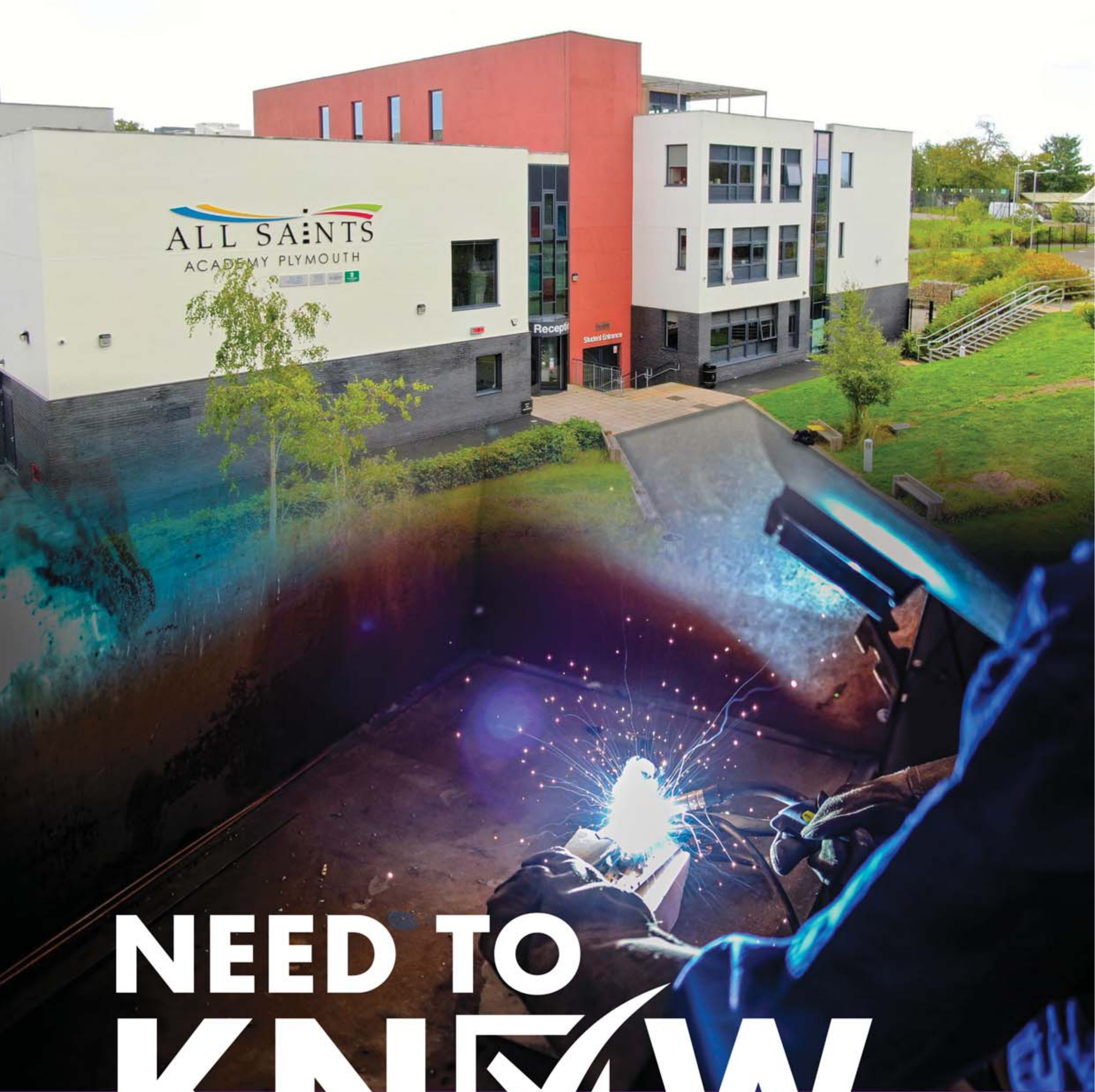


NEED TO KNOW BOOK

Year 7
Autumn Term 2024

ALL SAINTS
ACADEMY PLYMOUTH

Table of Contents

Week A

Period	Monday	Tuesday	Wednesday	Thursday	Friday
Tutor					
1					
2					
3					
4					
5					
6 or Extra Curricular					

Week B

Period	Monday	Tuesday	Wednesday	Thursday	Friday
Tutor					
1					
2					
3					
4					
5					
6 or Extra Curricular					

Homework Expectations

You are expected to compete up to 1hour of Homework per night. This is split into 3 subjects at 20mins each.

	3 x 20 Minute Sessions		
	Subject 1 20 mins	Subject 2 20 mins	Subject 3 20 mins
Monday	Sparx Reader	Science	Science
Tuesday	Sparx Reader	Geography	French
Wednesday	Sparx Reader	Maths : Sparx	History
Thursday	Sparx Reader	Maths : Sparx	RE
Friday	Sparx Reader	Maths : Sparx	

Where is my homework?

Maths sparx

You maths homework is found at www.sparxmaths.uk. You will complete your Compulsory Homework on a Monday. If you have completed over 80% and are stuck on your last few questions, your teacher will help you on Tuesday.

Sparx Reader

Sparx Reader

Your Sparx reader homework is found at www.sparxreader.com You will complete 20 minutes of reading every day Tuesday – Friday. You can, of course, complete more if you like!

Science Educake

Your Science homework can be found at www.educake.co.uk. You will answer a series of questions once a week. When it comes to revising, you will have the option of picking a topic, reading an overview, and taking a quiz.

English, History, French and RE

Homework for these subjects will be found in your Google Classroom in the form of a quiz. These quizzes are to test that you have learned the knowledge in your Need to Know booklet. We have high expectations of you and expect students to try their best and achieve the best possible marks. We will give rewards for excellent attainment and we will help everyone achieve by using after school interventions to make sure no one falls behind.

At All Saints, we are organised and don't make excuses for ourselves. If we know we have evening plans, we complete our homework the night before to make sure we are free to go to our planned event. We always want the best for ourselves and my teachers want the same.

Reflection Sheet

Name: Tutor: Year:

Use this reflection sheet to track your progress and attitude to learning score after each progress check. This sheet will be used in your parent evening meetings with your teachers to discuss your areas of strengths, weaknesses and ways to improve. If your average attitude score is below a certain average your parents will be called in for a meeting with your Head of house and SLT member.

ATL SCORES	**What will I get at GCSE?**
0-1	Students who achieve an average of 1 or below usually leave school with no GCSEs.
1-2	Students who achieve an average of 1-2 usually leave with 1s or 2s (E or F) at GCSE
2-3	Students who achieve an average of 2-3 usually leave with 2s or 3s (D or E) at GCSE
3-4	Students who achieve an average of 3-4 usually leave with 3/4/5s (C or D) at GCSE
4-5	Students who achieve an average of 4-5 usually leave with 6/7/8s at GCSE

Average attitude to learning score	**Term 1**	**Term 2**	**Term 3**	**Term 4**

Subject rank	***Subject*** *Maths*	***Subject*** *English*	***Subject*** *Science*	***Subject***	***Subject***	***Subjec t***	***Subjec t***	***Subject***	***Subjec t***	***Subjec t***
Term 1	/	/	/	/	/	/	/	/	/	/
Term 2										
Term 3										

Term 1 - Reflection (Answer the questions by filling in the boxes in blue or black pen)

Are you happy with your rank scores and ATL?	What subjects do you need to improve?	How will you get there?

Reflection Sheet

Term 2 - Reflection

Has your rank scores and ATL improved from term 1? If no, why not?	What subjects do you need to improve in?	How will you get there?

Term 3- Reflection

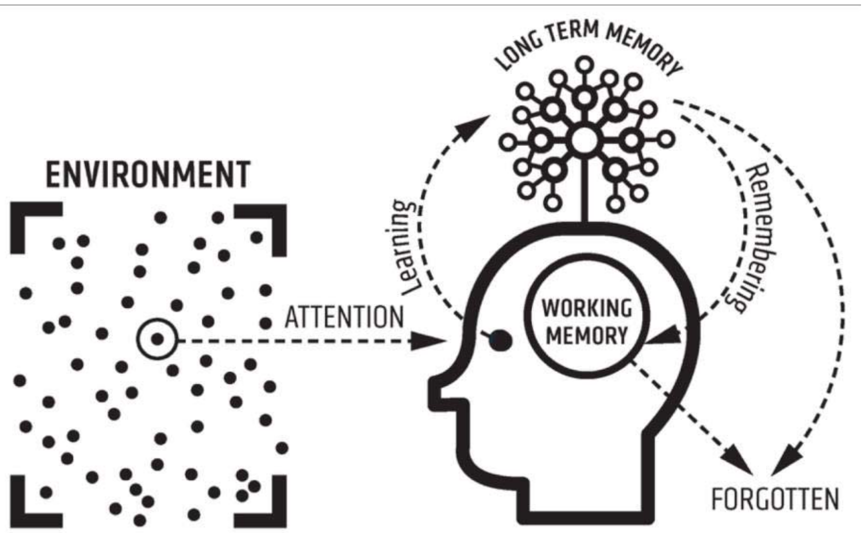
Has your rank scores and ATL improved from term 2? If no, why not?	What subjects do you need to improve in?	How will you get there?

Signed___________________________ Tutor
signature_________________________

Memory

Your memory is split into two parts: the working-memory and the long-term memory. Everybody's working-memory is limited, and can therefore become easily overwhelmed. Your long-term memory, on the other hand, is effectively limitless.

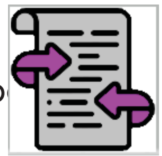
You can support your working memory by storing key facts and processes in long-term memory. These facts and processes can then be **retrieved** to stop your working memory becoming overloaded.



Need to know booklets are a key way to help you learn. Each booklet has the key information that needs to be memorised to help you master your subject and be successful in lessons.

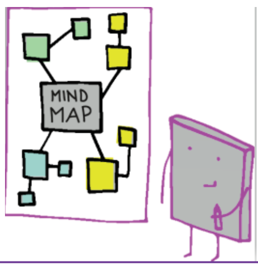
There is strong scientific evidence from cognitive psychology that shows the benefits of **self-quizzing** in promoting **retrieval strength**. This is your ability to quickly recall key facts related to your subject or topic

How should I self-quiz and how often?



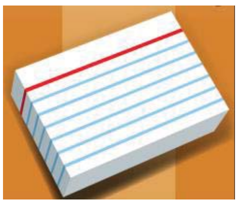
There are lots of different ways to learn the material in your need to know b

You could:



Draw a mind map, jotting down everything that you can remember from the need to know booklet.

Cover up one section of the need to know booklet and try and write out as much as you can from memory.



Make flash cards based on the need to know booklet and ask someone to quiz you.

SENTENCES.
HAND
ARTICULATE.
PROJECT
Eye contact

Make up mnemonics to help you remember key facts, then write these out from memory.

Making revision notes and self-quizzing will help you be a more successful learner.

Post 16 pathways of Plymouth — Sixth forms — Apprenticeships — Employment — Resources

Support — Opportunities — Choosing a career — Parents guide —Writing a CV— Employability skills

Week 2

know how to mark out

When you mark out material you must always leave room for the cut. SAWS, CHISELS etc are all 'wasting' tools so they produce waste when used i.e. saw dust. We call this space a cutting gap. Remember you can always take material away but you can never put it back.

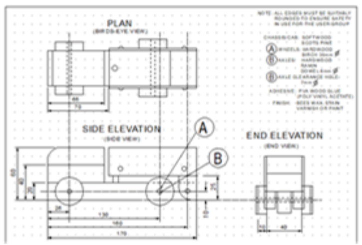
The diagram above shows two areas for cutting that are hatched to mark the waste material. You should cut between the lines.

To measure and mark out accurately in the workshop you should use and a TRI SQUARE and a STEEL RULE for small jobs or a TAPE MEASURE for larger materials.

Week 4

know about manufacturing drawings

Engineers and manufacturers use orthographic projection drawings to gain information about parts and assemblies . They are scaled 2D views, measured and dimensioned in mm. they are most commonly produced in CAD (Computer Aided Design)



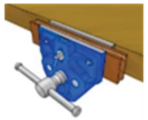
know your hand tools

We use a TENON SAW for crosscutting timber. It has fine teeth so you get an accurate cut if it is sharp. It is only for straight cuts and how you clamp your work is just as important as how you cut it.

Week 6

know your clamping tools

A BENCH HOOK fits into the BENCH VICE for sawing at 90° to the grain.



A 'G' CLAMP is a portable clamp that can be used on work benches or machines like the Pillar drill for example. It is a good idea to use scrap to protect your work and avoid denting flat surfaces.

A MACHINE VICE is for use on the Pillar Drills to hold your work in position. It is a good idea to support your work both at the sides and underneath with scrap timber when drilling.

know your machine tools

The workshop is full of tools and equipment. In Y7 you will use a Belt Sander, Pillar Drill and Power Fret Saw to accurately produce parts in timber and manufactured board. You must wear PPE for them all. The belt sander and power fret saw have extraction built in to remove the majority of the saw dust as soon as it is created.

Week 8

know your workshop safety

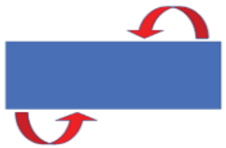
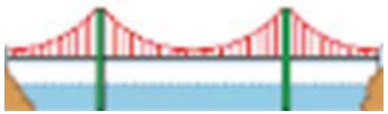
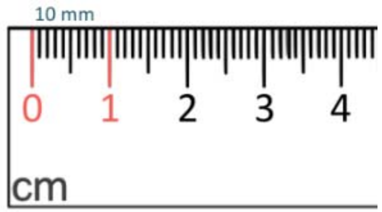
Make sure you always follow the rules of the workshop.

1. Wear goggles on machines and when hammering
2. Only use a machine when you are confident ,have permission and have seen a demonstration to use it
3. Wear an apron if available.
4. Tie you hair back
5. Do not run in the workshop
6. Only the person using the machine should stand in the yellow/black safety area
7. Always switch a machine off and wait for it to slow down after use
8. Do not shout in the workshop
9. Do not talk when you are using a machine
10. Remove loose clothing and jewellery

Week 10

know your PPE

PPE stands for Personal Protective Equipment. In the workshop you must always wear googles on machines and using impact tools i.e. hammers and mallets. You should also wear an apron and remove loose clothing/jewellery. On occasions you may need to wear ear defenders, gloves, a leather apron and more robust shoes depending on what you are doing.

Week 1-2	Week 3-4	Week 5-6	Week 7-8	Week 9-10
Careers in Engineering **Architects** design buildings or parts of buildings. It is a well paid and creative job that takes many years of study. **Structural Engineers** – These are people who are experts when it comes to forces and strong structures. They will be involved in designing strong structures in buildings or infrastructure like bridges. **Civil Engineers** – These people design civilian architecture, these include, stadiums, bridges, hospitals, road layouts, schools etc.	**Forces** There are four forces that act upon a structure; compression, tension, shear and torsion. **Compression** is a squeezing force  **Tension** is a pulling apart force  **Torsion** is a twisting force  **Shear** is a slicing force 	**Different types of bridges** Compression and tension will be acting on these structures in different places depending on the design. **Beam Bridge**  **Arch Bridge**  **Suspension Bridge**  **Truss Bridge** 	**Triangulation** Triangles are the strongest shape in Engineering because they spread forces equally. Gussets are used along with triangulation to create strong structures. 	**Health and safety** When using side cutters, always grip the handles well and cut down towards the table. Secure the object you are cutting above and below the cut line to ensure that the object does not fly into the air! **Measuring** We always measure in mm in Engineering. 1cm = 10mm 10cm = 100mm 15cm = 150mm 20cm = 200mm 

Year 7 English: Origins and Myths

Creation
Mythos
Genesis
Yoruban Creation Story
Zhulong: Legend of the Candle Dragon

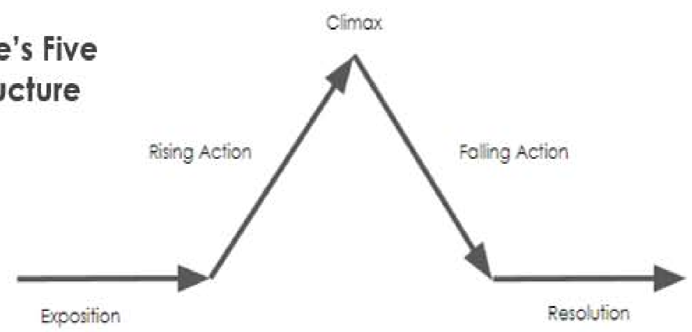
Protagonists
Theseus and the Minotaur
The Tragedy of Icarus
The Theft of Thor's Hammer
The Death of Arthur

Antagonists
The Story of Prometheus
Beowulf
Anansi the Trickster Spider

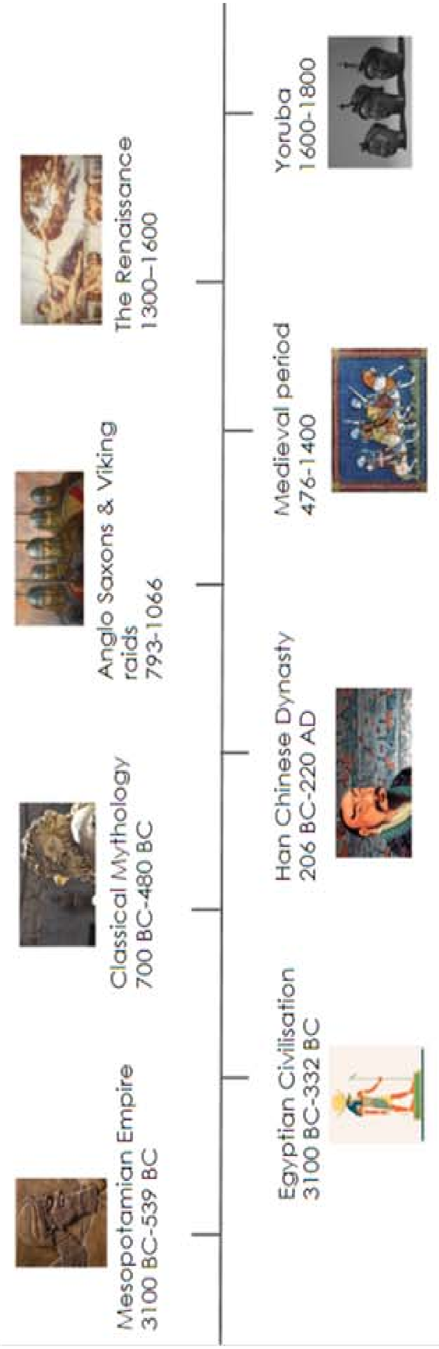
Women in Myth
The Story of Medusa
Medusa
Persephone and Hades

Monologue (a piece of writing from one persons perspective)
- 1st person perspective (I/We)
- Inner thoughts and feelings
- Show don't tell
- Listing sentences
- Subordinate clause
- Impact sentences

Aristotle's Five Act Structure



Key Terms	Definition
Myth	A traditional story that explains something
Creation	The act of making something
Supernatural	Magical beings or events
Protagonist	The main character
Antagonist	The character against the main character
Hamartia	A character's fatal flaw
Overreacher	Someone who goes too far and fails
Hubris	Excessive pride or over confidence
Morality	The difference between right and wrong
Immorality	Evil or wrongdoings
Masculinity	Traits typically associated with men and boys
Femininity	Traits typically associated with women and girls
Omnipotent	All-powerful
Tragedy	A story with a sad ending
Vanity	Extreme admiration of one's self
Patriarchy	A society controlled by men
Monologue	A speech by one character
Perspective	Viewpoint



Health, Safety and Hygiene

Health, safety and hygiene.

- Always listen to the teacher and follow instructions.
- Do not run in the food room.
- Do not leave bags and blazers where they can get in the way and cause a tripping hazard.
- Walk sensibly around the room when carrying equipment especially knives.
- Always return equipment once its finished with and cleaned especially knives. These will be counted in at the end of every lesson.
- Always listen carefully when the teacher is demonstrating how to use equipment. Make sure you ask questions if you do not understand.
- Take your blazers off and roll up your sleeves when doing a practical lesson.
- Tie your hair back.
- Always wash your hands thoroughly when preparing foods.
- Always use hot soapy water to wash your equipment.
- Make sure all spillages are cleaned up immediately.
- **Always** use an oven cloth when taking food from the oven.

The Eatwell Guide

Fruits and vegetables.

Eat at least 5 portions of a variety of fruits and vegetables a day.

Drinks.

6-8 glasses a day. Water, lower fat milk, sugar free drinks including tea and coffee count.

Potatoes, bread, rice, pasta and other starchy carbohydrates.

Choose wholegrain or higher fibre versions with less added salt, sugar and fat.

Beans, pulses, fish, eggs meat and alternatives (protein).

Eat more beans and pulses, 2 portions of sustainably sourced fish per week, one of which is oily. Eat less red and processed meat.

Dairy and alternatives.

Choose lower fat and

Oils and spreads (fats).

Choose unsaturated oils and use in small amounts.

Foods high in fats and sugars.

Eat less often and in small amounts.

Preparation Skills and Techniques

Chopping, Slicing, Dicing and Peeling Skills

A

B

C

Bridge Hold | **Claw Hold** | **Peeling** | **What could happen?**

Cake and Pastry Making Methods

Rubbing -in Method

Used for pastry and cakes that **do not have a large amount of fat** compared to flour

- ◊ Fat is **cut into chunks** (block margarine is best)
- ◊ Air is trapped when sieving the flour and by lightly **rubbing the fat in to the flour**
- ◊ Any optional ingredients (e.g. sultanas) are **added before the liquid or egg** that binds the crumb together

Creaming Method

Used for cakes containing **more fat and sugar** compared to flour

- ◊ The fat and sugar are **creamed together** using a **wooden or plastic spoon.** Air is **trapped** by **creaming** the sugar and fat together
- ◊ Soft margarine is better as it is **easier to cream**
- ◊ **Caster sugar** has **smaller crystals** than **granulated** so it **traps more air** and mixes better
- ◊ **Self raising flour** is used to make the cakes **rise**

Melting Method

-Fat is melted with the sugars and syrup

-Dry ingredients added

-Liquids bind all ingredients together

Year 7 French - Cycle 1

	French	English
Week 1	Bonjour, je suis Nicholas et je suis français..	Hello, I am Nicholas and I am French.
Week 2	Il est intelligent mais elle est amusante.	He is intelligent but she is funny.
Week 3	Qui a un animal? J'ai un chien.	Who has an animal? I have a dog.
Week 4	Tu as une voiture? Oui j'ai une voiture moderne.	Do you have a car? I have a modern car.
Week 5	J'ai un ami amusant. Il est chanteur.	I have a funny friend. He is a Singer.
Week 6	Le professeur est malade et la chanteuse est intelligente.	The teacher is ill and the singer (f) is intelligent.
Week 7	Il fait la cuisine mais elle fait les courses.	He does the cooking but she does the shopping.
Week 8	Je suis amusant comme mon ami.	I am funny, like my friend.
Week 9	Il fait beau et je fais une promenade.	The weather is good and I am going for a walk.

Each week you will need to practise and learn your **Sentence of the Week** as well as your **Vocabulary of the Week**. For your **Vocabulary of the Week** also pay attention to which type of words they are:

Verbs are in **VIOLET**
Feminine nouns are in **PINK**
Masculine nouns are in **BLUE**
Adjectives are in **AMBER**

Week 1		Week 2		Week 3		Week 4		Week 5	
être	To be / being	il est	he is	avoir	to have / having	tu as	you have	il	he, it
je suis	I am	elle est	she is	j'ai	I have	un livre	a book	elle	she, it
tu es	you are	amusant (e)	funny	il a	he has	un ordinateur	a computer	un ami	a friend (m)
anglais(e)	English	calme (e)	quiet	elle a	she has	un vélo	a bicycle	une amie	a friend (f)
français(e)	French	content (e)	happy	ce/c'	this/that	une voiture	a car	un chanteur	a singer (m)
petit(e)	short	intelligent	intelligent	c'est	this/it is	cher	expensive (m)	une chanteuse	a singer (f)
grand(e)	tall	malade	ill	Qui?	Who?	chère	expensive (f)	un professeur	a teacher (m)
et	and	méchant (e)	naughty	un	a, one (m)	moderne	modern	une professeure	a teacher (f)
bonjour	hello	triste	sad	une	a, one (f)	rapide	fast, quick	une femme	a woman
au revoir	goodbye	mais	but	un animal	an animal	voici	here is	un homme	a man
écrire	to write / writing	aussi	also	une chambre	a bedroom	oui	yes	drôle	funny
lire	to read / reading	ou	or	un chien	a dog	non	no	intéressant(e)	interesting
parler	to speak / speaking	merci	thank you	un portable	a mobile phone	Comment ça s'écrit?	How is it written?	sympa(thique)	nice
écouter	to listen / listening			une chose	a thing			vrai	true (m)
				une idée	an idea			faux	false (m)
				une règle	a ruler				
				bon	good (m)				

Week 6		Week 7		Week 8		Week 9		Week 10	
l'acteur (m)	actor (m)	faire	to do, make / doing, making	le poème	poem	le bateau	boat, ship	aimer	to like / liking
l'actrice (f)	actor (f)	je fais	I do / make	le poète	poet (m)	le magasin	shop	cocher	to tick / ticking
la fille	girl	tu fais	you do / make	la poète	poet (f)	le promenade	walk, ride	rester	to stay / staying
le garçon	boy	il fait	he does / makes	le ciel	sky	la visite	visit	passer	to spend / spending time
le médecin	doctor (m)	elle fait	she does / makes	le rêve	dream	le voyage	trip, journey	porter	to wear / wearing
la médecin	doctor (f)	ça	that	la vague	wave	le numéro	number	trouver	to find / finding
la personne	person	une activité	an activity	la couleur	colour	la question	question	un uniforme	a uniform
l'anglais (m)	English language	les courses	grocery shopping	bleu(e)	blue	la réponse	answer	l'école (f)	school
le français	French language	la cuisine	cooking	jaune	yellow	beau	beautiful (m)	le moment	moment
le	the (m)	les devoirs	homework	rouge	red	mauvais(e)	bad	la semaine	week
la	the (f)	le lit	bed	vert(e)	green	en	in/by	la solution	solution
les	the (pl)	le ménage	housework	comme	like	de	of	chaque	every
en	in	le modèle	model			Paris	Paris	à	to
le mot	word	Quoi?	What?			Londres	London	avec	with
la phrase	sentence								

Year 7 - Geography- Cycle 1

Key vocabulary

- **Ecosystem**: A community of plants and animals that interact with each other and their environment.
- **Biome:** A plant and animal community that covers a large area of the Earth's surface (e.g. desert, tropical rainforest).
- **Global atmospheric circulation:** The worldwide system of winds which moves heat from the equator to the poles. It helps to create the conditions for different biomes to exist.
- **Climate:** The average weather conditions over the long period of time. Around the world, this creates zones that have the same pattern of temperature and rainfall.

Week 1 –Types of Geography

- **Human Geography** - focuses on where people live, what they do, and how they use the land. It involved studying why cities and towns develop in certain places and the different cultural, political and economic relationships countries have with one another.
- **Physical Geography-** focusses on how landforms develop and how they change. They look at how different landforms and processes affect the climate and nature.
- **Environmental Geography** –focusses on how people change the land through such activities as building cities, digging mines, and clearing forests.
- **5 W s** – Who, What, Where, When, Why.

Week 2 - Biomes of the World

Biomes of the world

There are seven major world biomes.

Tundra: Low growing plants due to cold and windy conditions.
Coniferous forest: Also known as the taiga or boreal. Cone-bearing evergreen trees able to cope with harsh winters.
Temperate deciduous forest: Trees such as oak and beech that lose leaves during the autumn (UK's biome).
Temperate grasslands: Grassy plains suited to dry, hot summers and cold winters.
Mediterranean: The smallest biome. Shrubs, herbs and olive trees able to cope with high temperatures and summer drought.

Week 3 – Biomes of the world

Desert: Few plants (e.g. cactus) and animals (e.g. camels) that cope with extreme temperatures and very dry conditions.

Tropical rainforest: Vegetation suited to warm, wet climate throughout the year and inhabited by 50% of the world's plants and animal species. Tropical rainforests only cover 6% of the Earth's surface, yet they contain 50% of the plant and animal species.

Tropical grasslands (savanna): Grassland able to cope with long, dry periods with some violent thunderstorms; grazed by animals (e.g. gazelles) and stalked by predators (e.g. lions).

Week 4 – Tropical Rainforest Vegetation

Tropical rainforest vegetation

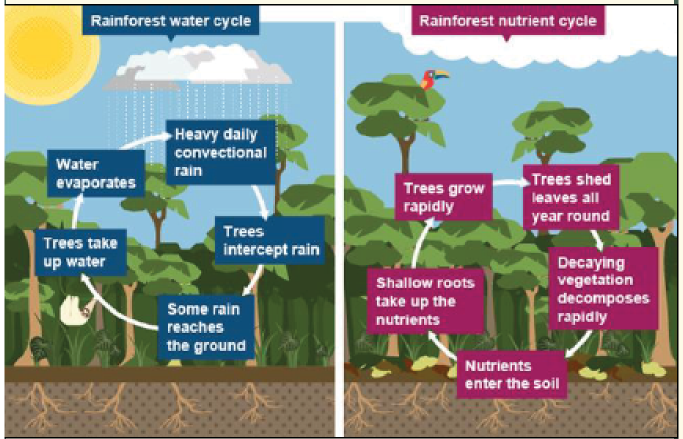
Emergents: Tallest trees in the rainforest reaching around 50 metres.
Canopy: Receives 70% of sunlight and 80% of rainfall. Around 30 metres high.
Undercanopy: Sheltered layers of young trees growing to a height of 20 metres.
Shrub layer: Only small trees and shrubs. Less than 2% of sunlight reaches the forest floor.
Epiphytes: Some plants grow on larger trees as they only need water and air to survive e.g. orchids.
Convectional rainfall: Where the ground is heated intensely by the sun, the air rises and condenses to form clouds and heavy downpours.

Week 5 – Threats to the Rainforest

Threats to the rainforest

Deforestation: The cutting down of trees, transforming a forest into cleared land for other uses.
Logging: Trees cut down for items such as furniture, paper and utensils. Half of wood used for fuel.
Cattle ranching: Cattle raised on the cleared land to meet the demand for beef elsewhere e.g. USA.
Mining: Rainforests contains copper, diamonds, gold and other metals. Some places also have oil and gas.
Palm oil plantations: Palm oil is found in around half the products in supermarkets, for example, biscuits, shampoo, margarine.
Dam building: Often built to produce hydroelectric power for other activities such as logging.

Nutrient Cycle & Water Cycle



Week 6 – Biomes & Adaptations

Tropical rainforest

Around the Equator. Central Africa, SE Asia, Brazil & central America. No seasons. Temps 26-28°C each day. 200mm rainfall. Tall trees such as mahogany. Long vines called lianas. Toucans, insects, jaguars, monkeys, snakes, frogs.

Tropical grassland

Between the rainforest and desert biome. Around Congo Basin, Venezuela, northern Australia, Mexico. Wet season & dry season. 80% rainfall happens in 4-5 months - wet season. Dry season as low as 100mm. Baobab tree. Grasses such as pampas. Gazelles, giraffes, wildebeest, cheetah, lions, hyenas.

Week 7 – Biomes & Adaptations

Deserts

Around 30° latitude, at the tropics. Sahara in Africa, Arabian desert. Temperatures can reach 36°C in the day. Below freezing at night. Annual rainfall 40mm. Cacti and yucca plants. Bushes grow apart so they do not complete for water. Camels, meerkats, scorpions.

Polar regions

At the poles. Below the Arctic is the tundra (northern Canada, Russia). Long, cold winters, short, cool summers. Temperature rarely above freezing. Low rainfall 250mm. Mosses and some grasses in the Arctic. No trees. Killer whales, polar bears, wolves, foxes, reindeer, seals.

Week 8 –Biomes, Adaptations & Threats

Arctic (north)

Temperatures are warmer from -46°C to -26°C. Sea does not fall below -2°C. Southern parts include the tundra. Arctic is an ocean surrounded by land. Around four million people live there.

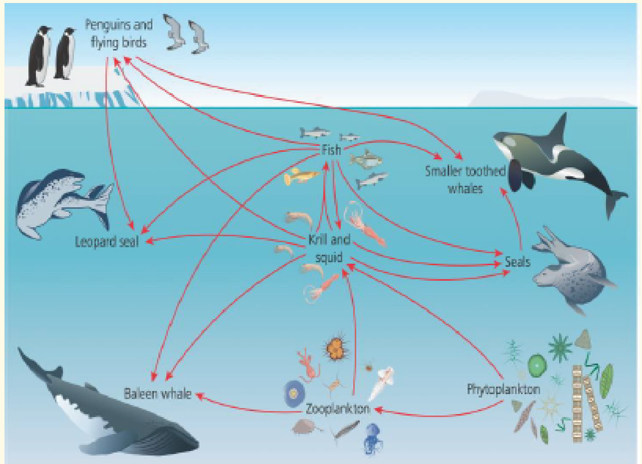
Antarctica (south)

Temperatures are colder from -62°C to -55°C. Average height of 2300 metres – highest of all continents. Only 1% of the continent is ice free. Antarctica is land surrounded by an ocean. No permanent inhabitants but up to 10000 scientists in the summer.

Coral Reefs

Cover less than one percent of the ocean floor, but support about 25% of all marine creatures. However, there are many threats to their existence such as pollution, global warming, and sedimentation are threatening large areas of the world's reefs.

Week 9 – Food Webs



Wee k 10 – Threats in Polar Regions

Threats in Polar Regions

Climate change: Sea ice melting means less hunting grounds. Polar bears become lighter (10kg) and less healthy.

Toxic pollution: High pollutants found in polar bears leads to lower levels of vitamins and antibodies. Milk can poison cubs.

Oil exploration: Consuming oil from eating oil from contaminated prey. Noise from construction can destroy their habitat.

Overhunting: Laws set a limit on how many can be hunting by local people. Numbers are monitored to keep numbers stable.

How did the Romans change Britain?

1. What was Britain like before the Romans invaded?

- Before the Romans came to Britain it was divided into tribes. This time period was called the "Iron Age" and the different tribes traded with each other, and sometimes fought each other to gain more land.
- Some of these tribes such as the Trinovantes traded across the sea with the Romans who were now in control of France (called "Gaul" at the time).
- The Roman general Julius Caesar led invasions of Britain in 55BC and 54BC. These were short campaigns to secure trade and not to set up a colony.

2. Why did the Romans invade Britain and how did they do it?

- In AD43 the Romans returned to Britain on the orders of Emperor Claudius.
- This time the Romans wanted to take over Britain.
- The Romans conquered the Iron Age capital of Colchester using their well-organised army and they made Colchester the first city in Britain (originally for retired soldiers).

3. How did the Romans change Britain?

- The Romans introduced many new ideas in Britain.
- They built towns full of houses using bricks and tiles; they also built a network of roads around the island to connect their forts and towns.
- The Romans brought their language of Latin and their system of writing down their history.
- Roman numerals were used to record trade, new products were brought to Britain and resources such as tin were mined from the ground.
- The Romans also introduced their religion and social system, making captured warriors slaves or gladiators to work for the empire.
- One by one the native tribes surrendered to the Romans except in the north where they had to build a wall to keep out the tribes such as the Brigantes that fought against them.

4. What problems did the Romans have to deal with in Britain?

- The Romans didn't treat the local tribes very well, often taking slaves to help build their towns and roads.
- One tribe, led by a woman called Boudicca rebelled against the Romans. Boudicca attacked and burnt Colchester and then marched her army to London and burnt it to the ground. Finally the Romans had to leave Britain to help protect the capital of the empire (Rome) which was under attack from German tribes.
- The Romans may have left in AD410 but their legacy of civilisation remained.

HISTORIAN SKILLS

Knowledge and understanding – knowing your facts and when to use them!

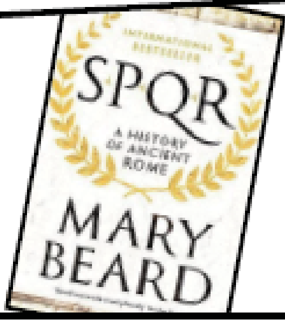
Explanation – telling people what you mean!

Using Sources – finding out the truth!

Interpretation – other people's points of view!

KEYWORDS

Empire = regions ruled by one state
Four Humours = medical theory
Sanitation = clean water supplies
Province = region of land
Republic = democratic society



IMPORTANT DATES

509 BC = Roman Republic founded
55 BC = Julius Caesar invades Britain
27 BC = Roman Empire begins
AD 43 = 2nd Roman invasion of Britain
AD 49 = Colchester set up as capital
AD 61 = Boudicca's rebellion
AD 122 = Hadrian's Wall built
AD 410 = Roman Army leaves Britain
AD 476 = Roman Empire ends

FAMOUS SOURCE

Nature – an inscription on a gatehouse of Hadrian's Wall

Origin – AD122 by the Dacian (Romanian) unit stationed there

Purpose – to show the unit that was stationed at this section of the wall

The text is in Latin, the language of the Roman Empire and it details the commander of Britain at the time as well as the unit commander of the troops stationed at the wall. The symbol on the right is the curved sword of the Dacians, showing that these were auxiliary soldiers sent to guard the wall.

How do we know so much about Norman England?

What were the contemporary Sources and what did they focus on?

- Much of what historians know about British history between AD410 and AD1250 is based on only a few written Sources, the Bayeux Tapestry, and archaeological evidence.
- Bede's Ecclesiastical History of the English People was written in AD731, and The Anglo-Saxon Chronicle completed in AD1154, are the best written Sources but they lack detail.
- Archaeological evidence includes the beautiful churches, castles and cathedrals the Normans built as well as the artefacts found in the earth such as swords and tools.
- The time period is sometimes known as "The Dark Ages" because of the lack of evidence and lack of progress after the Romans left Britain.

Why was 1066 such an important year in British history?

- Based on the contemporary Sources, historians have created their Interpretations of events supported by their research.
- Most of them agree that when Edward the Confessor died in AD1066 without an heir, three men fought for the crown.
- Harold Godwinson fought and killed Harald Hardrada at the Battle of Stamford Bridge. Later at Hastings, Harold Godwinson was killed by William of Normandy.
- William won the Battle of Hastings due to his clever tactics, organisation, Harold's mistakes, and luck.
- William the Conqueror was crowned King of England on Christmas Day AD1066 and he set about making England part of his Norman lands.

How did the Normans change and control England?

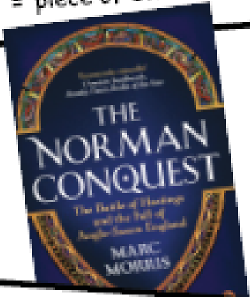
- William and the Normans gained control of the country by building motte and bailey castles and later adding stone to make them even stronger.
- He guaranteed the loyalty of the nobles by introducing the Feudal System and punished those who rebelled against him (as he did in the Harrying of the North in AD1069).
- To get the most out of his new kingdom, the King ordered the writing of the Domesday Book in AD1085 which recorded all the belongings of the English population and told the King what to tax the people. The French language became the language of the rich and powerful and lots of words merged with English.
- The evidence on the Normans is sometimes biased as the Saxon writers hated them and the Normans hated the Saxons.

HISTORIAN SKILLS

Knowledge and understanding – knowing your facts and when to use them!
Explanation – telling people what you mean!
Using Sources – finding out the truth!
Interpretation – other people's points of view!

KEYWORDS

Biased = one sided
Contemporary = from the time
Interpretation = version of events
Reliable = trustworthy
Source = piece of evidence



IMPORTANT DATES

AD410 = Romans leave Britain
AD731 = Bede's History of England
AD871 = Alfred the Great becomes king
AD1042 = Edward becomes king
AD1066 5th Jan = Edward died
AD1066 6th Jan = Harold became king
AD1066 25th Sep = Battle of Stamford Bridge
AD1066 14th Oct = Battle of Hastings
AD1066 25th Dec = William becomes king
AD1069 = Harrying of the North
AD1070 = Bayeux Tapestry made
AD1154 = Anglo Saxon Chronicle

FAMOUS SOURCE

Nature – a tapestry made in France and kept in Bayeux
Origin – made in c.1070 by Bishop Odo or William's wife
Purpose – to show the events of William's victory in England

It is uncertain whether the tapestry was made by William the Conqueror's brother (Bishop Odo) or his wife (Matilda), either way the Source is biased towards William as both authors loved him. The English name for the Source is the *Bayeux Tapestry*, the French call it *Matilda's Tapestry*. The tapestry is 68 metres long and is an amazing piece of art and evidence.

Using ICT

Topic of Learning	I will need to know:	So that I can:
ASAP Computer Network	What a computer network is and how they work. To include the benefits of using a computer network along with the different drives on the school network. The purpose of the Home area of the school computer network and its benefits along with the purpose of the shared network area. The importance of being able to log into the school computer network correctly and also to save work and log off correctly.	Confidently log on to the school computer network and successfully save work to the Home area and access files from the shared area.
Effective file and folder management	The importance of saving work files using appropriate file names so that they can be easily accessed in the future. How to create new folders and name them using logical folder names. How to search for files and folders on a network directory and open required files.	Navigate a network directory and locate folders in order to successfully open required files. Create and name new folders
Using E-mail	The benefits of using email and how an e-mail system works. The process of setting up, writing and sending an e-mail such correctly using the To, From, Subject, Message sections and knowing the purpose of CC and BC when sending e-mails. How e-mails can be used in a malicious way for example phishing, spam, identity theft and sending viruses.	Write, send and save e-mail messages and manage my own school e-mails effectively and use the system in an appropriate way.
Digital Footprint	What the term digital footprint means, how it can be created and the steps that can be taken to manage a digital footprint. How a digital footprint can be used to create an online reputation or impression depending on what is accessed online. Online posts, shares, likes can be permanent and can be used to gain personal information about an individual. How to manage a digital footprint and take steps to stay safe whilst online.	Manage my own digital footprint and be aware of my online presence and take steps to reduce my digital footprint.
E-Safety	The term e-safety and what it relates to. That e-safety is defined as the safe and responsible use of technology including the internet, social media, gaming and email. The potential risks when using the internet and being online and some of the responsibilities of users of digital technology. The SMART rules and how to apply them when online.	Use the internet in a safe and responsible way. Recognise the risks and know how to avoid them.

Using ICT

Topic of Learning	I will need to know:	So that I can:
Input and output devices	Input and output devices can be connected to a computer via a cable or wireless. An input device allows a user to input data into a computer. An output device allows a user to get information out of a computer. These devices can be adapted to suit computer users who may need to use the devices in a different way.	Correctly identify examples of input/output devices and explain their purpose.
Storage devices	Secondary storage devices are used to store data (work). Secondary storage devices are typically high capacity e.g. can store a lot of data, and portable e.g. can be moved from one computer to another. There are two types of storage device used with computers, primary storage , such as RAM, and secondary storage such as a hard drive. Secondary storage can be removable, internal or external. There are three types of media storage used to store computer data, magnetic storage, optical storage and solid-state storage.	Identify examples of secondary storage and be able to group them into their correct media type.
Communication methods	How communications technology has revolutionised the way in which we can communicate with family, friends, teachers, and the way in which businesses can communicate with their staff and customers. Examples include, email, text , direct and instant messaging, social media and VoIP. Some of the benefits and drawbacks of using this technology along with future communication technology.	Confidently use a range of communication technology effectively and comment on their benefits and drawbacks.
Hardware and software	A computer system is made up of two parts, hardware and software. Hardware is any physical part of the computer system that can be touched, picked up or moved. Software contains the instructions that the computer needs to carry out specific tasks. There are two main types of software, 'system software' and 'application software'. System software controls the way the computer works and tells it what to do. Application software is software that is used to complete work or to have fun such as word processing software and gaming software.	Identify the hardware components of a computer and explain their use/purpose. Explain examples of system and application software.
Health and safety using computers	When using computers, there are a number of health and safety issues that need to be taken into consideration. Heath issues include eyestrain, neck and back strain and injuries to the wrists. Steps that must be taken to reduce the possibility of these health issues. How computer cables should be secured to avoid causing trip hazards. Electrical sockets should not be overloaded and electrical equipment should be tested once a year.	Identify health and safety issues when using computers and know how to avoid issues occurring.

Word	Used in context	Definition	Example
Place Value	*What is the **place value** of the second digit in the number 418?*	The value of each digit in a number.	The '1' in 418 represents 10 or 1 ten
Integer	*Round 24.6 to the nearest **integer**.*	A whole number.	3 15 -4 0 -323
Partition	***Partition** 324 into its place value parts.*	Splitting a number into place value parts.	324 = 300 + 20 + 4
Prime	*Which of the following numbers are **prime**?*	A number with exactly two *different* factors; one and itself.	2: 1 2; 3: 1 3; 5: 1 5
Factor	*1, 2, 3, and 6 are all the **factors** of 6.*	Any integer (whole number) that divides exactly into another number,	6: 1 6, 2 3; 20: 1 20, 2 10, 4 5
Multiple	*List the first five **multiples** of 4.*	Any integer (whole number) in the times table of another number.	Multiples of 4: 4, 8, 12, 16, 20
Lowest Common Multiple (LCM)	*Find the **lowest common multiple** of 6 and 9.*	If you list the multiples of these numbers, the lowest common multiple is the smallest number that can be found in both lists.	6, 12, 18, 24, 30, 36 9, 18, 27, 36 LCM (6,9) = 18
Highest Common Factor (HCF)	*Find the **highest common factor** of 15 and 33.*	If you list the factors of these numbers, the highest common factor is the largest number that can be found in both lists.	15: 1 15, 3 5; 33: 1 33, 3 11 HCF (15,33) = 3
Prime factor decomposition **Product of prime factors**	*The **prime factor decomposition** of 52 is:* *2 x 2 x 13* *Write 52 as a **product of its prime factors**.*	Each number has a unique prime factor decomposition, just like a signature. Multiply prime numbers only to make the number.	52 → 2, 26; 26 → 2, 13 52 = 2 × 2 × 13
Product	*The **product** of 3 and 4 is 12.*	Another word for multiplying.	Product of 6 and 8 = 6 × 8 = 48
Indices (pl.) / Index (sing.)	*Express 3 × 3 × 3 × 3 in **index** form.*	A number which shows how many times a number or letter has been multiplied by itself.	$3 \times 3 \times 3 \times 3 = 3^4$

Word	Used in context	Definition	Example
Inequalities	*There are four inequality symbols;* $>$ $<$ $\geq$ $\leq$	$>$ means "Greater/more than", $<$ means "Less than", $\geq$ mean "greater than or equal to" and $\leq$ means "less than or equal to.	$6 > 2$ $-2 < 5$ $2x > 6$
Term	*In the expression* $4x - 7$, $4x$ *is the* ***x-term*** *and* 7 *is the* ***number term****.*	A single number or variable (letter)	$4x$ -7 x^2 $-xy^2$
Variable	*The* ***variable*** *in the expression* $4x - 7$ *is the letter* x*.*	A symbol (usually a letter) that represents an unknown number.	$6y$ -> The variable is y $7t$ -> The variable is t
Co-efficient	*The* ***co-efficient*** *of* $5x^2$ *is 5.*	A number used to multiply a variable. Variables with no number have a co-efficient of 1.	$7x$ -> The co-efficient is 7
Expression	$5x - 3y + 2$ *is an* ***expression****.*	Numbers, symbols and operators (such as + and × grouped together.	
Formula	*The* ***formula*** *for the area of a rectangle is* $A = l \times w$	A rule or fact written with mathematical symbols. It usually contains an = sign and two or more variables.	$l = 4, w = 6$ $A = l \times w = 4 \times 6 = 24cm^2$
Expand	***Expand*** *the bracket* $2(x + 5)$*.*	To remove a bracket by multiplying terms.	$2(x+5) = 2x + 10$
Substitute	***Substitute*** *the value* $x = 2$ *into the expression* $5x - 1$	Replacing the variables (letters) with numbers.	Substitute $x = 2$ in $5x - 1$ $5(2) - 1 = 10 - 1 = 9$
Linear Sequence	*The sequence 4, 7, 10, 13, 16 is a* ***linear sequence****.*	A number pattern which increases (or decreases) by the same amount each time.	10, 9, 8, 7, 6,… -2, 1, 4, 7, 10,…
Term (in a sequence)	*In the sequence, 2, 4, 6, 8, the number 4 is the second* ***term****.*	Each number in a sequence is called a term.	
Term-to-term	*In the sequence 1, 3, 5, 7, 9, the* ***term-to-term*** *rule is to add 2 to the previous term.*	A rule used to allow you to find the next number in a sequence if you know the previous term or terms.	
n^{th} **term**	*Then* ***nth term*** *rule for a sequence is* $3n + 1$*.*	A position-to-term rule that works out a term based in its position in the sequence.	4, 7, 10, 13 (+3 +3 +3) $4 - 3 = 1$ n^{th} term $= 3n + 1$

Y7– Physical Education– Warming Up and Effects of Exercise

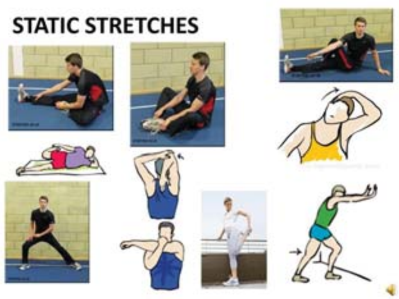
Phases of a Warm Up

TASK 1- Ensure that you can identify each phase and order of a warm up.

TASK 2- You should be able to give examples and understand their importance for a performer.

Phase of Warm Up	Purpose	Example
Stage 1– Pulse Raiser	Gradually increase heart rate to increase blood flow and supply of oxygen to the working muscles.	1 minute jog or cycle Stuck in the Mud, Tag, Pac-Man
Stage 2– Stretching and Joint Mobilisation	Increasing the elasticity of muscles through static or dynamic stretches. This helps to prevent injury. Movement of joints to prepare for activity.	Static Stretches– Hamstring stretch, quadriceps stretch. Dynamic Stretches– Heel flicks, side steps, knees up Joint Mobilisation– Shoulder circles, leg swings
Stage 3– Skills Practice	Performing skills or movements which are specific to your activity.	Passing drills, shooting drills, dribbling activities.
Stage 4– Mental Preparation	Focusing attention on the performance through mental strategies.	Deep Breathing, Positive Self Talk, Visualisation and Imagery.

STATIC STRETCHES



Effects of Exercise

TASK 4– Explain how your body changes through exercise during and after a PE lesson.

TASK 5– Identify and describe the immediate effects of a warm up on the body.

Immediate Effects of Exercise (these happen straight away when exercising)		**Short Term Effects of Exercise** (these happen up to 36 hours after exercise)	
Heart rate increases to supply oxygen to the working muscles.	Breathing becomes deeper and rate increases to meet oxygen demand.	Possible feelings of tiredness or fatigue.	Muscles ache, cramp or you experience DOMS.
Body temperature in-creases and skin reddens, causing sweating.		Nausea (feeling of sickness) or light headedness	Improvements in specific fitness components depending on type of training

TASK 6– Learn the key terms. **TASK 7-** Explain how they link to your PE lesson.

Key Term	Change as a result of exercise
Tidal Volume– the amount of air inhaled or exhaled per breath.	Increases during exercise as more oxygen is required to working muscles.
Stroke Volume– the amount of blood pumped out of the heart per beat.	Increases during exercise.
Cardiac Output– the amount of blood pumped out of the heart in one minute. **Cardiac Output= Stroke Volume x Heart Rate**	Increases during exercise as stroke volume and heart rate increase to meet energy demands of exercise.
Fatigue– physical fatigue is a feeling of extreme tiredness due to build up of lactic acid in the muscles or working for a long period of time.	Feelings of fatigue can increase with intense exercise or working for a long period of time.
Delayed Onset Muscle Soreness– The feeling of intense aching in your muscles after exercise.	Will become more intense after 24 hours normally lasting until 36 hours after exercise.

1: How was the universe created?

According to Christian belief, God created the universe this story can be found in the beginning of the Bible in the book of **Genesis**.

Day 1: light and dark

Day 2: sea and sky

Day 3: land and vegetation

Day 4: sun, moon and stars

Day 5: sea creatures and birds

Day 6: animals and humans

Day 7: God rested

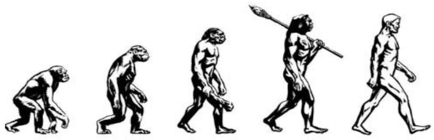
According to the **Big Bang Theory**, about 13.8 billion years ago the whole Universe was a very small, extremely hot and dense region. From this tiny point, the whole Universe expanded outwards to what exists today. Scientists have discovered that red-shift data provides evidence that the Universe, including space itself, is expanding.

Enquiry Task:

Explain two contrasting beliefs for the origin of the universe [4]

2: How did the human race begin?

In **Genesis 2**, more detail is given about the creation of humans, seen as two individuals, **Adam and Eve**. **Adam** was made from 'the dust of the ground' when God breathed life into him. **Eve** was created out of one of Adam's ribs to provide company and help for Adam. They lived in a special place called the **Garden of Eden**. Both of them were given the task and responsibility to look after the place that God had created for them.



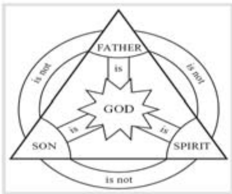
Darwin's theory of evolution challenged the idea that God made all the animals and plants that live on Earth, which contradicted the Christian view. Darwin proposed animals with characteristics most suited to the environment are more likely to survive and to breed successfully carrying these characteristics on to the next generation, known as natural selection.

Enquiry Task:

Explain two contrasting beliefs for the origin of humanity [4]

3: What is God like?

Christians believe that there is only one God, who is the creator and sustainer of the world. They believe that God is three Persons – the Father, the Son and the Holy Spirit – known as the Trinity.



- **Omnipotence** - God is all-powerful - everything consistent with God's nature is possible.
- **Omniscience** - God is all-knowing, of past, present and future.
- **Omnibenevolent** - God is all-good/all-loving.
- **Omnipresence** - God is present everywhere.

Christians base their beliefs about the nature of God on known sources of wisdom and authority including; The Bible, Church teachings, personal experience etc.

Enquiry Task:

Explain Christian beliefs about the nature of God [4]

4: Why is there evil and suffering in the world

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

There are two types of evil and suffering:

Moral evil and suffering – this is suffering caused by the actions of humans. E.g. Murder.

Natural evil and suffering – this is suffering that is caused by nature and has nothing to do with the actions of humans. E.g. earthquakes.

A theodicy is a defence of God's goodness and omnipotence in view of the existence of evil. St Irenaeus argued that by creating imperfect humans, individuals are given the chance to develop and grow through a soul-making process into children of God.

Enquiry Task:

Explain the problem of evil and how it can be overcome

Week 5: How do you resit temptation? (Part 1)

After his baptism, Jesus went to the desert to think about and prepare for his ministry. He spent forty days and forty nights in the desert where he was tempted on **three occasions** by the Devil. Jesus would have been very hungry as he had fasted whilst in the desert. The Devil was trying to tempt Jesus to use his miraculous abilities for selfish motives. However, despite the Devils attempts, Jesus did not give and remained strong.

Enquiry Task:

Describe how Jesus was tempted in the desert, what does this teach Christians ?

5 (Part 2): Why do we need rules?

God gave **<u>Moses</u>** a set of ten laws that they should follow in order to please him. God told Moses that if these rules were not followed, God would punish people who disobeyed them. These laws are known as the **<u>Ten Commandments</u>**.

The Ten Commandments are found in the book of **<u>Exodus</u>**. They are:

1. Do not have any other gods.
2. Do not make or worship idols.
3. Do not disrespect or misuse God's name.
4. Remember the Sabbath and keep it holy.
5. Honour your mother and father.
6. Do not commit murder.
7. Do not commit adultery.
8. Do not steal.
9. Do not tell lies
10. Do not be envious of others.

Enquiry Task:

What is the purpose of the Ten Commandments and are they still relevant today?

6: Why do people get married?

When Christians marry they are making a promise in the presence of God to love each other for the rest of their lives, these promises are called vows. This love is reflected by their **wedding rings** which symbolise everlasting love. The bride may also wear a white wedding dress. This is a symbol of her purity and respect for God.

Marriage was one of God's gifts at creation. It is natural for a man and woman to leave their parents and become 'one flesh'.

For Christians the purpose of marriage is to provide a stable, secure environment for family life. It is the correct place to enjoy a sexual relationship, bring up children within a religious faith and provide lifelong support and companionship for one another.

Enquiry Task:

Explain either the nature or purpose of marriage for Christians [4]

7: What happens when we die?

Life after death is a fundamental belief in most religions. What form life after death takes is different in each religion and sometimes there is a difference of belief between members of the same religion. Some people without a religious belief also believe in life after death while others believe that there is no sort of existence after death.

Christian beliefs about life after death are based on the resurrection of Jesus Christ. Many Christians believe that after death, they will be taken into the presence of God and they will be judged for the deeds they have done or failed to do during their lifetime. This can be seen the parable of The Sheep and the Goats. After which they will be sent to either heaven or hell for eternity.

Heaven is described as:

"Wipe every tear from their eyes .There will be no more death or mourning or crying or pain "

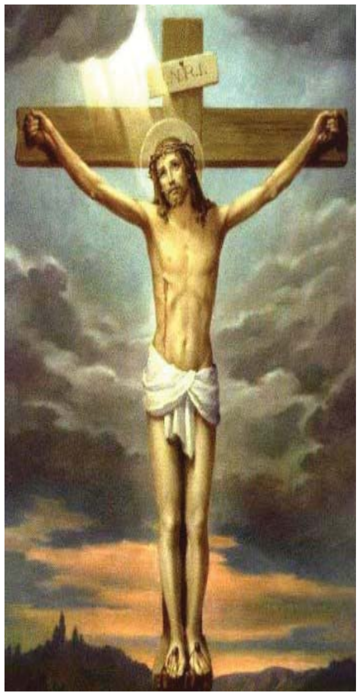
Hell is described as:

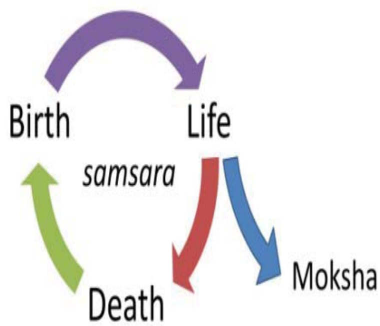
"Throw them into the blazing furnace, where they will be weeping and gnashing of teeth"

In contrast most Hindus believe that humans are in a cycle of death and rebirth called samsara. When a person dies, their atman (soul) is reborn in a different body. Hindus believe in karma or 'intentional action'. Many believe good or bad actions in life leading to positive or negative merit, determines the atman's rebirth.

Some Hindus believe that humans may be reborn in animal form, and that rebirth from human to animal form only occurs if an atman has repeatedly failed to learn lessons in human form.

Enquiry Task: Explain two contrasting beliefs about what happens when we die [4]





Year 7 - Combined Science - Cycle 1

Key vocabulary

●**Efficiency:** The proportion of energy a system transfers usefully.

●**Energy:** the ability of a system to do work, measured in Joules (J).

●**Fuel:** a substance which contains a store of chemical or nuclear energy that can be easily transferred.

●**Gravitational potential energy:** energy stored in an object due to its position in a gravitational field.

●**Insulation:** method or material used to reduce energy transfer by heating.

●**Kinetic energy:** energy stored in a moving object.

●**Non-renewable (fuel):** an energy resource which will run out as the supply cannot be replaced.

●**Renewable (fuel):** An energy resource that will never run out.

Week 1 - Energy stores and transfers

●**Energy** can be **stored** in different forms: Gravitational potential energy, Kinetic energy, Elastic potential energy, Chemical energy, Nuclear energy, Magnetic energy, Thermal energy.

●Energy can be **transferred** between these stores by: Heating (thermal), Light (radiant), Sound, Electrical Current.

●The **Conservation of Energy** states that energy cannot be created or destroyed, only transferred between stores in a system.

●**Useful energy** is energy in the form needed, in the place it is needed.

●**Wasted energy** is energy in an unwanted form or in an unwanted place.

●The efficiency of a system can be calculated as:

$$\text{Efficiency} = \frac{\text{Useful energy transferred}}{\text{Total energy transferred}}$$

●Wasted energy often **dissipates** (spreads out) to the surroundings as heat.

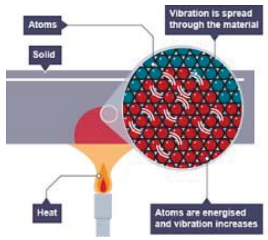
Week 2 - Energy transfer by heating

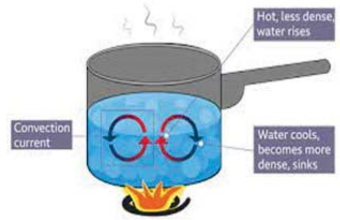
●Energy transfer by heating in different ways depending on the substance it passes through.

●In solids by **Conduction.** Vibrations passed between particles transfer energy. This is possible because the particles are touching.

●In Fluids (liquids and gases) by **Convection.** Particles in a substance gain energy and move further apart, decreasing the density. Less dense regions of the fluid rise, carrying the energy

. ●No material is needed for energy to be transferred by **Radiation**, energy is transferred as Infrared radiation (IR).





Week 3 - Energy resources

●Energy transfers can be reduced by **insulation.** ●Materials such as plastic and gas are good insulators. Materials which trap air prevent convection.

●**Electricity** is generated from **non-renewable fuels** including fossil fuels (coal, oil and natural gas) which emit **greenhouse gases** and nuclear fuels (uranium), which emit no greenhouse gases but do produce radio-active waste.

●Greenhouse gases including **carbon dioxide** that cause global warming and contribute to climate change. ●**Renewable resources:** Solar; wind, wave, geothermal, tidal, hydroelectric power. These emit no carbon dioxide as no fuel is burned.

●Renewable resources can be **unreliable**.

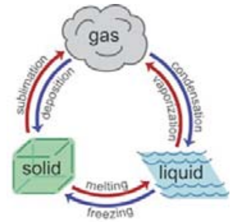
Week 4 - The particle model

●All **matter** is made up of tiny particles. ●The **particle model** explains state changes in terms of the arrangement, movement and energy stored in its particles. ●**Solids:** the particles are held closely together, by strong forces of attraction. Particles are arranged in a regular pattern and vibrate (wobble) about fixed positions. ●**Liquid:** the particles are also held closely together by fairly strong forces of attraction. However, the particles can move past each other.

●**Gas:** the particles are far apart from each other because the forces of attraction between them are weak. Particles move quickly in all directions.

Week 5 - Changes in state

●Transferring **energy** to a substance causes an increase in temperature. ●When the particles of a substance gain enough energy, the substance will undergo a **change in state**.



●Changes in state are **physical changes**, which means they can be reversed.

Key vocabulary

- **Atom:** the smallest particle of a chemical element that can exist
- **Compound:** contains two or more types of atom chemically combined together
- **Element:** a substance that contains just one type of atom
- **Mixture:** contains two or more substances that are not joined together
- **States of matter:** one of three different forms a substance can have (solid, liquid or gas)
- **Cell surface membrane:** thin barrier surrounding the cell that controls what enters and leaves.
- **Cytoplasm:** this is the jelly-like substance where the chemical reactions take place in the cell.
- **Mitochondria:** a structure found inside cells where aerobic respiration happens.
- **Nucleus:** a large structure that contains genes that control the activities of the cell .

Week 6 - Mixtures and purity

- **Pure substances:** are the same in all parts (fixed composition) and we can't separate them into other substances using physical methods (e.g. filtering or picking bits out).
- Pure substances can be an **element** or **compound**, with no other substances mixed in.
- Pure substances have a **fixed melting** and **boiling point.**
- **Mixtures** are **impure substances**, that contain elements and/or compounds that are not chemically joined together.
- Mixtures do not have a fixed composition and can be **separated** using physical methods.
- Mixtures melt and boil over **range** of temperatures.
- A flat section on a **heating/cooling curve** indicates a change in state.

Week 7 - Cells

- All living things carry out the 7 **life processes: Movement, Respiration, Sensitivity, Growth, Reproduction, Excretion** and **Nutrition.**
- **Cells** are the basic units from which **tissues** and all living things are made.
- Animal and plant cells have a **nucleus** and are described as **eukaryotic** cells.
- All animal cells have the same basic parts: **nucleus, cytoplasm, cell surface membrane, mitochondria** and **ribosomes**.
- Plant cells have thick **cell walls** and may have other features not found in animal cells: **chloroplasts** and a **permanent vacuole**.
- **Bacteria cells** do not have a nucleus and are described as **prokaryotic** organisms.

Week 8 - Specialised cells

- Some cells are **specialised** and have special functions (jobs). There are about 200 different types of specialised cells in humans.
- All human cells have the same basic design, but their sizes, shapes and sub-cellular structures can be different, so that specialised cells are **adapted** to their functions.
- **Differentiation** describes the process by which less specialised cells become more specialised for a particular function.
- **Nerve cells** (neurones) carry electrical impulses around your body. They are long and thin.
- **Red blood cells** transport oxygen around your body. They have a disc shape and unlike most animal cells they have no nucleus.
- **Root hair cells** have a large surface area to enable them to absorb water and nutrients from soil.

Week 9 - Organising organisms

- A group of similar cells that perform a particular function are known as a **tissue**.
- 2 or more tissues working together are known as an **organ**.
- A number of organs working together in the body are known as an **organ system**. E.g. the digestive system and the nervous system.
- An **organism** is made up of a number of organ systems.
- The **skeletal system** is made up of your bones, ligaments and tendons. It provides structure, produce blood cells and protect your body.
- Your **muscular system** works with your skeletal system to enable your body to move.
- Your muscles work in **antagonistic pairs** - when one muscle contracts and shortens, the other muscle relaxes and lengthens.

Week 10 - Using microscopes

- A **microscope** is used to magnify tiny things, such as cells.
- To use a light microscope safely:

1. Always start with the **objective lens** with the lowest magnification.
2. Place the slide you want to observe on the stage, holding it in place with the clips.
3. Adjust the light source so that the light goes up through the slide.
4. Look through the **eyepiece** and adjust the focusing wheel slowly until the image is clear..
5. Repeat steps 1 to 4 using an objective lens with a **higher magnification** to see the object in greater detail.

- **Electron microscopes** have a higher magnification and greater resolution, but are more expensive and cannot destroy the sample being observed.

Need to Know Dictionary: English

Word	Definition
Author	A writer of a book, article or document.
Narrative	A spoken or written account of connected events; a story.
Character	A person in a novel, play or film.
Theme	An idea that recurs in a work of art or literature.
Perspective	The viewpoint of the author.
Personification	Giving human qualities to an object.
Purpose	The author's reason for writing.
Imagery	Where the writer uses words to paint a picture to help the reader visualise what is being described.
Simile	A simile compares two things using the words, 'like' or 'as'.
Metaphor	A metaphor is a word or a phrase used to describe something as if it were something else.

Need to Know Dictionary: Maths

Word	Definition
Factor	A factor divides exactly into another number. There will be no remainder. For example, 2 is a factor of 6.
Multiple	A Multiple of a number is a number in its times tables
Prime	A Prime number has only two factors, 1 and itself.
Highest Common Factor	The highest common factor (HCF) is the largest number that is a factor of both numbers.
Lowest Common Multiple	The lowest common multiple (LCM) is the smallest number that is a multiple of both numbers.
Operation	A Mathematical process e.g. Add, Subtract, Multiply or Divide
Variable	a quantity that might change within the context of the problem
Term	a single number or variable
Coefficient	a multiplicative factor infront of a variable. e.g. 5x (5 is the coefficient, x is the variable)
Expression	a maths sentence with a minimum of two numbers and at least on math operation (no equals sign)

Need to Know Dictionary: Science

Word	Definition
Joule	The unit of energy, symbol J.
Renewable	An energy resource that can be replaced and will run out. Examples are solar, wind, waves, geothermal, and biomass.
Non-renewable	An energy resource that cannot be replaced and will be used up, such as coal, oil, or gas.
Cell	The smallest functional unit of a living organism. It contains parts to carry out life processes.
Cytoplasm	Jelly-like substance (found in cells) where most chemical processes happen.
Cell membrane	The cell component that surrounds the cell and controls movement of substances in and out.
Antagonistic muscle pair	A pair of muscles working in unison to create movement at a joint – as one muscle contracts, the other relaxes.
Diffusion	The process by which particles in liquids or gases spread out through random movement from a region where there are many particles to one where there are fewer.
Dissolve	The complete mixing of a solute with a solvent to make a solution.
Change of state	The process by which a substance changes from one state to another.

Need to Know Dictionary: Geography

Word	Definition
Ecosystem	A community of plants and animals that interact with each other and their environment
Biome	A plant and animal community that covers a large area of the Earth's surface (e.g. desert, tropical rainforest)
Adaptation	The process of change by which an organism or species becomes better suited to its environment
Deforestation	The cutting down of trees, transforming a forest into a cleared land for other uses such as a building or growing crops
Pollution	The presence in or introduction into the environment of a substance which has harmful or poisonous effects
Nutrient Cycling	Are on-going recycling of nutrients between plants and animals and their environment
Desertification	Is when the physical land in an area becomes drier and vegetation struggles to grow there
Overgrazing	Is when too many animals are allowed to eat the vegetation in an area for too long, so the vegetation cannot recover
Biodiversity	Is the wide range of plant and animal life that lives in an area or ecosystem

Need to Know Dictionary: Art

Word	Definition
Art movement	Is a tendency or style of art with a specific common philosophy or goal, followed by a group of artists during a specific period of time.
Onomatopoeia	The formation of a word from a sound associated with what is named (e.g. cuckoo, sizzle)
Formal Elements	The Formal Elements of Art are the parts used to make a piece of art work.
Refine	To develop and improve a piece of artwork.
Observational drawing	To carry out a drawing of something that you are looking at rather than something that is made up from memory.
Line	Defines shape, the outer edges of something.
Shape	The outline of objects.
Form	Appearing three-dimensional.
Tone	How dark or light a shape is.
Composition	The position and layout of shapes on the paper.

Need to Know Dictionary: History

Word	Definition
AD	Anno Domini (the years after Jesus Christ was born)
Army	Large group of soldiers
BC	Before Christ (the years before Jesus Christ was born)
Chronology	The order of events based on when they happened
Citizenship	To have rights in a country and be protected by its laws
Dictator	One person in charge, they make the rules on their own
Empire	A group of countries controlled by one government
Hierarchy	The order of people in an organisation based on power
Republic	A government elected (voted for) by the people
Tactics	Ways of doing things to win

Need to Know Dictionary: PE

Word	Definition
Tidal Volume	The amount of air inhaled or exhaled per breath.
Stroke Volume	The amount of blood pumped out of the heart per beat.
Cardiac Output	The amount of blood pumped out of the heart in one minute. Cardiac Output= Stroke Volume x Heart Rate
Fatigue	Physical fatigue is a feeling of extreme tiredness due to build up of lactic acid in the muscles or working for a long period of time.
Delayed Onset Muscle Soreness	The feeling of intense aching in your muscles after exercise.
Warm Up	Consists of a whole body exercise before physical activity to raise heart rate and body temperature, stretching to prepare muscles, ligaments and joints and practic-
Phases of Warm Up:	
1.Pulse Raiser	Gradually increase heart rate to increase blood flow and supply of oxygen to the working muscles.
2.Stretching and Joint Mobilisation	Increasing the elasticity of muscles through static or dynamic stretches. This helps to prevent injury. Movement of joints to prepare for activity.
3.Skills Practice	Performing skills or movements which are specific to your activity.
4.Mental Preparation	Focusing attention on the performance through mental strategies.

Need to Know Dictionary: Religious Studies

Word	Definition
Adaption	a process of change in which organisms or species become better suited to its environment.
Evil	the opposite of good. A force or the personification of a negative power that is seen in many traditions as destructive and against God.
Evolution	the process by which living organisms are thought to have developed and diversified from earlier life forms
Heaven	a state of eternal; happiness in the presence of God
Hell	a state of eternal suffering or state of being without God
Theodicy	a defence of God’s goodness and omnipotence in the view of the existence of evil.
Purgatory	the intermediate state where souls are cleansed in order to enter heaven
Parable	a biblical story with a hidden meaning or message
Sin	any action or thought that separates humans from God
Trinity	a belief that there are three persons in One God; the Father, the Son and the Holy Spirit are separate but also as one

Need to Know Dictionary: Food Technology

Word	Definition
Combine	This refers to when ingredients are mixed together when following a method for a recipe. For example, this could be combining yeast and bread flour with water to make bread dough or to combine sugar with butter and then adding the eggs and flour to make a cake.
Knead	You knead the bread dough to make it smooth and stretchy. The palm of the hand is used to push the dough away from you then it is pulled back towards you by folding it back over from the front then
Consistency	This refers to how a food holds together or what it looks and feels like. The consistency of a sauce could be thick or runny, smooth or lumpy
Incorporated	This refers to different ingredients being mixed together to make one thing such as bread dough, pastry and cheese sauce.
Equal	This refers to quantities being the same such as cake mixture being divided into cupcake cases or equal amounts of bread dough to make into rolls.
Even	This refers to products made evenly when cut out or shaped such as scones being all the same size and height. It could also refer to the surfaces being flat and smooth.
Presentation	How something looks when it is made and then presented on a plate or dish. It could be the edges of a pie or cupcake icing that has been presented in a decorative way or the meal may have been
Management	This could refer to time management where you are planning your time when preparing a dish to ensure the dish and its accompaniments (side dishes) are ready at the same time or management within a team working in a kitchen environment.
Method	When making a dish or a product a method is followed using step by step instructions. This helps to get each ingredient combined together in the correct order and prepared correctly as well.
Independent	Where you work on your own or follow a recipe by yourself with no help from others.

Need to Know Dictionary: ICT

Word	Definition
digital footprint	the information about a person that exists on the internet as a result of their online activity
computer network	two or more computers connected together to enable the sharing of resources such as printers, software, files
email	sending messages electronically from one computer to another or lots of computers via a network
computer system	a set of integrated devices that input, output, process, and store data and information.
Input device	An input device is something you connect to a computer that sends information into the computer.
Output device	An output device is something you connect to a computer that has information sent to it.
Data storage	A computer uses two types of storage. A main store consisting of ROM and RAM, and backing stores which can be internal, e.g. hard disk, or external, e.g. a USB flash drive.
Storyboard	A visual way to present information, created in a linear way to help explain a story, a process, a set of sequential drawings to tell a story.
Storyline	The plot of a story in a comic and the way in which it develops.
Textables	Speech or thought bubbles which contain a comic character's words. Used to help tell a story.

Year 7: Introducing Pop Art through Visual Elements

The Formal Elements: The Formal Elements of Art are the parts used to make a piece of art work. It is impossible to create a piece of art, even if it is only a doodle, without using some or all of them. The art elements are Line, shape, form, tone, texture, pattern, colour and composition. They are often used together and how they are organised in a piece of art determines what the finished piece will look like.

Line

A line is a path, left by a moving point. E.G. a pencil, or a paintbrush dipped in paint. A line can take on many forms. E.g. Horizontal, diagonal or curved. A line can be used to show contours, movements,

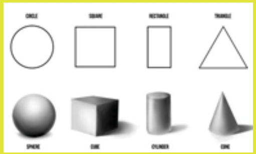
Tone

Tone means the lightness and darkness of something. This could be a shape and/or how dark or light a colour appears.

Shape & Form

A shape is an area enclosed by a line. It could be just an outline or it could be shaded in.

Form is a three dimensional shape such as a sphere, a cube or a cone.



Texture

Texture is the surface quality of something, the way something feels or looks like it feels. There are two types of texture, actual texture and visual texture.

Actual Texture: really exists so you can feel it or touch it.

Visual Texture: Created by using different marks to create the impression of actual texture.

Colour

There are three primary colours:

Red, Yellow, Blue

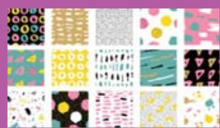
By mixing any two primary colours together, you get secondary colours.

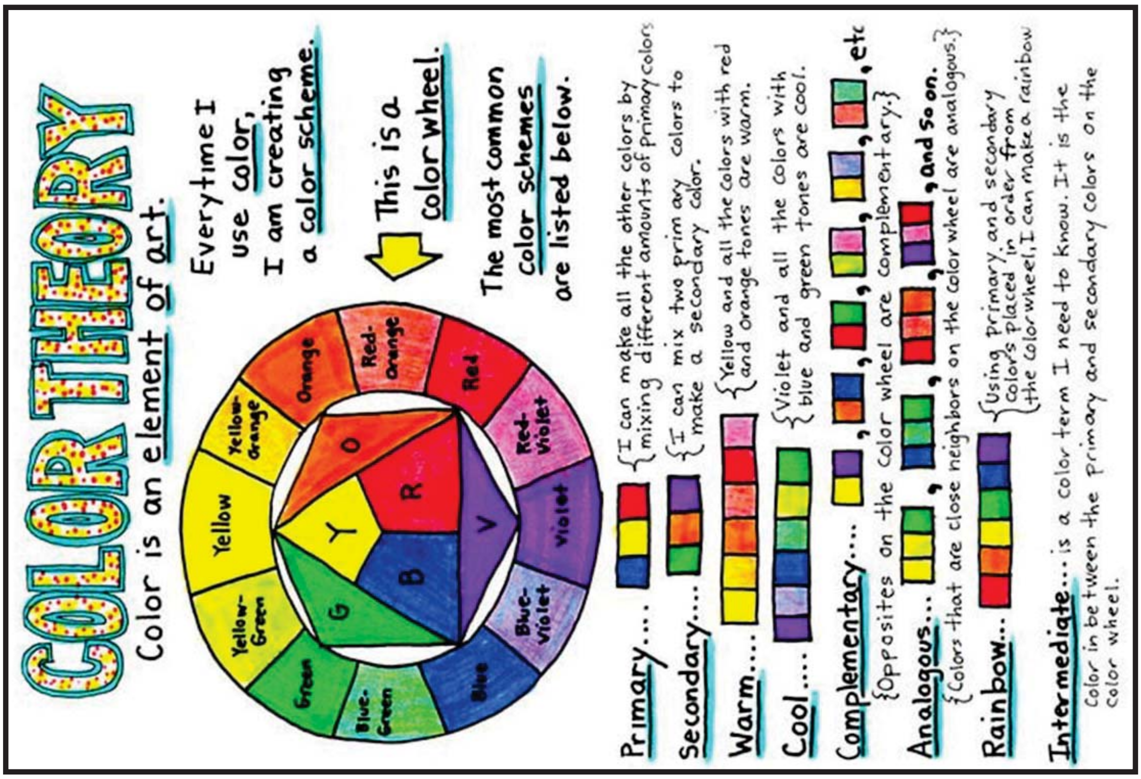
Orange, Green and **Purple**

Pattern

Pattern is a design that is create by repeating lines, shapes and tones or colours.

Patterns can be manmade such as a design on fabric or natural like the print on animal fur.





Pop Art is an art movement that emerged in the United Kingdom and the United States during the mid- to late-1950s. The movement presented a challenge to traditions of fine art by including imagery from popular and mass culture, such as advertising, comic books and mundane mass-produced objects.

Andy Warhol

Warhol is famous for exploring popular culture in his work. Popular culture is anything from Coca Cola to pop stars to the clothes people like to wear. He made a print of Campbell's Soup – a popular brand of soup in the United States. He said he ate Campbell's tomato soup every day for lunch for 20 years!

Roy Lichtenstein

Roy Lichtenstein was born in New York in 1923. He became famous for his bright and bold paintings of comic strip cartoons as well as his paintings of everyday objects. He was one of a group of artists making art in the 1960s who were called pop artists because they made art about 'popular' things such as TV, celebrities, fast food, pop music and cartoons.

Claus Oldenburg

Claes Oldenburg (born January 28, 1929) is a Swedish-born American sculptor, best known for his public art installations typically featuring large replicas of everyday objects. Another theme in his work is soft sculpture versions of everyday objects.

Key words	
Composition	The position and layout of shapes on the paper
Line	Defines shape, the outer edges of something.
Tone	How dark or light a shape is.
Shape	The outline of objects.
Form	Appearing three-dimensional.
Pattern	A repeated shape or line.
Texture	The feel or appearance of a surface, how rough or smooth it is.
Formal Elements	The Formal Elements of Art are the parts used to make a piece of art work.
Refine	To develop and improve a piece of artwork.
Observational	To carry out a drawing of something that you are looking at rather than something that is made up from memory.
Onomatopoeia	The formation of a word from a sound associated with what is named (e.g. *cuckoo*, *sizzle*)
Art movement	Is a tendency or *style* of *art* with a specific common philosophy or goal, followed by a group of artists during a specific period of time.
Mundane	Lacking interest or excitement; dull.
Mass Produced	Is the manufacturing of large quantities of standardised products, often using assembly lines or automation
Popular Culture	Popular culture is generally recognized by members of a society as a set of the practices, beliefs, and objects that

Art and Design Assessment Objectives:	DEVELOP	EXPERIMENT	RECORD	PRESENT
	Artist Research. Explore Ideas. Be Inspired. Personal comments and opinions.	Explore different materials Explore different techniques Refine your work Evaluate your success	Observational drawings Collecting image Taking photos Annotating your work	Produce a final piece Link to prep work from project.