

Home Learning Booklet



Knowledge Goals Year 7
Half Term 1

How to self-test

Mind mapping

Mind mapping is simply a diagram to visually represent or outline information.

Use information gathered from your knowledge goals booklet to create mind maps, make sure to use colour and images, keep writing to the bare minimum.

How to mind map:



Information for parents on knowledge retrieval



Flash cards

Use your knowledge goals booklet to make flash cards. Write the questions on one side and on the other record the answer. Test yourself or work with a friend to make sure you know all the key information for each topic.

How to mind map:



How should students use the Knowledge Goals booklets?

Your Knowledge Goals booklet provide the essential knowledge that you need to learn in each subject this half term. You are **expected to spend one hour a night during the week 'learning' the content.** You will be assessed during lessons using 'low stake' quizzing. **Your teacher may choose to set you additional homework.**

How can parents support?

- Read through the organiser with your child – if you don't understand the content then ask them to explain it to you – 'teaching' you helps them to reinforce their learning.
- Test them regularly on the spellings of key words until they are perfect. Get them to make a glossary (list) of key words with definitions or a list of formulae.
- Read sections out to them, missing out key words or phrases that they have to fill in. Miss out more and more until they are word perfect.

Subject Index

Suggested Homework Schedule (1 hour of independent study per night).

To help you get organized, we have planned out your weekly home learning to cover all subjects. You may choose to create your own version:

Subject	Page No
Teir 2 Vocabulary	4
Art	6
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Week A

Day	Subject 1 (20mins)	Subject 2 (20mins)	Subject 3 (20mins)
Monday	Art	English Language	Physics
Tuesday	Biology	Technology	Maths
Wednesday	Chemistry	Spanish	Music
Thursday	Computer Science	Geography	RS
Friday	Design Technology	History	PE

Week B

Day	Subject 1 (20mins)	Subject 2 (20mins)	Subject 3 (20mins)
Monday	Drama	Personal Development	Teir 2 Vocab
Tuesday	Maths	English	Physics
Wednesday	Chemistry	English	Music
Thursday	Teir 2 Vocab	Maths	Biology
Friday			

Literacy Tier 2 Vocabulary

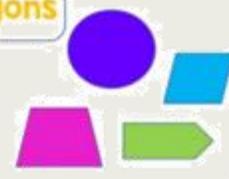
These words are all 'tier 2' words; in other words, they are seen as 'academic vocabulary' and if you know them, can understand them and use them, you will do better in your exams and be able to communicate more precisely and effectively in life.

#	Key word	Definition
1	Justify/justification	
2	Analyse	
3	Context	
4	Infer/inference	
5	Compare/comparison	
6	Imply/implication	
7	Annotate	
8	Exemplify	
9	Consequence	
10	Evaluate	

Literacy Tier 2 Frayer Model

examples

Definition	Characteristics
Examples	Non-examples

Definition	Characteristics
A shape with equal length sides and equal angles between each side. They differ from irregular polygons in that they not only cannot have unequal length sides or angles, but they can also not have curved lines.	Enclosed shape of straight sides Sides are equal length Angles are equal between the sides No curved lines Can be drawn on flat surface
Regular Polygons	
Examples 	Non-examples 

DEFINITION	CHARACTERISTICS
The multiple created when a positive integer is multiplied by the same positive integer	<ul style="list-style-type: none"> The process of creating a square number is called "squaring" and is shown using an exponent of 2 (c^2)
EXAMPLES $4 (-2^2)$ $9 (-3^2)$ $100 (=10^2)$ $484 (=22^2)$ $1 (-1^2)$ $10\,000 (=100^2)$	NON-EXAMPLES $2 (\neq 1^2)$ 10 1000 5 -4 $\%$

Square Number

Definition:	Characteristics:
A cold-blooded, air breathing animal that has scales instead of hair or feathers. There are around 6,000 species	<ul style="list-style-type: none"> - Dry, scaly skin - Reproduce by laying eggs - Cold blooded & air breathing - Backbone
Examples: Four existing orders of reptiles: Turtles, crocodiles & alligators, lizards & snakes, and tortoises.	Non-examples: - Amphibians e.g. frogs - Mammals e.g. elephants - Fish e.g. sharks

Reptiles

Definition	Characteristics/Features
A change beginning around 1750 where a greater number of goods were produced in large factories rather than in homes or small family businesses.	<ul style="list-style-type: none"> improved agricultural production increase in population and number of cities steam-driven machinery used for transport and goods production use of coal as an energy source greater availability of iron
Industrial Revolution 	
<ul style="list-style-type: none"> First mechanical reaper in 1834. Increase city size and density: London increased from 5 million in 1700 to nearly 9 million by 1800. Mass production of goods occurs: <ul style="list-style-type: none"> Britain: textile manufacture centralised to mills by 1780s USA: by 1914, the USA was producing more steel than Britain, Germany, France and Austria-Hungary combined. 	<ul style="list-style-type: none"> isolated communities with a hunter-gatherer economy people living as subsistence farmers on small plots people working fields by hand transport predominately by horse and cart
Examples	Non-Examples

Have a go at creating a Frayer Model for each of the 6 tier 2 words from this term (blank templates are at the back of the booklet for you to complete this activity).

Art

Module overview for the term

Using **portraiture** as your theme, you will create a **self-portrait using wire in class** . The skills of observation and imagination are developed through the creation of **continues line drawings**, creating a design that shows understanding of simplified forms and **sculptural work** with wire. You will develop skills in **3D modelling** techniques by manipulating wire. Students research and are inspired by the work of **Alexander Calder**

Success Criteria—what will my work be marked on?

- ⇒ Clear detail in the facial features
- ⇒ Smoothness of outer face shape
- ⇒ Tightness of wire joints
- ⇒ Interesting/creative facial expression
- ⇒ Intricacy of shapes and patterns
- ⇒ A clear visual link to the artist’s style
- ⇒ A clear visual link to your design drawing

Alexander Calder (1898-1976)



Alexander Calder facts and information

Who is he?

Alexander Calder, known to many as ‘Sandy’, was an American sculptor from Pennsylvania. He was the son of well-known sculptor Alexander Stirling Calder, and his grandfather and mother were also successful artists. Alexander Calder is known for inventing wire sculptures and the mobile, a type of kinetic art which relied on careful weighting to achieve balance and suspension in the air. Initially Calder used motors to make his works move, but soon abandoned this method and began using air currents alone



What is Calder’s favourite material ?

Calder always carried wire and pliers with him so that he could “sketch” in his favourite material. This has come to be known as ‘drawing in space’ because he would literally use the wire to create a drawing in the air.

The meaning behind his work

Calder avoided analysing his work, believing that: “theories may be all very well for the artist himself, but they shouldn’t be broadcast to other people.”

As a result this poem-like text which he wrote for the Abstraction-Création group magazine has often been taken as the closest thing to an explanation of his work:

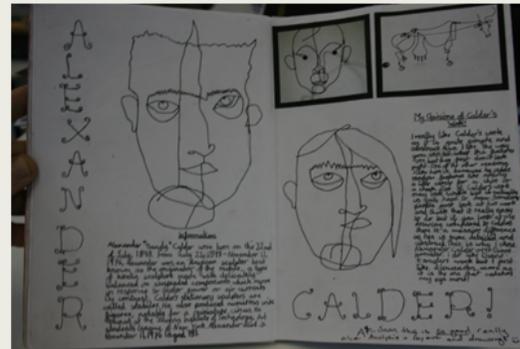
How can art be realized?

Out of volumes, motion, spaces bounded by the great space, the universe.

Out of different masses, light, heavy, middling- indicated by variations of size or colour- directional line - vectors which represent speeds, velocities, accelerations, forces, etc...-these directions making between them meaningful angles, and senses, together defining one big conclusion or many.

Key words

Bend, Shape, Manipulate, Continues, Simplify, Exaggerate, Support, Fluent, Free, Controlled, Expressionistic, Strong, Angular, Delicate, Flowing, Simple, Thick, Thin, Horizontal, Vertical, Broken, Overlapping



Task

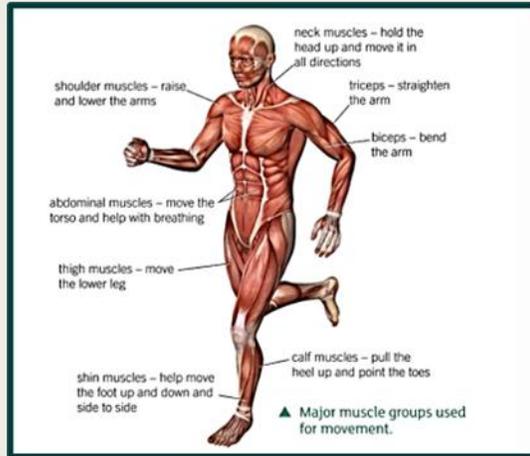
Using the information on the knowledge organiser you will be asked to create a research page on the artist Alexander Calder. This will be explained in lessons.

You need to include : a title , information on the artist, your opinion about the artists work and your own drawing of a face inspired by Calder’s style.

Knowledge Goals: Biology - Movement

Muscles in the body

Muscles are a type of tissue - lots of muscle cells work together to cause movement. Muscles can only pull - not push. By getting shorter (contract), a muscle attached to bones by tendons, which are made of connective tissue. If the bone is part of a joint, it will move.



How do muscles work to bend and straighten the arm?

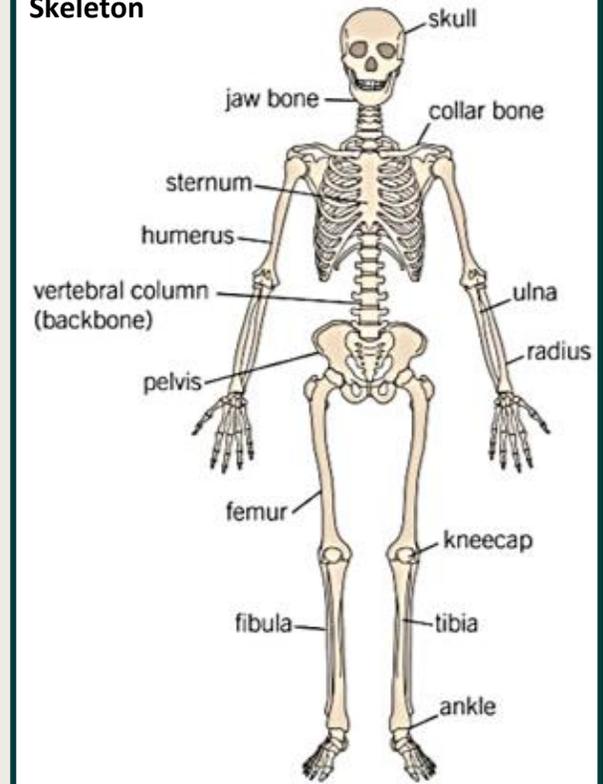
To bend the arm:

- Biceps muscle (front of the arm) contracts
- Triceps muscle relaxes
- Tendons of the biceps is attached to the radius. This allows the biceps to pull the lower arm up.

To straighten the arm:

- Biceps muscle relaxes
- Triceps muscle contracts
- Triceps pulls at the back of elbow.

Skeleton



Joints

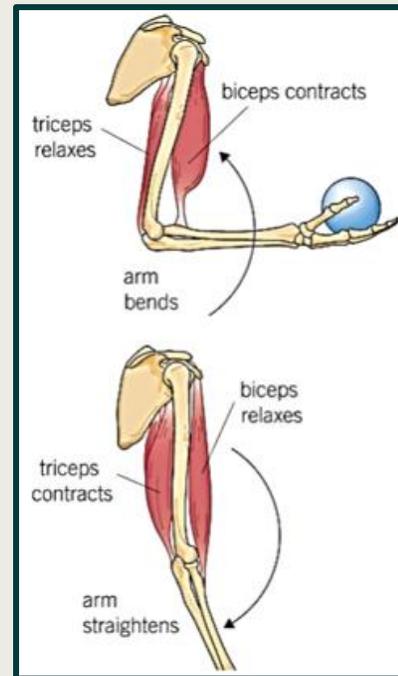
Most joints are flexible, some are joined rigidly and cannot move.

Hinge joint → movement backward & forwards (knee/elbow)

Ball & socket joint → free movement in all directions (hip/shoulder)

Fixed joint → do not allow any movement (skull)

If bones were pushed against each other, they would wear away. Joints have cartilage on their ends which stops them rubbing together. A capsule surrounds bones in a joint and contains synovial fluid. The liquid is kept slippery (reduces friction) by a liquid called synovial fluid.



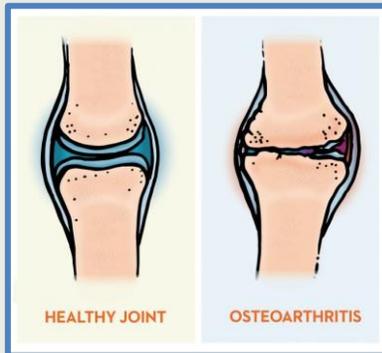
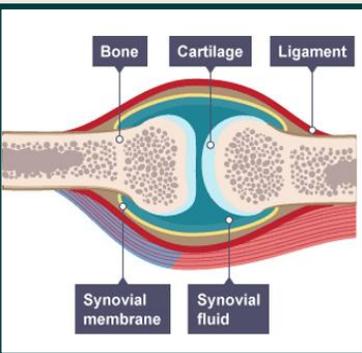
Skeleton and its function

Support → for the body and holds internal organs in place. Hard and strong bones create a framework for muscles and organs.

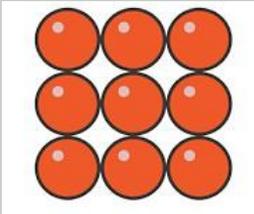
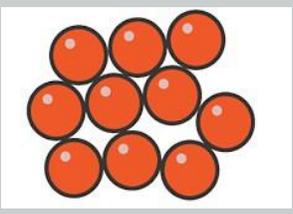
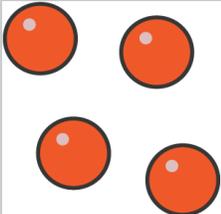
Protection → 4 vital internal organs from being damaged like skull protects brain.

Movement → when a muscle pulls on a bone. The skeleton moves at joints.

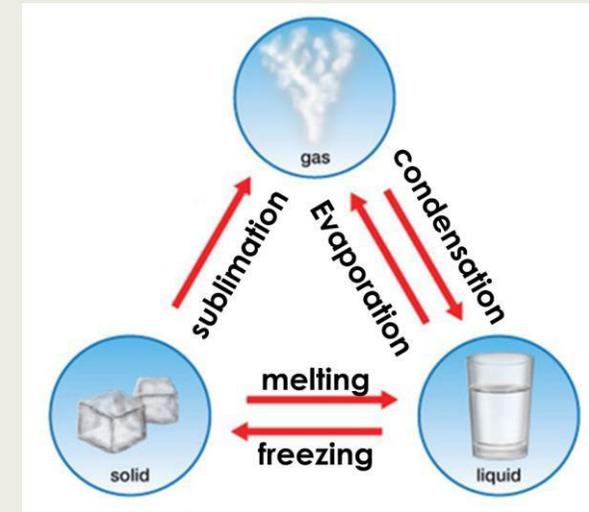
Making blood cells → bone marrow in some bones produce red blood cells and some white blood cells.



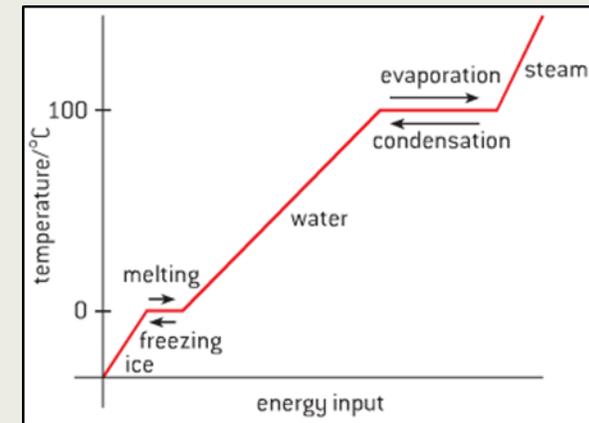
Knowledge Goals: Chemistry – Particle model

State	Solid	Liquid	Gas
Diagram			
Arrangement of particles	Regular arrangement with particles touching	Randomly arranged with particles touching	Randomly arranged with particles not touching
Movement of particles	Vibrate in a fixed position	Move around each other	Move quickly in all directions
Closeness of particles	Very close, all touching	Close, most touching	Far apart
Properties	Fixed volume Fixed shape	Fixed volume Take shape of container	Expand to fill container Take shape of container

Changes of State



As a substance is heated it gains **energy**. When the particles gain enough energy, they overcome the **forces** between them. Whilst a **change of state** is happening the **temperature** of the substance does not change.

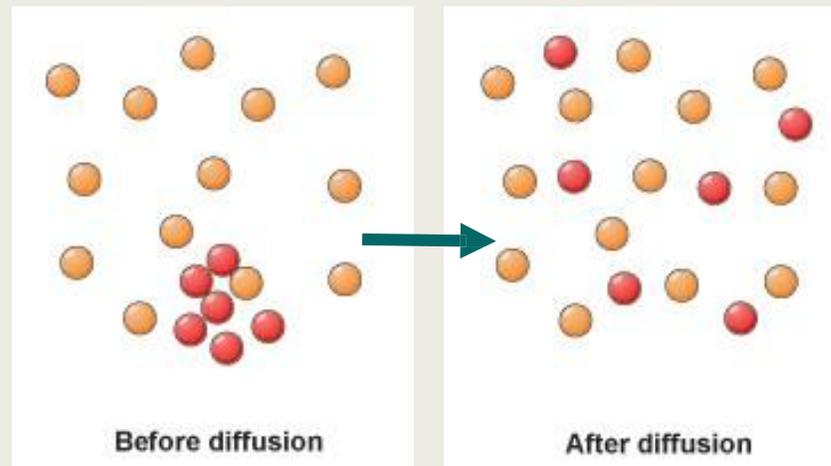


Diffusion

Particles in a liquid or a gas **spread** out from an area of **high concentration** to an area of **low concentration** until the concentrations are equal.

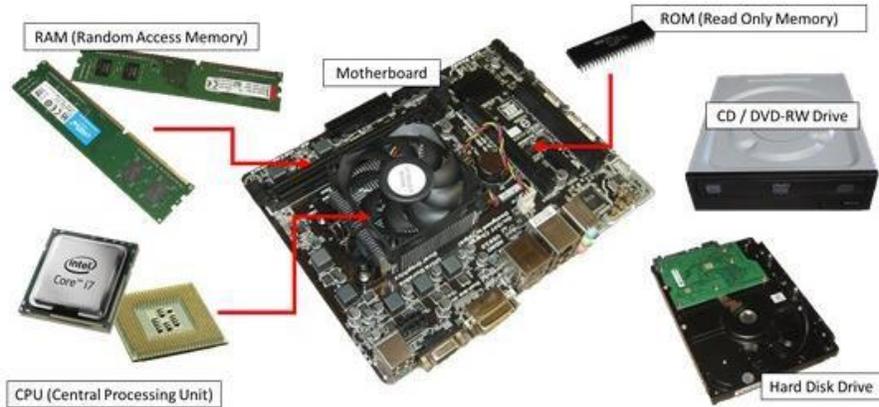
The **higher** the concentration **gradient** the **faster** the net diffusion.

The **higher** the **temperature** the **faster** the net diffusion.



Knowledge Goals: Computer Science – Introduction, what is a Computer?

Internal Components



Input Devices

Something that allows you to input data into a computer, e.g. mouse, keyboard, digital camera, scanner etc.



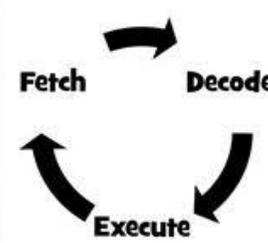
Output Devices

Something that allows you to output information from a computer, e.g. printer, monitor, speakers, headphones, etc.



CPU

This stands for **Central Processing Unit** and is often referred to as the 'brains of the computer'. Its job is to carry out instructions in a computer system.



The Fetch-Execute Cycle

- Fetch an instruction from main memory
- Decode the instruction from coding language to binary.
- Execute the instruction.

Storage

Non-volatile storage means data can be stored permanently, even when the computer is turned off.

Secondary storage

- Optical storage – e.g. Blue-Ray
- Solid state storage – e.g. Memory stick
- Magnetic storage – e.g. Hard disk drive

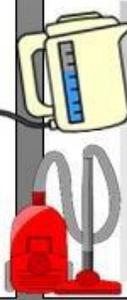


Embedded Systems

This is a computer system designed to perform only a small number of specific functions. They don't need an operating system (e.g. windows) to run. They can be found in many household devices, for example, Washing machine, vacuum cleaner, iron, microwave, etc.



Advantages	Disadvantages
Easier to design and cheaper to produce.	The software cannot be upgraded – need to be replaced.
More reliable as they only have a single task to do.	If something goes wrong with the programming, they can be difficult to fix



What is a network? A network is two or more computers (or other electronic devices) that are connected together, usually by cables or Wi-Fi. Some computer networks will have a server. A server is a powerful computer that often acts as a central hub for services in a network, e.g. emails, internet access and file storage. Each computer connected to a server is called a client





Knowledge Goals: Drama – *Introduction to Drama*

Key Skills

How to create character in performance using vocal, physical and spatial skills.

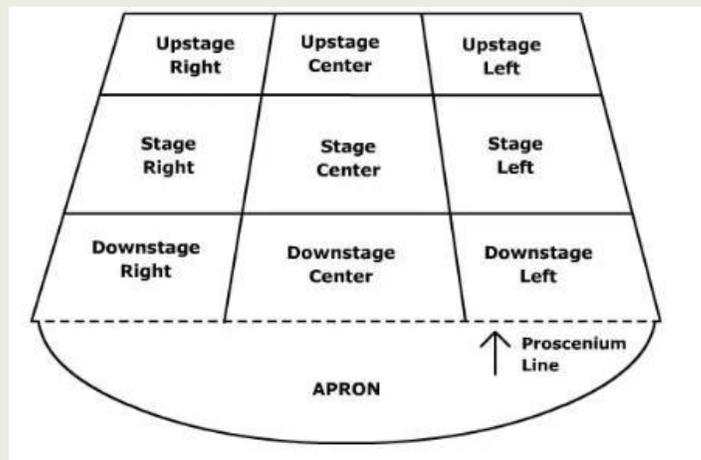
Characterisation in devising, scripted work and improvisation.

Developing ensemble skills and collaboration to scripted and devised performance work.

Performance and confidence skill development.

Narrating a story through movement, soundscape and physical theatre influences (including movement and sequence).

Our three areas of assessment:
Voice, Physicality and Use of Space



ACT I SCENE 1

Set in 1950's style diner, "McDenny's", in the present day England. BERYL is sitting at the back of a "u" shaped booth. She is tucking into a large burger and reading a gas bill

Enter LYNDA, SUSAN and RODERICK

LYNDA: *(speaking to SUSAN and ROD as they make their way over to BERYL)* ...put your back into it man, I said, use some elbow grease, don't just tickle it, I want to see my face in it... Hi Beryl...

BERYL hides the burger under the table

BERYL: Oh hi

SUSAN: *(sits at the table at the left side of BERYL)* He was doing his best.

ROD: Hi

LYNDA: I don't want to see any smear marks and don't bend the aerial or I'll stop it out of your wages.

Given Circumstances: These are the factual information that we know about a character, this could be given to us by the playwright or through analysing what other characters say about who you are playing/reading for.

Dramatic Convention and Storytelling

The first term in Drama is all about Dramatic convention, learning what the areas of the stage are and how we can tell a narrative to the audience with or without words. We develop some basic stagecraft techniques and begin to look at a practical style of theatre to ensure you can both portray a character but also develop your own ideas in response to a given stimulus (such as an image, poem, picture or piece of music). This then lays the foundation for building on these skills and developing performance work and collaborative skills.

Our main practical focus: being able to portray character and a storyline to the audience with a notable change in the actor. We also use this term to educate you how to work in a practical Drama studio space, and how to work as an ensemble to develop your creativity.



Knowledge Goals: Drama - *Introduction to Drama*

Half Term 1: Tier 3 Vocabulary

	Key word	Definition
1	Stagecraft	This is a combination of all the elements that create a performance, this includes stage positioning, rehearsals, performing, lighting, sound and blocking.
2	Physical Theatre	A style of theatre that uses movement and the body as the primary storytelling technique.
3	Ensemble	A group of actors who collaborate to create a performance, or who act as one group.
4	Devising	Creation of your own performance work in response to the stimulus.
5	Scripted	Working on a scripted extract in performance. Using knowledge of time-period and context to create character. Being able to follow stage directions.
6	Stimulus	The starting point or idea, this could be a poem, picture, piece of music, newspaper headline.
7	Characterisation	Creation/portrayal of character using vocal skills, physical skills and adapting our use of space to perform as a person different to ourselves.
8	Improvisation	Being able to react and perform in the moment alongside others with no previous rehearsal to the performance.

Key Areas of the Stage:

Stage – this is where the actors perform, it can come in different layouts.

Wings - this is space either side or behind the stage for Actors to use as entrances and exits within performance. Items of set and costume can be stored here.

Audience – these are the people that watch the performance. Their positioning can change depending on the stage layout.

Apron – A small section of stage that sticks out beyond the main stage into the audience.

Entrances/Exits - Where actors come on and go off during the performance.

Assessment: for this unit you will be assessed on a short practical performance, you will be assessed on your ability to use vocal and physical skills to demonstrate character and to perform/create your own work using your knowledge of dramatic convention/the stage.

Key Practitioners: Physical Theatre companies include DV8 and Frantic Assembly. You can discover more of their work here or through Google: <https://www.franticassembly.co.uk/>

Knowledge Goals: English Lang

TEXTS COVERED	CORE ASSESSMENT SKILLS AND WHAT STUDENTS ARE AIMING TO BE ABLE TO WRITE:
<ul style="list-style-type: none"> • First Day at School by Roald Dahl • First Day at School Poem by <u>R.McGough</u> • Sweet Shop by R Dahl • Extracts from Anne Frank's Diary <ul style="list-style-type: none"> • Chinese <u>Cinderella</u> by Adeline Yen Mah • School extract by Stephen Fry <ul style="list-style-type: none"> • Can You See Me? by Libby Scott and Rebecca Westcott • Rylan extract • Jill Scott article • Simone Biles: Working towards Success 	<p>(AV) Use ambitious vocabulary (ALT) Application of literary devices (AP): Use ambitious punctuation (SV): Vary sentence structures</p> <p>But by far the most loathsome thing about Mrs Pratchett was the filth that clung around her. Her apron was grey and greasy. Her blouse had bits of breakfast all over it, toast-crumbs and tea stains and splotches of dried egg-yolk. It was her hands, however, that disturbed us most; they were disgusting. They were black with dirt and grime. They looked as though they had been putting lumps of coal on the fire all day long. And do not forget please that it was these very hands and fingers that she plunged into the sweet jars when we asked for a pennyworth of Treacle Toffee or Wine Gums or Nut Clusters or whatever. The mere sight of her grimy right hand, with its black fingernails, digging an ounce of Chocolate Fudge out of a jar would have caused a starving tramp to go running from the shop. But not us. Sweets were our life-blood. We would have put up with far worse than that to get them. So we simply stood and watched in sullen silence while this disgusting old woman stirred around inside the jars with her foul fingers.</p>

- Home Learning Tasks:
- 1) Complete 15 minutes of reading every night, using your AR book.
 - 2) Complete the vocabulary acquisition quizzes, set on Teams every fortnight.
 - 3) Learn and review elements of autobiography using this knowledge organiser.
 - 4) Pre-read some of the extracts we will cover and look for key features of the genre.
 - 5) Read at least one text from the wider reading list!

Half a Creature From the Sea: a life in stories by David ALLMOND	Alexander the Great & His Claim to Fame (Dead Famous) by Phil ROBINS	D-Day: Lieutenant Andy Pope, Normandy 1944 by Bryan PERRETT	Roald Dahl and His Chocolate Factory (Dead Famous) by Andrew DONKIN	Wartime Princess by Valerie WILDING
The Loch Ness Monster by Catherine CHAMBERS	Count Dracula by Catherine CHAMBERS	Blitz: the diary of Edie Benson, London, 1940 – 1941 by Vince CROSS	Titanic: an Edwardian Girl's Diary 1912 by Ellen Emerson WHITE	Berlin Olympics by Vince CROSS
Andrew Flintoff: a life in pictures by Andrew FLINTOFF	Spy Smuggler: Paul Lelaud, France, 1942-1944 by Jim ELDRIDGE	Princess of Egypt: an Egyptian Girl's Diary, 1490 BC by Vince CROSS	Pompeii by Sue REID	Mill Girl by Sue REID
Desert Danger: Tim Jackson, North Africa WWII by Jim ELDRIDGE	The Hunger by Carol DRINKWATER	Henry VIII & His Chopping Block (Dead Famous) by Alan MacDONALD	Battle of Britain: a Second World War Spitfire Pilot, 1939 – 1941 by Chris PRIESTLEY	Suffragette: the diary of Dollie Baxter, London, 1909 – 1913 by Carol DRINKWATER

Knowledge Goals: Food Technology

Personal Hygiene

Good personal hygiene is vital when cooking to avoid the risk of food poisoning.

- Short Fingernails
- Hair Tied back
- Cuts covered with a BLUE plaster
- Wear clean apron
- Jewellery removed
- Wash hands before cooking, after blowing nose, visiting toilet or touching face or hair

Health and Safety

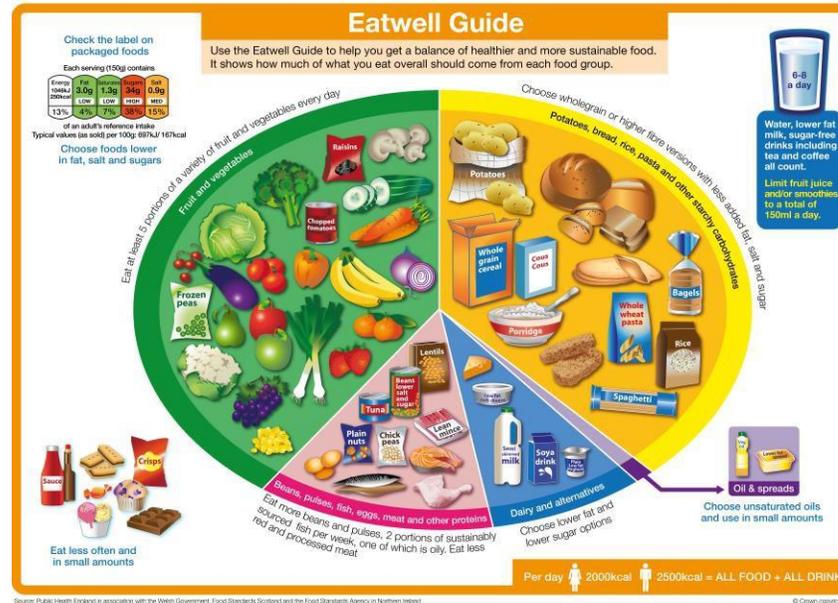
These are essential for everyone's safety

- Wash in hot soapy water
- Don't put hot food in fridge
- Turn saucepan handles when using
- Don't touch electrical appliances with wet hands
- Store high risk food in fridges
- Use oven gloves

Food Senses

taste, smell, touch, sight, hear

Eatwell Guide and the 8 government guidelines



Eight Guidelines for a Healthy Diet

The Balance of Good Health is based on the Government's Eight Tips for Eating Well:

1. Base your meals on starchy foods
2. Eat lots of fruit and veg
3. Eat more fish
4. Cut down on saturated fat and sugar
5. Try to eat less salt – no more than 6g a day
6. Get active and try to be a healthy weight
7. Drink plenty of water
8. Don't skip breakfast



© British Nutrition Foundation 2006

Colour Coded Chopping Boards

- Blue – fish
- White – bread and dairy
- Brown – root vegetables
- Red – raw meat
- Yellow – cooked meat
- Green – vegetables and salad



Knife Skills

Bridge Hold



Claw Hold



Knife pointing down

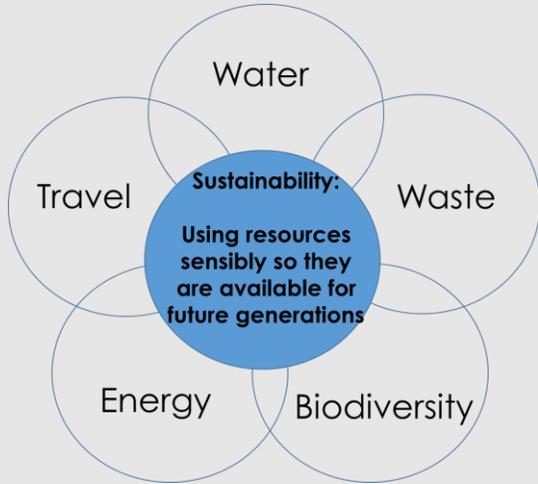




Knowledge Goals: Geography



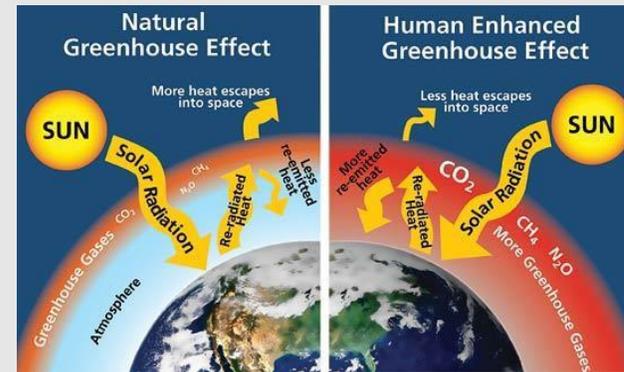
What will happen to our future world?



How is our school sustainable? How can we be more sustainable?

What is climate change and the greenhouse effect?

Climate change is a naturally occurring process where, over time, the Earth's climate changes. Sometimes it has become warmer, others it has become much colder. Our planet has a natural 'blanket' of gasses such as carbon dioxide (CO₂) which help to keep us just the right temperature. However, humans have been adding more and more CO₂ into the atmosphere through actions such as burning fossil fuels. This has been adding more and more CO₂ into the atmosphere, making our 'blanket' too good at holding the heat from the sun in, meaning we are getting warmer!



Local actions, global consequences...

Individually, the actions that each of us take to be more sustainable may seem small. If we all do them, they become big! By all making small changes, we can have a big impact. Making small we can all help to reduce our carbon footprint and help reduce the impacts of climate change on our planet and future.

What is renewable energy?

Renewable energy is energy which comes from renewable sources. Historically, most of our energy has come from burning fossil fuels (coal, oil and gas), which are a finite resource (they will run out!). We now know that this adds huge amounts of CO₂ into the atmosphere, which is increasing rate of climate change. Renewable energy comes from sources which don't produce CO₂, but are also limitless in their supply. Here are some examples of different types of renewable energy sources.

This will be a great future career as renewable energy becomes the norm!



Find out more!



How can we save energy?

There are many steps each of us can take to reduce the amount of energy which we use. This can include actions such as; using public transport, walking, buying locally produced food, flying less, using less electricity, taking shorter showers, not wasting food and recycling as much as possible. There are many more actions that can be taken on a larger scale, by large multi-national corporations and governments.

Knowledge Goals: History – Migration

								
55 BC	43 AD	60 AD	410 AD	410 – c. 625 AD	793 AD	849 AD	886 AD	1016 AD
Julius Caesar first lands in Britain	Emperor Claudius invades Britain	Boudican Revolt against Romans	Romans are recalled to Rome	Movement of Germanic tribes to Britain	Vikings ransack Lindisfarne	Birth of Alfred the Great	Danelaw established	Canute becomes King of England

Who invaded Britain?

The Romans first came to Britain with Julius Caesar in 55 BCE, but they were beaten back by the British. They came back in 54 BCE and won. They couldn't stay however, as the soldiers were needed back in Europe.

The Romans did not return to Britain until 43 AD. This time, the invasion was launched by Emperor Claudius, who set 25,000 men to invade different areas of Britain. The attack was successful and within 4 years the Romans controlled southern England. They were here until 410 AD.

The Romans had a secure grip on the southern half of Britain, and people there began to live like Romans too, building similar houses. But in Northern Britain people pushed back against the Roman Empire and the area was controlled by the military.

The Romans brought many new ideas to Britain, including: sanitation, medicine,

Who invaded Britain? Germanic Tribes

The Roman army was recalled to Europe in 410 AD. Roman Britain was then under threat from other groups who wanted to take over. Groups from modern day Scotland, Irish raiders and armies from Scandinavia all wanted some of the many riches of Britain. The people of Roman Britain were worried and sent a message to Rome asking for help. Rome said they had to protect themselves!

People from Europe began to move over, including the Jutes, Saxon and Angles. They were looking for new places to live because their land was either too wet, over populated or they wanted some new opportunities. Britain looked like a good place to go.

These tribes settled in areas near each other, and sent messages home saying it was a good place to live. More of their family and friends came to join them.

These settlement areas became the earldoms of Mercia, Wessex,

Who invaded Britain?

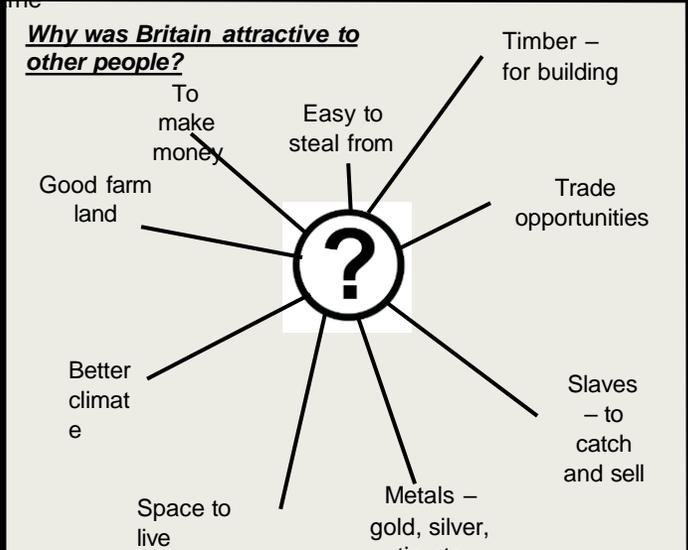
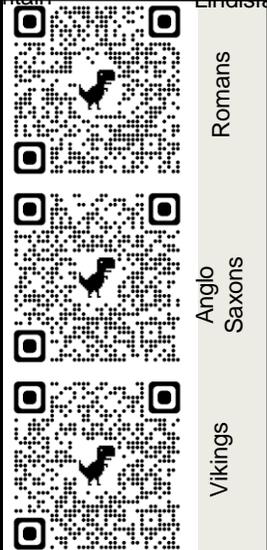
Vikings

A Viking is a job description for a Dane who was looking for things to steal in a raid. Vikings came from Scandinavia – for example Norway and Sweden.

The first big Viking raid was in 793 CE at the monastery of Lindisfarne, off the coast of Northumberland. The monks didn't stand a chance and the Vikings took all the gold and other riches, slaughtering the monks.

There were many more attacks focused on stealing, but then the Danes started to migrate to live in Britain. Norway was becoming crowded and the farm land wasn't rich as it was in Britain.

The Anglo Saxon Kings tried to pay the Danes to go away, but it didn't work! King Alfred, the famous Anglo Saxon King decided to allow the Danes to stay in



Did these different groups of people invade or migrate to Britain?

Fact File: Alfred the Great

1. He had 4 older brothers, who all ruled before him.
2. He went to Rome when he was 4 years old on pilgrimage.
3. Alfred fought lots of battles against the Vikings, winning some, losing others.
4. He believed all free-born English boys should have an education.
5. He was passionate about people learning to read.
6. It is said that while hiding from Vikings in the Norfolk fens, he hid with a poor family in disguise and burnt their cakes that he should have

Fact File: King Canute

1. He was Danish but ruled England for 20 years.
2. He conquered England in 1016 after defeating King Edmund Ironside.
3. He was also King of Denmark and Norway.
4. He was buried in Winchester Cathedral but after the Civil War his bones were scattered.
5. He probably had 2 wives! One married in Church who lived in southern England and one who was 'handfast' meaning a non religious ceremony, living in northern England.
6. His name can also be spelt Cnut.

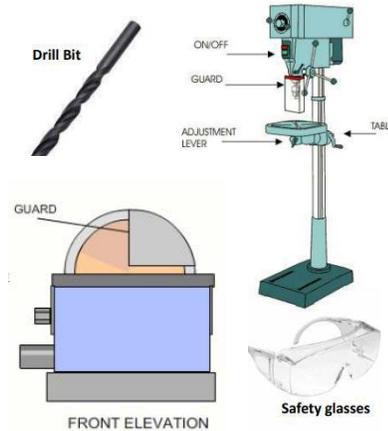
Knowledge Goals: Materials

Health and Safety

It is really important we **ASSESS** the **RISK** and **REDUCE** the **RISK** of Injury by **LISTENING** To the **TRAINING** and following the correct **PPE** usage

- Hair must be tied up in the workshop
- Blazers and ties must be removed
- Jewellery must be removed
- Only use machines you have been told to use and have been demonstrated to you
- Ensure you know where the emergency stop button is
- Do not eat or drink in the workshop
- No running

Pillar drill and disc sander



2D DESIGN

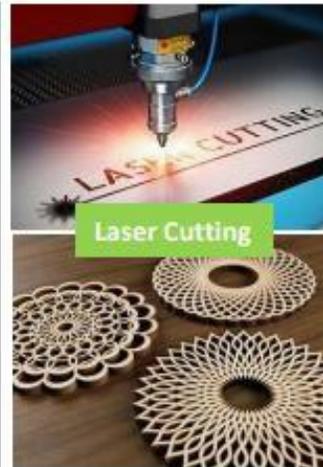
CAD: Computer Aided Design

Icon	Meaning
	Used to draw straight lines
	Used to draw freeform curves
	Used to draw circles
	Used to add text
	Click and hold for Shapes tools

CAM: Computer Aided Manufacture

Laser cutter

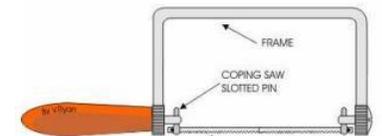
Laser cutting works by directing the output of a high-power laser. The focused laser beam is directed at the material, which then cuts the material leaving an edge with a high-quality surface finish. In school we mainly cut and engrave on Plywood and Acrylic



Saws

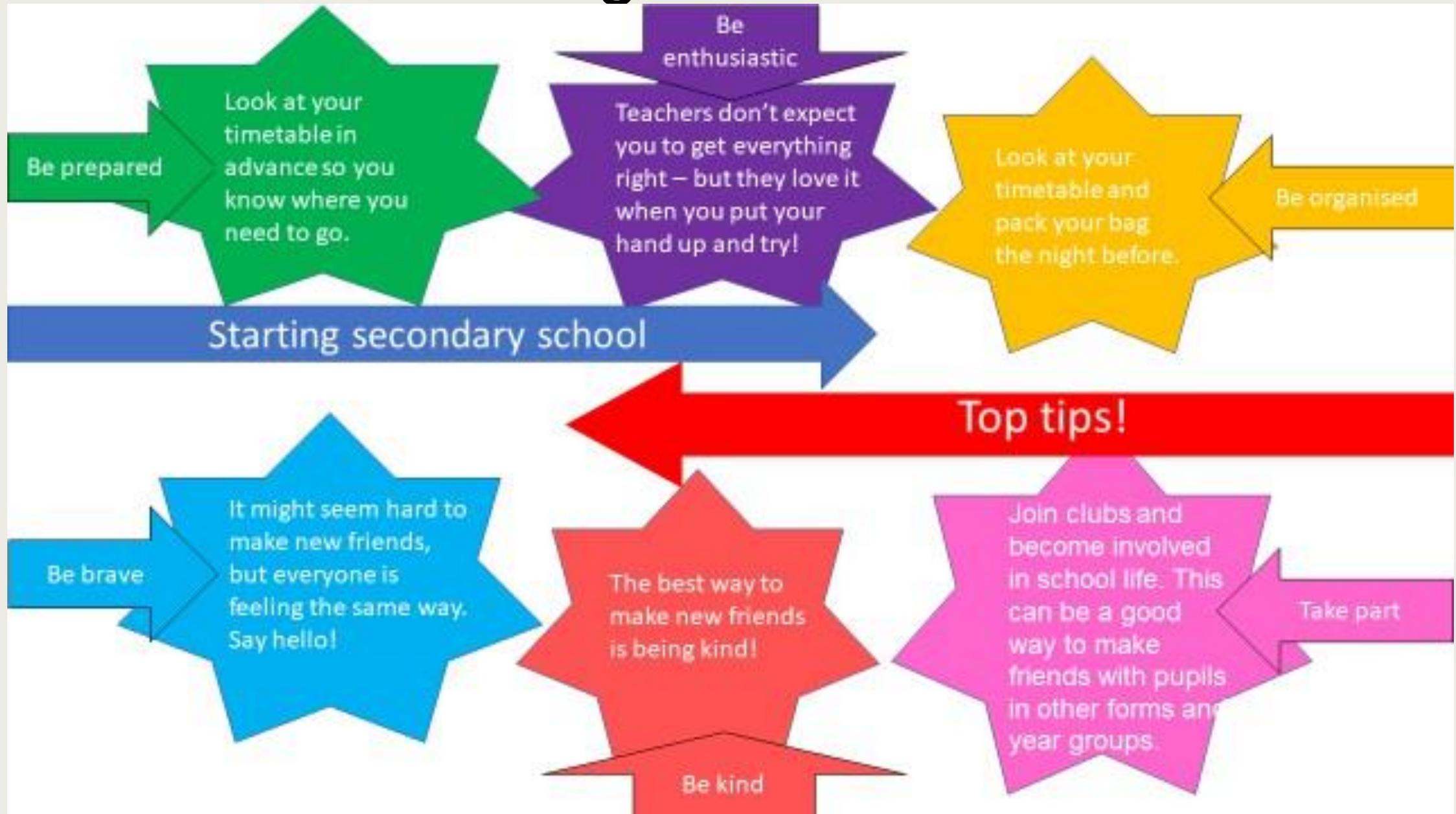
Tenon Saw
For straight lines

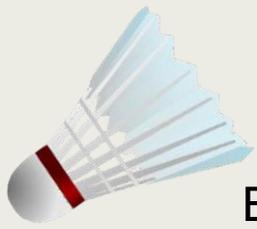
Coping Saw
For cutting curves



Softwoods	Hardwoods	Manufactured boards															
<p>Coniferous trees - Trees stay evergreen all year round.</p> <ul style="list-style-type: none"> • Coniferous trees will grow at a faster rate. • Tend to have needles rather than leaves <p><i>evergreen all year round</i></p> <p>Examples of softwoods</p> <p>PINE - used in household furniture</p> <p>CEDAR - used for outdoor furniture</p>	<p>Deciduous trees - Trees will lose their leaves in the winter.</p> <ul style="list-style-type: none"> • Hardwood trees tend to be slow growing broad leaved trees. <p><i>Summer Winter</i></p> <p>Examples of Hardwoods</p> <table border="1"> <thead> <tr> <th>Name</th> <th>Properties</th> <th>Uses</th> </tr> </thead> <tbody> <tr> <td>Beech</td> <td>Hard wearing and strong</td> <td>Fruit Bowl</td> </tr> <tr> <td>Oak</td> <td>Tough and durable</td> <td>Garden furniture</td> </tr> <tr> <td>Mahogany</td> <td>Durable and easy to work with</td> <td>Pianos and furniture</td> </tr> <tr> <td>Teak</td> <td>Strong, durable, resistant to moisture</td> <td>Boats</td> </tr> </tbody> </table>	Name	Properties	Uses	Beech	Hard wearing and strong	Fruit Bowl	Oak	Tough and durable	Garden furniture	Mahogany	Durable and easy to work with	Pianos and furniture	Teak	Strong, durable, resistant to moisture	Boats	<p>Manufacture - It means the making of goods by manual labour or by machinery.</p> <p>MDF - stands for Medium Density Fibreboard.</p> <ul style="list-style-type: none"> • a high quality board made by pulping wood fibres and then compressing them greatly. It is very smooth and stable, it cuts well and is used in high quality furniture. • Easy to work with • Stable and uniform strength <p>Plywood</p> <ul style="list-style-type: none"> • Plywood is made by gluing together thin layers of wood called veneers. Each layer has the grain going across the one below. This makes it strong flat and stable. It is used for shops, interior doors and lockers of drawers. • Veneers glued at 90 degrees • Very flat and strong • Used in toys and interior doors <p>Examples of Manufactured Boards</p> <p>Normally household items</p>
Name	Properties	Uses															
Beech	Hard wearing and strong	Fruit Bowl															
Oak	Tough and durable	Garden furniture															
Mahogany	Durable and easy to work with	Pianos and furniture															
Teak	Strong, durable, resistant to moisture	Boats															

Knowledge Goals: PDEV





Badminton

- Serving** – I am able to hold the racket using the correct grip for a forehand + backhand serve
- The Clears** – To be able to shadow the correct movement and hit the shuttle using an overhead shot, with a forehand grip
- The Drop Shot** – I can perform a mid court rally with a partner, using overhead shots
- The Smash** – I can hit the shuttle with power in a downward direction using no net
- Net Play** – I can hit the shuttle softly over the net
- Game Play** – I understand which court lines are used for singles and doubles.

Knowledge Goals: PE



Football



- Ball Control** – I can control the ball when it comes to me using my feet while not under *pressure*.
- Passing** – I can pass the ball with some accuracy using my inside foot while not under pressure over a short distance.
- Dribbling** – I can dribble with the ball with some control over a short distance.
- Defending** – I can successfully tackle an opponent in a 1v1 situation.
- Shooting** – I can shoot from close range with some accuracy using the inside of my foot.
- Game Situations** – I understand the importance of getting into space to make myself available for a teammate.

Gymnastics

- Floor** – I can perform simple movements and balances, rolls and jump movements and include these in a sequence, holding them for 5 seconds with tension.
- Jumps** – I can recognise the correct take off technique. Perform flight movements (tuck) from the bench and springboard.
- Apparatus** – I can take off a springboard or trampette with two feet and squat onto a box.
- Performance** – I can perform a 6 balance routine showing tension and extension.



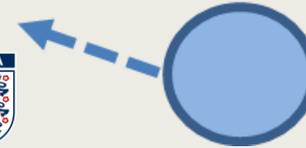
Hockey

- Ball Control** – I can identify the different parts of the stick and how to hold the stick correctly.
- Passing** – I can execute the sweep pass introducing power and speed but often make mistakes in the accuracy of the pass.
- Dribbling** – I can dribble the ball on my forehand side quickly. I can also dribble the ball in a zig zag pattern on the forehand side but sometimes lose control of the ball.
- Tackling** – I understand the rules associated with tackling.
- Game Situations** – At restarts, I can pass the ball to my own players or when receiving attempt to move to get free from defenders.



Netball

- Passing** – I am able to chest pass the ball to a partner using the correct technique. I am also able to shoulder pass to a partner with less accuracy.
- Footwork** – I can recognise which foot I am allowed to move when I have caught the ball and which one I need to keep still.
- Attacking skills** – I am able to move in to a space and catch a ball in a closed skill situation.
- Defending skills** – I am able to shadow a player in a closed skill situation.
- Games Situations** – I can identify all 7 positions on the court.



Rugby

- Evasion/Support Play** – I can run with the ball and step out of the way of a defender using a lot of space as part of a conditioned drill, working out methods to get past the defence. Demonstrating the 1st 'principle of play' – go forward.
- Passing & Catching** – I can pass the ball to a teammate whilst moving slowly forward. I can perform the pop pass whilst moving.
- Tackling/Defensive Strategies** – I can perform a side tackle from my knees or front tackle from crouching.
- Rucks & Mauls** – I can present the ball safely and correctly during contact.
- Game Play** – I can perform basic skills in a mini rugby game of 'tag' or 'touch' against players of similar standard.



Knowledge Goals: Physics - Speed

Calculating speed

- The speed of an object is worked out from how far it has travelled and how long it took.
- When you are travelling fast your speed is high. You cover a longer distance in a certain time.
- We use a formula to calculate speed.

$$\text{speed} = \text{distance} \div \text{time}$$

- The formula can be rearranged in three ways:

$$\text{speed} = \text{distance} \div \text{time}$$

$$\text{distance} = \text{speed} \times \text{time}$$

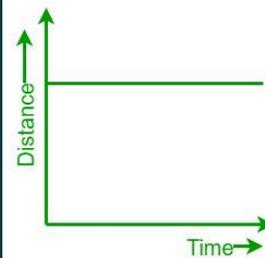
$$\text{time} = \text{distance} \div \text{speed}$$

- Speed can be measured in many units such as metres per second (m/s), miles per hour (mph), kilometres per hour (km/h).
- Speed may change during a journey. The average speed is the total journey distance divided by the total journey time.

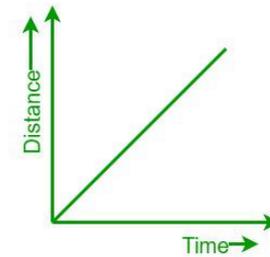
Distance	Time	Speed	Unit
40 m	60 s	$40 \div 60 = 0.67$	m/s
52 cm	640 s	$52 \div 640 = 0.08$	cm/s
20 km	2 hours	$20 \div 2 = 10$	km/hour

Distance-time graphs

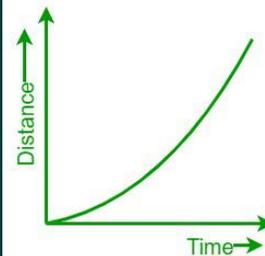
- Shows the distance that an object has travelled at different times in a journey.
- A horizontal straight line means an object is stationary (stopped).
- A straight sloped line means the object is travelling at constant speed. The steeper the line the greater the speed.
- A curved line means the object is speeding up or slowing down. When an object changes speed like this, it is called acceleration.



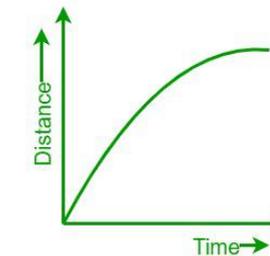
For Stationary body



(For uniform motion)



(For non-uniform motion when speed increases)



(For non-uniform motion when speed decreases)

Relative motion

- When scientists compare the movement of two objects they talk about relative motion.
- When two objects are heading towards each other, the relative speed is the sum of the speeds of the two objects.



Relative speed
add the speeds

$$30 + 25 = 55 \text{ km/h}$$

- When objects are travelling in the same direction, the relative speed is the fastest speed subtract the slowest speed.



Relative speed
fastest - slowest

$$30 - 20 = 10 \text{ mph}$$

Knowledge Goals: Maths

Unit 1 – Place Value		
Topic	Video	Resource
Ordering numbers	Watch this	Complete Q1 & 2 Check your work
Greater than and less than < >	Watch this	Complete Q3 Check your work
Multiplying & dividing decimals by 10, 100 & 1000	Watch This Multiply Watch This Divide	Multiply Worksheet Check your answers Divide Worksheet Check your answers Online Quick Practice
Round to the nearest integer, 10, 100 & 1000	Watch This 10 Watch This 100	Bitesize Activities
Round to decimal places	Watch This	Online 1dp practice Online 2dp practice

Integer Place Value

Billions			Millions			Thousands			Ones			
H	T	O	H	T	O	H	T	O	H	T	O	
			3	1	4	8	0	3	3	0	2	9

Placeholder →

Three billion, one hundred and forty eight million, thirty three thousand and twenty nine
 1 billion 1,000,000,000
 1 million 1,000,000

Intervals on a number line

0 20 40 60 80 100

Divide the difference by the number of intervals (gaps).
Eg $100 \div 5 = 20$

Rounding to the nearest power of ten

If the number is halfway between we "round up"

5495 to the nearest 1000 → 5000
 5475 to the nearest 100 → 5500
 5475 to the nearest 10 → 5480

Compare integers using <, >, =, ≠

< less than
 > greater than
 = equal to
 ≠ not equal to

Two and a half million = 2,500,000
 300,000,000 = Three billion
 Six thousand and eighty = 6,080

Range

Spread of the values
 Difference between the biggest and smallest

3 9 8 12
 Range: Biggest value - Smallest value
 $12 - 3 = 9$
 Range = 9

Median

The middle value

Example 1: Median: put the in order 3 4 8 9 12
 4 3 9 8 12 find the middle number 3 4 **8** 9 12

Example 2: Median: put the in order
 150 154 148 137 148 150 154 158 160
 137 160 158 There are 2 middle numbers
 Find the midpoint: $\frac{150 + 154}{2} = 152$

Decimals

We say "nought point five two"

Five tenths and two hundredths
 $0 + 0.1 + 0.1 + 0.1 + 0.1 + 0.01 + 0.01$
 $= 0 + 0.5 + 0.02$
 $= 0.52$

Comparing decimals

Which the largest of 0.3 and 0.23?

0.3 > 0.23
 "There are more counters in the furthest column to the left"

0.30 } Comparing the values both with the same number of decimal places is another way to compare the number of tenths and hundredths.
 0.23 }

Decimal intervals on a number line

One whole split into 10 parts makes tenths = 0.1
 One tenth split into 10 parts makes hundredths = 0.01

0 0.1 0.2 0.3 0.4 0.5 0.6 0.7 0.8 0.9 1

0 0.02 0.04 0.06 0.08 0.1

Round to 1 significant figure

370 to 1 significant figure is 400
 37 to 1 significant figure is 40
 3.7 to 1 significant figure is 4
 0.37 to 1 significant figure is 0.4
 0.00000037 to 1 significant figure is 0.0000004

Round to the first non zero number

Knowledge Goals: Maths

Unit 2 – Number Properties		
Topic	Video	Resource
Listing factors	Watch this	Complete this Check your work
Listing multiples	Watch this	Complete this Check your work
Finding HCF	Watch this	Complete this Check your work
Finding LCM	Watch this	Complete this Check your work
Prime numbers	Watch this	Complete this Check your work
Powers and roots	Watch this	Complete this Check your work

Square and triangular numbers

Square numbers
 Representations are useful to understand a square number n^2
 odd even odd
 1, 4, 9, 16, 25, 36, 49, 64 ...

Triangular numbers
 Representations are useful – an extra counter is added to each new row
 Add two consecutive triangular numbers and get a square number
 1, 3, 6, 10, 15, 21, 28, 36, 45...

Common factors and HCF

Common factors are factors two or more numbers share
HCF – Highest common factor
 HCF of 18 and 30
 18: 1, 2, 3, 6, 9, 18
 30: 1, 2, 3, 5, 6, 10, 15, 30
 Common factors (factors of both numbers): 1, 2, 3, 6
HCF = 6
 6 is the biggest factor they share

Common multiples and LCM

Common multiples are multiples two or more numbers share
LCM – Lowest common multiple
 LCM of 9 and 12
 9: 9, 18, 27, 36, 45, 54
 12: 12, 24, 36, 48, 60
 LCM = 36 (The first time their multiples match)

Comparing fractions
 Compare fractions using a LCM denominator
 $\frac{3}{5}$ and $\frac{2}{10}$ → $\frac{6}{10}$ and $\frac{2}{10}$

Product of prime factors

Multiplication part-whole models

All three prime factor trees represent the same decomposition
 Multiplication is commutative
 $30 = 2 \times 3 \times 5$
 Multiplication of prime factors

Conjectures and counterexamples

Conjecture
 1, 2, 4, ...
 The numbers in the sequence are doubling each time.
 A pattern that is noticed for many cases

Counterexamples
 This sequence isn't doubling it is adding 2 each time
 Only **one** counterexample is needed to disprove a conjecture

Using prime factors for predictions

eg 60: 30×2 or $2 \times 3 \times 5 \times 2$
 150: 30×5 or $2 \times 3 \times 5 \times 5$

Multiples

The "times table" of a given number
 All the numbers in this lists below are multiples of 3
 3, 6, 9, 12, 15...
 3x, 6x, 9x ...
 This list continues and doesn't end
 Non example of a multiple: 45 is not a multiple of 3 because it is 3 x 15 (Not an integer)

Factors

Arrays can help represent factors
 Factors of 10: 1, 2, 5, 10
 5 x 2 or 2 x 5
 The number itself is always a factor
 Factors of 6x: 6, x, 1, 6x, 2x, 3, 3x, 2
 6x x 1 OR 6 x x
 2x x 3 3x x 2

Prime numbers

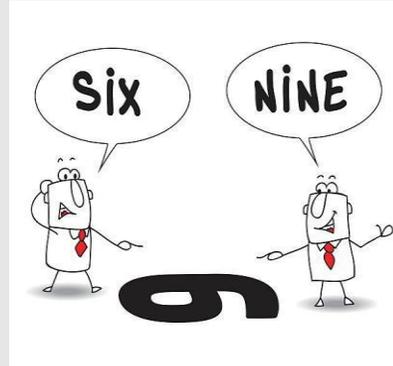
2
 The first prime number
 The only even prime number
 Learn or how-to quick recall...
 2, 3, 5, 7, 11, 13, 17, 19, 23, 29...

Knowledge Goals: Philosophy, Religion & Ethics

PRE and ME

Different ways of seeing

Everybody sees the same things in the world but we perceive the things we see differently. People who believe in different religions have different ideas about the world. In PRE we do not tell people what to see or what to think. We are respectful of different opinions and different views.



What is PRE

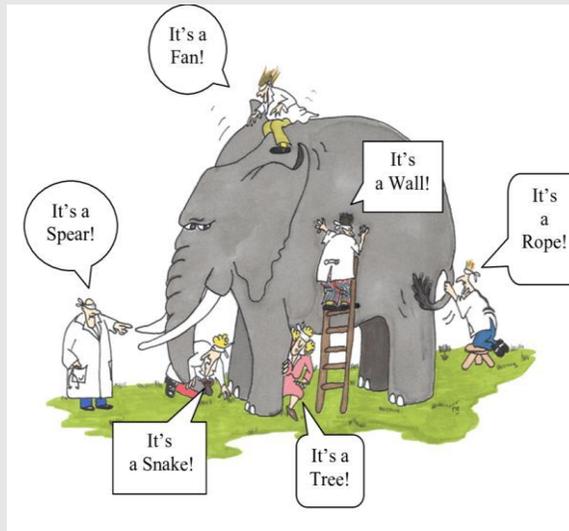
PRE stands for religion, philosophy and ethics. Over the next three years you will study plenty of religions and worldviews including Christianity, Buddhism, Judaism, Humanism and Islam. You will also get the opportunity to explore philosophical questions and explore big questions about our purpose and existence, whether God exists and whether there is life after death. We also look at ethical issues ranging across a whole variety of subjects from animal testing to capital punishment where you will have the opportunity to explore your views and form well thought out opinions.

Why is it important to learn about other beliefs?

About 85% of the world's people identify with a religion so PRE is a fantastic opportunity to understand the world we live in a little better. Have a look at these statistics below to see just how significant it is across the world.

- Christianity - 2.38 billion
- Islam - 1.91 billion
- Hinduism - 1.16 billion
- Buddhism - 507 million
- Folk Religions - 430 million
- Other Religions - 61 million
- Judaism - 14.6 million
- Atheist - 1.19 billion

Learning both about and from religion helps us to become more tolerant and more informed in how other people live their lives and what might impact upon their world view.



Find out more!



Why study PRE?

There are loads of excellent reasons to study PRE, here are a few. What other reasons can you think of?

- It is really interesting
- You get to have debates and discussions
- It helps you to form opinions on big topics and questions
- You can learn to see things from other people's points of view

Knowledge Goals: Spanish

Estrategia



Here are five simple steps to help you learn any word:

- LOOK** Look carefully at the word for 10 seconds or more.
- SAY** Practise saying the word to yourself – remember that some letters are pronounced differently in Spanish.
- COVER** Cover up the word, but only when you think you know it.
- WRITE** Write the word out from memory.
- CHECK** Did you write it correctly? If not, what did you get wrong? Repeat the five steps until you get it right – and try not to make the same mistake again.

Tú y yo

¿Cómo te llamas?

Me llamo Juan.

¿Dónde vives?

Vivo en Madrid.

¿Qué tal?

¿Cómo estás?

Bien, gracias.

fenomenal

regular

fatal

¿Y tú?

¿Cuántos años tienes?

Tengo 13 años.

¿Cuándo es tu cumpleaños?

Mi cumpleaños es el

uno de enero.

¡Feliz cumpleaños!

You and me

What are you called?

I'm called Juan.

Where do you live?

I live in Madrid.

How are you?

How are you?

Fine, thanks.

great

not bad

awful

And you?

How old are you?

I'm 13 years old.

When is your

birthday?

My birthday is

1st January.

Happy birthday!

Saludos

¡Hola!

¡Buenos días!

¡Buenas tardes!

¡Buenas noches!

¡Adiós!

¡Hasta luego!

Greetings

Hello!

Good morning!

Good afternoon!

Good evening!

Goodbye!

See you later!

Los meses

enero

febrero

marzo

abril

mayo

junio

julio

agosto

septiembre

octubre

noviembre

diciembre

¿Cuál es la fecha
de hoy?

Es el uno de agosto.

Es el dos de mayo.

The months

January

February

March

April

May

June

July

August

September

October

November

December

What date is it today?

It's 1st August.

It's 2nd May.

Palabras muy útiles

sí

no

y

pero

también

tengo

necesito

hay

Very useful words

yes

no

and

but

also

I have

I need

there is/are

Los números

cero

uno

dos

tres

cuatro

cinco

seis

siete

ocho

nueve

diez

once

doce

trece

catorce

quince

dieciséis

diecisiete

dieciocho

diecinueve

veinte

veintiuno

veintidós

veintitrés

veinticuatro

veinticinco

veintiséis

veintisiete

veintiocho

veintinueve

treinta

treinta y uno

Numbers

0

1

2

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

25

26

27

28

29

30

31

En clase

¿Cómo se escribe ... ?

Se escribe ...

Tengo ...

No tengo ...

¿No tienes ... ?

Necesito ...

¿Qué hay en la clase?

Hay ...

No hay ...

In the classroom

How do you spell ... ?

You spell it ...

I have ...

I don't have ...

Don't you have ... ?

I need ...

What is there in the
classroom?

There is/are ...

There isn't/There
aren't ...

En mi mochila

un bolígrafo/boli

un cuaderno

un libro

un monedero

un diccionario

un lápiz

un estuche

un móvil

un sacapuntas

una agenda

una calculadora

una goma

una mochila

una regla

In my schoolbag

a pen

an exercise book

a textbook

a purse

a dictionary

a pencil

a pencil case

a mobile phone

a pencil sharpener

a diary

a calculator

a rubber

a schoolbag

a ruler

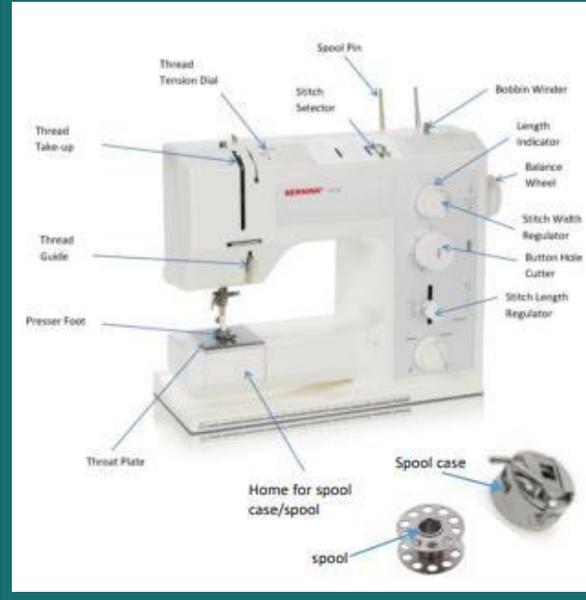
Knowledge Goals: Textiles

Health and Safety

It is really important we **ASSESS** the **RISK** and **REDUCE** the **RISK** of Injury by **LISTENING** To the **TRAINING** and following the correct **PPE** usage

- You must walk with scissors facing downwards next to your side
- Watch where you are sewing on the machine
- Do not press the foot pedal to the floor when using the sewing machine
- Make sure you had in Bodkin needles at the end of the lessons
- If the sewing machine makes an unusual noise, please stop using it and inform teacher

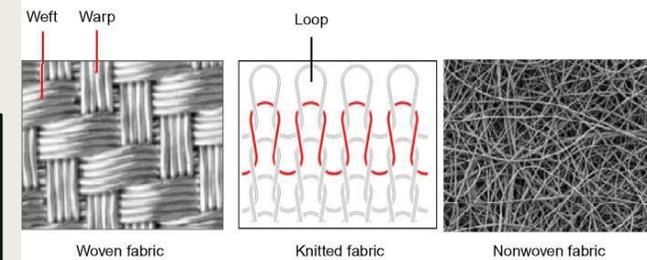
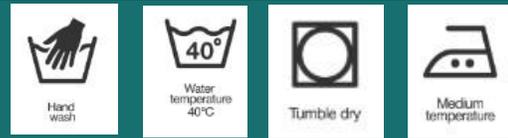
Parts of a Sewing Machine



Smart and modern materials

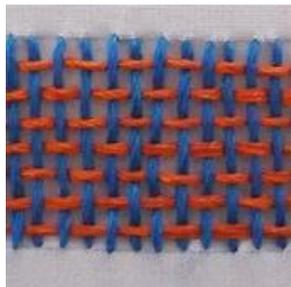
 Biodegradable Ink	 Aroma Pigments	 Sign in Daylight
 Hydrochromic Ink	 Thermochromic pigment	 Sign in Darkness
 Photochromic pigment		

Care Labels Instructions for laundering



Technique

Weaving



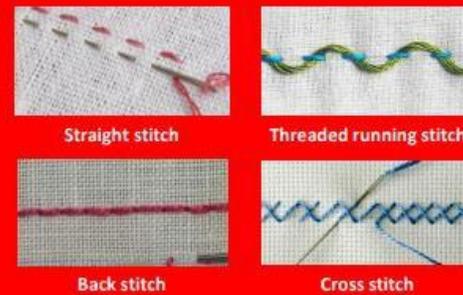
Embroidery



Applique

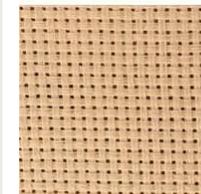


Hand stitches



Textile equipment

Binca



Bodkin



Wool



Thread



