

A photograph of All Saints Academy Plymouth building. The building is modern with white and red sections. In the foreground, a welder is working on a metal piece, creating bright sparks. The scene is overlaid with a purple gradient at the bottom.

ALL SAINTS
ACADEMY PLYMOUTH

NEED TO KNOW BOOK

Year 7
Spring Term 2024

ALL SAINTS
ACADEMY PLYMOUTH

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Timetable

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



Your 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



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



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 <i>Maths</i>	Subject <i>English</i>	Subject <i>Science</i>	Subject	Subject	Subject	Subject	Subject	Subject	Subject
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 _____
signature _____

Tutor

Improving Your Long Term Memory

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.

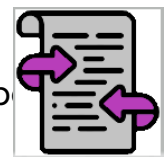
You can support your working memory by storing key facts and processes in long-term memory. These facts and processes can then be **retrieved** to stop your working memory becoming overloaded.

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.

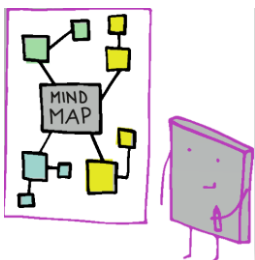
There is strong scientific evidence from cognitive psychology that shows the benefits of **self-quizzing** in promoting **retrieval strength**. This is your ability to quickly recall key facts related to your subject or topic

How should I self-quiz and how often?

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



You could:



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

Look,
Cover,
Write,
Check

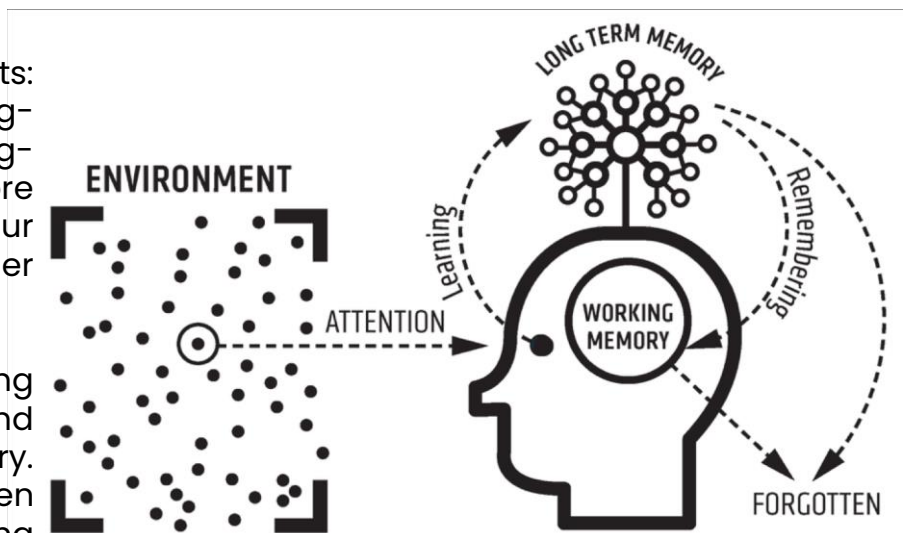
Cover up one section of the need to know booklet and try and write out as much as you can from memory.



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.

BOLD steps to your BRIGHT future



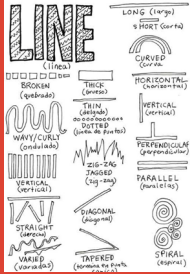
Visit our amazing careers section of the ASAP website or use your UNIfrog account to help you make those all important decisions for your future.

Post 16 pathways of Plymouth — Sixth forms — Apprenticeships — Employment — Resources
Support — Opportunities — Choosing a career — Parents guide — Writing a CV — Employability skills

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.

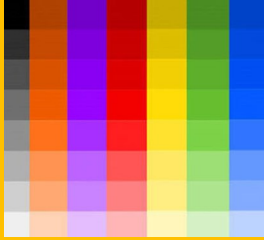
Line

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, expressions.



Tone

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

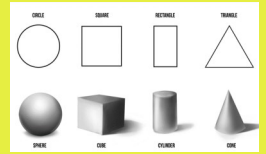


Shape & Form

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.

Sculpture and 3D design are all about forms.



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.



COLOR THEORY
Color is an element of art.

Everytime I use color, I am creating a color scheme.

This is a color wheel.

The most common color schemes are listed below.

Primary.... { I can make all the other colors by mixing different amounts of primary colors }

Secondary.... { I can mix two primary colors to make a secondary color. }

Warm.... { Yellow and all the colors with red and orange tones are warm. }

Cool.... { Violet and all the colors with blue and green tones are cool. }

Complementary.... { Opposites on the color wheel are complementary. }

Analogous.... { Colors that are close neighbors on the color wheel are analogous. }

Rainbow.... { Using primary and secondary colors placed in order from the color wheel, I can make a rainbow }

Intermediate.... is a color term I need to know. It is the color in between the primary and secondary colors on the color wheel.

Cubism

was a revolutionary new approach to representing reality invented in around 1907–08 by artists Pablo Picasso and Georges Braque. They brought different views of subjects (usually objects or figures) together in the same picture, resulting in paintings that appear fragmented and abstracted.




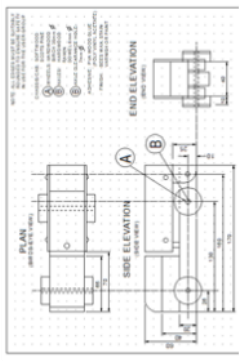




Pablo Picasso

Pablo Picasso is considered to be one of the most famous painters in the twentieth century. He was **born in Malaga, Spain on October 20, 1881**. In addition to painting, Picasso was also a printmaker, ceramicist, stage designer, poet and playwright. He spent most of his adult life in France.



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 drawing	To carry out a drawing of something that you are looking at rather than something that is made up
Cubism	An Art movement that had a new approach to representing different views of a subject in one piece of art. The result was fragmented and abstracted pieces.
Art movement	Is a tendency or <i>style</i> of <i>art</i> with a specific common philosophy or goal, followed by a group of artists
Fragmented	broken or separated into distinct parts.
Proportions	a part, share, or number considered in comparative relation to a whole.
Abstract	Art that does not attempt to represent external reality, but rather seeks to achieve its effect using shapes, colours, and textures.

Art and Design Assessment Objectives:	DEVELOP	Artist Research. Explore Ideas. Be Inspired. Personal comments and opinions.	EXPERIMENT	Explore different materials Explore different techniques Refine your work Evaluate your success	RECORD	Observational drawings Collecting image Taking photos Annotating your work	PRESENT	Produce a final piece Link to prep work from project.
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Week 2	Week 4	Week 6	Week 8	Week 10
<p>know how to mark out</p> <p>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.</p>  <p>The diagram above shows two areas for cutting that are hatched to mark the waste material. You should cut between the lines.</p> <p>To measure and mark out accurately in the workshop you should use a TRI SQUARE and a STEEL RULE for small jobs or a TAPE MEASURE for larger materials.</p>  	<p>know about manufacturing drawings</p> <p>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)</p>  <p>know your hand tools</p> <p>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.</p> 	<p>know your clamping tools</p> <p>A BENCH HOOK fits into the BENCH VICE for sawing at 90° to the grain.</p>  <p>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.</p> <p>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.</p>  <p>know your machine tools</p> <p>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.</p>	<p>know your workshop safety</p> <p>Make sure you always follow the rules of the workshop.</p> <ol style="list-style-type: none"> 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 your 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 	<p>know your PPE</p> <p>PPE stands for Personal Protective Equipment. In the workshop you must always wear goggles 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.</p>  <p style="text-align: center; background-color: blue; color: white; padding: 5px;">Eye protection must be worn</p>

A	<p>The writer presents [topic] through...</p> <p>The theme of [topic] is shown by the writer through...</p> <p>The idea of [topic] has been used by the writer to...</p>
N	<p>The phrase '...' suggests...</p> <p>We can see this in the phrase '...' which implies...</p> <p>This is highlighted through the line '...' which shows...</p>
A	<p>Additionally, the line '...' also emphasises...</p> <p>Linking with this, the quotation '...' shows...</p> <p>The idea is [extended/contrasted] through the line '...'</p>
L	<p>The imagery suggests...</p> <p>The word choice '...' could imply...</p> <p>The [method] might show...</p>
Y	<p>Although there is a sense of..., there is also the idea of...</p> <p>Alternatively, it could be argued that...</p> <p>A reader may also understand that...</p>
S	<p>Structurally, the use of... may show...</p> <p>The perspective may imply...</p> <p>The writer has chosen to use a form to suggest...</p>
I	<p>The writer's intentions may have been to show...</p> <p>The writer felt it was necessary to present this as...</p> <p>The writer did this to demonstrate...</p>
S	<p>Contextually, the writer may be reflecting the time as...</p> <p>The writer used these themes to reflect on society as...</p> <p>The text reflects society as...</p>

Key Method	Definition
Setting	Where the story or character is located
Motif	A recurring idea in the text
Colour Connotations	Natural meanings linked to colours
Structure	The way a text is built
Symbolism	An object that represents something else
Onomatopoeia	Words which sound like their meaning
Repetition	A word used more than once
Tone	Mood or attitude
Perspective	Viewpoint
Cliffhanger	No clear ending which answers the readers questions

Text Summary:

Eleven year old October lives in the woods with her dad.

Her Dad is horribly injured in an accident and October is forced to leave her home in the woods to stay in London with her mum.

At first October hates the city and her mother for forcing her to move there.

Slowly October adapts to her new surroundings and discovers mudlarking on the Thames.

Eventually October opens up to her mum and decides the city isn't as bad as she once thought.

Key themes: Nature Discovery Change Imagination

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 lower sugar options.

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



↑
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
- ◇ **Raising agents** help the cake to rise



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 2

	French	English
Week 1	Aujourd'hui elle donne l'exemple et elle demande la raison.	Today she gives the example and she asks for the gift.
Week 2	Nous regardons un film préféré à la télé et nous marchons dehors.	We are watching a favourite film on the television and we are walking outside.
Week 3	Ils étudient l'histoire et ils jouent ensemble.	They are studying history and they are playing together.
Week 4	Vous fermez la fenêtre dans la salle de classe.	You are closing the window in the classroom.
Week 5	Il y a deux portes, trois chemises et quatre élèves.	There are two doors, three shirts and four pupils.
Week 6	Nous sommes sages et les parents sont stricts.	We are well-behaved and the parents are strict.
Week 7	Vous avez un enfant ? Oui, nous avons un enfant ici.	Do you have a child? Yes, we have a child here.
Week 8	Nous faisons la liste et ils font la fête. D'accord ?	We are making the list and they are having a party. OK?
Week 10	Tu vas au parc quand ? Je vais au parc samedi.	When are you going to the park? I'm going to the park on Saturday.

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

Each week you should try 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:

French

Week 1		Week 2			Week 3		Week 4			Week 5		
à	at, to	préférée(e)	favorite	une élève	a pupil (f)	le tableau	board	une	a, an (f), one (f)			
l'exemple (m)	example	le film	film	un élève	a pupil (m)	la classe	class	un	a, an (m), one (m)			
normalement	normally	la maison	house	le fruit	fruit	la porte	door	des	some			
le cadeau	present, gift	le déjeuner	lunch	ensemble	together	bien	good, well	il y a	there is, there are			
la raison	reason	dehors	outside	l'histoire (f)	history, story	la salle	room	deux	two			
que	that	la partenaire	partner (f)	la radio	radio	la chemise	shirt	trois	three			
demander	to ask for, asking for	le partenaire	partner (m)	elles	they (f)	le silence	silence	quatre	four			
donner	to give, giving	la télé	television	ils	they (m, m/f)	fermer	to close, closing	cinq	five			
montrer	to show, showing	préparer	to prepare, preparing	jouer	to play, playing	la fenêtre	window	six	six			
penser à	to think about, thinking about	marcher	to walk, walking	chanter	to sing, singing	vous	you (plural)	sept	seven			
penser	to think, thinking	regarder	to watch, watching	étudier	to study, studying			huit	eight			
aujourd'hui	today	travailler	to work, working					neuf	nine			
		manger	to eat, eating					dix	ten			
		nous	we					onze	eleven			
								douze	twelve			
Week 6		Week 7			Week 8			Week 9			Week 10	
ils sont	they are, they are being (m, m/f)	ils ont	they have, they are having (m, m/f)	ils font	they do, they make (m, m/f)			aller	to go, going			
elles sont	they are, they are being (f)	elles ont	they have, they are having (f)	elles font	they do, they make (f)			je vais	I go, I am going			
nous sommes	we are, we are being	nous avons	we have, we are having	nous faisons	we do, we make			tu vas	you go, you are going			
vous êtes	you are, you are being (pl)	vous avez	you have, you are having (pl)	vous faites	you do, you make (pl)			il va	he goes, he is going			
le frère	brother	une enfant	a child (f)	attention	attention			elle va	she goes, she is going			
ouvert(e)	open	un enfant	a child (m)	l'effort (m)	effort			la caisse	checkout			
les parents (m pl)	parents	aussi	also	l'exercice (m)	exercice			le jour	day			
la sœur	sister	difficile	difficult (m/f)	la fête	celebration, party			comment	how			
strict(e)	strict	la famille	family	la liste	list			le parc	park			
sage	well-behaved	pour	for	d'accord	OK			la poste	post office			
jeune	young (m/f)	ici	here					samedi (m)	Saturday			
		dans	in					le collège	secondary school			
		le problème	problem					le train	train			
		très	very					quand	when			
								où	where			

Revision of Cycle 2 vocabulary

YEAR 7 CYCLE 2 GEOGRAPHY – Population & Migration Knowledge Organiser

WEEK 1

Population: the number of people living in a particular place.

Population distribution: the pattern of where people live and how populations are spread out.

Megacity: a city with a population of over 10 million people.

Sparsely populated: areas with few people living in them.

Densely populated: areas with many people living in them

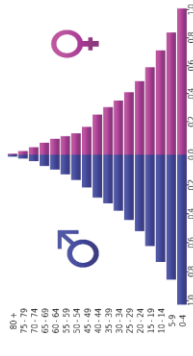
Current global population: 7.8 billion people.

WEEK 2

Population pyramids: a bar graph that shows the structure of a population by sex and age category.

Birth rate: the number of people born in a year, measured for every 1000 of the population.

Death rate: the number of people who dies in a year for every 1000 of the population.



WEEK 3

Nigeria's youthful population
Nigeria is a **Newly Emerging Economy (NEE)**.
Nigeria is Africa's most populated nation with 170 million people.
It's fertility rate (how many babies a woman has) is twice the world average at 5.5 births per woman.
Half of all Nigerians are under the age of 15.
Half of Nigeria's population lives on less than \$1.90 per day.
Nigeria's population is predicted to be 402 million by 2050.

WEEK 4

The UK's ageing population
The UK is a **High Income Country (HIC)**.
In 2016, there were 11.8 million people aged over 65 in the UK (18% of the population).
Advantages: Pass on their experience and knowledge, they fulfil childcare roles for their grandchildren and have money to spend in leisure activities.
Disadvantages: Less economically active people, strain on healthcare and the government not having enough money for pensions.

WEEK 5

Demographic Transition Model: a model linking population changes with development changes over time.

Stage 1: birth and death rates are high due to famine and disease.

Stage 4: birth and death rates are low due to good healthcare.



WEEK 6

China's One Child Policy (OCP)
China's OCP started in 1979 to control rapid population growth. It was changed to two children in 2015.
Rules used to be that you could only have one child if you lived in the city but two in the countryside if your first was a girl.
Now, the government is concerned about an ageing population slowing down their economy.
'Little emperors' was the term used to the single children born as part of the OCP.

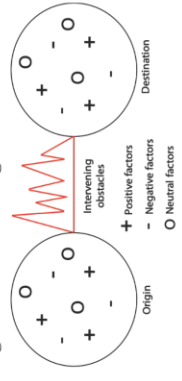
WEEK 7

Migrant: someone who moves from one place to another.

Forced migrants: people who have no choice to move from one place to another due to war or natural disasters.

Push factors: things that make people want to leave an area e.g. lack of jobs.

Pull factors: good things that attract people to a new place e.g. better housing.



WEEK 8

Mexico to USA migration
The number of Mexican-born immigrants living in the USA soared from 760,000 in 1970 to a peak of 12.6 million in 2007, including many entering the country illegally.
The USA is a rich and attractive nation
Mexico is a much poorer country with a rapidly growing population. It has problems of high crime rates, corruption and poor education.
Mexicans have filled jobs in the USA as farm laborers, factory workers and cleaners.

WEEK 9

Syria to Europe migration
Refugees: people who have been forced to move away from their home country to seek safety in another country.
Civil war erupted in Syria in 2011 and an estimated 11 million people fled their homes.
Many Syrians sought refuge in neighbouring countries such as Turkey.
People traffickers offered Syrian migrants transportation across the Mediterranean Sea, which is illegal. Migrants travelled in low quality, dangerous and overcrowded boats.

WEEK 10

India's growing cities
Rural-urban migration: the movement of people from the countryside to towns and cities within a country.
Urbanisation: an increasing percentage of a country's population moving from the countryside to towns and cities.
Slums: a densely populated urban area with poor quality housing.
Impact of rural-urban migration: fewer people to feed & more resources in rural areas. However, elderly remain and fewer workers on the land.

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

KEYWORDS

Biased = one sided

Contemporary = from the time

Interpretation = version of

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

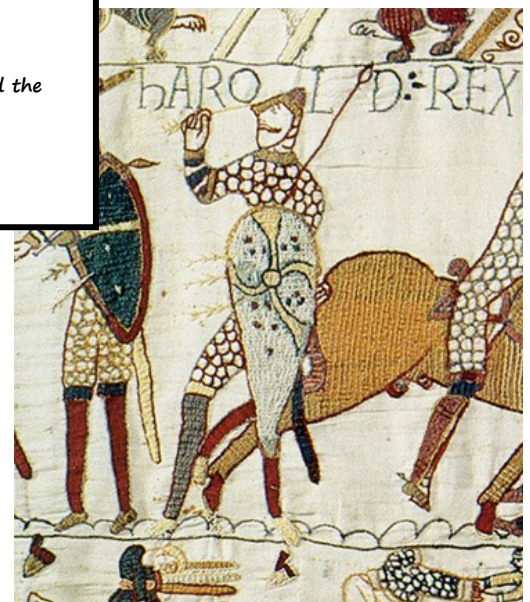
FAMOUS SOURCE

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.



What was it like to live through the Black Death?

How did the Black Death end up in England?

- A mysterious disease was reported first in Asia (north of modern day India) along the Silk Road trade route.
- The Mongolian soldiers attacking the city of Caffa got sick with the disease.
- From Caffa the disease was spread onto the ships and trade routes to Italy.
- French and English trade ships brought the disease to western Europe.

How did people try to avoid or cure the Black Death?

- The disease was named the "Black Death" because it caused dark patches to appear on the skin (caused by internal bleeding and rotting).
- The Black Death caused fear and panic because the symptoms were visible and death could be sudden. The main symptom was the "buboes" (swelling of the lymph glands) and it took only three days to kill a healthy person.
- People at the time blamed the disease on a punishment from God, an imbalance of the Four Humours, and bad smells caused "miasmata".
- As a result people tried to cure the plague with praying, not eating, lancing the buboes, and strong herbal smells.
- Likewise, people tried to avoid the Black Death by whipping themselves, going on pilgrimages, carrying herbs in a posey, and blood letting.

What was the wider affect of the Black Death around the world?

- In Islamic countries the disease was more controlled as people were told to accept their deaths as a sacrifice to Allah and not to run away. Islamic scholars and doctors were more advanced than their Christian counterparts at the time.
- In modern day Austria, Germany, and Hungary; Jewish people and other minority groups were blamed for the Black Death and attacked.
- Historians believe that 40% of Europe's population died as a result of the Black Death.

How did the Black Death save England from Scotland?

- In 1349, Scotland took advantage of a weakened England and invaded the north.
- However, some of the Scottish soldiers got sick in the city of Durham and took the disease home with them.
- The next summer (1350), the Black Death spread throughout Scotland and prevented further invasions.

How did the Black Death affect England?

- The loss of life in England was 30%-50%. This reduced the amount of farmers and workers.
- Villages were deserted and towns such as Bristol lost up to 60% of their people.
- Workers demanded higher pay, and the survivors inherited from the dead.

HISTORIAN SKILLS

Knowledge
Explanation
Using Sources

KEYWORDS

Contagious = something that spreads from one person to another

Flagellants = people that whipped themselves

Miasma = bad air

Pandemic = a disease that affects many people in a large area

Quarantine = isolation

Trade route = the path taken by people selling things. These can be on land or sea

IMPORTANT DATES

1127 = The word "quarantine" used for the first time as a 40 day isolation to avoid the spread of disease in Venice.

1337 = Hundred Years' War between England and France began

1345 = Black Death appears in Asia along the Silk Road

1346 = Siege of Caffa

1347 = Plague arrives in Italy along trade routes

1348 = Plague arrives in Weymouth, Dorset on a trade ship

1349 = Scotland invaded England and attacked the city of Durham.

1350 = Plague spreads in Scotland

1351 = Wages reduced to pre-plague levels and workers not allowed to demand more

1377 = New poll tax

1381 = Peasants' Revolt

FAMOUS SOURCE

Nature = an extract from a book called "History of the Scottish Nation"

Origin = John Fordun in c.1380

Purpose = to record and remember events for future generations

In the year 1350, there was, in the kingdom of Scotland, a great plague. Nearly a third of mankind died. By God's will, this evil led to a strange kind of death, the flesh of the sick was somehow puffed out and swollen. Now this attacked everywhere, especially the common people but rarely the nobles.

Using ICT

Topic of Learning	I will need to know:	So that I can:
ASAP Computer Network	<p>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.</p>	<p>Confidently log on to the school computer network and successfully save work to the Home area and access files from the shared area.</p>
Effective file and folder management	<p>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.</p>	<p>Navigate a network directory and locate folders in order to successfully open required files. Create and name new folders appropriately.</p>
Using E-mail	<p>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.</p>	<p>Write, send and save e-mail messages and manage my own school e-mails effectively and use the system in an appropriate way.</p>
Digital Footprint	<p>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.</p>	<p>Manage my own digital footprint and be aware of my online presence and take steps to reduce my digital footprint.</p>
E-Safety	<p>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</p>	<p>Use the internet in a safe and responsible way. Recognise the risks and know how to avoid them.</p>

Using ICT

Topic of Learning	I will need to know:	So that I can:
Input and output devices	<p>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.</p>	<p>Correctly identify examples of input/output devices and explain their purpose.</p>
Storage devices	<p>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.</p>	<p>Identify examples of secondary storage and be able to group them into their correct media type.</p>
Communication methods	<p>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.</p>	<p>Confidently use a range of communication technology effectively and comment on their benefits and drawbacks.</p>
Hardware and software	<p>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.</p>	<p>Identify the hardware components of a computer and explain their use/purpose. Explain examples of system and application software.</p>
Health and safety using computers	<p>When using computers, there are a number of health and safety issues that need to be taken into consideration. Health 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.</p>	<p>Identify health and safety issues when using computers and know how to avoid issues occurring.</p>

Word	Used in context	Definition	Example
Prime	Which of the following numbers are prime ?	A number with exactly two <i>different</i> factors; one and itself.	$\frac{2}{1\ 2}$ $\frac{3}{1\ 3}$ $\frac{5}{1\ 5}$
Indices (pl.) / Index (sing.)	Express $3 \times 3 \times 3 \times 3 \times 3$ in index form.	A number which shows how many times a number or letter has been multiplied by itself.	$3 \times 3 \times 3 \times 3 \times 3 = 3^4$
Triangular Numbers	What is the 2 nd triangular number ?	The result of adding all previous integers together.	
Square Numbers	What is the 5 th square number ?	The result of multiplying a number by itself.	
Cube Numbers	What is the 3 rd cube number ?	The result of multiplying a number by itself and then itself again.	$2 \times 2 \times 2$ 
Mixed Number	Express $\frac{12}{5}$ as a mixed number .	A number made up of an integer (whole number) and a proper fraction.	$2\frac{2}{5}$ $5\frac{3}{4}$ $12\frac{1}{10}$
Improper Fractions	Express $2\frac{1}{2}$ as an improper fraction .	A number where the numerator is greater than the denominator.	$\frac{6}{4}$ $\frac{17}{5}$ $\frac{23}{7}$
Simplest Form (Fractions)	Write the fraction $\frac{5}{10}$ in its simplest form .	Smallest possible equivalent fraction where the numerator and denominator have no common factors.	$\frac{24}{30} = \frac{12}{15} = \frac{4}{5}$ $\frac{-2}{-2} = \frac{4}{-4} = \frac{5}{-5}$
Cross-cancelling	By using cross-cancelling , multiply the following fractions and give your answer in its simplest form	The process of finding a common factor between the numerator of one fraction and the denominator of another fraction and dividing each by this.	$\frac{2}{9} \times \frac{3}{7} = \frac{2 \times 1}{3 \times 7} = \frac{2}{21}$
Percentage	A class contains 10 students, 5 of them are boys. What percentage of the class are boys?	Number of parts per hundred	$\frac{30}{100} = 30\%$

Word	Used in context	Definition	Example
Term	In the expression $4x + 7$, $4x$ is the x-term and 7 is the number term .	A single number or variable (letter).	
Variable	The variable in the expression letter x .	A symbol (usually a letter) that represents an unknown number.	
Co-efficient	The co-efficient of $5x$ is 5.	A number used to multiply a variable. Variables with no number have a co-efficient of 1.	
Equation	The equation only has a variable on one side.	Two collections of terms that are equal.	
(To) Solve	Solve the following equation to find the value for x	Finding the value of an unknown variable.	$y + 14 = 20$ $-14 \quad -14$ $y = 6$
Inverse	What is the inverse operation for addition?	The process of undoing a calculation by doing the opposite operation.	
Linear Equations	Solve the linear equation .	An equation where the variable has a power of 1.	$y = 6x + 8$
Substitute	Substitute $y = 4$ into the expression: $3y + 6$.	The process of replacing a variable in an equation, expression or formula with a known value.	$5x + y$ If $x = 4$ and $y = 3$ $5 \times 4 + 3$
Ratio	The ratio of boys to girls in my class is 5 : 4.	A ratio says how much of one thing there is compared to another.	
Proportion	What proportion of my class are boys?	A number considered in comparison to the whole amount.	
Direct Proportion	Distance and speed are in direct proportion .	When two amounts are in proportion, and one increases as the other increases.	
Scale Factors	Find the scale factor that transforms shape A to Shape B	The number you multiply one amount by to get to another amount.	

TASK– How healthy and fit are you? What makes you think that? Explain how would exercise help to improve your physical, mental and social health?

1

What is Health and Fitness?

Health is ‘a state of complete physical, mental and social well-being, not simply being absent of disease or serious illness.’

Fitness is ‘the ability to meet the demands of the activity.’

Someone could be physically fit but not healthy. For example, an athlete could have excellent cardiovascular endurance or flexibility but have an eating disorder or rarely socialise with others.

Fitness Components

TASK– Learn the definitions for the components of health related fitness.

TASK– Recall the components of health related fitness and describe a sporting example of when they are needed.

2

3

Health Related Fitness Components– Required in everyday life, as well as sporting performance

Memory Tip– My School Sport Can Produce Fitness

Muscular The ability of the muscles to repeat **muscular**

Endurance **contractions**, avoiding fatigue.

Strength The ability of the muscles to **exert force** against a resistance.

Speed The ability to **move body parts as quickly** as possible.

Cardiovascular The ability of the heart and lungs to supply **oxygen** to

Endurance **the working muscles** for a long period of time.

Power A combination of **maximum speed and strength**.

Flexibility The **range of movement** possible at a joint.

Physical Health

“body systems working well”

“coping with normal stresses of life”

Mental Health

“being socially active and confident in social situations”

Social Health

Exercise helps to: **Exercise helps to:**

- Make the **heart stronger** and blood vessels working well
- Makes **bones and muscles stronger**
- Reduces risk of Type 2 Diabetes, obesity or heart disease
- **Reduce** levels of **stress** or **risk of depression**
- Release a feel good hormone called **serotonin**, helping to make you happier
- **Control emotions** better
- Provide opportunities to **make friends** or socialise with others
- Develop the ability to work with others
- Develop confidence in social events

Fitness Components

TASK– Learn the definitions for the components of skill related fitness.

TASK– Recall the components of skill related fitness and describe a sporting example of when they are needed.

4

5

Skill Related Fitness Components– Specifically needed in sporting activities

Memory Tip- **BCRAT**

Balance The ability to **keep the body stable** over a base of support in static and dynamic situations.

Co-ordination The ability to **move two or more parts of the body together**, smoothly and efficiently (no wasted movements).

Reaction Time The amount of **time taken to respond to a stimulus** (i.e. a gun shot to start a 100m race).

Agility The ability to **change direction** quickly at speed.

Timing The ability to produce a **movement at the optimum (best) time**.

Week 1: Who are the Gurus?

The first Guru of Sikhism was called Nanak, he was born in 1469 CE in India. Nanak's parents were Hindu and he grew up as a Hindu. When he got older, he started to work in a government office where a lot of his colleagues were Muslim. When he was 30 Nanak went to bathe in the river and he disappeared. People searched for him for 3 days but could not find a trace of him, they thought he must have drowned. When he reappeared, he said "there is neither Hindu nor Muslim". He said he had been taken to see God. He had a vision where he learnt that all people are the same even if they follow a different religion. He spent the next 20 years of his life travelling teaching people what he learnt in his vision. Guru Nanak died in 1539 and selected the next Guru to lead.

Enquiry Task:

1. Explain Guru Nanak meant by 'there is neither Hindu nor Muslim'



Week 2: Who are the Gurus?

1. Guru Nanak
2. Guru Angad: he is remembered as the Guru who worked out of the Gurmukhi/alphabet.
3. Guru Amar Das: he was the first Guru to choose men and women to go out and preach to other people about the new faith.
4. Guru Ram Das: he is remembered for writing the hymns.
5. Guru Arjan: he was the first Guru born a Sikh
6. Guru Har Gobind: he was a Guru for 40 years and lived like soldier.
7. Guru Hai Rai: he tried to make peace between Sikhs and Muslims.
8. Guru Har Krishan: he was only 5 when he became Guru. He died when he was 8.
9. Guru Tegh Bahadur: he was killed because he refused to change his religion.
- 10: Guru Gobind Singh: he was only 9 when he became Guru. He started the Khalsa. When he died he said he was not going to choose a new human Guru instead Sikhs would learn from their holy book the Guru Granth Sahib.



Enquiry Task:

1. Explain two contrasting beliefs for the origin of humanity.

Week 3: Do all Sikh's wear the 5K's?

The Khalsa, at the time of the 10th Guru Sikhs were being persecuted for their faith. So Guru Gobind Singh decided to form a fighting force which would defend the faith. During the meeting he asked all the Sikhs if anyone would be willing to die for their faith.

He asked this question 3 times before one man stepped forward.

The Guru took him into the tent. He repeated his question 4 more times and each time someone else stepped forward.

The people outside heard a thud and saw Guru Gobind Singh exit the tent with a blood-stained sword. People thought he had killed 5 men. When the Guru exited the tent the 5th time he came out with all 5 men, who were alive. He told the people the men should be called panj piare (beloved ones) because they were willing to die for their faith. The 5 men were the first men to be apart of a group called he Khalsa.



Enquiry Task:

1. Draw a diagram of a Sikh man and label each of the 5K's and what they symbolises.

Kanga	Kesh	Kara	Kirpan	Kachera
	This is the uncut hair which symbolises spiritual power		A Sikh sword, a symbol of respect and justice	
A special comb that represents cleanliness		A steel bangle, symbolising unity, of self and a process of constant learning		A special pair of shorts. These are a symbol of modesty

Week 4: Where and how do Sikhs worship?

The Guru Granth Sahib is the Sikh holy book. It was started by the first Guru. It has the teachings of nine Gurus in it. Nothing has been added to the book since 1706CE. The Guru Granth Sahib is made up of hymns written by Guru's and hymns written by Hindu and Muslim holy men. It also includes advice about the right way to live.

Some Sikhs have a copy of the Guru Granth Sahib at home. It should not be placed on a shelf like other books but have its own room. The room that has the Guru Granth Sahib in becomes a Gurdwara. The Guru Granth Sahib is used in all Sikh worship.

When it is open it is placed on a cloth and three cushions, someone always sits behind it and it is never left alone. When it is closed it is covered by a special cloth. Every night it is put away in a special ceremony.

Enquiry Task:

- Q) How is respect shown towards the Guru Granth Sahib [4]

Week 5: What festivals do Sikhs celebrate?

Enquiry Task:

1. Explain how and why Sikhs celebrate Baisakhi [4]

Festivals	Why is it celebrated?	When is it celebrated?	How is it celebrated?
The Birthday of Guru Nanak	This is the most important gurburb (festival in honour of a Guru).	The celebration usually lasts 3 days.	There are processions and people sing the hymns written by the Guru and hand out sweets, fruit and non-alcoholic drinks.
Baisakhi	Baisakhi is the festival which celebrates the founding of the Sikh community, the Khalsa, in 1699	Baisakhi is a spring festival which happens on the 13th or 14th of April every year.	On Baisakhi, Sikhs go to the Gurdwara in the morning for a service. Afterwards, they have a procession through the streets with lots of singing, chanting and colourful clothes. In the evening, Sikhs have a special meal with family and friends.

Week 6: How does Sikh family life compare to mine?

Sikhs believe that the birth of an individual is a special gift from God and should therefore be celebrated. **Sikhs celebrate the birth of a child through a naming ceremony called Naam Karan.** This is a special ceremony that happens at the **Gurdwara** around two weeks after the birth of the child.

Sikh parents often make important decisions for their children including who they should marry. This is known as an **arranged marriage**.

Enquiry Task:

1. What are the advantages and disadvantages of an arranged marriage?



Week 7: Do Sikhs believe in an afterlife?

Sikhs do not believe that death is the end. This is because they **believe in reincarnation**; the belief that they will be reborn after death.



When a person dies their body is washed and **dressed in the 5 k's wrapped in a white sheet and is cremated.** At the funeral prayers are said. After the cremation the ashes are scattered on running water

Sikhs believe that life is a cycle of birth, death and rebirth. **This is known as the cycle of samsara.** Many believe that there are over **8.4 million** different life forms a person might have to experience before they are liberated from the cycle of samsara. Sikhism teaches that all beings, including animals and humans, have a soul, known as the **atma** and are part of the cycle of reincarnation. **The body that the atma is born into is determined by the karma gained in its previous life. The highest possible being on Earth is a human.**

The cycle of samsara repeats itself until the atma has been liberated from the pattern and is reunited with Waheguru in mukti. In order to reach mukti, Sikhs must live their life with Waheguru in their mind at all times a life that gurmukh which means God centred. **A Sikh must rid themselves of all bad karma and focus on gaining good karma.**

Enquiry Task:

1. Explain two contrasting beliefs about what happens when we die

Motion — Calculating Speed

Speed is a measure of how **fast** something or someone is moving. The average speed can be calculated from the distance travelled and the time taken. You can calculate average speed using this equation:

$$\text{Speed} = \text{Distance} \div \text{Time}$$

$$s = d \div t$$

The unit for speed depends on the units for distance and time. For example:

- Distance = m (meters); time = s (seconds); **Speed = m/s (meters per second)**
- Distance = km (kilometres); time = h (hours); **Speed = km/h (kilometres per hour)**

Enquiry Task

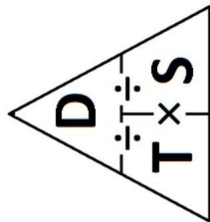
Design an investigation to find out who is the fastest person in your class. Think about what measurements need to be taken and what equipment you will need. How will you ensure it is a fair test? How will you calculate their speed?

Example:
Calculate the average speed of a runner who runs 100 meters in 10 seconds.

$$S = d \div t$$

$$S = 100 \div 10$$

$$S = 10 \text{ m/s}$$



Distance—Time Graphs

When an object travels in a straight line, we can show the distance which has been covered in a **distance-time graph**

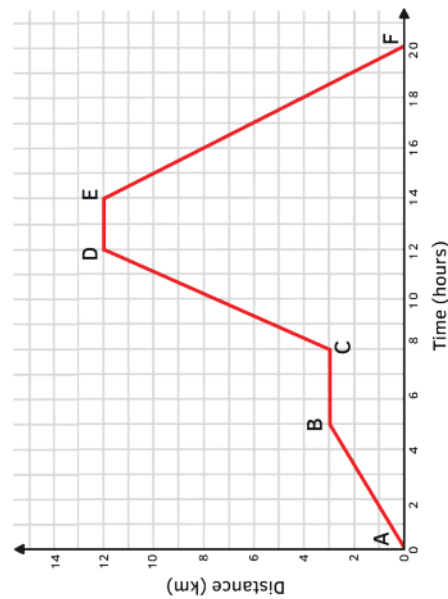
The line of the graph represents the speed the object is travelling at:

- A steeper line means more distance is covered in the same time, i.e. **the speed is faster.**
- A shallower line means less distance is covered in the same time., i.e. **the speed is slower.**

- When the line is horizontal it means the object is not moving at all, i.e. **it has stopped.**

Enquiry Task

Can you describe the journey of the object in the graph above between each point.



Relative Motion

The motion of an object is always **relative** to the observer.

- * If two trains, A and B, are travelling at the same speed on the tracks parallel to one another it would appear to an observer on either train that both trains were at a standstill.
- * If the trains were travelling on parallel tracks towards each other at the same speed, then an observer on either of the trains would get the impression that the other train was travelling twice the speed of their train.

To calculate relative speed to an observer:

- * If the object is moving towards the observer, add the Speeds.
- * If the object is moving away from the observer, subtract the speeds

For trains moving parallel to each other

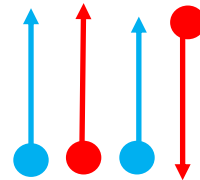
Observer 10m/s Object 10 m/s \rightarrow

Relative velocity = $10 - 10 = 0 \text{ m/s}$

For trains moving in opposite direction

Observer 10 m/s object 10 m/s \leftarrow

Relative velocity = $10 + 10 = 20 \text{ m/s}$



Enquiry Task

1. Hannah's Ferrari goes a distance of 350 km in a time of 2 hours. What was her average speed in km/h?
 2. Kenny and Chris are walking down the road. They walk a distance of 250 meters in 30 seconds. What was their average speed in m/s?
Rearrange the equation: $t = ?$ And $d = ?$
 3. Amaro and Pete have robbed a bank. Their getaway car drives a distance of 45 kilometers at a speed of 15 km/h. How long did their journey take
 4. Gina and Justin are going to a party together. They walk at a speed of 3.4 m/s for 63 seconds. How far away is the party? (in **meters**)
- A. A car is travelling east at 15 m/s and another car is travelling west at 30 m/s. What is their relative speed?
- B. Two horses are racing parallel to each other galloping at 15 m/s. What is their relative speed to each other?

Forces

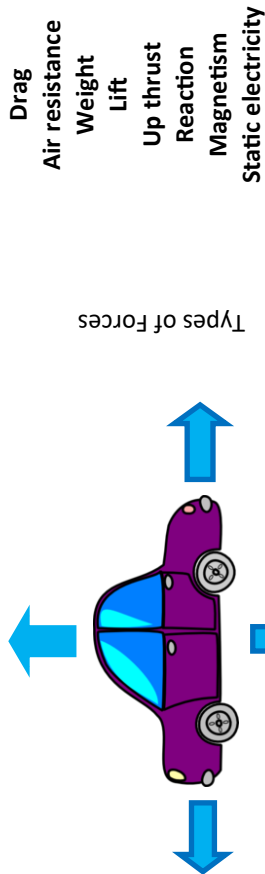
Forces are pushes or pulls between two objects. Force arrows can be drawn to show the direction the force is acting in. When a force acts on an object there will be a consequence:

- * The object can become deformed
- * The object can become warm due to rubbing and the friction between two surfaces
- * The object can be pushed out of the way
- * The object can provide resistance to the motion of water or air.

Forces act in opposite pairs and force arrows are drawn to show this.

Enquiry Task

Draw the diagram and label the force arrows on the car.



Mass

Mass is the amount of matter an object is made up of. Mass is measured in **kg**. The value of mass will stay the same when the location of the object changes.

Weight

Weight is the total amount of force acting on an object due to gravity. Weight is measured in Newton's (N) The value of weight will change depending on the gravitational field strength acting upon the object.

To calculate weight we use the equation:

$$\text{Weight (N)} = \text{mass (kg)} \times \text{gravitational field strength (N/kg)}$$

$$W = m \times g$$

The gravitational field strength on Earth is 10N/kg

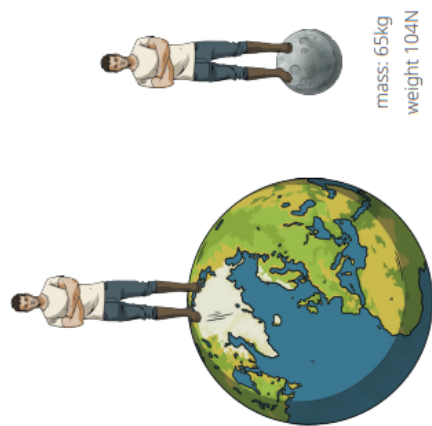
Mass and Weight

All matter has a mass which means all matter will have a gravitational field strength that will attract other matter. The more mass an object has the more gravitational force it will have.

The Earth is a much larger object than the Moon, this means the Earth has a stronger gravitational field strength.

The size of the force also depends on the distance between the two objects. The closer they are the stronger the force.

Gravity always acts towards the centre of the object.



Enquiry Task

1. Draw a simple diagram of a boat and show the forces acting upon it as it floats and moves forward at constant speed.
2. Explain the relationship between gravity and weight.
3. Using the equation **weight = mass x gravitational field strength**, calculate the following.
 - a) Calculate the weight of an object on Earth when its mass is 15 kg and the force of gravity is 10 N/kg?
 - b) What would the weight of the object be if was on the Moon? Gravity on the moon is 0.6 N/kg?
 - c) Can you explain why the mass of the object stays the same but its weight decreases when it is on the moon?

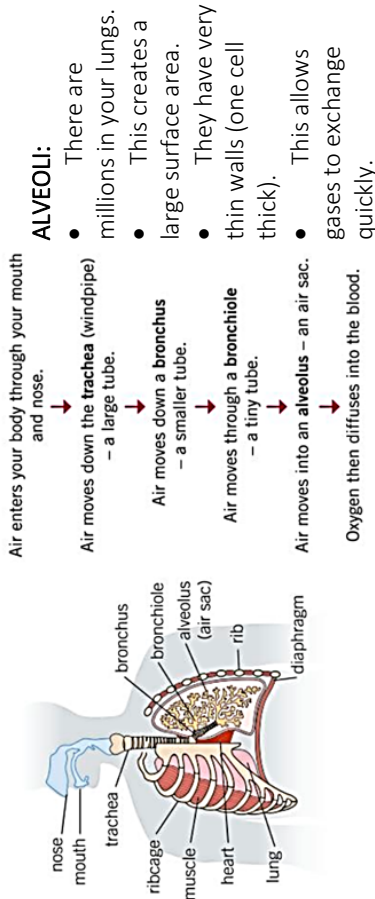
EXTENSION

Explain how 'reduced gravity aircraft' (also known as vomit comets) can reproduce conditions of zero gravity.

1. The lungs

Gas exchange takes place inside your lungs. Lungs are made of elastic tissue and expand when you breathe in. As they are delicate, they are protected by your ribs.

What happens when we breathe?



Enquiry tasks

- State which structure in the figure opposite represents the alveoli, ribcage, diaphragm and trachea.
- Evaluate the model by listing ways in which the model matches a real breathing system and ways in which it doesn't.



2. INHALATION AND EXHALATION

Why do we breathe in and out?

- We inhale to take in oxygen (used in respiration) and exhale to remove carbon dioxide (waste product—turns limewater cloudy).
- The harder you exercise, the faster your breathing rate and greater your depth of breathing.
- This allows you to take in more oxygen for respiration (transferring more energy to the muscle cells).

Enquiry tasks

- State which way a diaphragm moves when you inhale.
- Describe the changes in the volume of the chest as you breathe in and out.

3. SMOKING

Tobacco smoke contains many harmful substances. These include:

Tar → causes lungs, mouth and throat cancer. It coats the inside of the lungs, including the alveoli, causing coughing. It damages the alveoli, making it more difficult for gas exchange.

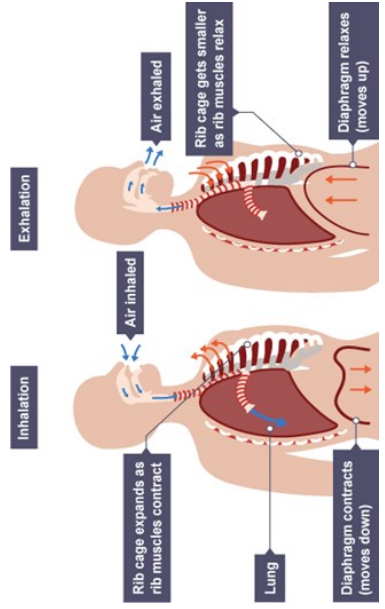
Nicotine → is **addictive** and also increases the heart rate and blood pressure, and makes blood vessels narrower than normal. This can lead to heart disease.

Carbon monoxide → is a gas that takes the place of oxygen in red blood cells, reducing the amount of oxygen that the blood can carry.

Enquiry tasks

- Using flashcards or cut paper into rectangles, write the keyword on one side and the definition on the other. Ask family or friends to test you to improve your recall.

KEYWORD	DEFINITION
Asthma	A lung disorder in which inflammation (swelling) causes the bronchi to swell and narrow the airways, creating breathing difficulties.
Diaphragm	A sheet of muscle found underneath the lungs which is used in breathing.
Exhale	Breathing out, to remove carbon dioxide.
Gas exchange	The transfer of gases (oxygen & carbon dioxide) between an organism and its environment.
Inhale	Breathing in, to take in oxygen.
Lung volume	Measure of the amount of air breathed in or out.
Passive smoking	Breathing in other people's smoke.
Respiration	Process that transfers energy in plants and animals. Glucose + oxygen → carbon dioxide + water
Ribs	Bones which surround the lungs to form the ribcage and protect the lungs.



4. Food groups

There are 7 different types of nutrients;

- 1) Carbohydrates; simple carbohydrates provide a quick source of energy. Complex carbohydrates release energy more slowly.
- 2) Lipids (fats and oils)
- 3) Proteins
- 4) Vitamins
- 5) Minerals
- 6) Water (needed in all cells and body fluids)
- 7) Dietary fibre

Food Tests

A food solution must be prepared by crushing the food and then adding a few drops of distilled water.

Starch → if iodine is added to starch it will turn blue/black.

Sugar → if Benedict's solution is added to a sugar and heated it will form an orange-red precipitate.

Lipids → to test for fat, mix the substance with a small amount of ethanol and distilled water, if a milky white emulsion appears, then fat is present OR rub solid food into a piece of filter paper, if the paper turns translucent the food contains lipids.

Protein → if Biuret solution is added to protein it will turn purple.

Enquiry tasks - complete the table

Food group	Chemical reagent	Positive test
Starch	Iodine	Blue/black

5. DIGESTIVE SYSTEM

The **small intestine** has a thin wall, covered in villi. These structures increase the surface area for absorption. They also contain blood capillaries carry away absorbed food molecules.

Liver and pancreas

The liver and the pancreas play an important part in digestion. The liver produces bile, which helps the digestion of lipids (fats and oil). The pancreas produces biological catalysts called digestive enzymes which speed up the digestive reactions.

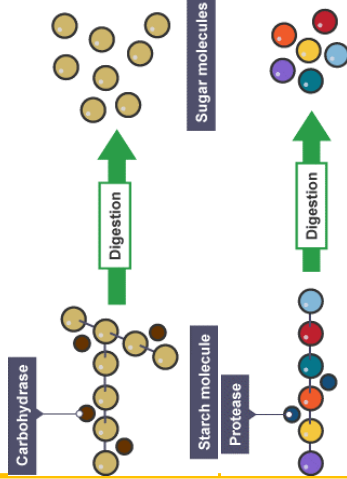
Enquiry task

Describe how the digestive system is adapted for its function (6)

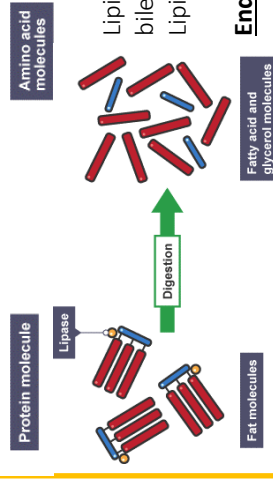
6. DIFFERENT TYPES OF ENZYMES; different enzymes break down different nutrients.

Carbohydrates are digested by carbohydrases in the mouth (saliva), stomach and small intestine.

E.g. Starch is broken down into glucose by amylase



Proteins are digested by protease in the stomach and small intestine. Protein is broken down into amino acids.



Lipids are digested by lipase in the small intestine. It is helped by bile (a substance made in the liver).

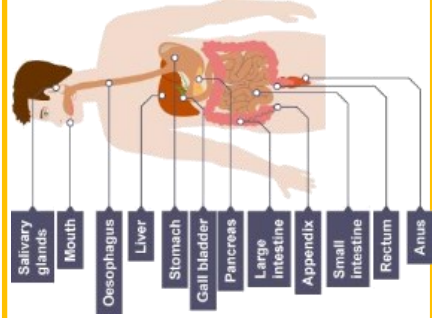
Lipids are broken down into fatty acids and glycerol.

Enquiry task – complete the table

Food group	Product of digestion	Enzyme	Where the enzyme is found.
Starch	Glucose	amylase	Mouth, stomach and small intestine

Mouth
Gullet
Stomach
Small intestine
Large intestine
Rectum
Anus

Food is chewed and mixed with saliva. Teeth help to break the food into smaller chunks.
Food passes down this tube.
Food is mixed with digestive juices and acids.
Digestive juices from the liver and pancreas are added and digestion is completed. Small molecules of nutrients pass through the intestine wall into the bloodstream.
Only food that cannot be digested gets this far. Water passes back into the body, leaving a solid waste of undigested food called faeces.
Faeces are stored here until they leave the body.
This is a muscular ring through which faeces pass out of the body.



Properties of Solids, Liquids & Gases

All substances are made from particles. The arrangement, movement and closeness of these particles explain many of their properties.

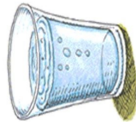
Solids

- Solids have a fixed shape
- Cannot flow.
- Cannot be compressed



Liquids

- Liquids take the shape of the bottom of the container
- Can flow.

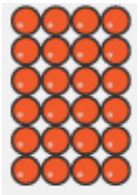




Gases

- Gases take the shape of the container
- Can flow.
- Can be compressed



Particle Theory of Solids, Liquids & Gases

State	Solid	Liquid	Gas
Diagram			
Arrangement of particles	Regular arrangement	Randomly arranged	Randomly arranged
Movement of particles	Vibrate around a fixed position	Slide over each other	Moves quickly in all directions
Closeness of particles	Particles are touching each other	Particles are mostly touching each other	Particles are spaced apart

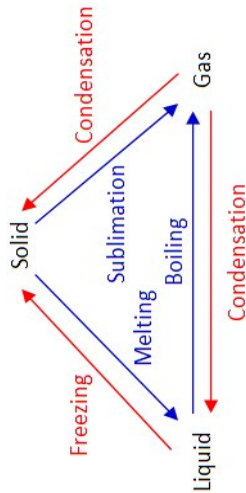
Enquiry Task

1. Can you link the properties of the states of matter to the particle theory descriptions. i.e. Solids cannot flow because they vibrate around a fixed position.
2. Can you compare and contrast the properties of solids, liquids and gases. Compare and contrast means; how are they similar and different from each other.

Change of State

Substances can **change state**, usually when they are heated or cooled. Water can turn into steam when it is heated, or turns into ice when it is cooled. This is an example of a **physical change**.

This table summarises what happens to the particles in a substance when it gains energy.



	Melting	Evaporating or Boiling
Description	Solid to liquid	Liquid to gas
Closeness of particles	Stay close together	Become much further apart
Arrangement of particles	Regular to random	Stay random
Motion of particles	Start to slide over each other	Able to move more quickly in all directions
Energy	Gains kinetic energy	Gains kinetic energy

This table summarises what happens to the particles in a substance when it loses energy.

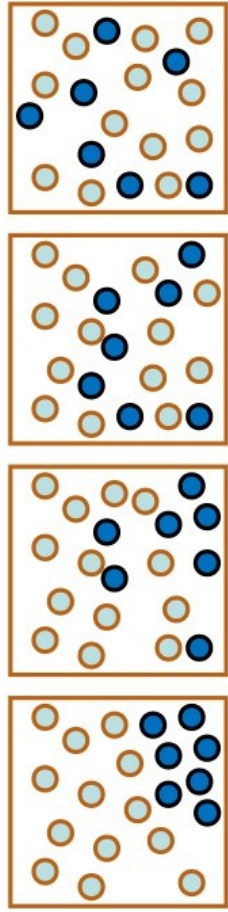
	Condensing	Freezing
Description	Gas to liquid	Liquid to solid
Closeness of particles	Become much closer together	Stay close together
Arrangement of particles	Stay random	Random to regular
Motion of particles	Moves slower in all directions and move around each other	Stop moving around each other and vibrate on the spot
Energy	Loses kinetic energy	Loses kinetic energy

Enquiry Task

1. Using the information from the tables above, describe what would happen to the particle arrangement of an ice cube if you take it out of the freezer and put it in a hot room.

Diffusion

Diffusion is the name of the process whereby molecules in a liquid or gas mix as a result of their random motion. Particles at a **high concentration** in one location will tend to move to an area where they are in **low concentration**. Eventually, the particles will become evenly distributed throughout the liquid or gas.



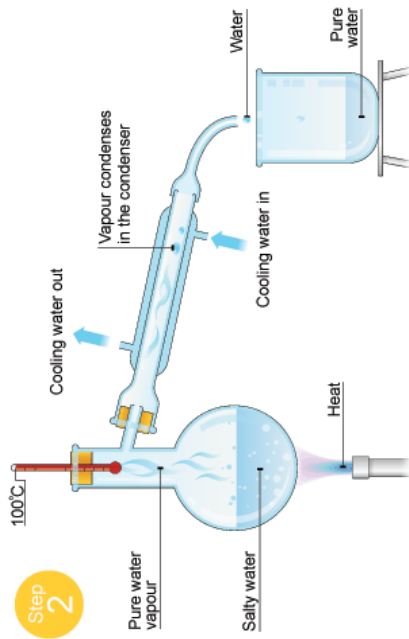
Enquiry Task

When someone sprays perfume on one side of the room you can eventually smell it on the other side of the room. Using your ideas about particles, can you explain this?

Distillation

Simple distillation is a method for separating the solvent from a solution. For example, water can be separated from salt solution by simple distillation. This method works because water has a much lower boiling point than salt. When the solution is heated, the water evaporates. It is then cooled and condensed into a separate container. The salt does not evaporate and so it stays behind.

Step 2



Enquiry Task

A scientist accidentally mixed ethanol with water in the laboratory. Explain how he could use simple distillation to separate them. *Hint boiling point of water is 100°C and the boiling*

Mixtures, Dissolving and Evaporation

A mixture contains different substances that are not chemically joined to each other. For example, a packet of sweets may contain a mixture of different coloured sweets. The sweets are not joined to each other, so they can be picked out and put into separate piles. A mixture of iron filings and sulphur powder can easily be separated using a magnet. The iron filings are attracted to the magnet but the sulphur powder is not.

Dissolving

Dissolving is one way to make a mixture. For example, when salt is stirred into water, the salt dissolves in the water to make salt solution. In a solution:

- the substance that dissolves is called the **solute**
- the substance that the solute dissolves in is called the **solvent**

Evaporation

Evaporation is used to remove the liquid part from a solution and to collect the dissolved solid. The mixture is placed in a suitable container and heated until the liquid boils and evaporates.

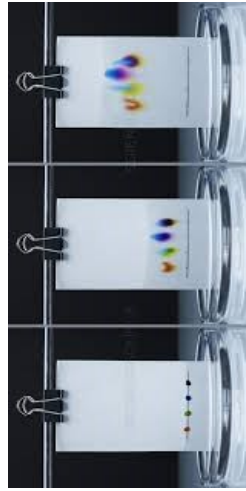
Filtration

Filtration separates an insoluble solid from a liquid by passing the liquid through filter paper. The filtrate is the liquid that passes through and the solid left behind is the residue.

Enquiry Task

Design a method to show how you would separate a mixture of sand, sugar and metal filings from each other.

Chromatography



Chromatography is used to separate dissolved pigments in a solution. E.g. the pigments in ink which can be different colours.

The sample mixture is loaded on the pencil line on the chromatography paper and placed in to a beaker of solvent. If the sample mixture insoluble, it will not dissolve if the sample mixture is soluble, it will dissolve and travel up the paper. The more soluble it is, the further it will travel.

A paper chromatogram can be used to distinguish between **pure** and **impure** substances:

- a pure substance produces one spot on the chromatogram
- an impure substance produces two or more spots

Enquiry Task

The police have discovered a ransom note written with black ink. They have three suspects who all have a black pen in their pocket. How can the police use chromatography to discover the culprit?

Need to Know Dictionary: English – Northern Lights and Poetry



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.
Symbolism	The use of symbols to express or represent ideas or qualities in literature.
Rhyme	The repetition of syllables, typically at the end of a verse line.
Rhythm	The beat and pace of a poem.
Imagery	Where the writer uses words to paint 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 – Angles and Averages

Word	Definition
Acute	An angle less than 90° is acute.
Obtuse	An obtuse angle is an angle between 90° and 180° .
Reflex	A reflex angle is an angle between 180° and 360° .
Parallel	Parallel lines are lines which are always the same distance apart and never meet.
Perpendicular	Perpendicular lines cross each other at right angles.
Alternate (angles)	Angles that occur on opposite sides of the transversal line and have the same size.
Corresponding (angles)	The pairs of angles that are found in the same relative position on different intersections.
Mean	The mean is the total of the numbers divided by how many numbers there are.
Mode	The mode is the number, or item, which occurs most often in a set of data.
Median	The median is the middle value.

Need to Know Dictionary: Science – Genes, waves and reactions



Word	Definition
Species	A species is a group of similar organisms that can breed with one another to produce fertile offspring.
Continuous variation	Characteristics in a species that change gradually over a range of values, such as height or weight.
Discontinuous variation	Characteristics in a species with only a limited number of possible values such as human blood groups, sex or eye colour.
Gamete	Gametes are the sex cells: eggs are female gametes, sperm are male gametes.
Fertilisation	Fertilisation is the fusion of the nucleus of a male gamete with the nucleus of a female gamete, producing a new cell called a zygote.
Vibration	Sounds are made when objects vibrate. The vibrations enter your ear and you hear them as sound.
Transparent	Air, glass and water are common materials that are very good at transmitting light. They are transparent because light is transmitted with very little absorption.
Translucent	Translucent materials transmit some light but are not completely clear.
Displacement	The distance moved in a straight line, in a given direction, from the starting point.
Oxidation	This is the gain of oxygen by a substance.
Concentration	The concentration of a solution is a measure of how 'crowded' the solute particles are. The more concentrated the solution, the more particles it contains in a given volume.

Need to Know Dictionary: French

Word	Definition
Verb	A word that shows an action, such as 'jouer', or a state of being such as 'être' or 'avoir'.
Adjective	A word that describes a noun.
Adjectival agreement	In French, adjectives must agree with their noun, which means that they have to show whether they are masculine or feminine and singular or plural to match the noun.
First person singular	The pronoun 'je' is first person singular.
Second person singular	The pronoun 'tu' is second person singular.
Third person singular	The pronouns 'il/Elle/On' are third person singular.
Masculine and Feminine	All French nouns have a grammatical gender - they are either masculine or feminine. For example, 'le père', 'la mère'.
Present tense	Use the present tense to describe what happens regularly and what is happening now.
Pronoun	Pronouns replace nouns in a sentence.
Liaison	When a word ends in s, x, t or n and the next word starts with a vowel or an h, the s and x will sound like z, and the t and the n will be pronounced. This is called a 'liaison', as the words are linked together. EG: - 'C'est très ennuyeux'.
Silent final consonant	In French, some letters are silent; either at the start or at the end of a word. e.g. 'hôtel', 'chat'.
Phonics	The sounds that make up words.
Accent	Accents placed on words change the sound of a letter, e.g. é as in 'café'.
Question	Questions in French can be formed using 'est-ce que', or by switching the verb and subject, 'Faites-vous vos devoirs ce soir?'.
Modal verbs	EG: - pouvoir (be able to) devoir (have to, must, should) vouloir (want to).
Infinitive	An infinitive is a verb that has not been changed and is in its original form, e.g. ending in -er, -ir, -re meaning 'to...'

Need to Know Dictionary: Geography



Word	Definition
Mega-cities	An urban area with a total population in excess of ten million people.
Migration	When people move from one area to another. In many LICs people move from rural to urban areas (rural-urban migration).
Natural increase	The birth rate minus the death rate of a population.
Pollution	The presence of chemicals, noise, dirt or other substances which have harmful or poisonous effects on an environment.
Rural-urban fringe	A zone of transition between the built-up area and the countryside, where there is often competition for land use. It is a zone of mixed land uses, from out of town shopping centres and golf courses to farmland and motorways.
Sanitation	Measures designed to protect public health, including the provision of clean water and the disposal of sewage and waste.
Social deprivation	The degree to which an individual or an area is deprived of services, decent housing, adequate income and local employment.
Social opportunities	Chances for people to improve their quality of life, for instance access to education and health care.
Sustainable urban living	A sustainable city is one in which there is minimal damage to the environment, the economic base is sound with resources allocated fairly and jobs secure, and there is a strong sense of community, with local people involved in decisions made. Sustainable urban living includes several aims including the use of renewable resources, energy efficiency, use of public transport, accessible resources and services.
Traffic congestion	Occurs when there is too great a volume of traffic for roads to cope with, so traffic jams form and traffic slows to a crawl.
Urban greening	The process of increasing and preserving open space such as public parks and gardens in urban areas.

Need to Know Dictionary: Music

Word	Definition
Rhythm	Rhythm is the pattern of long and short sounds as you move through the song.
Pulse	Pulse is a steady beat like a ticking clock or your heartbeat.
Tempo	Tempo means the speed at which a piece of music should be played.
Dynamics	Dynamics are used to show how loudly to play a piece of music.
Structure	Structure is the order that different parts of the song are played in.
Texture	Texture describes how layers of sound within a piece of music interact.
Beat	Tempo is measured in BPM, or beats per minute. One beat every second is 60 BPM.
Call-and-response	In music, call-and-response is a compositional technique that works similarly to a conversation.
Notes	A note is a symbol denoting a musical sound.
Duration	In musical sound, duration is the length of time that a tone persists.

Need to Know Dictionary: History – The Normans



Word	Definition
Because	A useful conjunction used to explain how or why something is the case.
Britain	Great Britain is the official collective name of England, Scotland and Wales and their associated islands, but not Northern Ireland.
United Kingdom	The United Kingdom of Great Britain and Northern Ireland (to give its full name) refers to the political union between England, Wales, Scotland and Northern Ireland.
The British Isles	This is purely a geographical term. It refers to the islands of Great Britain and Ireland, including the Republic of Ireland, and the 5000 or so smaller islands scattered around our coasts.
Conclusion	In an essay, a strong conclusion aims to tie together the essay's main points, show why your argument matters and leave the reader with a strong impression.
Feudal system	A feudal system (also known as feudalism) is a type of social and political system in which landholders provide land to tenants in exchange for their loyalty and service.
Invasion	Usually the incursion of an army for conquest or plunder.
Led	The past tense of the verb 'to lead' is 'led', not 'lead'.
Meant	The past tense of the verb 'to mean' is 'meant' not 'ment'.
Monarch	An individual ruler who functions as head of state.
Morale	The confidence, enthusiasm, and discipline of a person or group at a particular time.
Therefore	An adverb that means 'as a consequence', 'as a result', or 'hence'.

Need to Know Dictionary: PE

Word	Definition
Balance	Balance is a term used to describe the ability to maintain an upright position.
Coordination	The ability to execute smooth, accurate, controlled motor responses.
Agility	The ability to rapidly change the position of the entire body in space with speed and accuracy.
Timing	The ability to coincide movements in relation to external factors.
Muscular endurance	How many times you can move weight without getting exhausted.
Strength	The amount of force a muscle can exert against a resistance.
Speed	The ability to move all or part of the body quickly.
Cardiovascular endurance	The ability of the heart and lungs to work together to provide the needed oxygen and fuel to the body during sustained workloads.
Power	The ability to perform strength-based movements quickly.
Flexibility	The ability of a joint or series of joints to move through an unrestricted, pain-free range of motion.

Need to Know Dictionary: Design and Technology



Word	Definition
Engineering	The branch of science and technology concerned with the design, building, and use of engines, machines, and structures.
Design	A process which includes: identify a problem, research the problem, generate possible solutions, select the best solution, create a model, test the model, refine and retest the model, and communicate the final solution.
Manufacture	Make (something) on a large scale using machinery.
Ergonomics	The study of people's efficiency in their working environment.
Aesthetics	A set of principles concerned with the nature and appreciation of beauty.
Sustainable	Able to be maintained at a certain rate or level.
Pine	An evergreen coniferous tree which has clusters of long needle-shaped leaves. Many kinds are grown for the soft timber, which is widely used for furniture and pulp, or for tar and turpentine.
Tenon saw	A small saw with a strong brass or steel back for precise work.
Try-square	A try square or try-square is a woodworking tool used for marking and checking 90° angles on pieces of wood.
Steel rule	More accurate than a plastic ruler and often has half millimetres as well as millimetres.
Word	Definition
Hot-seating	When hot-seating, you must speak, think and feel as though you are that character.
Narration	A narrator is like a storyteller informing the audience about the plot. Narration is useful in making a story more understandable for the audience. It also makes the drama stylised.
Flashback	In drama, a flashback is a scene that takes place before a story begins. Flashbacks interrupt the chronological order of the main narrative to take an audience back in time to the past events in a character's life.
Cross-cutting	Cross-cutting is a device to move between two or more scenes staged in the space at the same time.
Performer	Actors or performers are people who entertain an audience by acting, singing or dancing.
Audience	The people who watch the performance; those for whom the performance is intended.
Thought-tracking	A thought-track is when a character steps out of a scene to address the audience about how they're feeling.
Characterisation	The act of changing voice, body language, movement, gesture etc when in role.
Soundscape	Creating sounds to mimic a real or imaginary environment.
Unison	A group using the same ACTION, MOVEMENT or GESTURE at the same time.

Need to Know Dictionary: Art



Word	Definition
Formal elements	The Formal Elements are the parts used to make a piece of artwork. The art elements are line, shape, space, form, tone, texture, pattern, colour and composition.
Line	A line is a mark made on a surface that joins different points.
Shape	A shape is a two-dimensional area. Shapes have height and width but not depth. A shape might be defined by an outline or through contrast with its surroundings, such as through colour or tone.
Form	Form refers to three dimensional objects. While shapes have two dimensions (height and width), forms have three dimensions (height, width and depth).
Tone	Tone means how light or dark something is. The tones artists and designers use and the contrast between them can create very different moods and visual effects.
Observational	Observational art is to draw or paint a subject as accurately as possible. The subject may be a still life, figure model, portrait or landscape and the image must be created from real life rather than a photograph or the artist's imagination.
Pop Art	Art in which commonplace objects (such as road signs, hamburgers, comic strips, or soup cans) are used as subject matter and are often physically incorporated in the work.
Complimentary	Complementary colours sit across from each other on the colour wheel. These are often referred to as opposite colours and even contrasting colours.
Refine	Refinement is the improvement of the idea. It does not involve radical changes, but is about making small changes which improve the idea in some way.
Composition	Composition is the arrangement of different elements within an artwork or design.

Need to Know Dictionary: Food Technology

Word	Definition
Combine	To stir two or more ingredients with a spoon, or to beat on low speed with a mixer, until mixed together.
Knead	A method of mixing pliable dough by stretching, folding and pushing in order to form gluten in the flour.
Consistency	The right thickness or texture. Consistency also refers to uniformity or compatibility between things or parts.
Incorporated	Mixing ingredients so that they are evenly spread.
Equal	Being the same in quantity, size, degree, or value.
Even	Having a flat, smooth, level or equal consistency.
Presentation	The art of modifying, processing, arranging, or decorating food to enhance its aesthetic appeal.
Management	Food management involves the preparation, selection, display, and preservation of food items.
Method	A method is the process by which ingredients from a recipe are combined to create a complete food product.
Independent	Carrying out a food preparation task individually, without support.

Need to Know Dictionary: Religious Studies



Word	Definition
Convert	To change one's religion or beliefs or the action of persuading someone else to change theirs.
Discrimination	Making a distinction against a person or thing based on the group, class or category they belong to, rather than basing any action on individual merit.
Eternal	Lasting or existing forever, without end.
Langar	The langar (or free kitchen) was introduced by Guru Nanak, who was the founder of Sikhism and the first Guru, because of his belief in the oneness of humanity.
Tolerance	The capacity to live with religious difference, especially minority religious groups.
Khalsa	A group into which committed Sikhs can be initiated to demonstrate their devotion to their faith. Khalsa means 'pure'.
Gurdwara	Sikh place of worship.
Persecution	Hostility or ill-treatment, especially because of race or political or religious beliefs; oppression.
Sewa	Sewa, meaning 'selfless service', involves acting selflessly and helping others in a variety of ways, without any reward or personal gain.

Need to Know Dictionary: ICT

Word	Definition
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.
Computer system	computer system is a set of integrated devices that input, output, process, and store data and information.
Hardware	Hardware is the physical components of the computer, such as the central processing unit (CPU), hard disk, monitor, keyboard and mouse.
Software	Software is the programs that run on a computer.
Storage device	A device used to let you store files built into the hardware.
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.
Computer network	A network is two or more computers, or other electronic devices, that are connected together for the purpose of communication.
Communication methods	These include email, phone calls and video conferencing, and many types of instant messaging like SMS and web chats.
Web browser	A web browser downloads pages from a web server and then interprets the code to run the different HTML, JavaScript and CSS commands used to generate the page. The end result is what we see in the browser window.