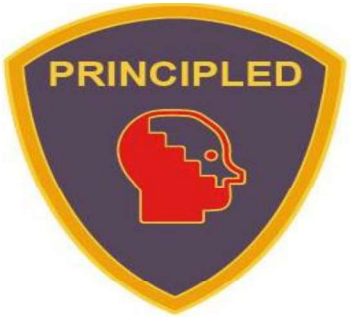
YEAR 7 KNOWLEDGE ORGANISER

MICHAELMAS TERM 2021/22

Trinity

Name:

Family Group:



LEARNING - LOVING - LIVING

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LEARNING – LOVING – LIVING

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7- 9	Mathematics	Number, calculations
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WHAT IS A KNOWLEDGE ORGANISER?

The knowledge organiser is a book that sets out the **important**, **useful** and **powerful knowledge** of a single topic on one page.

When used effectively, Knowledge Organisers are useful in:

- Helping build a foundation of **factual knowledge.**
- Embedding **revision techniques** for now and future studies (A-Level, College, University)
- Allowing knowledge to become stored in **long term memory** which frees up working memory for more complex ideas. It also allows you to connect concepts together, even across subjects

HOME LEARNING EXPECTATIONS

EACH NIGHT pupils should spend *at least* **1 hour** per night on homework.
3 subjects per night x 20 minutes per subject= 1 hour.

The homework timetable is to be filled out as a guide to what subjects to complete each night.

Subject teachers will use Microsoft **TEAMS** to set home work activities which will contain an element of knowledge retrieval practise and will relate to knowledge organiser content revised throughout the week.

In Family Group Time, retrieval practice techniques will be modelled by family group leaders.

All retrieval practice work in your **KNOWLEDGE ORGANISER exercise book** and make sure you bring your knowledge organiser to school EVERYDAY (these can slide into your coloured folder).

Knowledge Organiser **BADGES** will be given out in Family Group time to the student who has made progress on Knowledge Recall tests or has shown an exemplary effort in KO retrieval practice throughout the week.

MICROSOFT TEAMS

Remember to check TEAMS **regularly** for updates and additional home learning files including copies of your mastery booklets.

You can also ask your teachers questions on teams and view videos of 'how to use your knowledge organiser'.

HOMEWORK TIMETABLE

Year 7	Subject 1	Subject 2	Subject 3
Monday			
Tuesday			
Wednesday			
Thursday			
Friday			

ADDITIONAL HOMEWORK

Students will also be assigned **ENGLISH** reading activities on www.CommonLit.org with each assignment taking 20-30 minutes to complete and **MATHS** activities with short explanatory videos on the online platform https://mathswatch.co.uk.

It is also recommended to take advantage of FREE online revision tools such as www.senecalearning.com or the recently updated BBC BITESIZE.

It is also recommended that students regularly **READ** a variety of **fiction and non fiction books** of their choosing. This extra reading will develop and broaden general understanding and context in all subjects.

EQUIPMENT CHECKLIST

Pencil case	Knowledge Organiser	2 Black or Blue pens
2 pencils and Eraser	Green Pen	Pencil Sharpener
Mini whiteboard and pen	Calculator	Ruler
Maths geometry set	Class book	

How do I use a knowledge organiser?

Each week Family Group Leaders will **explain** and **model** retrieval practice techniques that will help you retain knowledge from your knowledge organiser AND for revision in the future. There are also some videos on the **Trinity Website** that explain the techniques of using the knowledge organiser for retrieval practice.

4 Methods of Retrieval Practice

@ImpactWales

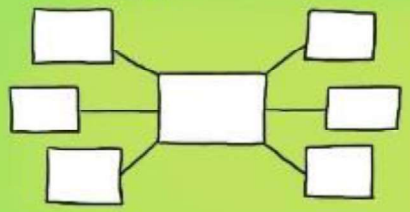
Before you start put away all your books & classroom materials.

Retrieval Practice Examples

- Exit Tickets
- Starter quizzes
- Multiple choice quizzes
- Short answer tests
- Free write
- Think, pair, share
- Ranking & sorting
- Challenge grids

BRAIN DUMP

Write, draw a picture, create a mind-map on everything you know about a topic.



Give yourself a time limit, say 3 minutes, then have a look at your books & add a few things you forgot.

QUIZZING

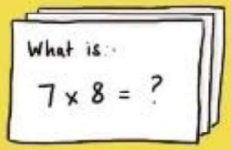
Create practice questions on a topic. Swap your questions with a partner & answer.

Question – What is a metaphor?

- ☐ A comparison using 'like, as, than'.
- ☐ A comparison where one thing is another.
- ☐ A comparison with a human attribute.

FLASHCARDS

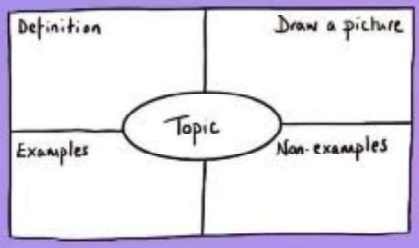
Create your own flashcards, question on one side answer on the other. Can you make links between the cards?



You need to repeat the Q & A process for flashcards you fail on more frequently & less frequently for those you answer correctly

KNOWLEDGE ORGANISERS

Complete a knowledge organiser template for key information about a topic.

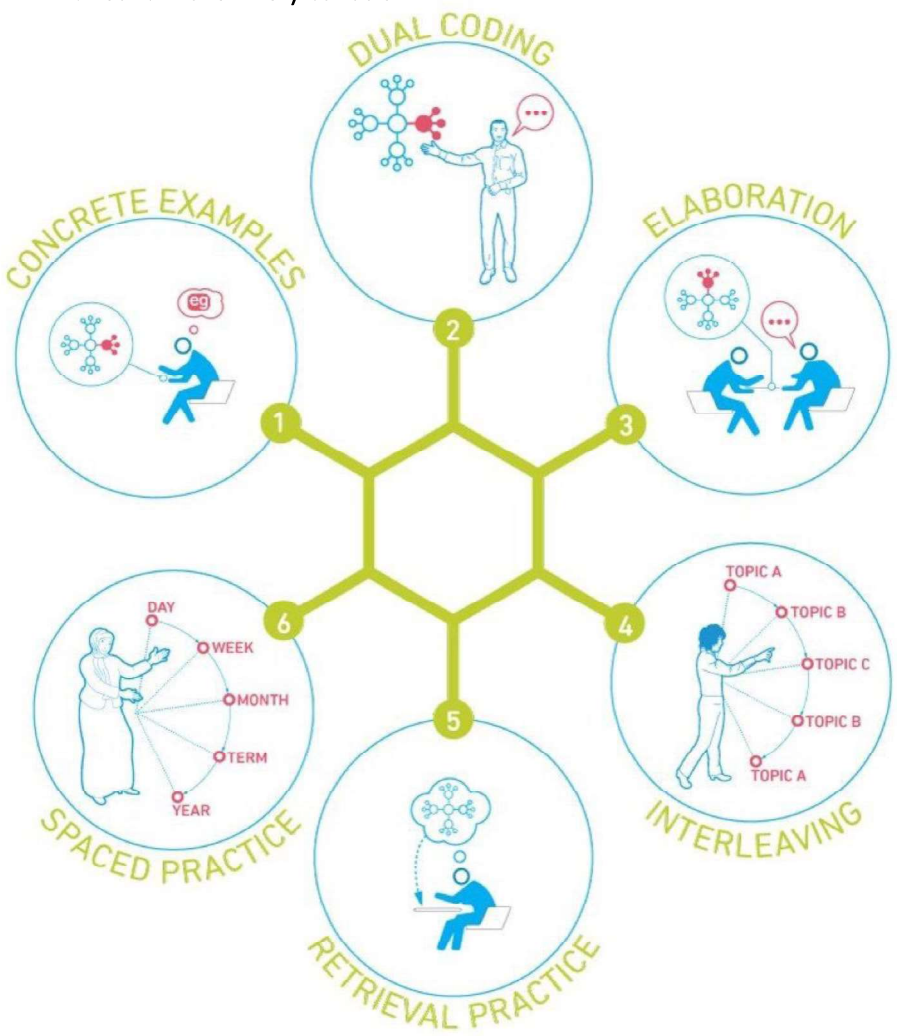


You can use knowledge organisers to learn new vocab & make links in between subjects or ideas.

After you have retrieved as much as you can go back to your books & check what you've missed. Next time focus on that missing information

DUAL CODING

Dual coding is the process of combining visual and written materials. You can visually represent materials using methods such as info graphics, timelines, cartoon/comic strips, diagrams and graphic organisers. Combing images with words or explaining an image makes it more likely to 'stick'.



CONCRETE EXAMPLES

When you're studying, try to think about how you can turn ideas you're learning into concrete examples. Making a link between the idea you're studying and a real life example, concrete example, can help students understand abstract ideas and make it 'stick'.

ELABORATION

When talking about studying, elaboration involves explaining and describing ideas with many details. Elaboration also involves making connections among ideas you are trying to learn. Ask yourself questions about a topic to delve deeper. The more information you have about a specific topic the stronger your grasp and ability to recall.

SPACED PRACTISE

Divide up your revision into short manageable chunks of time . When revising aim for 20 - 30 minutes per session. Five hours spread out over two weeks is better than the same five hours all at once. This is **spaced practice** and it is regarded as one of the most effective revision strategies.

INTERVLEAVING

Interleaving is a process where you combine multiple subjects and topics while you study in order to improve learning. Switch between ideas and make links between them during a study session. Interleaving has been shown to lead to better long-term retention

RETRIEVAL PRACTICE

Through the act of retrieval, or calling information to mind, our memory for that information is strengthened and forgetting is less likely to occur. Retrieval practice ideas include: Read, cover, write, check, flashcards and brain dumps.

	Technique/Vocabulary	Definition	Example/effect
1	**Alliteration (n) Alliterative (adj)**	When words in a sentence start with the same letter	Silence for spectroscopic Flight of fancy,
2	**Caesura (n)**	A pause within or at the end of a line, often using a full stop	It allows an idea to be given a sense of importance or to highlight something shocking
3	**Enjambment (n)**	the continuation of a sentence without a pause beyond the end of a line, couplet, or stanza	This allows a poet to continue or develop a train of thought or idea
4	**Consonance (n)**	Repetition of consonant sounds	Her accent was clinical, crushing in its light Impersonality
5	**Assonance (n)**	Internal vowel rhyme	Dem tell me bout ole King Cole was a merry ole soul but dem never tell me bout Mary Seacole
6	**Sibilance (n) Sibilant (adj)**	The 'S' sound, normally several of these in a row.	Silence. Silenced transmission of Pressurized good-breeding
7	**Symbolism (n) Symbolic (adj)**	The idea of words or phrases representing something else	Red booth. Red pillar box. Red double-tiered Omnibus squelching tar
8	**Onomatopoeia (n) Onomatopoeic (adj)**	Words that sound like the noise they describe	to surge of wheels to dull North Circular roar
9	**Metaphor (n) Metaphorical (adj)**	a figure of speech in which a word or phrase is applied to an object or action to which it is not literally applicable	as the blessing sings over their small bones
10	**Simile (n)**	A figure of speech where two things are compared using 'like' or 'as'	Brash with glass, name flaring like a flag
11	**Oxymoron (n) Oxymoronic (adj)**	When contradictory terms or ideas are put next to each other	crushing in its light Impersonality
12	**Rhythm (n) rhythmic (adj)**	The pattern or beat of a poem	It contributes to the tone and mood of the text
13	**Juxtaposition (n) Juxtapose (v)**	Putting two things close together to create a contrasting effect	they used to shake hands with their hearts:, but that's gone, son. Now they shake hands without hearts
14	**Stanza (n)**	The name for a verse in a poem	N/A
15	**Refrain (n)**	A repeated part in a poem, like a chorus	N/A
16	**Semantic Field**	A group of words with similar meanings	It allows a poet to develop a mood, theme or idea across the poem.
17	**Polysemic (adj)**	More than one meaning	It facilitates multiple interpretations
18	**Emotive Language**	Language that is charged with emotion	Intending to provoke an emotional reaction
19	**Imagery (n)**	Creating pictures in the readers' heads using words	N/A
20	**Accentuate (v)**	To highlight or make something obvious	*By repeating the word 'red', Soyinka accentuates his anger at discovering that the Landlady is prejudicial and racist.*
21	**Connotation (n)**	Connected or deeper meanings or feeling behind a word	The word 'emerald' has connotations of treasure, value and beauty.
22	**Irony (n) Ironic (adj)**	Humour using opposites	It is ironic that the landlady thinks Soyinka is stupid as he is clearly the more intelligent person.
23	**Satire (n) satirise (v) satirical (adj)**	The use of humour to mock or ridicule stupidity or ignorance, often aimed at the powerful	Half Caste satirises racism by criticizing the language of classification.
24	**Derogatory (adj) derogate (v)**	Rude and disrespectful language	Agard's poem demonstrates the derogatory nature of the phrase 'half-caste'.

	Rhetorical Technique	Definition	Example
1	**Anaphora**	Starting each sentence with the same word	'This royal throne of kings, this scepter'd isle, This earth of majesty, this seat of Mars' Richard II
2	**Hypophora**	Asking a question then answering it straight afterwards	'If a Jew wrong a Christian, what is his humility? Revenge.' Merchant of Venice
3	**Epiplexis**	A series of rhetorical questions	Who is here so base that would be a bondman?...Who is here so rude that would not be a Roman?... Julius Caesar
4	**Aposiopesis**	A pause-when someone doesn't finish a sentence (…)	'I will have such revenges on you both That all the world shall- I will do such things-' King Lear
5	**Antithesis**	First you mention one thing, then you mention another. Both elements are often opposites	'The fewer men, the greater share of honour.' Henry V
6	**Parallelism**	Giving two or more parts of the sentences a similar form and structure so as to give the passage a definite pattern	'Fear'd by their breed and famous by their birth' Richard II
7	**Epistrophe**	When you end each sentence or clause with the same word	As he was valiant, I honor him. But, as he was ambitious, I slew him' Julius Caesar
8	**Tricolon**	Three ideas in a row	'Friends, Romans, Countrymen, lend me your ears.' Julius Caesar
9	**Polyptoton**	The repeated use of one word as different parts of speech or in different grammatical forms	'With eager feeding food doth choke the feeder' Richard II
10	**Imperative**	Giving a command or order to the listener or audience	'Stiffen the sinews, summon up the blood' Henry V

	Appeals	Definition
11	**Ethos**	An appeal to the authority or credibility of the presenter. It is how well the presenter convinces the audience that he or she is qualified to present (speak) on the particular subject.
12	**Logos**	This is logical appeal or the simulation of it, and the term logic is derived from it. It is normally used to describe facts and figures that support the speaker's claims or thesis. Having a logos appeal also enhances ethos because information makes the speaker look knowledgeable and prepared to his or her audience
13	**Pathos**	It is an appeal to the audience's emotions, and the terms pathetic and empathy are derived from it. It can be in the form of metaphor, simile, a passionate delivery, or even a simple claim that a matter is unjust

	Keyword	Definition		Shakespearean Dates
14	**Soliloquy**	a device often used in drama when a character speaks to himself or herself	20	1.1564- Born in Stratford Upon Avon
15	**Philippic**	a bitter attack or denunciation, especially a verbal one	21	2. 1599- First Globe theatre built
16	**Diatribe**	a forceful and bitter verbal attack against someone or something	22	3. 1616- Shakespeare Died
17	**Metaphor**	a figure of speech in which a word or phrase is applied to an object or action to which it is not literally applicable.	23	4. Queen Elizabeth I ruled from 1558-1603
18	**Introspection**	the examination or observation of one's own mental and emotional processes	24	5. King James I ruled from 1603-1625
19	**Personification**	Giving human qualities to something not human		

Poetry from Other Cultures			Shakespearean Rhetoric		
	Word	**Definition**		Word	Definition
1	**Apathy (n)** **Apathetic (adj)**	Lack of interest in or concern for things that others find moving or exciting.	16	**Sedition (n)**	Rebelling against the government
2	**Discrimination (n)** **Discriminate (v)**	Make an unjust or prejudicial distinction in the treatment of different categories of people, here one country takes, occupies and rules another	17	**Credible (adj)** **Credibility (n)**	How believable something is
3	**Oppression (n)** **Oppress (v)** **Oppressor (n)**	The exercise of authority or power in a burdensome, cruel or unjust manner.rtain, not specific or precise	18	**Oratory (n)** **Orator (n)**	Public speaking
4	**Empathy (n)** **Empathetic (adj)**	The ability to understand and share the feelings of another	19	**Rouse (v)** **Rousing (adj)**	Exciting and inspiring (of a speech)
5	**Indifferent (adj)** **Indifference (n)**	Unconcerned, not caring, having no opinion.	20	**Antithesis (n)** **Antithetical (adj)**	Opposites
6	**Plight (n)**	A difficult or horrible situation	21	**Domineer (v)** **Domineering (adj)**	Assert your will in an arrogant way. Bossy
7	**Authoritarian (adj)** **Authoritarianism (n)**	Strict, bossy, expecting obedience	22	**Patriotism (n)** **Patriotic (adj)**	A love for your country
8	**Mundane (adj)**	Boring, lacking interest, dull	23	**Implore (v)**	To beg desperately for something
9	**Denounce (v)** **Denunciation (n)**	A public statement that something is wrong	24	**Subtle (adj)** **Subtlety (n)**	Using soft or indirect methods to do something
10	**Berate (v)**	To scold or criticise angrily	25	**Defer (v)** **Deferential (adj)**	Showing polite respect to someone powerful
11	**Scathing (adj)**	Severely and strongly critical	26	**Undermine (v)**	To lessen the effectiveness or power of something, to go against someone's power
12	**Apartheid (n)**	Racial segregation in South Africa	27	**Futile (adj)** **Futility (n)**	Pointless or useless
13	**Brutal (adj)** **Brutality (n)**	Savage, cruel and inhuman	28	**Allude (v)** **Allusion (n)**	Suggest or hint at something
14	**Disparity (n)**	A great difference	30	**Resent (v)** **Resentment(n)**	Feeling bitter towards something
15	**Deprive (v)** **Deprivation (v)**	Lacking the basics in life	31	**Contempt (n)** **Contemptuous (adj)**	A feeling that something is worthless

Integer Place Value

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

Placeholder

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

1 billion 1, 000, 000, 000

1 million 1 000, 000

Comparing decimals

Which the largest of 0.3 and 0.23?

Ones	Tenths	hundredths
	0.1 0.1 0.1	

Ones	Tenths	hundredths
	0.1 0.1	0.01 0.01 0.01

$0.3 > 0.23$

"There are more counters in the furthest column to the left"

0.30
0.23

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

Standard Index Form

A form in which numbers are recorded as a number between 1 and 10 multiplied by a power of ten.

Examples:

193 in standard index form is recorded as 1.93×10^2

0.193 in standard index form is recorded as 1.93×10^{-1}

This form is often used as a succinct notation for very large and very small numbers.

Compare integers using <, >, =, ≠

< less than

> greater than

= equal to

≠ not equal to

Two and a half million = 2 500 000

300 000 000 = Three billion

Six thousand and eighty < 68 000

Squaring and square-rooting cubing and cube-rooting are **inverses** of each other.

$8^2 = 8 \times 8$

8 64

$\sqrt{64} = 8$

$5^3 = 5 \times 5 \times 5$

5 125

$\sqrt[3]{125} = 5$

Decimals

We say "nought point five two"

Five tenths and two hundredths

ones	tenths	hundredths

0 ones, 5 tenth and 2 hundredths

$0 + 0.1 + 0.1 + 0.1 + 0.1 + 0.1 + 0.01 + 0.01$

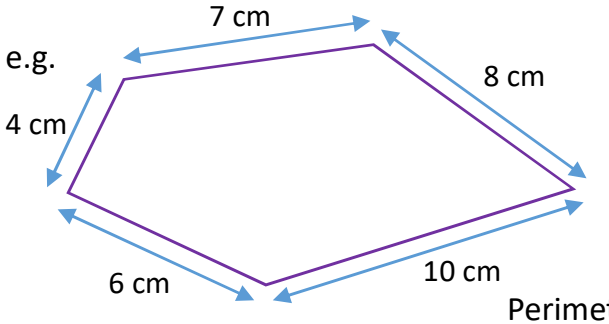
$= 0 + 0.5 + 0.02$

$= 0.52$

Perimeter

The length of the boundary of a closed figure.

e.g.

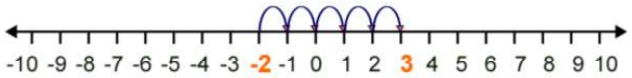


$$\begin{array}{r} 7 \\ 8 \\ 10 \\ 6 \\ +\quad 4 \\ \hline 35 \end{array}$$

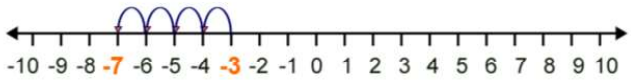
Perimeter is 35 cm

Negative and Positive Numbers – Addition & Subtraction

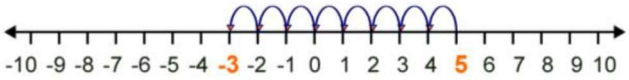
–2 + 5 = 3



–3 + –4 = –7

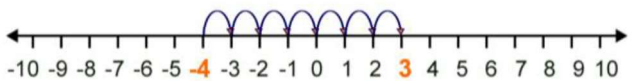


5 – 8 = –3



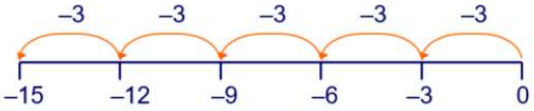
3 – –6 = 9

–4 – –7 = 3



Negative and Positive Numbers – Multiplication

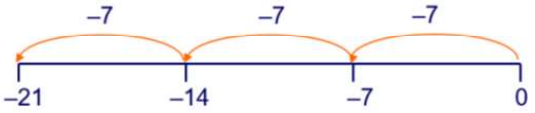
–3 + –3 + –3 + –3 + –3 = –15



5 × –3 = –15

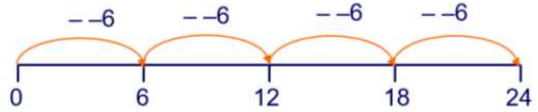
A positive number × a negative number = a negative number

–7 × 3 = 3 × –7 = –21



A negative number × a positive number = a negative number

–4 × –6 = 4 × – –6 = 24



A negative number × a negative number = a positive number

Negative and Positive Numbers – Division

If 5 × –3 = –15, then –15 ÷ 5 = –3

A negative number ÷ a positive number = a negative number

If – 7 × 3 = –21, then –21 ÷ – 7 = 3

A negative number ÷ a negative number = a positive number

If – 4 × – 6 = 24, then 24 ÷ – 4 = –6

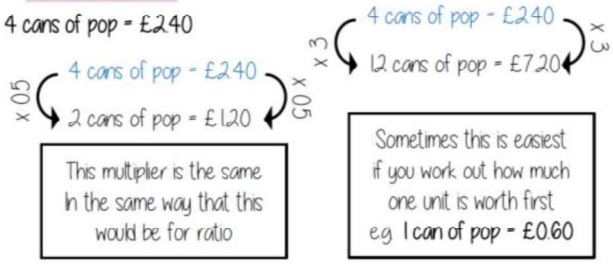
A positive number ÷ a negative number = a negative number

Direct Proportion

As one variable changes the other changes at the same rate.

This is a multiplicative change

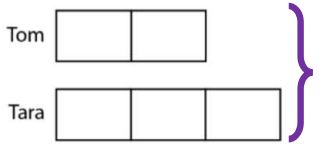
4 cans of pop = £2.40



This multiplier is the same in the same way that this would be for ratio

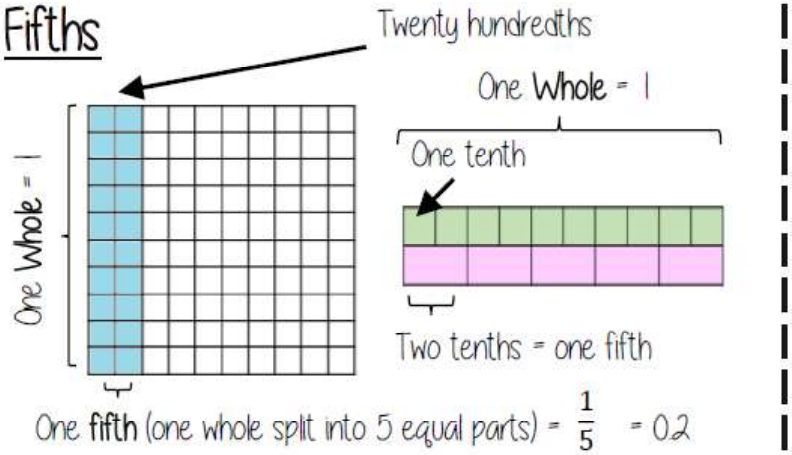
Sometimes this is easiest if you work out how much one unit is worth first e.g. 1 can of pop = £0.60

Ratio Tom and Tara share £270 between them in the ratio 2:3. What else can you find out?



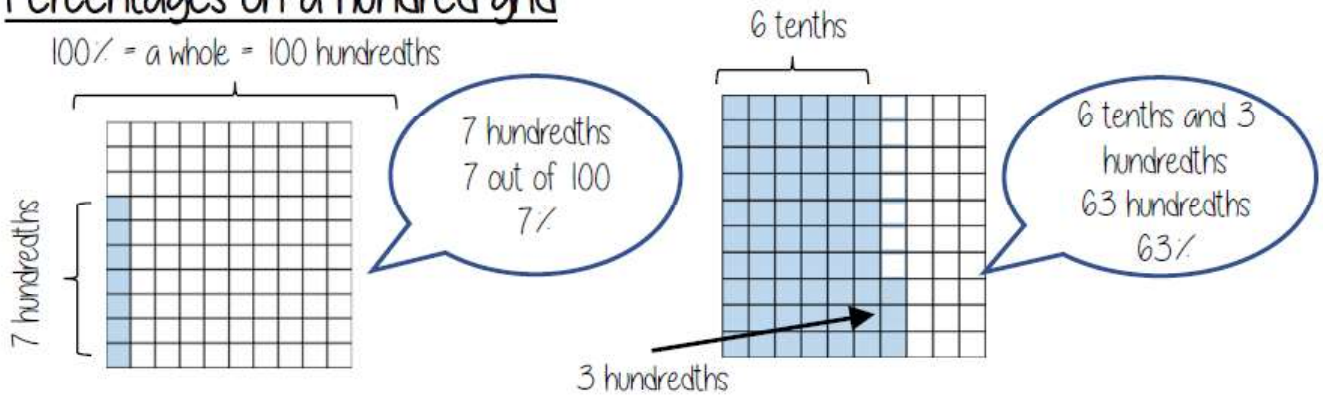
Tom and Tara share some money between them in the ratio 2:3. Tara gets £20 more than Tom. What else can you find out?

Fifths



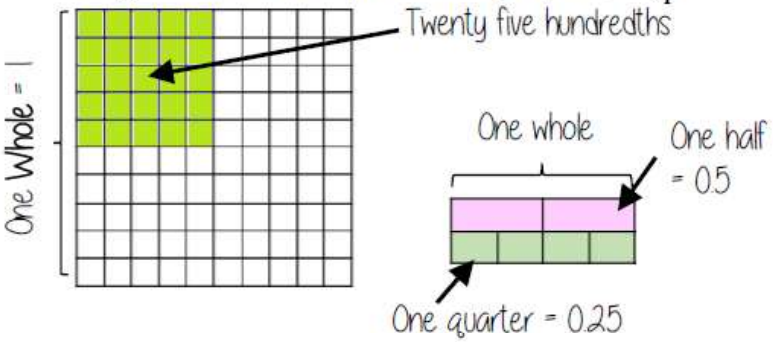
One **fifth** (one whole split into 5 equal parts) = $\frac{1}{5}$ = 0.2

Percentages on a hundred grid



Quarters

One **quarter** (one whole split into 4 equal parts) = $\frac{1}{4}$ = 0.25



Keywords

Numerator : the number above the line on a fraction. The top number. Represents how many parts are taken

Denominator: the number below the line on a fraction. The number represent the total number of parts.

Whole: a positive number including zero without any decimal or fractional parts.

Commutative: an operation is commutative if changing the order does not change the result.

Unit Fraction: a fraction where the numerator is one and denominator a positive integer.

Non-unit Fraction: a fraction where the numerator is larger than one.

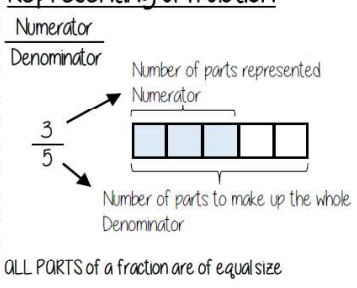
Dividend : the amount you want to divide up.

Divisor: the number that divides another number.

Quotient: the answer after we divide one number by another. e.g. dividend÷ divisor = quotient

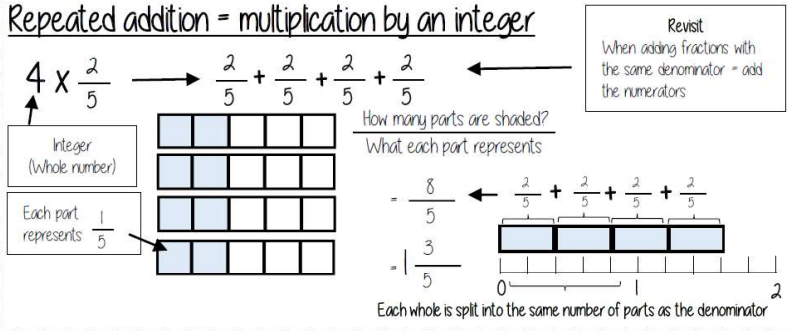
Reciprocal: a pair of numbers that multiply together to give 1

Representing a fraction

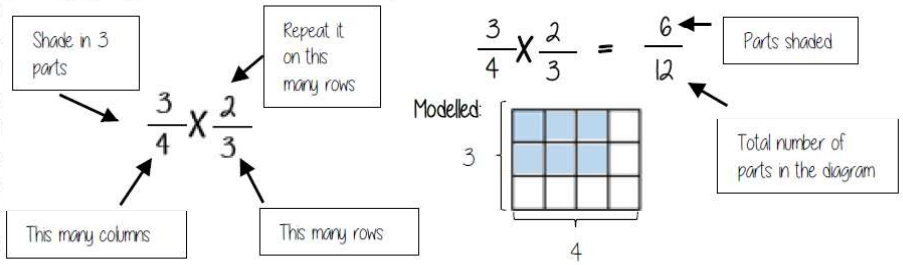


ALL PARTS of a fraction are of equal size

Repeated addition = multiplication by an integer



Multiplying non-unit fractions



Hazard symbols

Scientists often work with chemicals that can cause harm. Clear symbols are used to label chemicals that might be dangerous, so that the appropriate care can be taken. There are two systems that might be used to do this. The older system, CHIP, uses black symbols on an orange background, shown below.

The international system, (GHS, Globally Harmonised System), uses black symbols on a white background in a red rhombus. These are show below

Safety Equipment

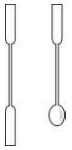
Working with chemicals can pose a risk to health. To ensure that work is carried out as safely as possible, **goggles** and a **lab coat** should always be worn during practical work

Laboratory equipment

Science as a subject is about studying the world around us. This means that there is a need for lots of specialist equipment to carry out experiments and gather results.
This equipment is often **sensitive** so that it can detect small changes. This means it must be handled with care to avoid damage.
Containers that will be used to work with or store chemicals are often made of **glass**. This is because, even though glass can break easily if dropped, it is very **chemically stable** – it won't react easily with the chemicals being handled.
Some examples of laboratory equipment are given below.

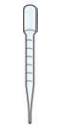
Beaker
Used to hold liquids in larger quantities

Test tube
Used to carry out tests on small quantities

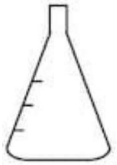


Spatula
Used to measure out solid chemicals

Measuring cylinder
Used to measure volumes of liquids



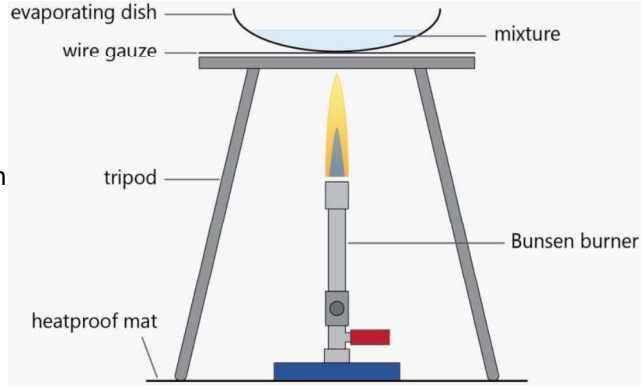
Pipette
Used to measure small volumes of liquids



Conical flask
Used to carry out reactions

Heating chemicals in the lab

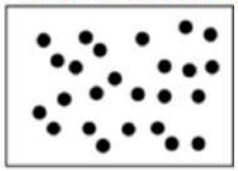
When heating is required for an experiment, **Bunsen burners** are often used. These work by using natural gas to produce a flame that can apply controlled heat to the equipment being heated.
Bunsens are always placed on a **heatproof mat** before use. When equipment is being heated, a **tripod** is often used to hold this in place over the flame: a **gauze** or **pipeclay triangle** will then support the glassware.
The yellow **safety flame** should never be used to heat equipment, as it leaves sooty residue behind. The **blue** or **nonluminous flame** is hotter, and does not leave soot on the equipment.

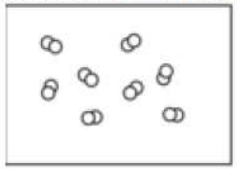


Key Word	Definition
Atom	The smallest unit of an element.
Element	Substances made out of one type of atom.
Compound	Substances made of two or more different types of atoms, chemically bonded.
Pure	A substance that contains only element or compound
Impure	A substance that contains a mixture of elements and compounds

Elements

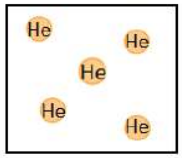
- Elements are substances made up of one type of atom.
- All 118 elements are found listed in the Periodic Table.
- The atoms in an element can either be single, or go around in pairs. It doesn't matter, as long as the atoms are **the same.**
- Elements that go around in pairs are called diatomic elements.

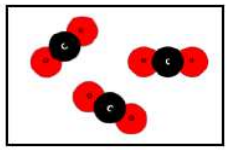




Pure Substances

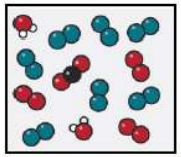
A substance is pure if it only has **one type** of particle in it e.g. just helium atoms or just carbon dioxide molecules.





Impure Substances

Impure materials are mixtures of different types of particle (covered more in Topic 7).

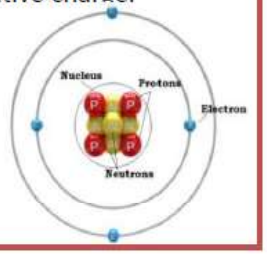


The first 20 elements and their Chemical symbols

Element	Symbol
Hydrogen	H
Helium	He
Lithium	Li
Beryllium	Be
Boron	B
Carbon	
Nitrogen	N
Oxygen	O
Fluorine	F
Neon	Ne
Sodium	Na
Magnesium	Mg
Aluminium	Al
Silicon	Si
Phosphorus	P
Sulfur	S
Chlorine	Cl
Argon	Ar
Potassium	K
Calcium	Ca

Structure of the Atom

- An atom is made up of three subatomic particles: protons, electrons and neutrons.
- Protons are in the nucleus and have a positive charge.
- Neutrons are in the nucleus and have no charge.
- Electrons are in the shells and have a negative charge.
- Protons and neutrons are the same size, where electrons have hardly any mass.
- In an atom, there are equal numbers of protons and electrons because the positive and negative charges need to balance.

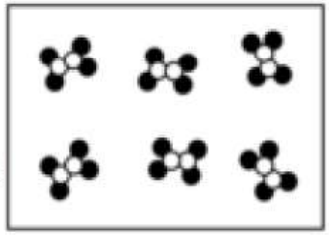


Compounds

- Compounds are substances made up of **different elements** which are chemically bonded.
- Compounds can be formed by chemically reacting elements together e.g.:

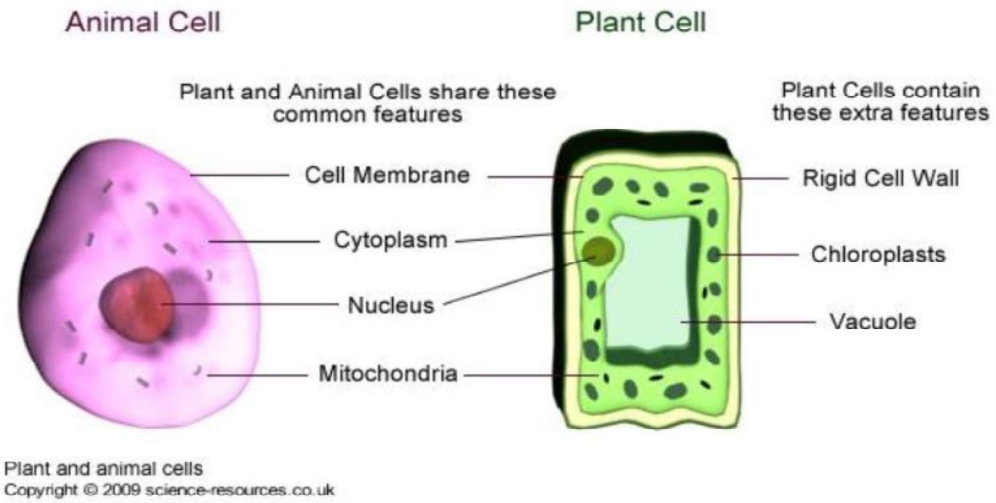
Magnesium + oxygen → magnesium oxide
(Element) (Element) (Compound)

- Often, the compound formed has different properties to the elements that make it. E.g. magnesium is a shiny metal, oxygen is a colourless gas and magnesium oxide is a white powder
- In order to separate the elements in a compound you would need to carry out another chemical reaction.
- Compounds are still pure because, although they contain different atoms, those atoms are bonded to make **one particle**
- Examples of compounds are:
  - Carbon dioxide (CO_2)
  - Water (H_2O)
  - Anything else that has more than one element



Cells

Cells are the building blocks of all living organisms



Plant and animal cells

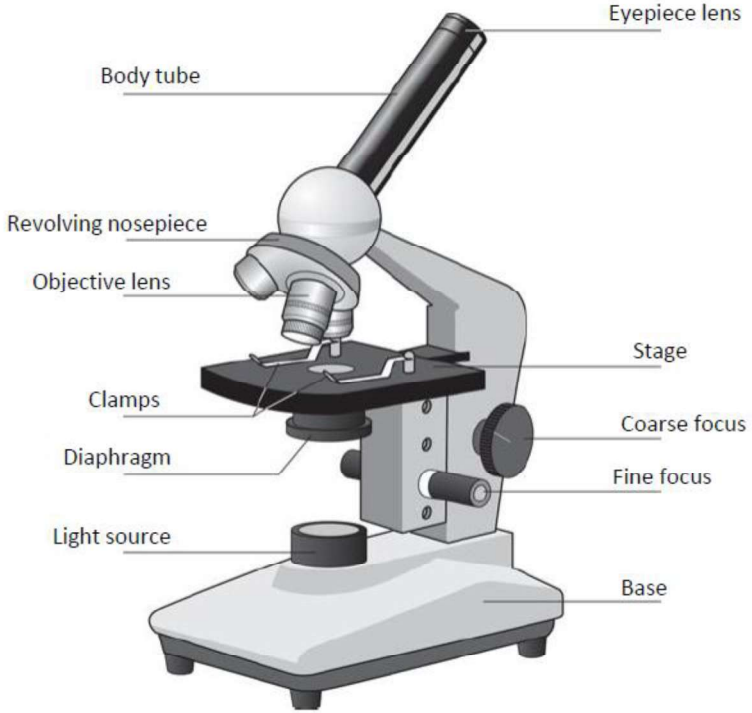
Key Terms	Function
Stage	Area where specimen is placed
Clamps	Hold the specimen still whilst it is being viewed
Light source	Illuminates the specimen
Objective lens	Magnifies the image of the specimen
Eyepiece lens	Magnifies the image of the specimen
Course/fine focus	Used to focus the specimen so it can be seen clearly
Revolving nosepiece	Holds 2 or more objective lenses

Using a microscope

To view an object down the microscope we can use the following steps:

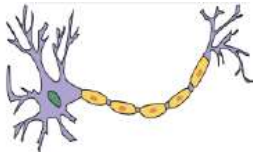
1. Plug in the microscope and turn on the power
2. Rotate the objectives and select the lowest power (shortest) one
3. Place the specimen to be viewed on the stage and clamp in place
4. Adjust the course focus until the specimen comes into view
5. Adjust the fine focus until the specimen becomes clear
6. To view the specimen in more detail repeat the process using a higher power objective

Parts of a microscope



Specialised Cells

Specialised cells are found in multicellular organisms. Each specialised cell has a particular function within the organism.

Type of Cell		Function	Special Features
	Red blood cell	To carry oxygen	• Large surface area for oxygen to pass through. • Contains haemoglobin, which joins with oxygen. • Contains no nucleus.
	Nerve cell	To carry nerve impulses to different parts of the body	• Long. • Connections at each end. • Can carry electrical signals.
	Male reproductive cell (sperm cell)	To reach female cell (egg cell) and join with it	• Long tail for swimming. • Head for getting into female cell.
	Root hair cell	To absorb water and minerals	• Large surface area.
	Leaf cell	To absorb sunlight for photosynthesis	• Large surface area. • Lots of chloroplasts.

Preparing a microscope slide

To prepare a slide to view onion cells we can use the following steps:

1. cut open an onion
2. use forceps to peel a thin layer from the inside
3. spread out the layer on a microscope slide
4. add a drop of iodine solution to the layer
5. carefully place a cover slip over the layer

Magnification

We can use the following equation to calculate magnification of an object viewed through a microscope:

$$magnification = \frac{image\ size}{actual\ size}$$

Key Terms	Definition
Cell wall	Made of cellulose, which supports the cell
Cell membrane	Controls movement of substances into and out of the cell
Cytoplasm	Jelly-like substance, where chemical reactions happen
Nucleus	Contains genetic information and controls what happens inside the cell
Vacuole	Contains a liquid called cell sap, which keeps the cell firm
Mitochondria	Where most respiration reactions happen (glucose + oxygen → carbon dioxide + water)
Chloroplast	Where photosynthesis happens (carbon dioxide + water → glucose + oxygen)

Energy Stores

Energy is a quantity measured in joules (J). It is NOT a material or 'thing'. Examples of how energy is stored:

- Energy is stored in fuels as **chemical potential energy**
- Energy is stored in anything elastic when it is stretched, as **elastic potential energy**
- Energy is stored in any object that has been lifted up from the ground, because the object stores **gravitational potential energy**
- Energy is stored in moving objects as **kinetic energy**
- Energy is stored in any object as **thermal energy**, also known as *heat energy*. The higher its temperature, the more thermal energy it stores.

Energy Transfer

An energy transfer is when energy changes from one store to another. VERY IMPORTANTLY, the **total amount of energy does not change**. Energy cannot be created or destroyed. All that can be changed is how it is stored. This idea is called **the law of conservation of energy.**

Energy is transferred, so it changes store, in loads of situations. Examples to know:

- When a fuel is burned, the chemical potential energy in the fuel ends up stored as thermal energy in the surroundings;
- When an object falls off a shelf, the gravitational potential energy it stores is transferred (changed) to kinetic energy while it is falling.
- When the object hits the floor, all the gravitational potential energy it had to start with ends up stored as thermal energy in the surroundings.
- When a spring that's been stretched is released, the elastic potential energy it stored is transferred to kinetic energy then to thermal energy.

Key Terms	Definitions
Energy	Energy is a quantity that is stored in all objects. Anything storing energy can do work.
Work	Work is done when energy moves (is transferred) from store to another.
Potential Energy	Potential energy is energy stored in objects thanks to their position.
Chemical potential energy	Energy stored in fuels like wood or the gas for Bunsen burners is called chemical potential energy.
Elastic potential energy	Elastic objects like springs or rubber bands store elastic potential energy when they are stretched.
Gravitational potential energy	Any object that is not on the ground has gravitational potential energy. This is because they are lifted in a gravitational field and could fall down.
Kinetic energy	Any moving object stores kinetic energy. This includes the movement of particles.
Thermal energy	Also known as heat energy. All objects store some thermal energy, because their particles are moving.
Conservation of energy	The law that says energy cannot be created or destroyed, only moved between stores.
Energy transfer	A process where energy changes how it is stored.

Temperature and Thermal Energy

Temperature and thermal energy are linked, but are not the same thing.

- The thermal energy of a material depends on the **potential energy** of the particles AND the **kinetic energy** of the particles it is made from.
- Temperature only depends on the kinetic energy of the particle. The more the particles are moving, the higher the temperature.
- The **mass** of a material does NOT affect its temperature. However, the larger the mass, the more thermal energy it stores because it contains more particles.

Thermal energy transfer

Thermal energy will always be transferred from hotter objects/areas to cooler objects/areas. This includes hot objects transferring thermal energy to the surroundings (the air, nearby surfaces and so on). Thermal energy transfer continues until **thermal equilibrium** is reached (the temperature is equal).

You can reduce the amount of thermal energy transferred using **insulation**.

Thermal energy transfer by infra red radiation

All objects give out some infra red radiation, but the hotter they are the more radiation they give out. All objects can also absorb infra red radiation: when they do, they heat up. Radiation can travel through empty space – so this is how the Sun heats up the Earth.
The colour of the surface of an object affects how rapidly it emits and absorbs infra red radiation. Black, matt surfaces are the best absorbers and emitters. Shiny, silver surfaces are the worst absorbers and emitters.

Thermal energy transfer by conduction

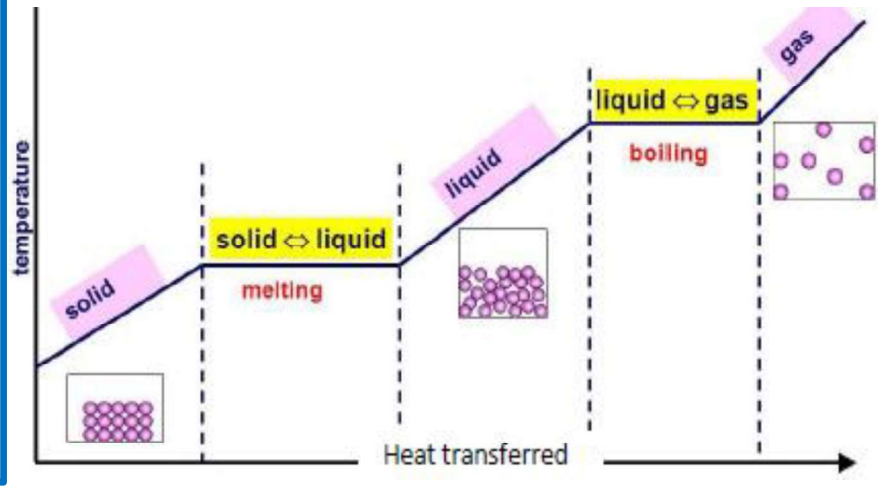
Thermal energy can be transferred between materials that are touching. Thermal energy is still transferred from the hotter object/area to the cooler object/area. This is called **conduction** of thermal energy. As the diagram shows, the particles in the area at a higher temperature vibrate more: their **kinetic energy** increases. They bump into neighbouring particles and pass on (transfer) thermal energy.

Energy when increasing temperature and when changing state

When heating a substance (solid, liquid or gas) and it doesn't change state, its temperature rises. This is because the particles move around more: their **kinetic energy** increases.

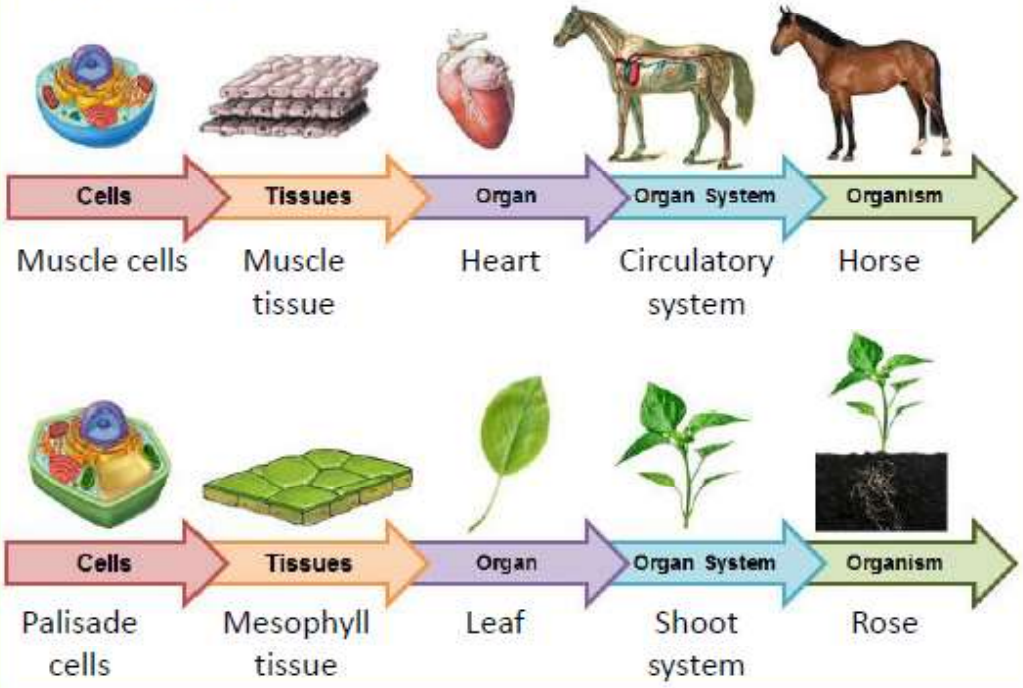
When heating a substance and causing it to change state, its temperature does NOT change during the state change. However, energy cannot disappear. The heat transferred to the substance increases the **potential energy** of the substance: it moves the particles it is made from apart until the substance has melted or boiled.

Key Terms	Definitions
temperature	The measure of the average amount of kinetic energy of all the particles in a substance.
temperature gradient	A difference in temperature between two places. Thermal energy always moves from hotter to colder places or materials.
thermal equilibrium	A situation where the temperature in two places is equal.
heat	The energy stored in substances thanks to the energy of their particles. Also called thermal energy.
conduction	One way that thermal energy can be transferred. Objects that are touching can transfer thermal energy, from the hotter object to the cooler one.
radiation	Another way that thermal energy can be transferred. All objects give out **infra red radiation**. Hotter objects give out (emit) infra red radiation that is absorbed by cooler objects.
emit	To give out
absorb	To take in



Hierarchical organisation

Cells are the building blocks of life. In multicellular organisms, cells rarely work alone.



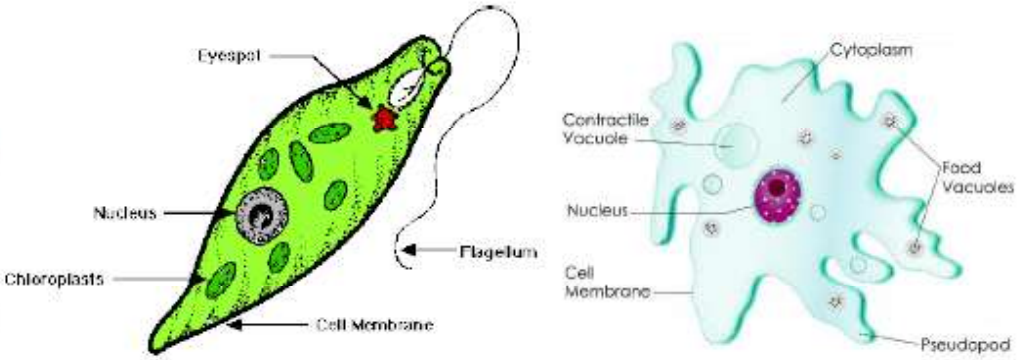
Key Terms	Definitions
Cell	The building block of life and the smallest structural unit of an organism
Tissue	A group of cells working together to perform a particular function
Organ	A group of tissues working together to perform a particular function
Organ system	A group of organs working together to perform a particular function
Organism	An individual life form, can be multicellular or unicellular
Multicellular	Consisting of many cells
Unicellular	Consisting of just one cell
Diffusion	The random movement of particles from a high concentration to a lower concentration

Unicellular Organisms

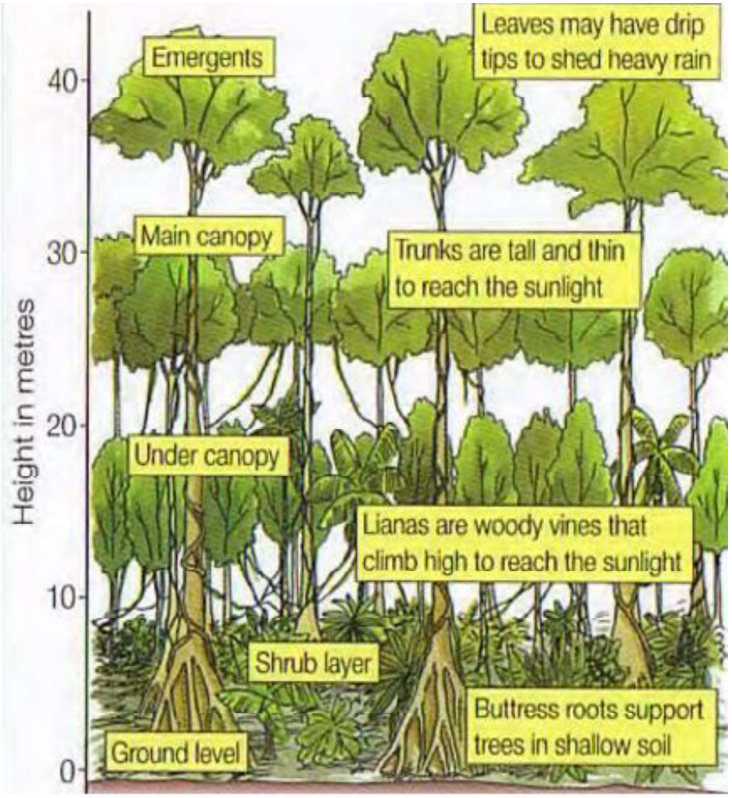
Unicellular organisms are made up of just one cell. There are no tissues, organs or organ systems. Unicellular organisms often have structural adaptations to help them survive.

Euglena are a unicellular organism. They have a flagellum (tail) to help them move and chloroplasts so they can make their own food.

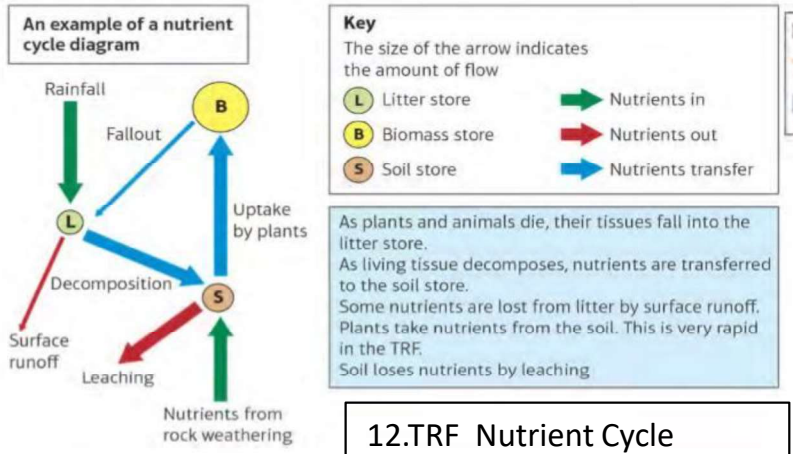
Amoeba are also unicellular organisms. They form pseudopods (false feet) that let them move about and can surround food so that the cell can take it in.



1	Tropical Rainforest	A **tropical rainforest** biome is found in hot, humid environments in equatorial climates. They contain the most diverse range and highest volume of plant and animal life found anywhere on earth
2	Biome	A large scale ecosystem like a Tropic Rainforest
3	Ecosystem	A localized biome made up of living and non living environment
4	Food web	A complex network of overlapping food chains that connect plants and animals in biomes.
5	Biotic	Living part of the biome made of flora (plants) and fauna (animals)
6	Abiotic	The non-living part of a biome includes the atmosphere, water, rock and soil.
7	Services	Often invisible processes that enable the biosphere to function i.e. atmospheric regulation and water purification.
8	Goods	Physical material that are of value to us such as crops, timber, oil, coal and gas.
9	Indigenous	Original populations; the oldest communities in the world.
10	Greenhouse effect	Gases like carbon dioxide and methane that trap heat around the Earth, leading to global warming,



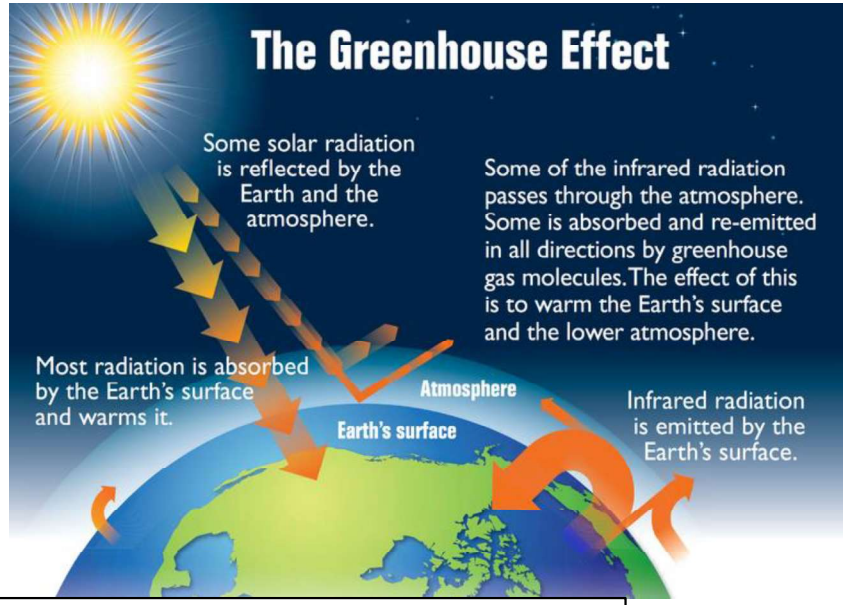
11.Layers of a Tropical Rainforest



12.TRF Nutrient Cycle

	Brazil Key Facts		UK Facts for comparison
13	Continent	South America	Europe
14	Level of affluence	Emerging Country	Developed
15	GDP per capita	$8902 US	$39 720 US
16	Population	209.3 million	66.4 million
17	Percentage living in urban areas	79.5%	82%
18	Fertility Rate	2.18	1.8
19	Infant mortality rate	16 per 1000 live births	3.8 per 1000 live births.
20	Average age	31.3 years	40
21	Percentage working in the tertiary sector	70%	79%

	Amazon Rainforest Key Facts	
No,	Size	Biggest rainforest in the world. 5.5 kn²
22	Biodiversity	Most biodiversity land based biome. Contains 10% of all the world's species.
23	Number of mammals	427
24	Number of insects	2.5 million
25	Number of birds	1500
26	Number of plant species	40 000
27	Level of deforestation	8000m² per year



28.The greenhouse effect

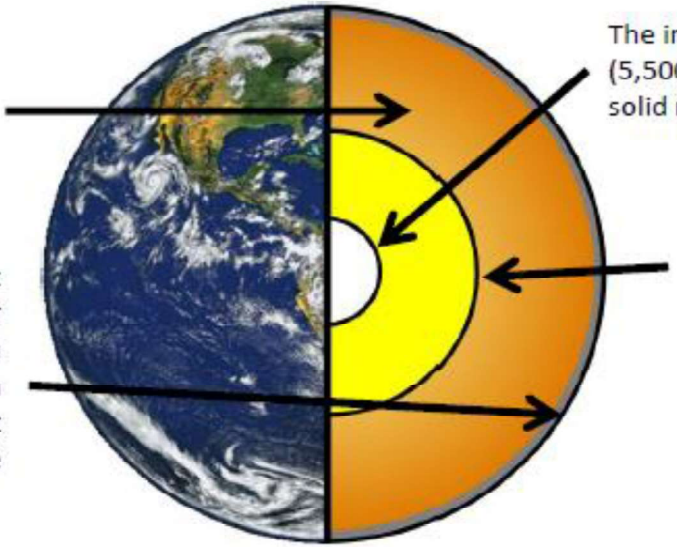
To know the structure of the earth and to know why its unstable

The earth's structure:

The Earth has four main layers : the **inner core**, the **outer core**, the **mantle** and the **crust**.

The mantle is semi-molten and about 3,000 km thick. The closer the mantle is to the core, the more liquid it is.

The crust is the rocky outer layer. It is thin compared to the other sections, approximately 5 to 70 km thick. If the Earth was scaled down to the size of an apple, the crust would be about the thickness of the apple skin.

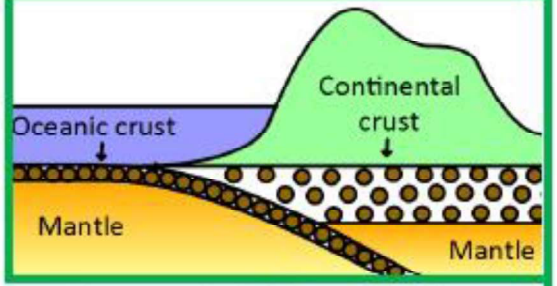


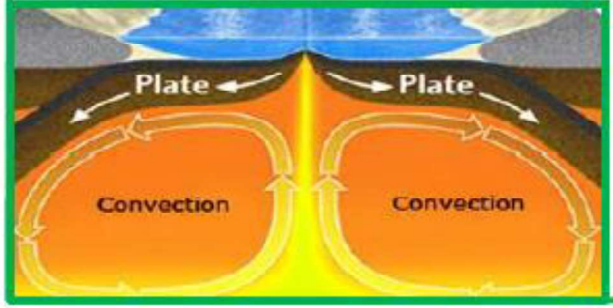
The inner core is extremely hot (5,500°C). It is a very dense solid made from iron and nickel.

The outer core is 2,000 km thick and is a liquid.

The earth's crust:

- The earth's crust is broken up into plates, called tectonic plates.
- There are two types of tectonic plate oceanic and continental.
- Oceanic plates carry **the oceans**. They are **thinner** but **more dense** than continental plates.
- Continental plates carry **the land**. They are **thicker** but **less dense** than oceanic plates.





- Heat from the core causes convection currents in the mantle. These cause the mantle to move as it heats and cools.
- These currents slowly move the crust around.
- In some places the crust is destroyed. In other places new crust is formed.

Key words and terms:

Crust:
The rocky outer layer of the earth, made up of oceanic and continental crust.

Mantle:
Semi-molten rock, moving beneath the earth's crust. It is the movement (convection currents) in the mantle which cause tectonic plates to move

Outer core:
A 2000km thick liquid made up largely of iron and nickel.

Inner Core:
A dense solid of extreme temperature (5,500°C) made up of iron and nickel.

Tectonic plates:
Huge plates (oceanic and continental) that make up the earth's crust, and which move because of convection currents.

Convection currents:
Currents in the mantle which cause the tectonic plates to move, caused by extreme heat from the earth's core.

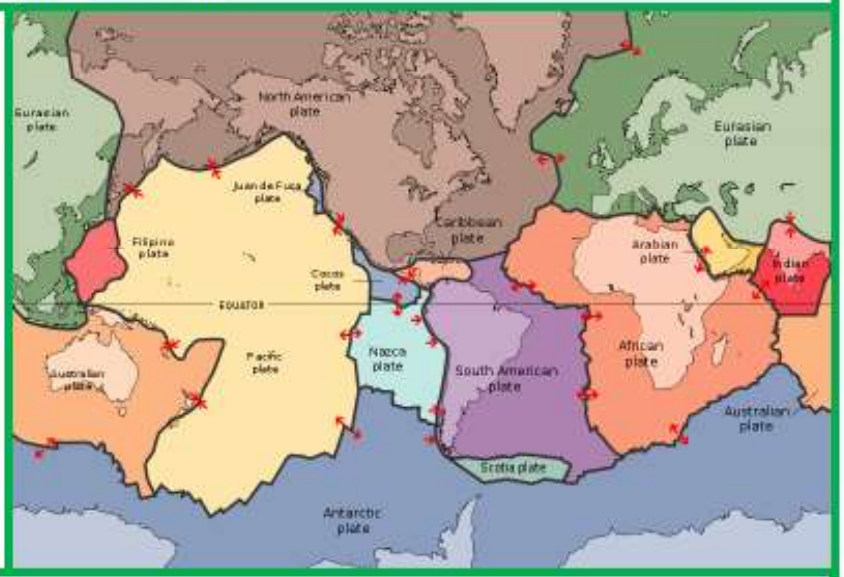
Dense:
When something is closely packed together.

Molten:
Something which is melted and has become a liquid.

To describe conservative, constructive and destructive plate boundaries.

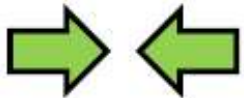
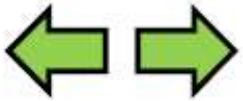
Plate boundaries:

- The Earth's crust is broken into different plates, which sit on the Earth's mantle.
- These plates move because of **convection currents.**
- The plates move in different directions and meet at **plate boundaries.**
- As the plates move, parts of the crust are **destroyed** and in other areas new crust is **created.**



Different types of plate boundary:

- There are three different types of plate boundary: **destructive**, **constructive** and **conservative**. Which type they are depends on how the plates move at this boundary.
- Different plates boundaries have different landforms, such as volcanoes and fold mountains.

Boundary	Movement	Diagram	Example	Landforms
Destructive	The plates either **collide** or the oceanic plate **subducts under** the continential plate.		The Nazca plate being forced under the South American plate.	Volcanoes Fold mountains Earthquakes
Constructive	The plates **move apart.**		The African plate and the South American plate.	Volcanoes
Conservative	The plates move **alongside** each other.		The Pacific plate and the North American plate.	Earthquakes

Key words and terms:

Plate boundaries:
Where two or more tectonic plates meet.

Conservative:
A plate boundary where two plates slide past one another.

Constructive:
A plate boundary where two plates are moving apart.

Destructive:
A plate boundary where two plates are colliding.

Magma:
Molten rock from the mantle before it reaches the surface of the earth.

Lava:
Molten rock released from the earth's core by a volcano.

Fold Mountains:
Mountains formed at collision zones, where two continental plates move towards each other.

Volcano:
A vent in the earth's crust from which lava, ash and gas is released.

Earthquake:
A sudden shaking of the ground, caused by movement in the earth's crust.

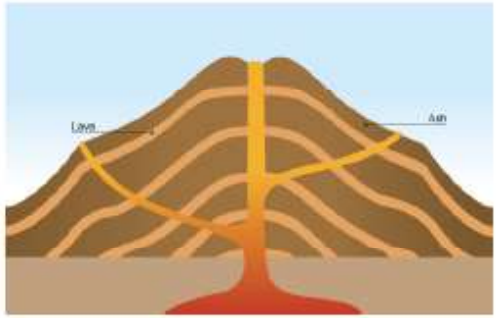
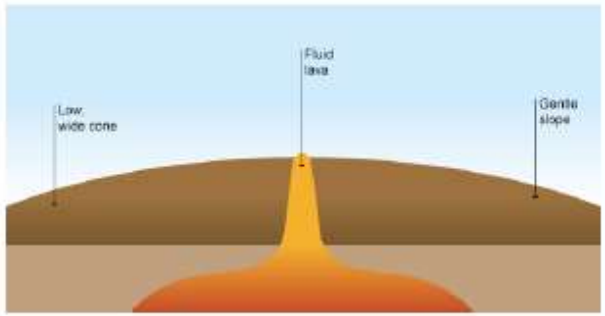
To describe conservative, constructive and destructive plate boundaries.

Volcanoes:

- Volcanoes are a vent in the earth's crust from which lava, ash and gas is released.
- Most volcanoes form at **destructive and constructive** plate boundaries.
- Volcanoes **do not form at conservative boudaries**.
- If a volcano forms at a plate boundary, they are either **composite** or **shield** volcanoes.
- Of these two types, volcanoes can be **active**, **dormant** or **extinct.**

Composite and shield volcanoes:

There are a number of key differences between composite and shield volcanoes.

	Composite	Shield
Diagram		
Shape	Steep sides.	Gentle sides.
Plate boundary	Form at **destructive** plate boundaries.	Form at **constructive** plate boundaries.
Lava	Thick lava.	Thin, runny lava.
Eruptions	Eruptions happen **less often** but are usually **violent**. The eruption consists of **ash, pyroclastic flow and lava**.	Eruptions happen **often** but they are usually quite **gentle**. The eruption is mainly **lava**, with little **pyroclastic flow.**
Example	Mount Vesuvius in Naples, Italy. Mount St. Helens, USA	Mauna Loa in Hawaii. La Cumbre, The Galapagos Islands

Key words and terms:

Magma chamber:
A large underground pool of magma.

Lava:
Magma, once it reaches the surface.

Crater:
A bowl-shaped basin in the top of the volcano.

Vent:
The central tube which magma travels through.

Cone:
A hill produced around a volcano by the eruption of lava and ash.

Pyroclastic flow:
A mass of hot ash, gases and lava fragments which is ejected from a volcano at great speeds.

Active:
Volcanoes which erupt frequently.

Dormant:
Volcanoes which have not recently erupted by which can still erupt.

Extinct:
A volcano which is unlikely to ever erupt again.

YEAR 7- MICHAELMAS TERM – HISTORY – PRE 1066 AND NORMAN INVASION

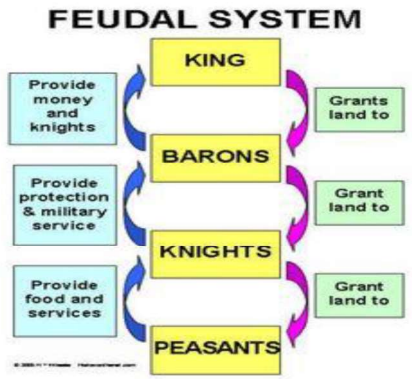
Key Terms		
1	Medieval	The period between 1066-1500
2	Doggerland	The land bridge connecting Britain to Europe before the last Ice Age
3	Chronology	Putting events in the order that they happened
4	Century	100 years
5	Source	Something from the time which we can use to find out about the past.
6	Celts	The dominant population of Britain before the arrival of the Romans and Anglo-Saxons
7	Romans	Group who ruled England after invading from 40AD. They left around 410AD due to invasions in their homeland.
8	Ivory Bangle Lady	The skeleton of a Roman woman found in York, north England. Nicknamed after the jewelry found in her coffin. Proven to have come from North Africa.
9	Anglo-Saxons	People who lived in Britain from the 5th century. They included people from Germanic tribes who migrated to the island from Europe.
10	Vikings	Originally from Scandinavia, a vicious warriors group who invaded and settled from around 800AD
11	Shires	The individual counties that the Anglo-Saxons divided England into
12	Earl	Noble title used by the Anglo-Saxons use to describe the ruler of a county
13	Heir	a person who is legally allowed to take the rank and property of someone who has died.
14	Witan	Kings Council, made up of powerful Bishops and Earls, helped the king run the country
15	Normans	People from the Normandy region of France, led by King William
16	Bayeux Tapestry	An embroidery telling the story of the Norman Conquest
17	Conquest	Taking an area by using force
18	Fyrd	Local farmers that fight for Harold Godwinson's army
19	Housecarls	Paid, experienced soldiers that fought for Harold's army
20	Cavalry	William's soldiers that fought on horses
21	Harrying	To completely destroy
22	Pope	Head of the Catholic Church
23	Villein	A type of peasant.
24	Peasant	Poor people. Farmers. They worked for the knights and nobles.

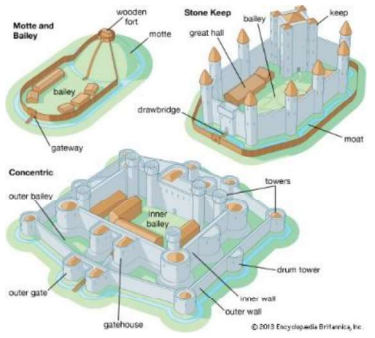
	Key people
1	**Edward the Confessor: 1042-1066** -Edward became king of England in 1042 after his half-brother died. Before this he had been living in Normandy. • Edward married but had no children. It was not clear who Edward wanted to be king after him. **For a king to die without an heir was a disaster!** • He was made a saint and 'the confessor' means someone that is saint-like but not a martyr.
2	**Harald Hardrada** -Viking King of Norway -Vikings had ruled Britain before. -Most feared warrior in Europe –Hardrada means 'hard ruler' and his nickname was 'the Ruthless'. -Harald was supported by Tostig, Harold Godwinson's brother who wanted revenge.
3	**Harold Godwinson** -Anglo-Saxon. Earl of Wessex, one of the most powerful men in England -Harold's sister was married to King Edward. Harold was a brave and respected solder with a tough streak. -The Witan, wanted Harold to be the next king.
4	**William of Normandy** -Duke of Normandy, France. -William came from a fighting family. He was a brave solider. -Edward's cousin. Edward had lived in Normandy from 1016-1042. Edward had supposedly promised that William should become King of England

Key events		
1	Battle of Stamford Bridge	-The battle where the Anglo-Saxons defeat the Vikings in September 1066. -It took the Anglo-Saxon army 4 days to march to meet the Vikings, once they had invaded northeast England -Harold Godwinson was betrayed by his brother Tostig by joining the Vikings
2	Battle of Hastings	- The battle took place in October, 1066 -The winds suddenly changed at the end of September, allowing William's Norman army to invade -William's heavily armoured soldiers on horseback, Knights, were used throughout the battles. -Harold's army positioned themselves at the start of the battle on top of Senlac Hill -The Normans carried out a Fake Retreat to tempt the Saxons away from their high ground? -According to the Bayeux Tapestry, Harold Godwinson died by being shot with an arrow to the eye -According to the first account, Harold Godwinson died by being disembowelled by Norman knights

Key Terms		
1	Feudal system	The social structure of Medieval England (see right)
2	Villein	Peasant at the bottom of the Feudal system
3	Baron	Noble land owner that pledged their loyalty to the King
4	Normans	People from the Normandy region of France, led by King William
5	Motte and Bailey	The first type of castle made by William. It was made out of wood and had a higher Motte part and a lower Bailey part
6	Stone Keep castle	Similar to Motte and Bailey but made of stronger materials such as stone
7	Moat	The water around a castle **(different to a motte which is the hill of earth that a keep is put on!)**
8	Taxes	Money collected from people by the King
9	Pope	Head of the Catholic Church
10	Hierarchy	A ranking system based on either power or strength
11	Loyalty	The act of supporting someone
12	Harrying	To completely destroy
13	Domesday book	An important book made by William the Conqueror in 1086 that counted all the money he owned in England
14	Vassal	anyone below you in the feudal system
15	Peasant	usually a farm labourer, was at the bottom of medieval society
16	Westminster Abbey	Where William the Conqueror was crowned king of England.

Key changes	
1	**The Feudal System** -William also sets up the **Feudal System**. This forces the English to give William their taxes and promises of **loyalty**, in return for protection and land to farm. -It is based on a system of **hierarchy** -William is at the top of the system, as he holds all the land and money, which he gives to the Barons. -They promise William their money, soldiers and loyalty. They give the land to the Knights in return for loyalty and military service. -Finally the knights give the land to the peasants. The peasants farm the land and give food, money and services to the knights.
2	**Harrying of the North** -Took place in 1069, following an Anglo-Saxon rebellion in Durham. After taking the throne in 1066, William did not trust the English lords, who do not like him. He had to force the English to accept him as King and many of the English are rebelling and fighting against him. **-To stop rebellions and show his power,** William crushes the rebellions and took the land away from the English lords and gave it to his supporters instead. William now has his supporters helping him to control the whole country.
3	**The Domesday Book** In 1086, William sent out surveyors to every part of England, with orders to list: -How much land was there -Who had owned it in 1066 and who owned it now -What was the place like, and who lived there -How much it was worth in 1066 and how much now William did this to allow him to effectively tax the land and earn money. William also needed to have an idea of what could be seized from landowners who did not show him loyalty. All of this was recorded in the Domesday Book.
4	**Castles** William also kept control by building castles. **Motte and Bailey** – The first castles built to help fight against rebellions. They were built quickly and made out of wood, meaning that they were not very strong, and could be easily destroyed. **Stone Keep** – This castle was now made out of stone and had towers as a form of defence. The main part of the castle was the Keep.





Key Word	Meaning	Key Word	Meaning
Religion	The belief in and worship of a superhuman controlling power, especially a personal God or gods.	**Anointed**	The application of oil in a religious ceremony, usually performed by a religious leader on a person being blessed
Symbol	A thing that represents or stands for something else, especially a material object representing something abstract	**Yaweh**	Hebrew name for God
Fact	A fact is verifiable This means that we can determine whether something is true by researching the evidence. This may involve numbers, dates or testimonies.	**Nature worship**	A religious, spiritual and devotional practices that focus on the worship of the nature spirits.
Opinion	An opinion is a judgment based on facts, an honest attempt to draw a reasonable conclusion from factual evidence. An opinion can change depending on how the evidence is interpreted.	**Baal**	A god worshipped in many ancient Middle Eastern communities, especially among Canaanites.
Belief	A belief is a conviction based on cultural or personal faith, morality or values. Belief is thinking that something is true without having actual proof or evidence.	**Pagan**	A person holding religious beliefs other than those of the main world religions
Faith	Faith is a strong belief in the principles of a religion, based on spiritual conviction rather than scientific proof.	**Pilgrimage**	Religious journey
Monotheistic	A religion which believes in **one** God	**Successor**	A person following (succeeding) another
Denomination	A branch of the Christian Church	**Theological**	Relating to the study of the nature of God and religious belief
Prophet	A person who speaks in the name of God.	**Divinity**	The state or quality of being divine (like God)
Sin	Any action **against** God	**Transcendent**	Beyond or above normal or physical human experience
Original sin	First sin in the world committed by Adam and Eve which means all humans are born with this in them.	**Transfiguration**	A complete change of form or appearance into a more beautiful or spiritual state
Patriarchs	Biblical figures regarded as fathers of the human race	**Repent**	feel or express sincere regret or remorse about one's wrongdoing or sin.
Gentile	Not Jewish	**Omnipotent**	All powerful
Covenant	An agreement between two parties	**Missionary**	A person sent on a religious mission, especially one sent to promote Christianity in a foreign country

BOX 1 – What is religion and Religious Education?

Religion is the experience and expression of faith. Religious Education is about finding out about other people's beliefs. Religious Education is about understanding our own thoughts about the world and how we act.

Why is it important to learn about religion?

- It helps us understand the meaning of religious stories, symbols, events and pictures
- It shows us how religion *influences* individuals, families, communities and cultures
- It helps us understand the political and social impact of religion
- It helps us reflect on issues of justice and truth
- It provokes questions about the meaning of life
- It offers opportunities for personal reflection
- It helps us tackle extremism and religious discrimination

It gives you the time to reflect on your own faith and grow and develop your own beliefs and values	90% of the people in the world are still religious, and RE can help us understand what's important to them	R.E can help us answer "BIG" questions about the world
R.E can teach me about self-REspect and REspecting others	The U.K has become a multicultural society, and R.E helps us understand other cultures	R.E can help us understand what it means to be 'British' in the 21st century
R.E is both an academic and 'hands on' subject, with a worthwhile qualification at the end	R.E gives me the opportunity to share my opinions in a meaningful way	R.E can help me understand global issues, and become more involved as a global citizen

The Bible

- The Christian holy book is the **Bible** and this is the most important **source of authority** for Christians, as it contains the teachings of God and **Jesus Christ**.
- All Christians, regardless of **denomination**, regard the Bible as the starting point for guidance about their faith. For Catholics it contains 73 books and is split into the **Old Testament** and the **New Testament**.

The Old Testament also contains examples of:

- other people that Christians can learn from, eg **Job**
- prayers and songs that are used in worship eg psalms (**Song of Solomon** is a type of love poetry and part of the Wisdom tradition)
- passages that are regarded as **prophecies** of the Messiah, such as **Isaiah** chapter 53

BOX 2 – Source of authority

Most people have *sources of authority* they go to for **help** or **guidance** when making a decisions about what to do. The **Christian Bible** is a source of authority for Christians where Christians seek guidance and help.

Sources of authority - The Bible

Christianity is a **monotheistic** religion and for all Christians, the basis of all authority is God. Christian leaders seek guidance from the Bible and their understanding of Biblical teachings which derive from the **word of God**. The Bible is the **most important** source of authority for Christians since it contains the teachings of God and Jesus Christ.

BOX 3 - The Old Testament (OT)

The Old Testament is a collection of books written before the life of Jesus. It contains the rules which Christians should live by. It is believed by most Christians and religious Jews to be the sacred **Word of God**.

Importance to Christians

- It reveals God, that there is a Creator and that God is in control of everything
- It reveals the character of God, what God is like
- Christians learn that God is a God of love
- The Ten Commandments show Christians how to live God's way. This helps Christians understand how to act according to God's will.
- It reveals that humanity is created in God's image to be like him
- Christians learn that sin brings suffering but also that God is forgiving if we repent and ask for forgiveness
- Christians learn about God's plan, about the coming savior, Jesus, which gives Christians hope.

BOX 4 - Why is the Old Testament important to the writers of the New Testament?

The Old Testament is important to the writers of the New Testament because:

- The New Testament is built on **the foundation of the Old Testament**, they form one complete story, the story of God's deep love for mankind and his plan for humanity.
- Jesus saw his own passion, death and resurrection **predicted** in the Old Testament, he said "everything that is written **by the Prophets** about the Son of man is to come true." (Luke 18:31-32)
- To understand Jesus who was a Jew, we also need to understand his Jewish past.
- The Old Testament was **Jesus' Bible**, the New Testament had not yet been written. Jesus found fuel for his mission, ministry and prayer.
- Jesus prayer book was the book of the **Psalms**. Knowing that the Old Testament was the source for much of Jesus' prayer leads Christian to want to discover the riches of those Scriptures which nourished Jesus spiritually.

BOX 5 - Creation according to Genesis 1.1-2.3:
In the beginning - God started creation
Day 1 - light was created
Day 2 - the sky was created
Day 3 - dry land, seas, plants and trees were created
Day 4 - the Sun, Moon and stars were created
Day 5 - creatures that live in the sea and creatures that fly were created
Day 6 - animals that live on the land and finally humans, made in the image of God were created
Day 7 - God finished his work of creation and rested, making the seventh day a special holy day

BOX 6 - Different Christian beliefs about Creation
Literalist believe that the Genesis story is literally true, that the world was created in 6 24 hour days exactly as it is told in the Bile.
Non-literalists don't understand the Creation literally. They believe it was six periods of time – not six 24 hour periods of time. Non-literalists can believe in the Big Bang and Evolution and that God made this happen.

BOX 7 - Genesis 2 - how God created man, Adam from dust and Eve from Adam's rib. This is an important part of Genesis; this is why Christians recognise man and wife, through Adam and Eve's union: "they shall be one flesh".
Genesis 3 - The Fall The fall describes how the first man and woman change from innocent obedience to God to a state of guilty disobedience. They were tempted by the Devil to eat the forbidden fruit. This links to the **original sin**, the fall brought sin into the world so all humans are born into original sin, a state from which they cannot attain eternal life without the grace of God.

BOX 8 – Important people in the Old Testament
Noah: The survivor of God's great flood. Noah is important because he built the large ark that saved the human race and the animal kingdom from destruction. Noah is important because he is the forerunner to Abraham, because Noah represents the first instance of God's attempt to form a covenant with humanity through one person.
Abraham - The patriarch of the Hebrew people, traditionally called "Father Abraham" because the Israelite people and their religion descend from him. God established his covenant with Abraham, and God develops an ongoing relationship with the Israelites through Abraham's descendants. Abraham is important because he practiced the monotheistic worship of God, and his resilient faith in God set the pattern for the Israelite religion's view of righteousness.
Moses – Moses is important because he is the saviour of Israel in its migration from Egyptian to the promised land. Moses mediates between God and the people, transforming the Israelites from an oppressed ethnic group into a nation founded on religious laws. Moses is the only man ever to know God "face to face."
David - The king of Israel and the founder of Jerusalem. David's reign marks the high point of Israel in the Bible. Although David's claim to the throne is threatened by Saul and by David's own son, Absalom, David maintains his power by blending smart political maneuvering with a generous and forgiving treatment of his enemies. David brought the Ark of the Covenant—Israel's symbol of God—to the capital of Jerusalem.
Elijah – A prophet who opposed the worship of the god Baal in Israel. After the division of Israel into two kingdoms, Elijah and his successor Elisha represent the last great spiritual heroes before Israel's exile.
Jonah - a prophet of the northern kingdom of Israel in about the 8th century BCE. Jonah was an Israelite whom God had called to be a prophet but who refused to accept his divine mission to encourage people of Nineveh to repent their sins. The story teaches Christians about ability to repent and be forgiven by God.
Isaiah - a Hebrew prophet born in Jerusalem, Israel who prophesised the coming of the Messiah Jesus Christ.

BOX 1 - Christian Beliefs about God.

1. Christians base their beliefs about God on the Bible, the official teachings of the Church, the views of Christian leaders and their personal experience.
2. Christianity is a **monotheistic** religion which is a belief that there is only one God.
3. Christianity teaches that God is **transcendent** which means that God is above and beyond anything else that exists on Earth.
4. God is seen as a supreme being who has supernatural powers that defy the physical laws of the universe; he is therefor considered **divine.**
5. God is referred to as **holy** and **sacred** which means he is extremely special and set apart from human beings and worthy of upmost respect.
6. Christians believe God has no gender as male and female are human and not divine.

BOX 2 PART 1 - The Trinity (1)

7. One of the ways Christians explain the different characteristics and qualities of God is through a teaching known as the **Doctrine of Trinity**. It is unique and fundamental to Christian belief.
8. Christians believe that God has appeared in the world in three ways; the Father, Son and Holy Spirit.
9. Christians do NOT believe there are three Gods but believe that all three are equal but distinct persons within the **Oneness of one God** which is called the Trinity.

BOX 2 PART 2 :

The Son:

- God the Son was sent to Earth in human form to save humans. His death on the cross was a sacrifice for the sins of humanity which allows them to be reunited with God. Jesus Christ is the **incarnation** of God on Earth: "*The Word became flesh and made his dwelling among us*"

The Holy Spirit

- Some of the evidence which suggests Jesus was a **divine** figure comes from the many passages in the Bible where the **Holy Spirit** is connected to Jesus in some way. Christians believe that:
- Jesus was conceived by the Holy Spirit
- the dove at the baptism of Jesus was the Holy Spirit
- Jesus was able to heal through the power of the Holy Spirit

BOX 3 - The Trinity (2)

10. Christians believe that each part of the Trinity performs a special function.

- God as the Father created Heaven and Earth.
- God as the Son, Jesus is the saviour of the World. He is believed to be the Messiah promised in Jewish scripture.
- God as the Holy Spirit is an invisible spiritual power, which guides, helps and inspires human beings.

BOX 4 – The Nicene Creed

12. Christian belief in the Trinity is set out in a statement or profession of faith called the **Nicene Creed**. The word Creed comes from the Latin credo, which means "I believe".

13. Christian leaders thought it was important that everyone knew and agreed on the same basic beliefs on which Christianity is founded so during the 4th Century that produced the **Nicene Creed** stated this basic beliefs. In some churches the creed is still recited during services. Another way it is recited is through prayer.

BOX 5 - Sources of Authority.

We believe in God,
The Father, the Almighty,
Maker if heaven and earth…..
We believe in one Lord, Jesus Christ,
The only Son of God…….
We believe in the Holy Spirit,
The Lord, the giver of life…..
Who with the Father and the Son is worshipped and Glorified.
(Nicene Creed)

"So God so loved the world that he gave his one and only Son, that whoever believes in him shall not perish but have eternal life"

BASIC RULES

1. How do you start a football match? The football game is started by a kick off in the centre of the pitch.

2. What's the number of players on each side during a professional match? In a full sided game each team consists of 11 players.

3. What happen when the ball goes off at the side of the pitch? If the ball goes off the side of the pitch it is a throw in to the team that didn't touch the ball last.

4. What happen if the ball goes off at the end of the pitch?
If the ball goes off the end of the pitch it is a corner or a goal kick depending who the ball touched last.

KEY TERMINOLOGY

4. What is meant by the term offside?
If a player is past the opponent's last defender and in the opposition half when the ball is passed they are offside and an indirect free kick is awarded to the opposition team.

5. What is meant by the term free-kick?
The referee stops the game and place the ball where a foul or infringement occurred, either direct, from which a goal may be scored, or indirect, from which the ball must be touched by at least one other player for a goal to be allowed

6. What is meant by the term marking?
This is where you mark someone on the other team when they have the ball in order to make it harder for them to make a pass or to get free into a space to receive the ball.

7. What is meant by the term VAR?
The video assistant referee (VAR) is a match official in association football who reviews decisions made by the head referee with the use of video footage and a headset for communication.

TEACHING POINTS FOR PASSING

8. What are the teaching points for the SHORT PASS?
- Non kicking foot next to the ball
- Use the side of the kicking foot to contact the ball following a short back swing
- Keep head over the ball to improve accuracy and ensure ball stays on the ground
- Follow foot through to generate more power

9. What are the teaching points for the LONG PASS?
- Non kicking foot next to the ball
- use the front (laces) of the kicking foot to contact the ball following a bigger back swing (flexion of the knee)
- keep head over the ball to improve accuracy of the pass
- lean back slightly to help generate height if required on the pass
- follow foot/leg through to generate more power.

10. What are the teaching points for a HEADER?
- Keep eyes focused on the ball when preparing to header
- use the forehead to contact the ball
- move feet to ensure body is slightly behind the ball before heading
- use neck to generate more power on the header
- defensive headers are normally headed high with increased distance whereas attacking headers on goal are normally headed down to make it more difficult for the goal keeper to save
- Perform a jump before the header to increase power and give yourself more chance of beating the opponent to the header.

FULL FOOTBALL POSITIONS

1. Goalkeeper
2. Wing-Back
3. Full-back
4. Sweeper
5. Centre-back
6. Defensive midfielder
7. Winger
8. Central Midfielder
9. Striker
10. Attacking Midfielder
11. Forward

What is the aim of a rugby game? - The aim of the game is very simple.

- Use the ball to score more points than the other team.
- You can run with the ball, kick it and pass it, but passing forwards is not allowed.
- Rugby is a contact sport, so you can tackle an opponent in order to get the ball, as long as you stay within the rules.

Can you tackle in rugby?

- Tackling is the only way of legally bringing down your opponent in rugby union.
- There are certain laws on how to tackle and if these are not adhered to, penalties will follow.

What is a maul in rugby?

The maul is about physical strength and power.

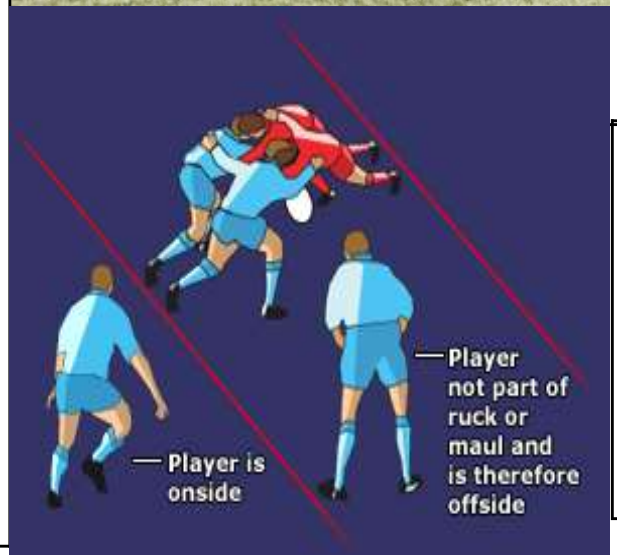
The maul is when at least three players from either side are in contact together, challenging the player with the ball, moving towards a goal line. But what makes the maul different to the ruck is the ball is not on the ground but in hand.

What is the job of the wing?

Like in football or netball the wing Plays out wide on the side of the pitch, the winger is a team's finisher in attack. A winger is also often the last line of defence when they don't have the ball and as such, pace is their major resource.

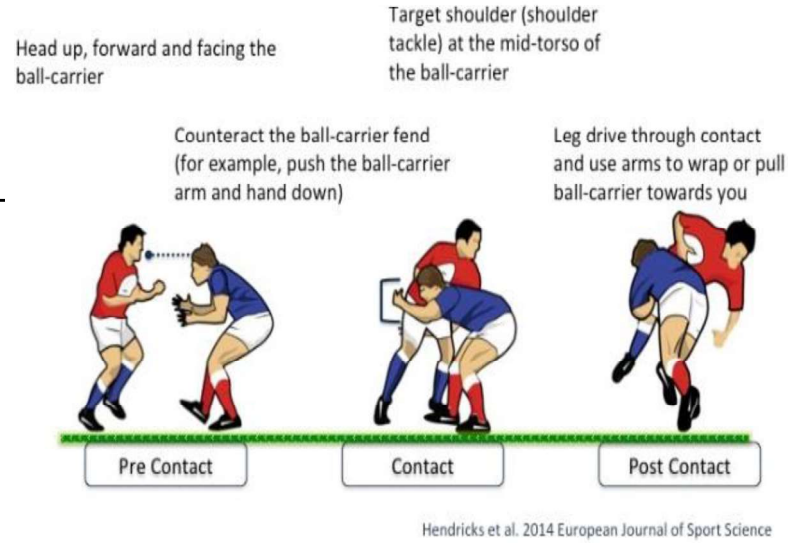
How can you score points? - There are several ways to score points.

- A try - five points are awarded for touching the ball down in your opponent's goal area.
- A conversion - two points are added for a successful kick through the goalposts after a try



. How long does a rugby match take? - A game of rugby has two periods of 40 minutes each.

- The game is started by a place kick or a drop kick from the middle of the halfway line.



Hendricks et al. 2014 European Journal of Sport Science

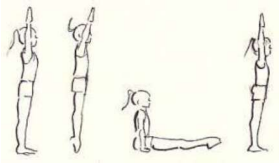
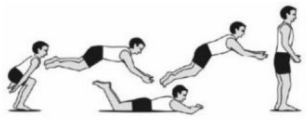
What is the role of a flanker in rugby?

Each team of 15 players includes two **flankers**, who play in the forwards, and are generally classified as either blindside or open side **flankers**, numbers 6 and 7 respectively. The name comes from their position in a scrum in which they 'flank' each set of forwards.

How do you dropkick a Rugby ball?

Hold the ball in two hands, pointing downwards.

As you step forward with your non-kicking foot, strike the ball on the bounce.

Straddle jump: **Keep upper body and head as still as possible **Point your toes.	As you take off, legs apart and extend to your sides at 90 degrees and horizontal. Your arms follow your legs, straight. Upper body and head stay as still as possible. Toes pointed and eyes forward.	**How to be safe and successful:** - Stay on the cross (center of trampoline), - Keep body tension, - Gain maximum height in the air – this makes it easier to perform the skills, - Point toes when jumping, - Keep head and eyes forward focusing on a point in front of you.
Tuck jump: **Keep upper body and head as still as possible **Point your toes.	As you take off, bring your arms away from your sides and extend in front of you to elevate quickly. As you reach max height bring your knees in tight to your chest. Bring arms down to touch shins.	
Pike jump: **Keep upper body and head as still as possible **Point your toes.	As you take off, keep your legs together and straight and extend in front of you. Knees should be straight with both knees and feet together. Straighten arms out forward towards knees.	
Seat drop: **Keep upper body and head as still as possible **Point your toes.	As you take off, bring your arms away form your sides and extend them out in front of you and elevate them quickly above your head. Tilt your pelvis up slightly and legs straight. As you begin to loose height, bring your arms down to make contact with the bed just behind your bottom and extend feet forward.	
Swivel hips: **Keep upper body and head as still as possible **Point your toes.	Seat drop as above – except you do a half twist in the air and complete another seat drop before returning to feet.	
Front drop: **Keep upper body and head as still as possible **Keep your eyes focused towards wall in front – do not look down.	As you take off, bring your arms away from your sides and tem in front of you and elevate arms quickly above head. Hold this position and push hips back as you gain height. As you begin to loose height bend arms down to form a diamond shape with hands overlapping in front of face. Legs slightly bent at knees. Bounce back up.	

Routine 1:
Full twist
Tuck jump
Swivel hips to feet
Pike jump
Straddle jump
Half twist

Routine 2:
Tuck jump
Straddle jump
Seatdrop to feet
Half twist
Seat drop to feet
Pike jump
Full twist

Routine 3:
Half twist
Straddle jump
Swivel hips to feet
Tuck jump
Seatdrop to feet
Pike jump
Full twist

Routine 4:
Straddle jump
Swivel hips to feet
Pike jump
Front drop to feet
Full twist
Tuck jump
Straddle jump

Drama at Trinity

Knowledge Organiser: Drama Foundation

Characterisation

The act of changing voice, body language, movement, gesture etc. when in role is called characterisation. All people are different. The actor must use their skills to portray a character consistently throughout their performance. When creating characters, you need to consider **voice, body language, facial expression** and **gesture.**

Characterisation: Voice

Does your character have an accent? What is the tone of their voice like? How quickly do they speak? Do they have any vocal mannerisms that are particular to them?

Key Words

Volume: Loud to quiet
Crescendo: Increasing volume
Pitch: Deep or squeaky
Pace/Tempo: Fast or slow
Rhythm: Fluctuations in pace
Pause: Breaks in speech
Inflection: Emphasis on a word
Articulation: Emphasis on letters.
Tone: Emotion
Clarity: Clearly say words
Accent: A way of speaking that denotes where you are from

Characterisation: Body Language

This is what your character's movements and way of using their body says about them. A character who is very nervous and stressed may fidget a lot or have their shoulders hunched up tight to indicate tension.

Key Words

Movement: e.g. rushing in or stamping their foot excitedly.
Stance: How the character stands.
Gait: The way the character walks.
Posture: How the character stands or sits e.g. slouch or straight.
Proxemics: The space between the characters creates meaning. e.g. **distance** may mean enemies and **contact** may mean intimacy
Levels: Suggest status e.g. a dominant character may be higher up
Use of space: The character can demand a lot of space or hide in a small corner.

Characterisation: Facial Expression

Does your character move their face a lot? What does their facial expression say about their character? Do they have a very expressive face or do they try not to give much of themselves away?

Performing in a large theatre auditorium might mean that many of the audience are a long way away. It's the actors' job to communicate their role to fit the space effectively. Facial expressions, like body language, may be **heightened** or **exaggerated** so that the character's intentions are clear for all.

Characterisation: Gesture

A gesture is a movement expresses meaning. For example, the wagging admonitory finger accompanying words like 'I have told you time and time again that this behaviour is unacceptable' is probably among the most familiar of all gestures. They tend to work as emphasis.

However, gestures can also amplify a question, such as pointing in a particular direction as you say 'Do you mean this way?' They can also convey a mood, such as a shrug of the shoulders to convey indifference.

Rehearsal Techniques

These are exercises that the actors engage in BEFORE they perform live to an audience. They help the actors to understand their **characters** and realise their **intentions.** They also help to develop the plot and structure of a **devised** play.

Understand your character

The rehearsal techniques below help the actor to deepen their understanding of the character they are playing and become more familiar with their **intentions.**

- **Hot-Seating**
  An actor sits in the hot-seat and is questioned **in role.** They spontaneously answer questions.
- **Role on the Wall**
  Draw an outline of your character. Annotate it to reflect the character's thoughts, feelings, fears, circumstances etc.
- **Inner Thoughts**
  Whilst rehearsing a scene, one person will shout "Freeze, inner thoughts". The actor should freeze and spontaneously say out loud what the **character** is thinking.
- **Conscience Corridor**
  Performers make two lines facing each other. The **protagonist** poses a question such as "Should I put Grandad in a basket and leave him by the side of the road"? Actors on each side of the corridor give reasons for and against.

Improve how you play your character

These rehearsal techniques improve how you perform physically on stage.

- **Bigger Bigger Bigger**
  Rehearse one scene several times increasing the energy in gesture/movement, exaggeration of facial expression and volume
- **Non-Verbal Body Language**
  Perform a scene without speaking. Create meaning through mime.

Foundation Skills

Foundation skills are the drama strategies that can be used to help improve the way that you reveal your **plot** to your **audience.**
Always remember, it's not just the story you tell that is important, but also how you tell it!

Role Play
Pretending to be somebody else.

Improvisation
Performing a scene spontaneously without **rehearsal.**

Marking the Moment
This is a way of highlighting the most important moment in a scene in order to draw the audience's attention to its significance.

Still Image
This is a frozen picture which communicates meaning. It's sometimes called a **freeze frame** or **tableau.**

Narration
A narrator is like a storyteller informing the audience about the plot.

Thoughts in the Head
This is when a character steps out of a scene to address the audience about how they're feeling.

Alter Ego
Allowing the audience to hear/see the positive and negative thoughts of a character. It is sometimes called **Angels and Devils.**

Chorus
A group on stage say the same words and gestures.

Flashback
A performance of a scene from the past.

Soundscape
Performers make sounds to create an atmosphere.

Slow Motion
Acting as if time has slowed down. Often used to highlight an important movement.

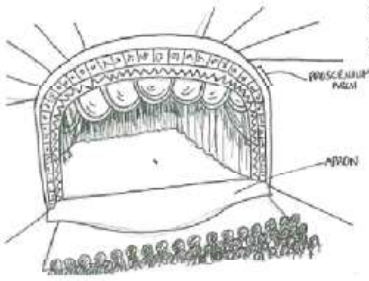
Mime
Telling a story through movement. Creating characters and objects without spoken word.

Diaries & Letters
Allowing the audience to hear or see the content of a diary or letter on stage.

Please turn over to learn about staging and stage positions.

Staging Configurations and Stage Positions

Proscenium Arch



Proscenium Arch is a common form of theatre. The proscenium is the frame around the stage. The area in front of the arch is called an **apron**.

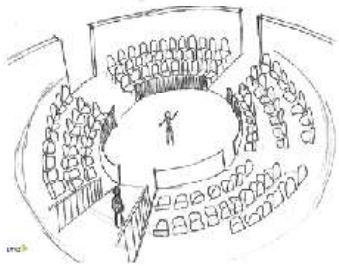
- **Advantages**: Backdrops and large scenery can be used without blocking sightlines. There may be **fly space** and **wing space** to store scenery. The frame around the stage adds to the effect of a fourth wall.
- **Disadvantages**: Audience members may feel distant from the stage. **Audience interaction** is more difficult. It can feel very formal and rigid.

End on Staging

End on Staging is similar to a Proscenium stage as the audience sit on one side of the stage directly facing it. However it doesn't have the large proscenium frame.

- **Advantages**: The audience all have a similar view. Stage pictures are easy to create. Large backdrops or projections onto a **cyclorama** may be used.
- **Disadvantages**: Audience members in the back rows may feel distant from the stage. It may not have **wing** or **fly** areas.

Theatre in the Round



Theatre in the Round is a staging conficuration when the audience are seated in a circle all around the stage.

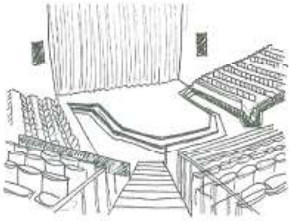
- **Advantages**: Intimate space for a performance. It engages the audience because the actors enter and exit the stage through the audience. There is also no 'forth wall'
- **Disadvantages**: One cannot use **backdrops** or **flats**. Stage furniture needs to be small so as not to obstruct **sightlines**. Actors have to be carefully **blocked** so that they do not always have their back to one section of the audience.

Promenade Theatre

Promenade Theatre is where the audience stand or follow the actors through a performance. This can happen in a theatre, but more often happens in a **site specific** show.

- **Advantage**: It is an interactive and exciting type of theatre where the audience feel involved.
- **Disadvantage**: Audience may get tired standing and walking. Actors or crew need to be skilled at moving the audience around. There can be health and safety risks.

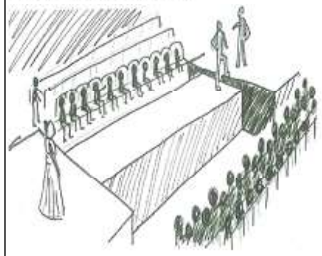
Thrust Staging



In a Thrust Stage, there is audience on three sides of the stage. This is one of the oldest theatre types of stage.

- **Advantage**: As there is no audience on one side of the stage, **backdrops, flats, cycloramas** or large **scenery** can be used. The audience may feel closer to the action as there are three front rows (one on each of the stages three sides).
- **Disadvantage**: **Sight lines** for those on extreme sides may be limited. The audience on the right and left have each other in view. **Box sets** (three sides of the room are constructed) cannot be used as this would block audience views.

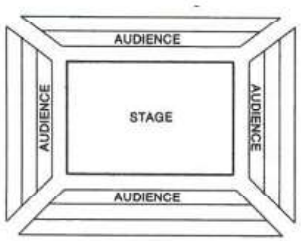
Traverse Staging



On a Traverse Stage the acting area is a long central space with audience seated on either side facing each other. Like a catwalk.

- **Advantages**: Audience feel very close to the stage. They can see the reaction of the other side who are facing them which can work well for interaction. Sometimes extreme ends of the stage can be used to create extra acting space.
- **Disadvantages**: Big **scenery**, **backdrops** and **sets** block **sightlines**. The long and thin acting area makes **blocking** difficult. Does not have **wing** or **fly** areas.

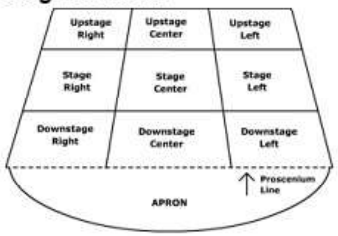
Arena Staging



Arena Staging is a similar configuration to Theatre in the Round. The audience sit on all sides of the stage, however they tend to sit in straight lighes. This type of staging is often used in sporting venues.

- **Advantages**: Intimate space for a performance. It engages the audience because the actors enter and exit the stage through the audience. There is also no 'forth wall'
- **Disadvantages**: One cannot use **backdrops** or **flats**. Stage furniture needs to be small so as not to obstruct **sightlines**. Actors have to be carefully **blocked** so that they do not always have their back to one section of the audience.

Stage Positions



In order to discuss theatre, you need to be able to explain quickly and simply where you want something to occur. To do this, theatre makers divide the stage up into a grid.

Points to Remember

- Some stages are **raked** which means they are higher at the back. Therefore **upstage** is at the back and **downstage** at the front.
- The direction of stage is always seen from the perspective of the actor. This can be confusing as you will need to swap your left and right if looking at the stage from an audience perspective.

KEYWORDS

1-Pitch: how high or low a note is.

2-Notation: any system used to visually represent music played with instruments or sung through the use of written, printed, or otherwise-produced symbols.

3-Stave: a set of five horizontal lines and four spaces that each represent a different musical pitch.

4-Grand Stave: two **staves** are joined by a brace, or is intended to be played at once by a single performer (usually a keyboard instrument or harp). Typically, the upper stave uses a treble clef and the lower stave has a bass clef.

5-Treble Clef: A symbol indicating that the second line from the bottom of a staff represents the pitch of G above middle C. Also called G clef.

6-Alto Clef: the clef that establishes F a fifth below middle C on the fourth line of the staff. Also called C clef – typically used by the Viola.

7-Bass Clef: the clef that establishes F a fifth below middle C on the fourth line of the staff. Also called F clef.

8-Ledger line: used in notation to notate pitches above or below the lines and spaces of the regular stave.

9-Octave: an interval whose higher note has a sound-wave frequency of vibration twice that of its lower note, the octave is an interval of eight notes.

10-Accidental: a note of a pitch that is not a member of the scale indicated by the key signature. The sharp (♯), flat (♭), and natural (♮) symbols mark such notes—those symbols are also called accidentals.

11-Sharp (♯): an accidental that indicates a slight increase in pitch.

12-Flat (♭): an accidental that indicates a slight decrease in pitch.

13-Natural (♮): an accidental, which cancels previous accidentals and represents the unaltered pitch of a note.

14-Bar: Each bar usually has the same number of beats in it. Music that feels like 1-2-3-4 will be divided into bars with four beats worth of music in each bar.

15-Barline: The bar line is a vertical line written in the music which separates the **bars**.

16-Time Signature: to specify how many beats are to be contained in each bar and which note value is equivalent to one beat.

17-Semibreve: a note, which lasts for 4 beats.

18-Minim: a note, which lasts for 2 beats.

19-Crotchet: a note, which lasts for 1 beat.

20-Quaver: a note, which lasts for ½ a beat. It is commonly 'beamed' to another quaver to equal 1 whole beat.

21-Semiquaver: a note, which lasts for ¼ of a beat. It is commonly 'beamed' to another 3 semiquavers to equal 1 whole beat.

22-Rest: an interval of silence in a piece of music, marked by a symbol that corresponds to a particular note value.

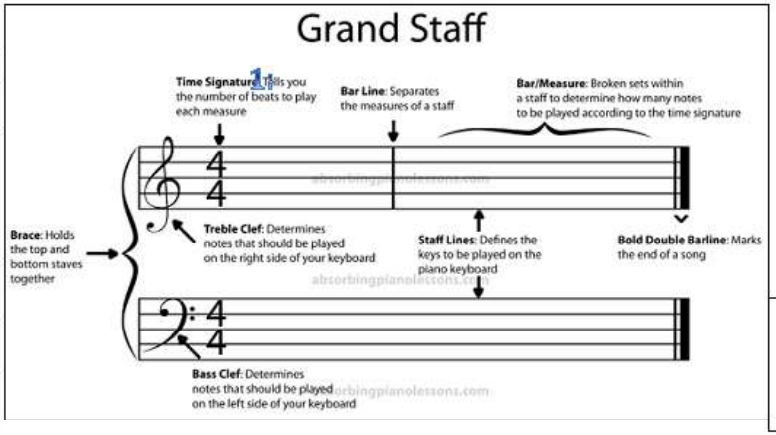
- KEY QUESTIONS -

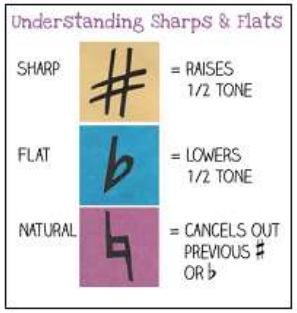
Q1: What is the mnemonic for the lines on each clef?

Every **G**ood **B**oy **D**eserves **F**ootball (Treble clef)
Fat **A**lley **C**ats **E**at **G**arbage (Alto clef)
Good **B**oys **D**o **F**ine **A**lways (Bass clef)

Q2: What is the mnemonic for the spaces on each clef?

FACE in the space (Treble clef)
Green **B**irds **D**o **F**ly (Alto clef)
All **C**ows **E**at **G**rass (Bass clef)





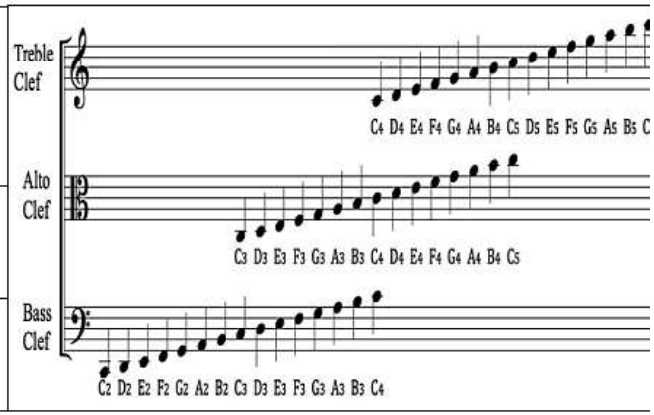
2: Accidentals: symbols applied to notes which chang the normal pitch of that note

3: PITCH - The notes on the stave

Treble Clef Mnemonics
FACE in the space
Every **G**ood **B**oy **D**eserves **F**ootball

Alto Clef Mnemonics
Green **B**irds **D**o **F**ly
Fat **A**lley **C**ats **E**at **G**arbage

Bass Clef Mnemonics
All **C**ows **E**at **G**rass
Good **B**oys **D**o **F**ine **A**lways



4: Durations: the lengths of the notes you play. These are combined to create rhythms.

Note	Name	Beats	Rest	Note	Name	Beats	Rest
𝅝	Semibreve, Whole Note	4 beats	𝄻	𝅝.	Dotted Semibreve, Dotted Whole Note	6 beats	𝄻.
𝅗𝅥	Minim, Half Note	2 beats	𝄼	𝅗𝅥.	Dotted Minim, Dotted Half Note	3 beats	𝄼.
♩	Crotchet, Quarter Note	1 beat	𝄽	♩.	Dotted Crotchet, Dotted Quarter Note	1½ beats	𝄽.
♪	Quaver, Eighth Note	1/2 beat	𝄾	♪.	Dotted Quaver, Dotted Eighth Note	3/4 beat	𝄾.
𝅘𝅥𝅯	Semiquaver, Sixteenth Note	1/4 beat	𝄿	𝅘𝅥𝅯.	Dotted Semiquaver, Dotted Sixteenth Note	3/8 beat	𝄿.

Strings (Violin, Viola, Cello, Double Bass)

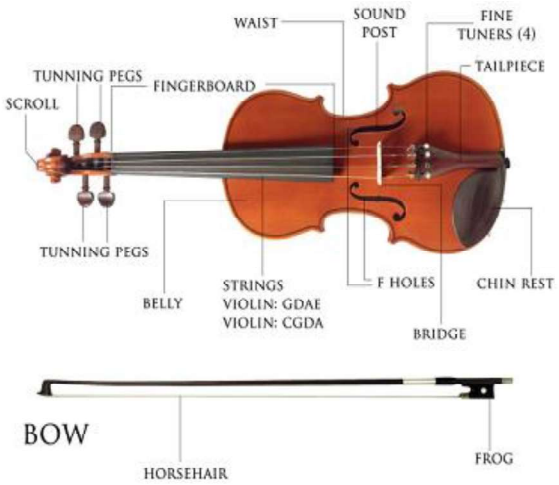
To play a string instrument, your left hand presses down on the strings to change the pitch while your right hand moves the bow or plucks the strings.

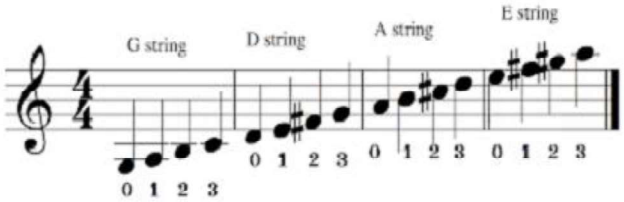
How to Practice

IDENTIFY THE PROBLEM AREAS: **Practice the parts you can't play (not the parts you can) first:**

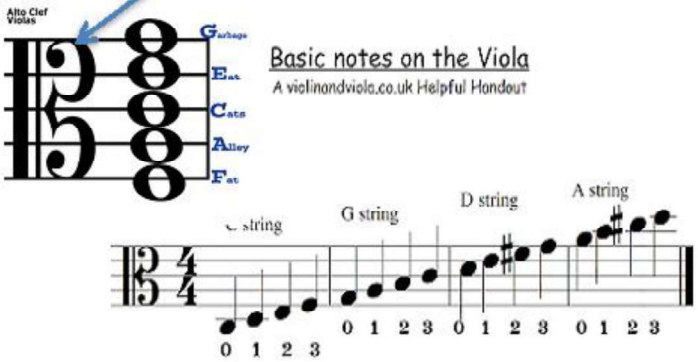
- Use a metronome
- Play it slowly, then speed it up
- Try the part in different rhythms so that you get the pitches accurate
- Aim to play it correctly **three time in a row** – if you make a mistake, start again!

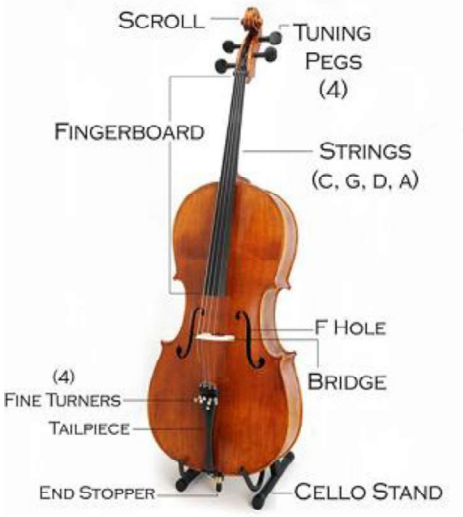
VIOLIN/VIOLA

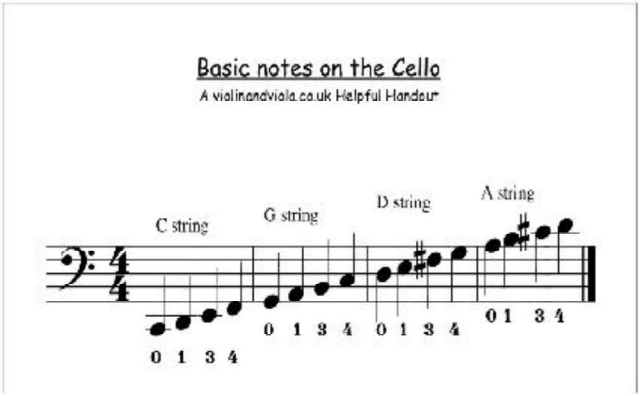


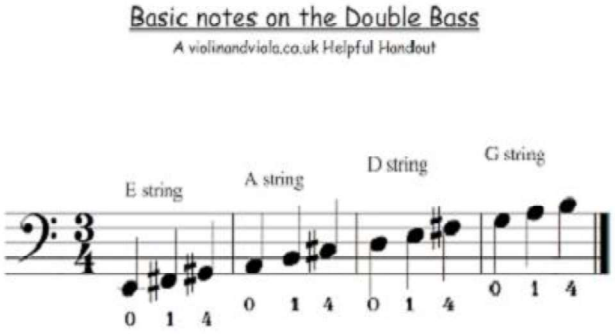


***Violas use a different 'clef' to most instruments: The ALTO clef**
-Middle C is on the middle line!-







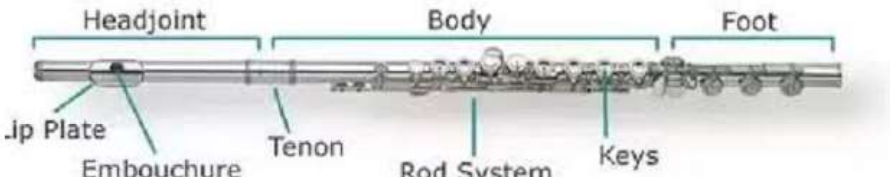


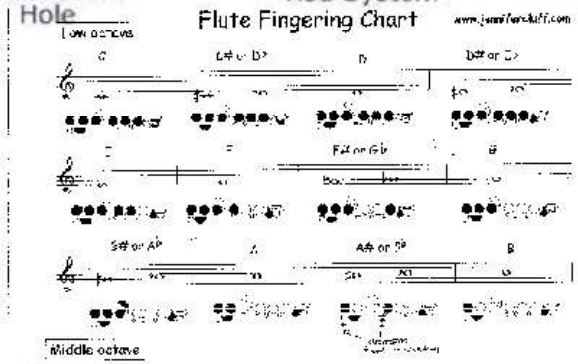
Woodwind (Flute, Oboe, Clarinet, Saxophone, Bassoon)

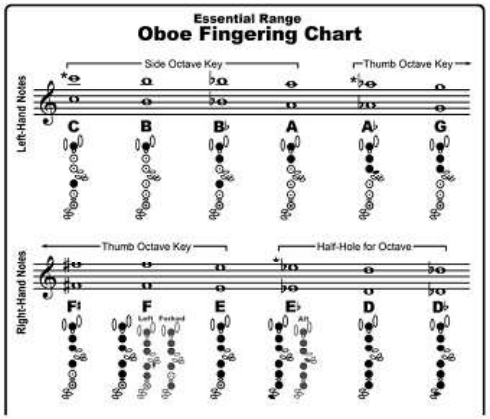
In woodwind instruments the player either: causes a reed to vibrate, which agitates the column of air (as in a clarinet, oboe or bassoon) or blows across the edge of an open hole (as in a flute).

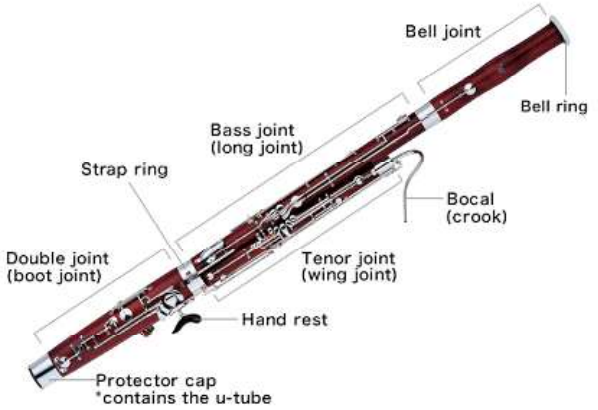
How to Practice: IDENTIFY THE PROBLEM AREAS: **Practice the parts you can't play (not the parts you can) first:**

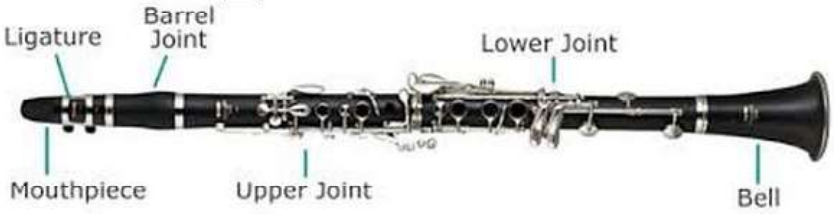
- Use a metronome
- Play it slowly, then speed it up
- Try the part in different rhythms so that you get the pitches accurate
- Aim to play it correctly **three time in a row** – if you make a mistake, start again!

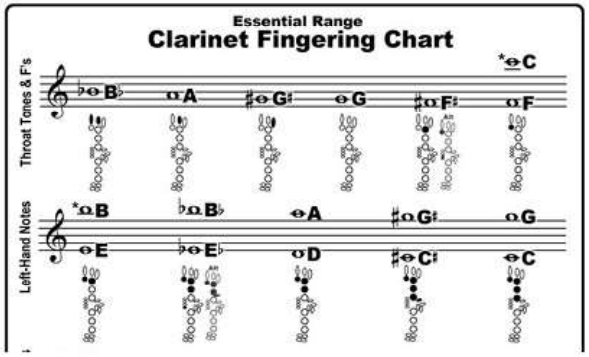


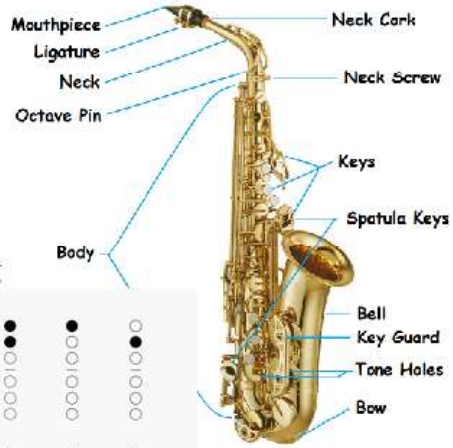


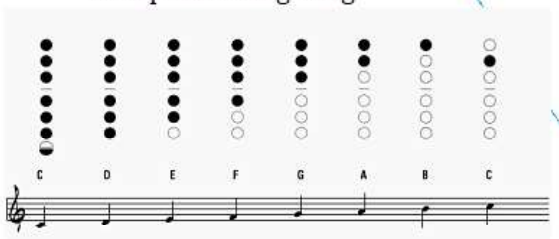


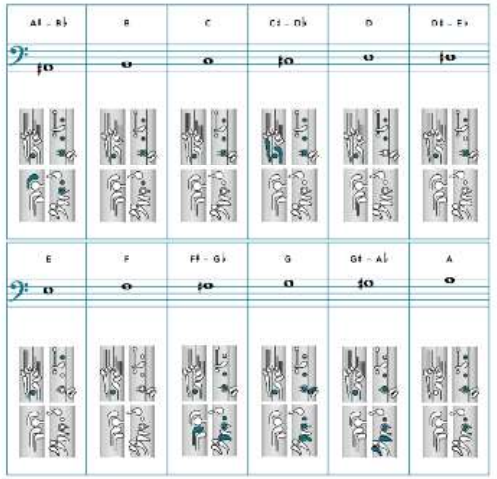






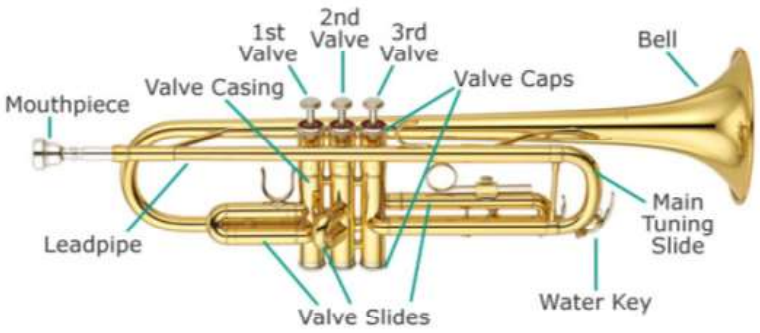


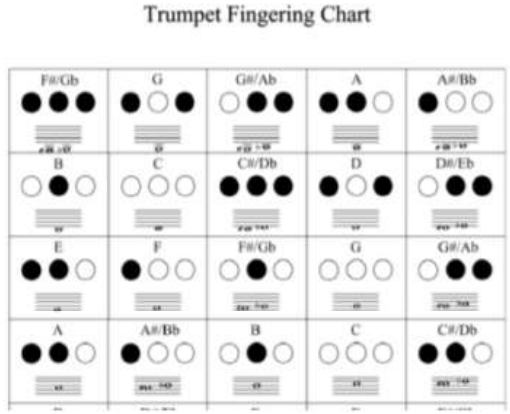




Bassoon Fingering

Brass (Trumpet, French Horn, Trombone)





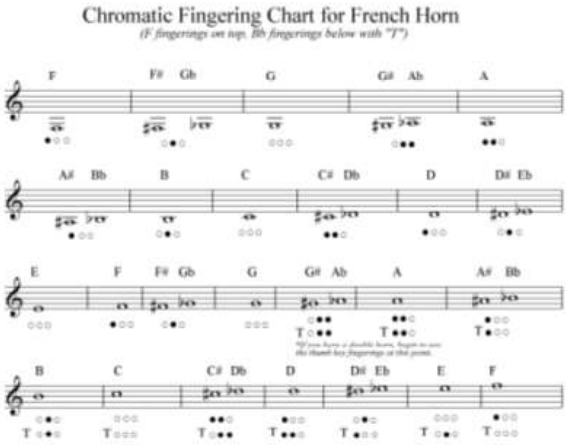
Modern **brass instruments** produce sound through a metal mouthpiece. The mouthpiece is similar on most **brass instruments**, usually varying only in size. Sound is produced by placing the lips on the mouthpiece and blowing while vibrating the lips. The larger the mouthpiece, the lower the sound of the **instrument**.

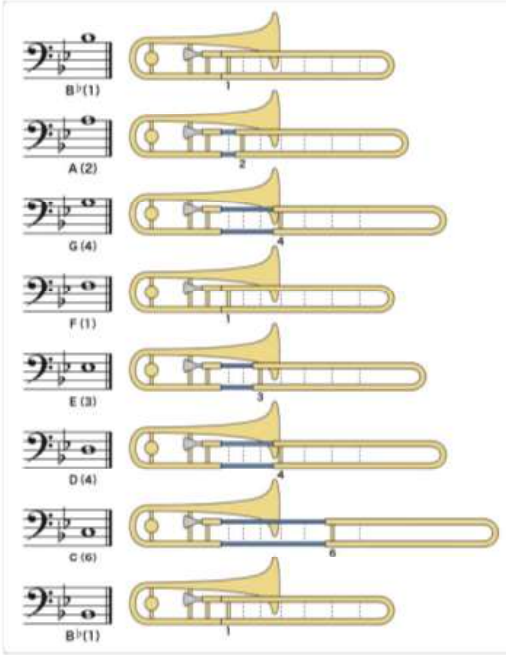
How to Practice:

IDENTIFY THE PROBLEM AREAS

Practice the parts you can't play (not the parts you can) first:

- Use a metronome
- Play it slowly, then speed it up
- Try the part in different rhythms so that you get the pitches accurate
- Aim to play it correctly **three time in a row** – if you make a mistake, start again!

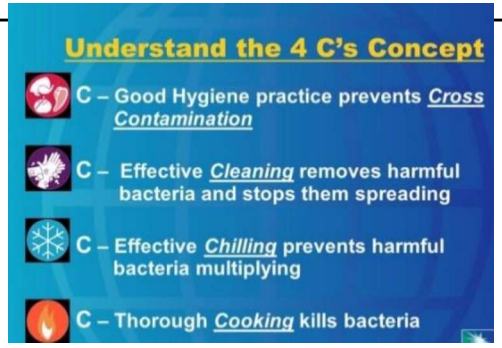




Week 1

Key words: Food hygiene and safety

1. Bacteria – single celled organisms. Some can be harmful to humans.
2. Pathogenic – harmful or causing disease
3. Equipment – the tools used in practical lessons
4. Personal hygiene – routines that should be followed by people handling food to avoid contaminating food. E.g. Contaminated hands will spread bacteria around a kitchen very quickly, so having good personal hygiene is important
5. Food hygiene – routines that should be followed to avoid potential health hazards in food.
6. The four C's - Essential for maintaining food safety. They **are Cross contamination, Cleaning, Chilling, Cooking,**
7. Cross contamination– transferring bacteria that should not be in food from one place to another. E.g. bacteria on unwashed hands will contaminate food.
8. Potential – The possibility of something happening in the future
9. Hazard - anything that can cause harm or danger
10. Recipe – A plan used to inform the cook or chef how to make a 'dish'.
11. Ingredients – the raw food used to make a recipe
12. Food poisoning – An illness caused by eating contaminated food.



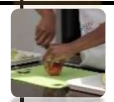
Week 2

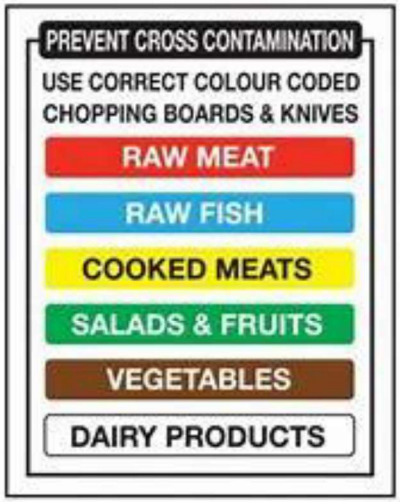
Key routines for Food Hygiene and Safety in the food room

Personal Hygiene	Why?	Safety rules	Why?
P1. Wash hands in hot soapy water	To kill bacteria on your hands to stop contamination	**S1. Use oven gloves**	To stop injury – burns from baking trays
P2. Tie long hair back	To prevent hair going into the products you cook	**S2. Wash up in hot soapy water**	To stop cross contamination and kill bacteria
P3. Wear an apron	To protect your uniform and to prevent bacteria from your clothes contaminating your food	**S3. Bags, blazers and coats on hooks at all times**	To prevent injury – tripping up or falling over
P4. Roll sleeves up	To prevent bacteria contaminating your food	**S4. Pan handles in 'safe' position**	To prevent a fire and injuring from burns
P5. Remove jewellery	To prevent contamination of food by bacteria that live on jewellery.	**S5 Chairs under the desk or stacked**	To prevent injury – tripping up or falling over

Week 3

Keywords : Knife skills, equipment and safety

Skills	How?	Equipment	Function?
SK1. Claw grip 	Fingers are held in a claw shape to hold food steady while slicing or cutting.	**E1. vegetable Knife**	A small knife mainly used for slicing and dicing
SK2. Bridge hold 	Use thumb and forefinger and grip either side of the ingredient. Use knife under bridge to cut.	**E2. Cooks knife**	A large knife with a deep blade used for cutting chopping, slicing and dicing
		E3. Vegetable peeler	Peeling the skin from fruit or vegetables
		E4. Palette knife	Spreading icing, lifting food



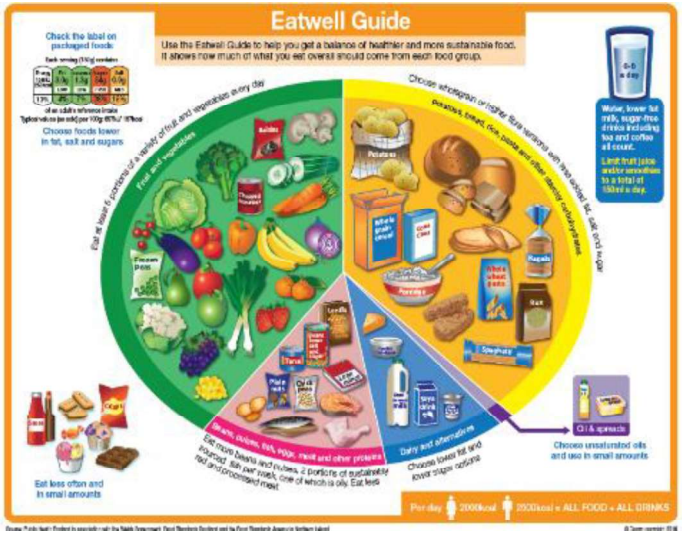
Week 4

8 guidelines for a healthy diet

1. Base your meals on **starchy carbohydrates**
2. Eat lots of fruit and vegetables **(5-7 portions per day)**
3. Eat plenty of fish
4. Cut down on **sugar** and **saturated fats**
5. Have no **more than 6gs of salt** a day
6. Be active and be a healthy weight
7. Drink **6-8 glasses of water** a day
8. Don't skip breakfast

Key words: fruits and vegetables, eatwell **Week 5**

1. **fruit & vegetables –** are parts of a wide variety of cultivated plants eaten for their flavour and because they provide essential vitamins, minerals and fibre.
2. **vegetables** – harmful or causing disease
3. **5-a-day campaign** – a government campaign to encourage us to eat five servings of vegetables/fruit per day
4. **The Eatwell Guide** – shows how eating different foods can make a healthy balanced diet.
5. **diet –** the foods you choose to eat
6. **balanced diet –** a diet that contains all the nutrients in the correct amounts
7. **healthy diet**– a diet that is low in fat, salt and sugar, and high in fibre
8. **traffic light food label –** a colour coded food label which helps you to choose healthy foods.



Preparing fruit and vegetable skills

Skills	How?
SK3. Mash	Using a masher or fork to make food soft
SK4. shred	To slice into long thin strips.
SK5. grate	To make coarse or fine shreds by rubbing over one side of a grater
SK6. peel	To remove the very thin layer of skin of fruit and vegetables
SK7. pipe	To press a soft food through a piping bag fitted with a shaped nozzle to make the food into an interesting shape.
SK8. blend	To mix two or more ingredients together; this can be done by hand or special equipment.
SK9: Juice	To squeeze the juice from fruit or vegetables

Using equipment **Week 6**

Equipment	Function?
E5. Wooden spoon	Mixing food together, stirring food on the hob.
E6. balloon whisk	Whisking; adding air to a mixture.
E7. cooling rack	Cooling food
E8. chopping board	Chopping and cutting food.
E9. saucepan	Boiling or simmering foods..
E10. sieve	Adding air to mixtures; removing lumps
E11: mixing bowl	Mixing food
E12. colander	Draining liquid

Equipment used to weigh and measure **Week 7**

Equipment	Function?	Equipment	Function?
Kitchen scales	Weighing ingredients	**Measuring cups**	Some American/Australian recipes use cups for dried ingredients
Measuring jug	Measuring liquids, the side is usually marked with millilitres (ml)	**Measuring spoons**	Measure an accurate teaspoon or tablespoon. One teaspoon is 5ml; one tablespoon is 15ml

Materials And Keywords

Manufactured—made by machine.

Ball bearing—A circular hard steel ball.

Acrylic plastic—Flat plastic that resembles glass.

Plywood— A sandwich of thin pieces of wood.

Mitre—A 45° cut in any material.

Steel— metal with hardness, elasticity, and strength.

Wood fibres— small particles of wood - often glued together to make manufactured board.

Engineering Disciplines

Mechanical	Hydraulics, gears, pulleys.
Electrical	Power station, household appliances, integrated circuits
Aerospace	Aircraft, space vehicles, missiles
Communications	Telephone, radio, fibre optic
Chemical	Pharmaceuticals, fossil fuels, food and drink
Civil	Bridges, roads, rail
Automotive	Cars, motorcycles, trains
Biomedical	Prosthetics, medical devices, radiotherapy
Software	Applications, systems, programming

A **prototype** is an early sample, model, or release of a product built to test a concept or process. A prototype is generally used to evaluate a new design to enhance precision by users. Prototyping serves to provide specifications for a real, working system rather than a theoretical one.

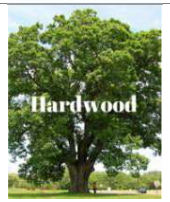
There are four terms used to describe the scale of production in relation to manufacturing a product:

- prototype and one-off production.
- batch production.
- mass production.
- continuous production.

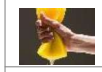
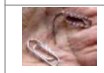
Types Of Wood

Softwood—noun The wood from a conifer (such as pine, fir, or spruce) as distinguished from that of broadleaved trees.

Hardwood—noun The hard, compact wood or timber of various trees, as the oak, cherry, maple, or mahogany.



Properties and characteristics of materials

	Absorbency	To be able to soak up liquid easily.
	Strength	The capacity of an object or substance to withstand great force or pressure.
	Elasticity	The ability of an object or material to resume its normal shape after being stretched or compressed; stretchiness.
	Plasticity	The quality of being easily shaped or moulded.
	Malleability	To be able to be hammered or pressed into shape without breaking or cracking.
	Density	The quantity of mass per unit volume of a substance
	Effectiveness	The degree to which something is successful in producing a desired result; success.
	Durability	The ability to withstand wear, pressure, or damage.

Understand the making Process

1	Preparation	Drawing, CAD, sketches, plans.
2	Marking Out	Pencil, scribe, steel rule, tri square, marking gauge, calipers, centre punch.
3	Modification	Saw, jigsaw, scroll saw, laser cutter, pliers, hammer, drill, file, glass paper.
4	Joining	Riveting gun, spanner, screwdriver, hot glue, gun , soldering iron, nail gun.
5	Finishing	Hand sander, glass paper, disc sander, buffing wheel, polish, spray paint, varnish.

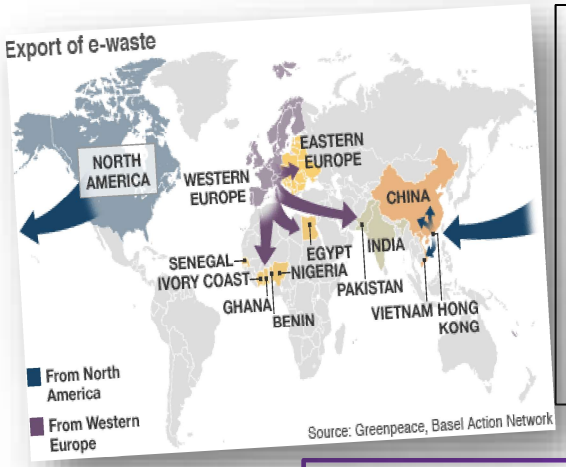
Tools And Equipment

Coping saw – cutting curves 	Tenon Saw – cutting straight 	Bench hook – holding wood 	Glass paper – file filing 
Hand file – rapid filing 	Pillar drill – making holes 	Steel rule – accurate measure 	Disc sander – rapid sanding 

Health & Safety Legislation

Health and Safety at work Act	Personal Protective Equipment	Manual Handling Operations	Control of Substances Hazardous to Health	Reporting of Injuries RIDDOR

1	Algorithms	Understand what an algorithm is, what algorithms are used for and be able to interpret algorithms (flowcharts, pseudocode, written descriptions, program code)
2	Flowcharts	Understand how to create an algorithm to solve a particular problem, making use of programming constructs (sequence, selection, iteration) and using appropriate conventions (flowchart, pseudocode, written description, draft program code)
3	Pseudo code	Understand the purpose of a given algorithm and how an algorithm works
4	Interpreting Algorithms	Understand how to determine the correct output of an algorithm for a given set of data
5	Errors in algorithms	Understand how to identify and correct errors in algorithms
6	Python	Understand how to code an algorithm in a high-level language



Privacy and Security

- Location monitoring
- Mobile Phone providers
- Surveillance Cameras
- Encrypted messaging
- Data Protection Act
- Cybersecurity
  - Threats and Defences

Emerging Technologies

- Robotics, AI
- Internet of Things. Quantum Computing.

Environmental Issues

- Negative Impacts
  - Energy Consumption
  - E-Waste and health →
- Recycling and Sustainability
- Positive Impacts
  - Climate monitoring
  - Teleworking
  - Reduced printing

Types of Software

- Proprietary
  - e.g. Windows, iOS and MacOS
  - Microsoft Office, Adobe Photoshop
- Open Source
  - e.g. Linux and Android
  - LibreOffice, The GIMP
- Cost versus support model

Legislation

- Copyrights, Designs & Patents Act 1988
  - Intellectual Property
  - Hardware patents
- Computer Misuse Act
  - Hacking / viruses
- Data Protection Act 1998
  - Protects Personal data
  - 8 principles
  - Privacy, accuracy, security
- Software Licensing
  - Volume Licensing
  - Personal use licensing

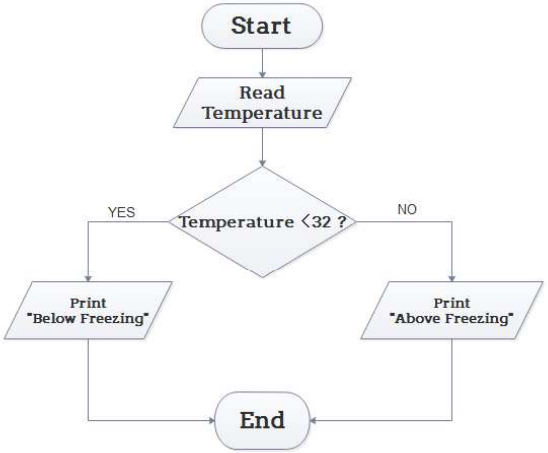
Ethical Impact

- Inclusion / Accessibility
- The Digital Divide
- Professionalism
- Codes of Conduct

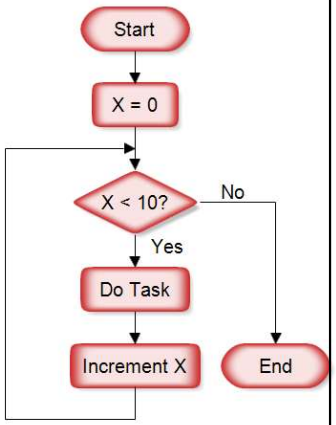
Use Quizlet study sets 06… to learn the definitions associated with this

1	Algorithm interpretation	Understand what an algorithm is, what algorithms are used for and be able to interpret algorithms (flowcharts, pseudo-code, written descriptions, program code)
2	Sequence, Selection and Iteration	Understand how to create an algorithm to solve a particular problem, making use of programming constructs (sequence, selection, iteration) and using appropriate conventions (flowchart, pseudo-code, written description, draft program code)
3	Algorithm Purpose	Understand the purpose of a given algorithm and how an algorithm works
4	Algorithm errors	Understand how to identify and correct errors in algorithms
5	Algorithm types	Understand how standard algorithms (bubble sort, merge sort, linear search, binary search) work

Flowchart Showing Selection

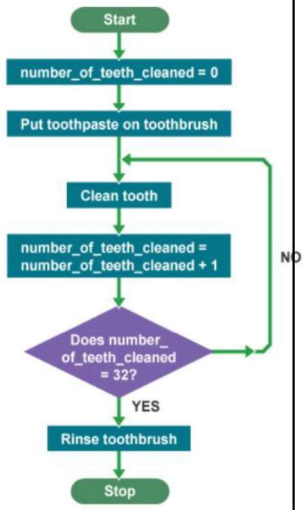


Flowchart Showing Sequence



When designing algorithms, there are many steps where decisions must be made.
draw a 3 cm line
turn left 90 degrees
draw a 3 cm line
turn left 90 degrees
draw a 3 cm line
turn left 90 degrees
draw a 3 cm line

Flowchart Showing Iteration



Iteration Pseudo-code

When designing algorithms, there may be some steps that need repeating.
INPUT – indicates a user will be inputting something
OUTPUT – indicates that an output will appear on the screen
WHILE –
a **loop** (**iteration** that has a **condition** at the beginning)
FOR – a counting loop (iteration)
REPEAT – UNTIL – a loop (iteration) that has a condition at the end

Selection Pseudo-code

When designing algorithms, it is important to make sure that all the steps are presented in the correct order.
IF represents the **question**
THEN points to what to do if the answer to the question is **true**
ELSE points to what to do if the answer to the question is **false**

A. Key Terms

Keyword	Description
1. Line	Line is the path left by a moving point. For example, a pencil or a brush dipped in paint. A line can be horizontal, diagonal or curved and can also change length.
2. Shape	A shape is an area enclosed by a line. It could be just an outline or it could be shaded in. Shapes can be geometric or irregular.
3. Form	Form is a three dimensional shape, such as a cube, sphere or cone. Sculpture and 3D design are about creating forms.
4. Colour	Red, yellow and blue are primary colours, which means they can't be mixed using any other colours. In theory, all other colours can be mixed from these three colours.
5. Tertiary Colours	Tertiary colours are created by mixing a primary colour and the secondary colour next to it on the colour wheel.
6. Complementary Colours	Complementary colours are colours that are opposite each other on the colour wheel. When complementary colours are used together they create contrast. Adding a colour's complimentary colour will usually make a darker shade. This is often preferable to adding black.
7. Pattern	A design that is created by repeating lines, shapes, tones or colours. The design used to create a pattern is often referred to as a motif. Motifs can be simple shapes or complex arrangements

Keyword	Description
8. Apply	To use knowledge, skills and understanding and to employ appropriate techniques when developing and progressing ideas.
9. Develop	To take forward, change, improve or build on an idea, theme or starting point.
10. Investigate	To enquire into, examine in depth, and/or analyse the relevance of a chosen subject and associated sources.
11. Realise	To achieve, attain and/or accomplish your intentions.

C. Art Styles

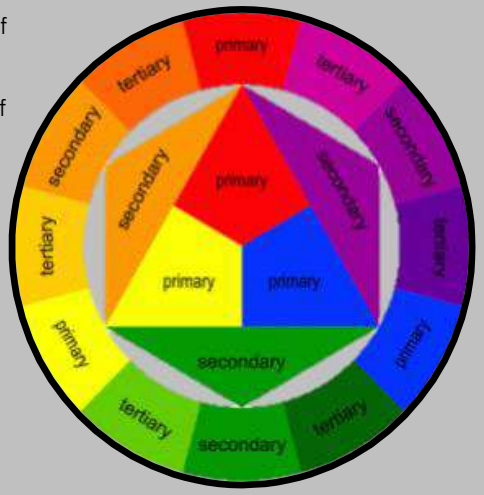
16. Ndebele art originates from the Ndebele tribe in South Africa
17. Traditionally Ndebele women would paint their houses in this style to celebrate events in their family
18. Traditionally locally available materials such as clay and dung were used.
19. Today acrylic paint is used
20. Esther Mahlangu is a famous Ndebele Artist
21. Esther Mahlangu was born in 1935 and is still alive.

C. Colour Theory

Key terms 4 – 6 refer to the colour wheel.

12. This is called a **Colour Wheel.**

13. Warm colours are colours on the red side of the wheel. These are red and include orange, yellow and browns.
14. Cool colours are colours on the blue side of the wheel. These are blue and include green, purple and most greys.



Primary	Secondary
red + yellow	=orange
red + blue	=purple
blue + yellow	=green

Semana 1

Saludos	Greetings		
¡Hola!	Hello!	¿Cómo te llamas?	What are you called?
¿Qué tal?	How are you?	Me llamo...	I am called...
Bien, gracias.	Fine, thanks.	¿Dónde vives?	Where do you live?
fenomenal	great	Vivo en...	I live in...
regular	not bad	¡Hasta luego!	See you later!
fatal	awful	¡Adiós!	Goodbye!

Semana 2

¿Qué tipo de persona eres?	What sort of person are you?		
Soy...	I am...	listo/a	clever
divertido/a	amusing	serio/a	serious
estupendo/a	brilliant	simpático/a	nice, kind
fenomenal	fantastic	sincero/a	sincere
generoso/a	generous	tímido/a	shy
genial	great	tonto/a	silly
guay	cool	tranquilo/a	quiet, calm

Semana 3

Mi pasión	My passion		
Mi pasión es...	My passion is...	el fútbol	football
Mi héroe es...	My hero is...	la música	music
el deporte	sport	el tenis	tennis

¿Tienes hermanos?	Do you have any brothers or sisters?		
Tengo...	I have...	un hermanastro	a half- brother/stepbrother
una hermana	a sister	No tengo hermanos.	I don't have any brothers or sisters.
un hermano	a brother		
una hermanastra	a half-sister/stepsister	Soy hijo único/hija única.	I am an only child. (male/

Semana 4

Los números 1 – 31	Numbers 1 – 31		
uno	1	seis	6
dos	2	siete	7
tres	3	ocho	8
cuatro	4	nueve	9
cinco	5	diez	10

Semana 5

once	11
doce	12
trece	13
catorce	14
quince	15
dieciséis	16
diecisiete	17
dieciocho	18
diecinueve	19
veinte	20
veintiuno	21
treinta	30

¿Cuántos años tienes? How old are you?

Tengo... años.	I am... years old.
¿Cuándo es tu cumpleaños?	When is your birthday?
Mi cumpleaños es el... de...	My birthday is the... of...
enero	January
febrero	February
marzo	March
abril	April
mayo	May
junio	June
julio	July
agosto	August
septiembre	September
octubre	October
noviembre	November
diciembre	December

Semana 6

Los colores Colours

blanco/a	white	gris	grey
amarillo/a	yellow	marrón	brown
negro/a	black	azul	blue
rojo/a	red	rosa	pink
verde	green	naranja	orange

¿Tienes mascotas? Do you have pets?

Tengo...	I have...	un pez	a fish
un caballo	a horse	un ratón	a mouse
una cobaya	a guinea pig	una serpiente	a snake
un conejo	a rabbit	No tengo mascotas.	I don't have any pets.
un gato	a cat	¿Cómo es?	What is it like?
un perro	a dog	¿Cómo son?	What are they like?

Palabras muy frecuentes High-frequency words

bastante	quite	también	also, too
no	no/not	tu/tus	your
mi/mis	my	un poco	a bit
muy	very	y	and
pero	but		

Estrategia 1
Look, say, cover, write, check

Use the five steps below to learn how to spell any word.

1 *LOOK* Look carefully at the word for at least 10 seconds.
2 *SAY* Say the word to yourself or out loud to practise pronunciation.
3 *COVER* Cover up the word when you feel you have learned it.
4 *WRITE* Write the word from memory.
5 *CHECK* Check your word against the original. Did you get it right? If not, what did you get wrong?

Spend time learning that bit of the word. Go through the steps again until you get it right.

Semana 1

¿Cuántas personas hay en tu familia?	How many people are there in your family?		
En mi familia hay... personas.	In my family, there are... people.	mis primos	my cousins
mis padres	my parents	¿Cómo se llama tu madre?	What is your mother called?
mi madre	my mother	Mi madre se llama...	My mother is called...
mi padre	my father	¿Cómo se llaman tus primos?	What are your cousins called?
mi abuelo	my grandfather	Mis primos se llaman... y...	My cousins are called... and...
mi abuela	my grandmother	su hermano	his/her brother
mi bisabuela	my great-grandmother	sus hermanos	his/her brothers
mi tío	my uncle		
mi tía	my aunt		

Semana 2

Los números 20 – 100	Numbers 20 – 100		
veinte	20	setenta	70
treinta	30	ochenta	80
cuarenta	40	noventa	90
cincuenta	50	cien	100
sesenta	60		

¿De qué color tienes los ojos?	What colour are your eyes?		
Tengo los ojos...	I have... eyes.	marrones	brown
azules	blue	verdes	green
grises	grey	Llevo gafas.	I wear glasses.

Semana 3

¿Cómo tienes el pelo?	What's your hair like?		
Tengo el pelo...	I have... hair.	rizado	curly
castaño	brown	largo	long
negro	black	corto	short
rubio	blond	Soy pelirrojo/a.	I am a redhead.
azul	blue	Soy calvo.	I am bald.
liso	straight		

Semana 4

¿Cómo es?	What is he/she like?		
Es...	He/She is...	joven	young
No es muy...	He/She isn't very...	viejo/a	old
alto/a	tall	Tiene pecas.	He/She has freckles.
bajo/a	short	Tiene barba.	He has a beard.
delgado/a	slim	mis amigos	my friends
gordo/a	fat	mi mejor amigo/a	my best friend
guapo/a	good-looking	su mejor amigo/a	his/her best friend
inteligente	intelligent		

Semana 5

¿Cómo es tu casa o tu piso?	What is your house or flat like?		
Vivo en...	I live in...	cómodo/a	comfortable
una casa	a house	grande	big
un piso	a flat	moderno/a	modern
antiguo/a	old	pequeño/a	small
bonito/a	nice		

Semana 6

¿Dónde está?	Where is it?		
Está en...	It is in...	un pueblo	a village
el campo	the countryside	el norte	the north
la costa	the coast	el sur	the south
una ciudad	a town	el este	the east
el desierto	the desert	el oeste	the west
la montaña	the mountains	el centro	the centre

Palabras muy frecuentes	High-frequency words		
además	also, in addition	un poco	a bit
bastante	quite	mi/mis	my
porque	because	tu/tus	your
muy	very	su/sus	his/her
¿Quién...?	Who?		

On se rencontre (Meeting people)

Bonjour!	**Hi!**
Comment t'appelles-tu?	**What is your name?**
Je m'appelle...	**my name is...**
Comment ca s'ecrit ?	**How do you spell that?**
Ca s'ecrit ...	**It is spelt...**
Ca va ?	**how are you?**
Oui, ca va bien, merci	**Yes, I am OK, thanks.**
Pas mal.	**Not bad.**
Comme ci, comme ca	**so-so**
Non ca ne va pas	**No, i am OK.**

Les salutations (Greetings)

Salut	**Hi**
Bonne après-midi	**Good afternoon**
Bon weekend	**Have a nice weekend**
Bonne journee	**Have a nice day**
Bon appetit	**Have a nice meal**
Bonsoir	**Good evening**
Au revoir !	**Good Bye**
A bientôt!	**See you soon**
A plus tard!	**See you later**
A Dieu!	**Farewell**

Les jours de la semaine (The days of the week)

lundi	***Monday***
mardi	***Tuesday***
mercredi	***Wednesday***
jeudi	***Thursday***
vendredi	***Friday***
samedi	***Saturday***
dimanche	***Sunday***

Les mois de l'annee (The months of the year)

Janvier	***January***	*Juillet*	***July***
Février	***February***	*Aout*	***August***
Mars	***March***	*Septembre*	***September***
Avril	***April***	*Octobre*	***October***
Mai	***May***	*Novembre*	***November***
Juin	***June***	*Decembre*	***December***

Les nombre 1 -10 (Numbers 1-10)

Zero	**0**		
Un	**1**	Six	**6**
Deux	**2**	Sept	**7**
Trois	**3**	Huit	**8**
Quatre	**4**	Neuf	**9**
Cinq	**5**	Dix	**10**

Les nombre 11-31 (Numbers 11-31)

onze	**11**	vingt-et-un	**21**
douze	**12**	vingt-deux	**22**
treize	**13**	vingt-trois	**23**
quatorze	**14**	vingt-quatre	**24**
quinze	**15**	vingt-cinq	**25**
seize	**16**	vingt-six	**26**
dix-sept	**17**	vingt-sept	**27**
dix-huit	**18**	vingt-huit	**28**
dix-neuf	**19**	vingt-neuf	**29**
vingt	**20**	trente	**30**
trente-et-un	**31**		

Moi et les autres • ***Me and other people***

je suis	*I am*
je ne suis pas	*I am not*
tu es	*you are*
il/elle s'appelle	*he/she is called*
il/elle est	*he/she is*
beau/belle	*good-looking*
branché(e)	*trendy*
charmant(e)	*charming*
cool	*cool*
curieux/curieuse	*curious*
de taille moyenne	*average height*
drôle	*funny*
généreux/généreuse	*generous*
gentil(le)	*nice*
grand(e)	*tall*
impatient(e)	*impatient*
intelligent(e)	*intelligent*
modeste	*modest*
petit(e)	*small*
poli(e)	*polite*

LES COULEURS

	un cahier	une trousse	des cahiers	des trousses
jaune	jaune	jaune	jaunes	jaunes
rose	rose	rose	roses	roses
rouge	rouge	rouge	rouges	rouges
bleu	bleu	bleue	bleus	bleues
vert	vert	verte	verts	vertes
gris	gris	grise	gris	grises
noir	noir	noire	noirs	noires
violet	violet	violette	violets	violettes
blanc	blanc	blanche	blancs	blanches
orange	orange	orange	orange	orange
marron	marron	marron	marron	marron

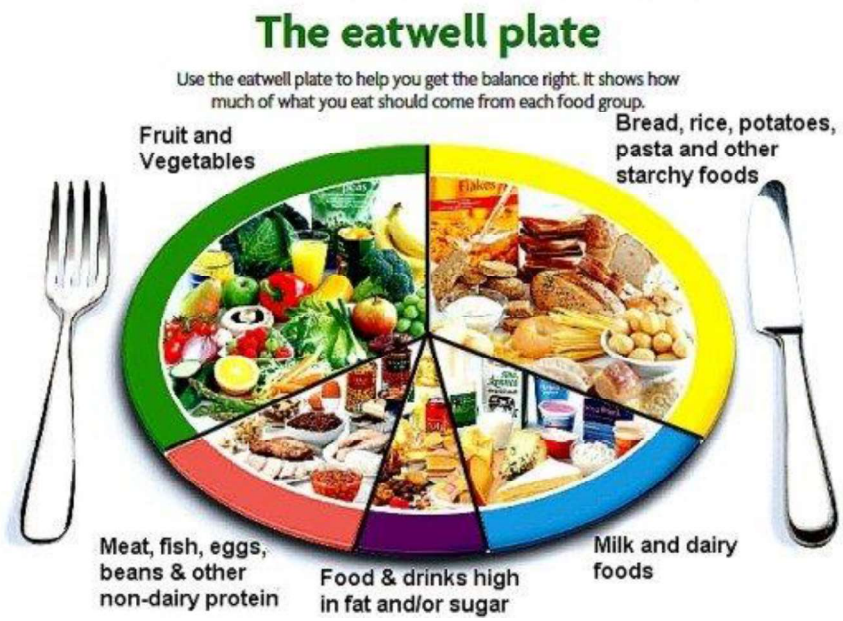
MODELLING:

1	Salut! Quoi de neuf ! Comment ça va?	Hi! What's up! How is it going?
2	Moi, ça va très bien parce que je suis en sixième.	It is going very well because I am in sixth. (year 7)
3	Je m'appelle Sébastien mais on m'appelle Seb.	I am called Sebastien but people call me Seb.
4	J'ai dix ans mais je vais bientôt avoir onze ans	I have ten years old but I am going soon to have eleven years old
5	parce que la date de mon anniversaire est le treize janvier,	because the date of my birthday is on January thirteenth,
6	Donc je suis Capricorne. C'est le meilleur des signes astrologiques!	Therefore, I am Capricorn. It is the best star sign!
7	Je suis assez grand, mince et très athlétique.	I am quite tall, slim and very athletic

Key term	Definition
1. body mass index (or BMI)	a weight-to-height ratio that shows if you're overweight, underweight or at a healthy weight
2. calorie	a unit for measuring the amount of energy we get from food
3. carbohydrate	a substance in foods such as bread and potatoes that is a major source of energy or calories
4. cholesterol	a substance in body cells that can cause heart disease if levels in the blood are too high
5. diabetes	a serious illness in which your body cannot regulate the amount of sugar in the blood
6. malnutrition	a condition of weakness or illness caused by eating too much food, not enough food or unhealthy food
7. nutrient	a substance in food that is necessary for good health
8. obesity	the state of being very overweight, or the medical condition related to this
9. pescetarian	(of a diet) including vegetarian food and fish, but no other meat
10. vegan	(of a diet) with plant foods only; without animal products, including meat, fish, seafood, eggs, milk, cheese, etc
11. vegetarian	(of a diet) with plant foods and sometimes dairy products, but without meat, fish, or seafood
12. preservative	a chemical substance used for preventing food from spoiling or wood from decaying
13. process	to add chemicals or other substances to food to make it last longer or look or taste better
14. saturated fat	a type of fat that's found in butter, cheese, red meat, etc.

8 Tips For Healthy Eating

1. **Base your meals on higher fibre starchy carbohydrates**
2. **Eat lots of fruit and veg**
3. **Eat more fish, including a portion of oily fish**
4. **Cut down on saturated fat and sugar**
5. **Eat less salt: no more than 6g a day for children 11+**
6. **Get active and be a healthy weight**
7. **Do not get thirsty**
8. **Do not skip breakfast**



15. trans fat (or trans fatty acid)	an artificial fat that makes food last longer and taste better but is very bad for health

YEAR 7– MICHAELMAS TERM – PSHE– DIET AND FITNESS

Fitness **Key term**	**Definition**
1. Aerobic fitness	A measure of how well your blood transports oxygen around the body, and how well your muscles utilize the oxygen.
2. Aerobic	Meaning with oxygen. Aerobic training is at a lower intensity, with the purpose of stimulating aerobic metabolism to improve.
3. Anaerobic	Anaerobic processes occur in the cells of the body without the presence of oxygen. Anaerobic training is of high intensity and short duration, with the aim of the efficiency of the body's anaerobic energy-producing systems.
4. Body composition	Body composition refers to the components of the body. It is usually divided into two components: the amount of fat mass (weight) and the amount of fat-free mass (muscle, bone, skin and organs) in the body.
5. Cardiovascular	Concerning the heart and blood vessels.
6. Endurance	The body's ability to exercise with minimal fatigue. Often used with other terms such as; endurance training, muscular endurance and cardiorespiratory endurance.
7. Glycogen	The form in which carbohydrates are stored in the body. Primary sites for storage are the muscles and the liver.
8. obesity	the state of being very overweight, or the medical condition related to this
9. Interval training	A training session that involves repeated bouts of exercise, separated by rest intervals. Depending of the length of exercise and rest periods, it may be anaerobic or aerobic training.
10. Lactic acid	Anaerobic exercise produces lactic acid, which quickly forms lactate in the muscles. because of this, the terms "lactate" and "lactic acid" are often used interchangeably.
11. Resistance training	Training designed to increase the body's strength, power, and muscular endurance through resistance exercise. The most common form of which is weight training.

How much physical activity should children and young people aged 5 to 18 do to keep healthy?

Children and young people need to do **2 types of physical activity** each week:

- aerobic exercise
- exercises to strengthen their muscles and bones

Children and young people aged 5 to 18 should:

1. aim for an average of at least 60 minutes of moderate intensity physical activity a day across the week

2. take part in a variety of types and intensities of physical activity across the week to develop movement skills, muscles and bones

3. reduce the time spent sitting or lying down and break up long periods of not moving with some activity. Aim to spread activity throughout the day. All activities should make you breathe faster and feel warmer