fine).

Where to get more help and support:
- Parents and trusted family or school staff and Wellbeing Team
- Your GP, Practice Nurse, or School Nurse
- Drink Aware 0300 123 1110 (weekly 9am - 8pm, weekends 11am - 4pm) https://www.drinkaware.co.uk
- Al-Anon Family Group 0800 0086 811 from 10 am - 10 pm, 365 days a year https://www.al-anonuk.org.uk/
- AddAction https://www.addaction.org.uk

Year 8 Religion & Society - How Should We Live?

Unit 1: Citizenship – Crime & Justice

What do I need to know about the criminal justice system?

1.What is a crime and why do we have laws?

- A crime is when the law has been broken.
- There are two types of law, criminal law and civil law.
- Laws keep us safe and protects our basic human rights.
- Laws also keeps order in our society and avoids chaos.
- Civil is law deals with disputes about such things as contracts including marriage, land and employment.
- Criminal law deals with 3 categories of crime:
    - Crimes against property - eg theft or burglary
    - Crimes against people's health and safety - e.g. assault, robbery or drug dealing
    - Crimes against the Crown (the state or government) e.g. treason or perjury.
- Although we might not agree with every law, we are all expected to obey them all which is called 'Rule of Law'
- In the UK, laws are made by our elected MPs in Parliament.

2. ,How are criminals dealt with in the justice system?

- Police can arrest anyone suspected of committing a crime
- Anyone arrested is entitled to receive advice from a solicitor to ensure they are dealt with fairly.
- This suspect can be charged with the offence if the police feel that there is enough evidence. The police then pass the file to the Crown Prosecution Service (CPS) who decide if there is enough evidence for the case to proceed to court.
- A court then issue a summons requiring them to appear in a particular court on a certain date and at a certain time.
- The suspect then attends a Magistrates court where the Magistrate listens to the evidence and decides on the verdict and a sentence.
- More serious cases are passed onto a Crown Court where the verdict is reached by a jury although the sentencing is done by the Judge who is well trained to apply the law.

3. What powers and duties to the police have?

Some of the duties of the police include:

- •Provide a visible presence to reassure the community
- •Teach the community about the law
- •Diffuse violent situations and direct traffic
- •Respond to calls from the public and conduct arrests
- •Interview suspects or witnesses and gather crime scene
- •Gather evidence at a crime scene

The police have certain powers to do their job effectively:

- •Police can stop and search you in the street or in your vehicle if they have reasonable suspicion that you are carrying drugs, weapons, stolen goods, alcohol / tobacco if you are underage
- •Police can ask you to remove outer clothing in the street
- •Police can force you to go to the police station if arrested
- •Police can arrest you if you refuse to co-operate

4. What is the age of criminal responsibility?

- The age of criminal responsibility is the age at which the courts decide a person is responsible for their actions.
- There is much debate across the UK about what age a person knows the difference between right and wrong and should therefore stand trial in court for committing a crime.
- The age of criminal responsibility in England, Wales and Northern Ireland is 10.
- The age of criminal responsibility in Scotland is 12, as it also is in the Netherlands and Belgium.
- The age of criminal responsibility in France is 13.
- The age of criminal responsibility is 14 in Germany, Italy and Spain and 15 in Scandinavian countries such as Sweden, Denmark, Finland and Iceland.
- ***Learners know arguments for and against raising the age of criminal responsibility in the UK***

5. What is the direct and indirect impact of crime? (Case Study)

Learners can explore the direct and indirect impact of crime on individuals, groups and wider society giving examples. Learners will link this to the story of the death of James Bulger or Rhys Jones in the city of Liverpool

The James Bulger Story

James was two years old on 12 February 1993 when he was abducted from a shopping centre in Merseyside, by two boys, then known as Jon Venables and Robert Thompson. His body was found on a railway line, after he had been beaten to death. His killers were both just 10 years old. They were both jailed for life but were later released with new identities on license in 2001. Venables was sent back to prison in 2010 and 2017 for additional offences.

The Rhys Jones Story

On 22 August 2007, **Rhys Jones**, eleven, was murdered in Liverpool while walking home from football practice. Sean Mercer, aged 16 at the time of the shooting, went on trial on 2 October 2008and was found guilty of murder on 16 December. Mercer was sentenced to life imprisonment serving a minimum of 22 years. Rhys's murder was later revealed to be a result of Mercer's failed attempt to shoot one or more rival gang members from the Strand Crew who had come into Croxteth, instead missing and hitting Rhys as he walked home.

Learners can clearly identify how the crime has affected a range of victims and groups both directly and indirectly.

6. What are the risks associated with gang culture?

- County Lines – Gangs sending young people from cities into smaller towns and villages in order to sell drugs.
- Disenchantment- to be disillusioned, in this case with society, and feeling like there is no part in it for you.
- Trap House – a base used for drug operations, usually a person's home who has been bribed or threatened into it.
- Grooming - when young people are given attention, compliments, money, food or presents to build a relationship with a gang member. The young person being groomed is then made to feel like they owe something to the gang member, which is how they are recruited.
- County Lines criminal activity has a negative impact on the communities involved. It brings further violence, abuse and drugs into rural communities. By flooding the market with class A drugs, it increases social problems associated with drug use, for example anti-social behaviour and theft.
- As well as harming communities, County Lines activity has a negative impact on the individuals involved: if caught, drug dealers can face prison sentences of nine years.
- For the young people, there is also the risk of becoming a user of drugs, as well as becoming trapped in gang activity. While some young people see criminal gangs as an escape from their life of poverty and abuse, many find that they are trapped in a vicious cycle of working for violent gangs.
- If you are worried about you or someone you know being involved in County Lines; call Crimestoppers (0800 555 111)

Year 8 Religion & Society - How Should We Live?

Unit 2: Religious Education - Judaism

How might holy days remind Jews of their shared values?

1.What are rituals and why are they so important?

- A ritual is a ceremony (usually religious in nature) consisting of a series of actions performed to a set order.
- We come across rituals in every-day life, they help to give us a strong sense of belonging in our many communities.
- A strong sense of belonging is important because strong positive communities help us to develop the tools we need for life's journey and support us when we hit obstacles.
- Rituals bring communities together by helping them to:
  - Connect - e.g. Sunday Roast as a family
  - Commit - e.g. Wedding ceremony
  - Celebrate - e.g. Birthday party
  - Commemorate - e.g. Remembrance Day
- Ritual is a very important feature of religion and over the next few lessons we will explore how the many rituals of the Jewish faith brings a strong sense of community and belonging.

2. What is Judaism?

- Judaism is an ancient religion that can be traced back to 4000 years and has survived despite the many struggles faced by Jewish people in history.
- Jews believe in one eternal God who created the universe and declared a set of rules they should live by.
- These were delivered to Moses and were written down in the Torah, the first part of the Jewish scriptures.
- Jews like Charlie believe they have a special agreement with God called a Covenant where they will follow these rules and in return, they will be God's specially chosen people.
- There are many different types of Jewish people, such as more traditional Orthodox Jews and Liberal Jews
- Orthodox Jews read the Jewish scriptures more literally and are more cautious of change.
- Reform Jews read the scriptures more liberally and a more willing to adapt their faith to today's society.
- When Jews go to the synagogue, they are more likely to feel closer to God and each other in the Jewish community.

3. What is Shabbat and why is it important?

- The first story in the Bible is the creation story which says God created the world and everything in it in 6 days.
- On the 7th day God rested. Consequently, Jews have a day of rest where they stop their very busy everyday life.
- This is called Shabbat, or the Sabbath and it starts at sunset on Friday and lasts 25 hours into Sunday.
- During this time Jews are expected to refrain from doing anything that could be described as work and for the most Orthodox of Jews this includes doing anything electronic and they won't turn on the TV, lights, oven, Xbox or phone.
- This is why Shabbat can be very hard for Jews to observe, especially for young people. However, it is also a time when Jews enjoy spending time connecting with their family.
- Every week Jewish families make sure all the work is done to prepare for Shabbat so that they can enjoy it together.
- During Shabbat, several prayers are given over the bread and wine and then a meal is enjoyed together as a family and traditional Hebrew songs are sung. Coming together and sharing meals as a family is a big part of being Jewish.
- A Jew, might feel that they can make a fresh start each week after he or she has enjoyed Shabbat with the family.

4.What is a Bar/Bat Mitzvah and why is it important?

- The Bat Mitzvah for a boy and Bat Mitzvah for a boy takes place at either the age of 12 or 13 depending on what Jewish tradition you follow. Mitzvah is a Hebrew word meaning commandment from God, so becoming a Bat Mitzvah means becoming a daughter of the commandment and promising to follow God's rules.
- Therefore, this ritual is a coming- of-age ceremony where the Jewish community recognises and celebrates a boy or girl as now being a Jewish adult.
- Young Jews know that they won't become an adult by the laws of the land until they are 18, but they would be able to take on more adult roles and responsibilities in the Jewish community such as at the Synagogue.
- After the ceremony Jews will have a big party with their friends and family to celebrate their coming of age.
- Many Jews feel closer to the Jewish community after this celebration because it is where they make their own personal commitment to their faith community.
- This ceremony has similarities with the Christian Church through the idea of Confirmation (Church of England) or First Holy Communion (Roman Catholic church).

5. What is the story of Moses and the Exodus? & 6. What is Passover and why is it important?

- One of the most important Jewish events of the year is called Passover or in Hebrew, Pesach. At Passover, Jews remember the exodus of the Jewish people out of Egypt where the Israelites were in slavery for hundreds of years.
- Moses warned the Egyptian leader, the Pharaoh, that God would send terrible plagues on Egypt unless he let God's people go.
- Plague after plague struck the Egyptians, ending up with the death of all Egyptian first-born sons.
- God told Moses that if he the Israelites mark their homes with Lamb's blood they would be spared, and their homes did not have chance to rise which is why at Passover Jews only eat unleavened bread.
- Everything needs to be ready for Passover Seder, a special meal on the first night.
- Each specific piece of food on the Seder plate reminds Jews what it was like for the Hebrew Slaves in Egypt so that Jews today can experience the exodus all over again each year. For example, the charoset is a paste made from sugar, cinnamon, apple, wine and nuts which represents the mortar used by the slaves when building the pyramids. The egg and meat, reminds Jews of the offerings made to God in the holy temple in Jerusalem. Bitter herbs like horseradish help Jews to remember the bitter suffering of the slaves. Finally, the vegetable karpas (Parsley) is dipped in salt water to remember the tears of the Hebrew slaves.
- Observing this holy day and participating in this ritual helps Jews them to connect with God and each other as part of a faith community. It enables them to commemorate the suffering of their ancestors in Egypt but also celebrate God delivering his people from slavery and providing for them as his children of the commandment, his chosen people.

KS3 Cellular Respiration

Respiration is a series of chemical reactions, in cells, that breaks down glucose to provide energy and form new molecules. There are two types:

- Aerobic respiration: breaks down glucose with oxygen to release energy and producing carbon dioxide and water. It occurs in the mitochondria. The word equation for this reaction is:

  glucose + oxygen → carbon dioxide + water
- Anaerobic respiration in animals breaks down glucose without oxygen to release energy, producing lactic acid. It occurs in the cytoplasm. The word equation for this reaction is:

  glucose → lactic acid
- Anaerobic respiration in plants and microorganisms (known as fermentation): breaks down glucose without oxygen to release energy, producing ethanol and carbon dioxide. Yeast and other microorganisms expire anaerobically (fermentation). The word equation for this reaction is:

  glucose → ethanol + carbon dioxide

- Aerobic means with oxygen, anaerobic is without oxygen.
- Most living things use aerobic respiration but switch to anaerobic respiration, which provides less energy, when oxygen is unavailable.
- Aerobic occurs in the mitochondria of the cell, anaerobic occurs in the cytoplasm of the cell.
- In animals, the glucose in respiration comes from the food we eat (glucose has a store of chemical energy).
- In animals, the oxygen in aerobic respiration comes from the atmosphere around us that we breathe in.
- Substances that aren't needed in the body, such as the carbon dioxide produced in aerobic respiration, are breathed out.
- The energy released by respiration is used for all living processes, such as movement, respiration, sensitivity, growth, reproduction, excretion and nutrition.
- Plants produce their own glucose from photosynthesis that they then use for respiration. Plants are called 'producers' for this reason.
- All food chains start with plants (producers) and therefore we rely on them for us to be able to carry out essential life processes.
- The ethanol and carbon dioxide produced in anaerobic respiration in plants and microorganism (fermentation) is used for brewing and baking.

Keywords

- Respiration/Respire
- Aerobic respiration
- Anaerobic respiration
- Mitochondria
- Cytoplasm
- Energy
- Molecules
- Glucose
- Oxygen
- Atmosphere
- Fermentation
- Microorganism
- Asthma
- Smoking
- Nicotine
- Tobacco
- Gas exchange
- Drug
- Recreational
- Stimulant
- Depressant

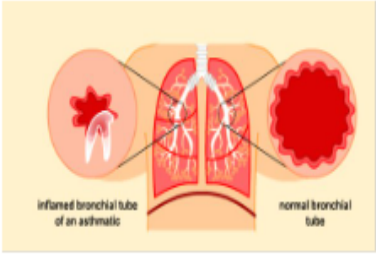
KS3 Cellular Respiration

Smoking: cigarette smoke contains over 4,000 chemicals, including approximately 69 known cancer-causing chemicals as well as over 400 other poisons.

- Smoking is very harmful to health and causes or can lead to many types of cancer including – lung, mouth, throat, voice box, bladder, bowel, cervix, kidney, liver, stomach, leukaemia, heart disease, blood pressure problems, stroke, fertility problems, serious breathing conditions and weak bones.
- The harmful substances in cigarette smoke include tar, smoke, nicotine and carbon monoxide.

- **Tar** and **smoke** causes cancer of the lungs, mouth and throat. They coat the inside of the lungs, including the alveoli, causing coughing. They damage the alveoli, making it more difficult for gas exchange to happen, which negatively impacts respiration as there is less oxygen available.
- **Nicotine** is addictive it causes a smoker to want more cigarettes. It increases the heart rate and blood pressure. It makes blood vessels narrower than normal which can lead to heart disease.
- **Carbon monoxide** takes the place of oxygen in red blood cells. This reduces the amount of oxygen that the blood can carry, again, negatively impacts respiration.
- It is illegal to smoke inside public buildings, in the workplace, on public transport such as buses, trains and planes, and in a car while carrying somebody aged 18 or under.
- An electronic, or E-cigarette is a battery-operated device that emits a vapour to inhale, which usually contains nicotine. The aim is to provide the sensation of inhaling tobacco smoke, without the smoke. When the user inhales, a small amount of liquid is heated until it becomes a vapour. People who use E-cigarettes are therefore not smoking but "Vaping".

Asthma is a common non-infectious disease that can cause breathing difficulties. During an asthma attack, the breathing (bronchial) tubes narrow.



Symptoms of **asthma** include wheezing and shortness of breath and can be treated using medication taken using an inhaler.
Risk factors for asthma include air pollution, smoking, low birth weight, having an allergy, and family history.

Drugs can be both legal and illegal.

- Medicines are drugs that people take when they are ill.
- People consume other drugs recreationally (for fun), including caffeine, nicotine and alcohol.
- Recreational drugs can be classified as depressants or stimulants.

Drugs can be categorized as depressants or stimulants. Depressants slow down thinking and reaction times. Stimulants make you feel more alert and can give you quicker thinking and reaction times.

- **Alcohol** is a legal depressant, but long-term alcohol use can damage the brain and liver.
- **Caffeine** is a legal stimulant present in some foods and drinks.
- **Cocaine** and **ecstasy** are examples of illegal stimulants used as recreational drugs.

Substance abuse can cause physical and mental health issues.

KS3 Chemical reactions

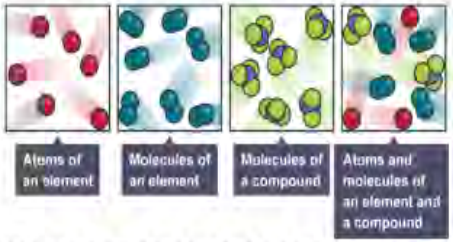
- The substances you start with in a chemical reaction are called **reactants**.
- During a chemical **reaction**, the reactant atoms have their chemical bonds broken, then re-arranged into new substances called **products**
- A **word equation** is a way of representing these changes

copper + oxygen → copper oxide

reactants products

- Any reactants are to the left of the arrow and any products are to the right of the arrow.
- The arrow shows that the reaction is not reversible
- The number of atoms at the start of a chemical reaction is the same as the number of atoms at the end.
- This is called '**conservation of mass**'

- **Element**: A pure substance made of only one kind of atom.
- **Molecule**: Two or more atoms bonded together.
- **Compound**: A substance made of two or more **different** elements chemically bonded together.



There are 4 signs that a chemical reaction is occurring:

1. A gas is released (fizzing or bubbling)
2. The temperature of the reaction changes
3. The substances change colour
4. A solid appears from a solution (precipitate)

Changes of physical state are not chemical reactions, but they are reversible this is called a **physical change**. This is because no new substances are made.

- A **balanced symbol equation** uses chemical symbols to represent a reaction.

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

- A balanced symbol equation shows:
  - The formula of each substance in the reaction
  - How the atoms are rearranged
  - The relative number of atoms of each substance.

Types of reaction

- A **decomposition** reaction is when a substance breaks down into simpler substances. Most decomposition reactions need extra heat to be applied to the reactants to occur – this is called thermal decomposition.
- **Combustion** is a type of reaction where oxygen from the air is reacted with a **fuel**.
  - The Carbon and Hydrogen atoms in the fuel are both **oxidised** to form Carbon dioxide and Water molecules.
  - Burning fossil fuels causes the release of extra Carbon dioxide into the atmosphere. This contributes to global warming and climate change

Keywords

- Atom
- Chemical bond
- Chemical change
- Combustion
- Compound
- Conserved
- Decomposition
- Element
- Fuel
- Molecule
- Oxidation
- Physical change
- Product
- Reactant
- Reaction
- Reduction
- State symbol

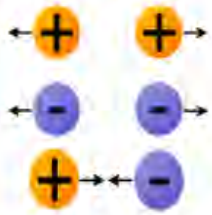
KS3 Electromagnetism: Electricity

Charges

A charged object is either positive or negative.

Opposite charges will **attract**.

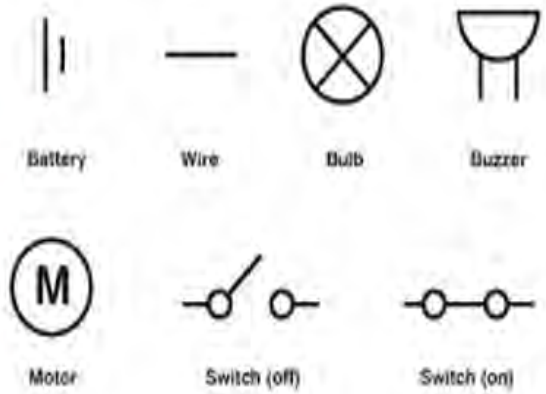
The same charges will **repel**.



Static electricity is an imbalance between negative **electrons** and positive **protons** where the charge cannot move

Earthing an object will mean the **electrons** can transfer to the ground by the path of least resistance.

Circuit Symbols



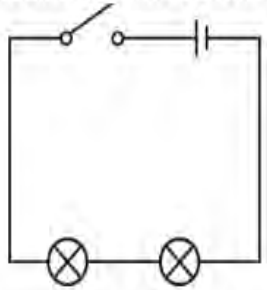
Electric Fields

An **electric field** is a region surrounding a charged object where other charged objects can experience a force.

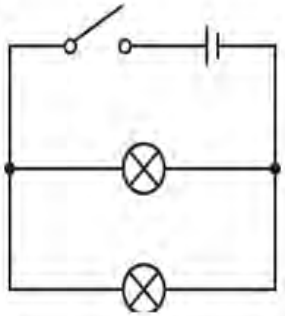
When charged objects enter the electric field, they experience a force and can repel or attract

Series and Parallel

Series circuit - A circuit where the current has only one route to flow.



Parallel circuit - A circuit with different 'branches' the current can flow through.



Keywords

- Static
- Electron
- Repulsion
- Attraction
- Non-contact force
- Electric field
- Current
- Ammeter
- Potential difference
- Voltmeter
- Series circuit
- Parallel circuit
- Resistance
- Conductor
- Insulator

KS3 Electromagnetism: Electricity

Current

Current is a flow of negative charge in a complete circuit.

An ammeter  is a device that is used to measure current. An ammeter measures current in Amperes (or Amps).

The ammeter is placed in series.

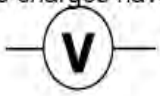
Current is constant throughout a series circuit.

Current across branches adds up to the current before and after the branches.

Potential Difference

Potential difference can also be called voltage.

Potential difference is the difference in the amount of energy that negative charges have between two points in a circuit.

A voltmeter  is a device that measures potential difference.

A voltmeter measures potential difference in Volts.

The voltmeter is placed in parallel to the two points it is measuring.

Resistance

Resistance is the opposition to the flow of current in a closed circuit.

Current will always flow the path of least resistance.

Resistance is measured in Ohms (Ω) and is produced by any device in the path of a current. For example, a lamp produces resistance.

The higher the resistance, the lower the current.

Resistance is a ratio between potential difference and current that can be represented by the formula:

$$Resistance = \frac{Potential\ Difference}{Current}$$

Resistance in objects

Electrical conductors are materials that allow electrical current to flow through easily.

Metals are good electrical conductors.

Electrical insulators are materials that do not allow electrical current to flow through easily.

Keywords

- Static
- Electron
- Repulsion
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