



# YEAR 7 KNOWLEDGE ORGANISER

MICHAELMAS TERM 2020/21

Name:

Family Group:



LEARNING - LOVING - LIVING

| PAGE NUMBER | SUBJECT             | TOPIC  |
|-------------|---------------------|--|
| 1-3         | General information | Knowledge Organiser guidance, Retrieval activity ideas, The science of Learning- How to revise effectively |
| 4-6         | English             | Poetry from other cultures, Shakespearean Rhetoric, Vocabulary   |
| 7-9         | Mathematics         | Number, Calculations   |
| 10-18       | Science             | Introduction, Atoms and elements, Energy and heat transfer, Levels of Organisation, Acids and Alkalis      |
| 19-23       | Geography           | Brazil, Asia – Tectonic Hazards  |
| 24-26       | History             | Pre 1066 and Norman Invasion, Norman England, Medieval Church  |
| 27-30       | Religious Education | Christianity- Old Testament, New Testament   |
| 31-33       | Physical Education  | Football, Rugby, Netball   |
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| 52-53       | PSHE                | Diet and Fitness   |

## GENERAL INFORMATION

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

## HOMEWORK EXPECTATIONS

EACH NIGHT you should spend *at least 1 hour* per night on homework.  
3 subjects per night x 20 minutes per subject = 1 hour. Use the homework timetable as a guide to what subjects to complete each night.

**Complete all work in your exercise book** and make sure you bring your knowledge organiser to school EVERYDAY (in your coloured folder).

Every FRIDAY morning the week's worth of KNOWLEDGE ORGANISER homework will be checked in Family Group time and detentions issued for work not complete, or not up to standard.

## SUBJECT HOMEWORK

All students will also be assigned **ENGLISH** reading activities on [www.CommonLit.org](http://www.CommonLit.org) with each assignment taking 20-30 minutes to complete and **MATHS** activities with short explanatory videos on the online platform of <https://mathswatch.co.uk>.

It is also recommended to take advantage of FREE online revision tools such as [www.senecalearning.com](http://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.



## HOMEWORK TIMETABLE

| Year 7    | Subject 1 | Subject 2 | Subject 3 |
|-----------|-----------|-----------|-----------|
| Monday    | Maths     | History   | PE        |
| Tuesday   | English   | Geography | ICT       |
| Wednesday | Maths     | RE        | Music     |
| Thursday  | English   | Science   | Creative  |
| Friday    | Maths     | Languages | Drama     |

## 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          |                      |

## HOMEWORK CHECKLIST

| Week 1    | Week 2 | Week 3 | Week 4 | Week 5 | Week 6 | Week 7 |
|-----------|--------|--------|--------|--------|--------|--------|
|           |        |        |        |        |        |        |
| Half term |        |        |        |        |        |        |
| Week 1    | Week 2 | Week 3 | Week 4 | Week 5 | Week 6 | Week 7 |
|           |        |        |        |        |        |        |

Here are some activities that you can try at home with your knowledge organiser to help revise. There are even more strategies on page 3.

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### 4 Methods of Retrieval Practice

@ImpactWales

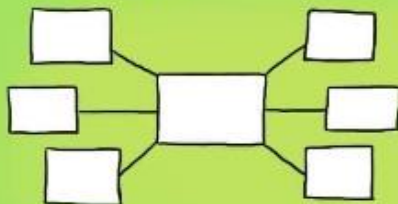
Before you start put away all your books & classroom materials.

#### 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

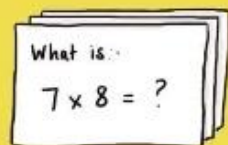
Create practice questions on a topic. Swap your questions with a partner & answer.

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

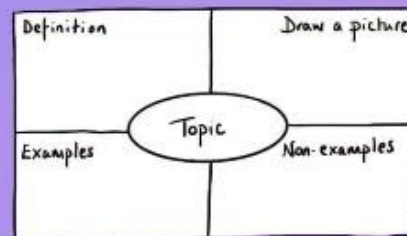
Create your own flashcards, question on one side answer on the other. Can you make links between the cards?



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



### CONCRETE EXAMPLES

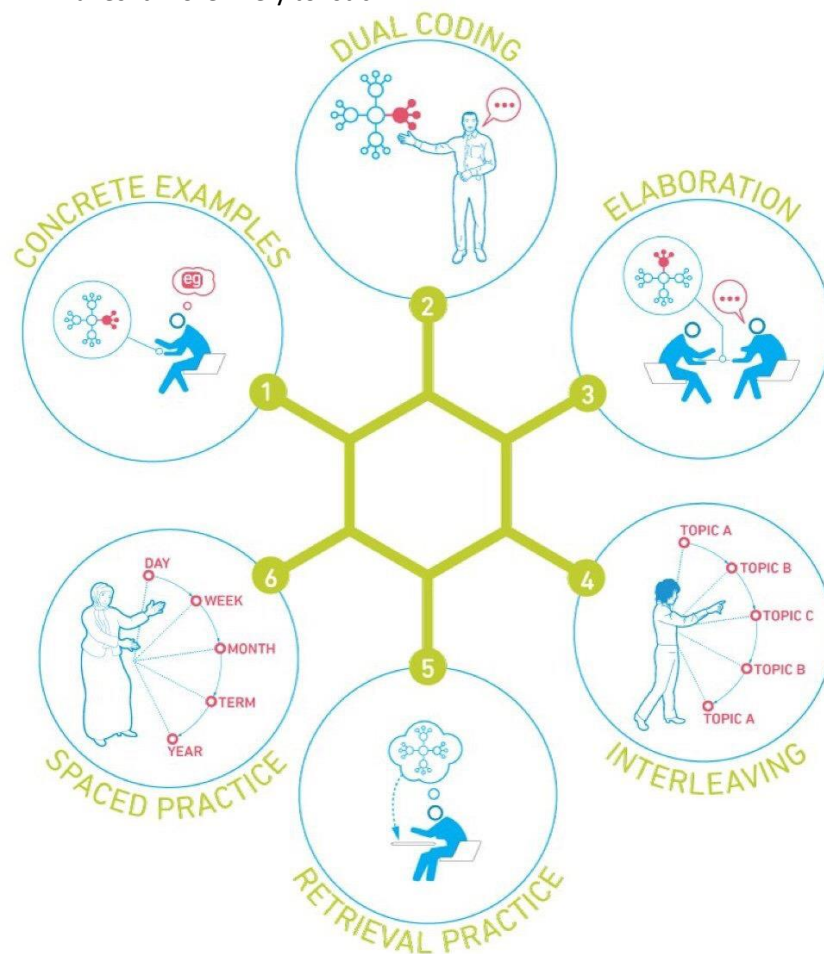
When you're studying, try to think about how you can turn ideas you're learning into concrete examples. Making a link between the idea you're studying and a real life example, concrete example, can help students understand abstract ideas and make it 'stick'.

### 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.

### 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. Combining images with words or explaining an image makes it more likely to 'stick'.



### 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.

### 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.

### INTERLEAVING

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

|    | Technique/Vocabulary                           | Definition   | Example/effect  |
|----|--|--|---|
| 1  | <b>Alliteration (n) Alliterative (adj)</b>     | When words in a sentence start with the same letter  | Silence for <u>s</u> pectroscopic <u>f</u> light of <u>f</u> ancy,  |
| 2  | <b>Caesura (n)</b>                             | 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  | <b>Enjambment (n)</b>                          | 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  | <b>Consonance (n)</b>                          | Repetition of consonant sounds   | Her accent was <u>c</u> linical, <u>c</u> rushing in its light Impersonality  |
| 5  | <b>Assonance (n)</b>                           | Internal vowel rhyme   | Dem tell me bout <u>o</u> le King <u>C</u> ole was a merry <u>o</u> le <u>s</u> oul but dem never tell me bout Mary Seacole   |
| 6  | <b>Sibilance (n) Sibilant (adj)</b>            | The 'S' sound, normally several of these in a row.   | <u>S</u> ilence. <u>S</u> ilenced trans <u>m</u> ission of Pressurized good-breeding  |
| 7  | <b>Symbolism (n) Symbolic (adj)</b>            | The idea of words or phrases representing something else   | Red booth. Red pillar box. Red double-tiered Omnibus squelching tar   |
| 8  | <b>Onomatopoeia (n)<br/>Onomatopoeic (adj)</b> | Words that sound like the noise they describe  | to surge of wheels<br>to dull North Circular <u>r</u> oar   |
| 9  | <b>Metaphor (n) Metaphorical (adj)</b>         | a figure of speech in which a word or phrase is applied to an object or action to which it is not literally applicable | Toussaint de <u>b</u> eacon of de Haitian Revolution  |
| 10 | <b>Simile (n)</b>                              | A figure of speech where two things are compared using 'like' or 'as'  | Brash with glass, name <u>f</u> laring <u>l</u> ike a <u>f</u> lag  |
| 11 | <b>Oxymoron (n) Oxymoronic (adj)</b>           | When contradictory terms or ideas are put next to each other   | crushing in its light Impersonality   |
| 12 | <b>Rhythm (n) rhythmic (adj)</b>               | The pattern or beat of a poem  | It contributes to the tone and mood of the text   |
| 13 | <b>Juxtaposition (n) Juxtapose (v)</b>         | Putting two things close together to create a contrasting effect   | Dem tell me bout de dish ran away with de spoon but dem never tell me bout Nanny de maroon                                    |
| 14 | <b>Stanza (n)</b>                              | The name for a verse in a poem   | N/A   |
| 15 | <b>Refrain (n)</b>                             | A repeated part in a poem, like a chorus   | N/A   |
| 16 | <b>Semantic Field</b>                          | A group of words with similar meanings   | It allows a poet to develop a mood, theme or idea across the poem.  |
| 17 | <b>Polysemic (adj)</b>                         | More than one meaning  | It facilitates multiple interpretations   |
| 18 | <b>Emotive Language</b>                        | Language that is charged with emotion  | Intending to provoke an emotional reaction  |
| 19 | <b>Imagery (n)</b>                             | Creating pictures in the readers' heads using words  | N/A   |
| 20 | <b>Accentuate (v)</b>                          | To highlight or make something obvious   | <i>By repeating the word 'red', Soyinka accentuates his anger at discovering that the Landlady is prejudicial and racist.</i> |
| 21 | <b>Connotation (n)</b>                         | Connected or deeper meanings or feeling behind a word  | The word 'bandage' has connotations of pains and suffering  |
| 22 | <b>Irony (n) Ironical (adj)</b>                | Humour using opposites   | It is ironic that the landlady thinks Soyinka is stupid as he is clearly the more intelligent person.                         |
| 23 | <b>Satire (n) satirise (v) satirical (adj)</b> | 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 | <b>Derogatory (adj) derogate (v)</b>           | Rude and disrespectful language  | Agard's poem demonstrates the derogatory nature of the phrase 'half-caste'  |

|    | Rhetorical Technique   | Definition   | Example  |
|----|------------------------|--|--|
| 1  | <b>Anaphora</b>        | Starting each sentence with the same word  | 'This royal throne of kings, this scepter'd isle,<br>This earth of majesty, this seat of Mars' Richard II      |
| 2  | <b>Hypophora</b>       | Asking a question then answering it straight afterwards  | 'If a Jew wrong a Christian, what is his humility? Revenge.' Merchant of Venice                                |
| 3  | <b>Epiplexis</b>       | 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  | <b>Aposiopesis</b>     | A pause-when someone doesn't finish a sentence (...)   | 'I will have such revenges on you both<br>That all the world shall- I will do such things-' King Lear          |
| 5  | <b>Antithesis</b>      | 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  | <b>Parallelism</b>     | 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  | <b>Epistrophe</b>      | When you end each sentence or clause with the same word  | 'See, how she leans her cheek upon her hand!<br>O, that I were a glove upon that hand,' Romeo and Juliet       |
| 8  | <b>Tricolon</b>        | Three ideas in a row   | 'Friends, Romans, Countrymen, lend me your ears.' Julius Caesar  |
| 9  | <b>Polyptoton</b>      | 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 | <b>Imperative</b>      | Giving a command or order to the listener or audience  | 'Stiffen the sinews, summon up the blood' Henry V  |
|    | <b>Appeals</b>         | <b>Definition</b>  |  |
| 11 | <b>Ethos</b>           | 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 | <b>Logos</b>           | 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 | <b>Pathos</b>          | 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   |  |
|    | <b>Keyword</b>         | <b>Definition</b>  | <b>Shakespearean Dates</b>   |
| 14 | <b>Soliloquy</b>       | a device often used in drama when a character speaks to himself or herself   | <b>20</b> 1.1564- Born in Stratford Upon Avon  |
| 15 | <b>Philippic</b>       | a bitter attack or denunciation, especially a verbal one   | <b>21</b> 2. 1599- First Globe theatre built   |
| 16 | <b>Diatribes</b>       | a forceful and bitter verbal attack against someone or something   | <b>22</b> 3. 1616- Shakespeare Died  |
| 17 | <b>Metaphor</b>        | a figure of speech in which a word or phrase is applied to an object or action to which it is not literally applicable.  | <b>23</b> 4. Queen Elizabeth I ruled from 1558-1603  |
| 18 | <b>Introspection</b>   | the examination or observation of one's own mental and emotional processes   | <b>24</b> 5. King James I ruled from 1603-1625   |
| 19 | <b>Personification</b> | Giving human qualities to something not human  |  |

| Poetry from Other Cultures |   |   | Shakespearean Rhetoric |  |  |
|----------------------------|---|---|------------------------|--|--|
|                            | Word  | Definition  |                        | Word   | Definition   |
| 1                          | <b>Dismiss (v)</b><br><b>dismissive (adj)</b>             | Showing that something is unworthy of consideration         | 16                     | <b>Sedition (n)</b>                                | Rebelling against the government   |
| 2                          | <b>Colonialism (n)</b><br><b>Colonial (adj)</b>           | Where one country takes, occupies and rules another         | 17                     | <b>Credible (adj)</b><br><b>Credibility (n)</b>    | How believable something is  |
| 3                          | <b>Vague (adj)</b>  | Uncertain, not specific or precise                          | 18                     | <b>Oratory (n)</b><br><b>Orator (n)</b>            | Public speaking  |
| 4                          | <b>The commonwealth</b>                                   | A group of countries, Most used to be in the British Empire | 19                     | <b>Rouse (v)</b><br><b>Rousing (adj)</b>           | Exciting and inspiring (of a speech)   |
| 5                          | <b>Indifferent (adj)</b><br><b>Indifference (n)</b>       | Unconcerned, not caring, having no opinion.                 | 20                     | <b>Antithesis (n)</b><br><b>Antithetical (adj)</b> | Opposites  |
| 6                          | <b>Plight (n)</b>   | A difficult or horrible situation                           | 21                     | <b>Domineer (v)</b><br><b>Domineering (adj)</b>    | Assert your will in an arrogant way. Bossy                                       |
| 7                          | <b>Authoritarian (adj)</b><br><b>Authoritarianism (n)</b> | Strict, bossy, expecting obedience                          | 22                     | <b>Patriotism (n)</b><br><b>Patriotic (adj)</b>    | A love for your country  |
| 8                          | <b>Mundane (adj)</b>                                      | Boring, lacking interest, dull                              | 23                     | <b>Implore (v)</b>                                 | To beg desperately for something   |
| 9                          | <b>Denounce (v)</b><br><b>Denunciation (n)</b>            | A public statement that something is wrong                  | 24                     | <b>Subtle (adj)</b><br><b>Subtlety (n)</b>         | Using soft or indirect methods to do something                                   |
| 10                         | <b>Berate (v)</b>   | To scold or criticise angrily                               | 25                     | <b>Defer (v)</b><br><b>Deferential (adj)</b>       | Showing polite respect to someone powerful                                       |
| 11                         | <b>Scathing (adj)</b>                                     | Severely and strongly critical                              | 26                     | <b>Undermine (v)</b>                               | To lessen the effectiveness or power of something, to go against someone's power |
| 12                         | <b>Apartheid (n)</b>                                      | Racial segregation in South Africa                          | 27                     | <b>Futile (adj)</b><br><b>Futility (n)</b>         | Pointless or useless   |
| 13                         | <b>Oppress (v)</b><br><b>Oppression (n)</b>               | The exercise of power in a cruel or unfair manner           | 28                     | <b>Allude (v)</b><br><b>Allusion (n)</b>           | Suggest or hint at something   |
| 14                         | <b>Disparity (n)</b>                                      | A great difference  | 30                     | <b>Resent (v)</b><br><b>Resentment(n)</b>          | Feeling bitter towards something   |
| 15                         | <b>Deprive (v)</b><br><b>Deprivation (v)</b>              | Lacking the basics in life                                  | 31                     | <b>Contempt (n)</b><br><b>Contemptuous (adj)</b>   | 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<br>0.1<br>0.1 |                      |
| Ones | Tenths            | hundredths           |
|      | 0.1<br>0.1        | 0.01<br>0.01<br>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  $1.93 \times 10^2$

0.193 in standard index form is recorded as  $1.93 \times 10^{-1}$

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

## Compare integers using $<$ , $>$ , $=$ , $\neq$

$<$  less than

Two and a half million  $=$  2 500 000

$>$  greater than

300 000 000  $=$  Three billion

$=$  equal to

Six thousand and eighty  $<$  68 000

$\neq$  not equal to

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

$$8^2 = 8 \times 8 = 64$$

$$\sqrt{64} = 8$$

$$5^3 = 5 \times 5 \times 5 = 125$$

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

## Decimals

We say "nought point five two"

Five tenths and two hundredths

| ones | tenths                          | hundredths   |
|------|---------------------------------|--------------|
|      | 0.1<br>0.1<br>0.1<br>0.1<br>0.1 | 0.01<br>0.01 |

0 ones, 5 tenth and 2 hundredths

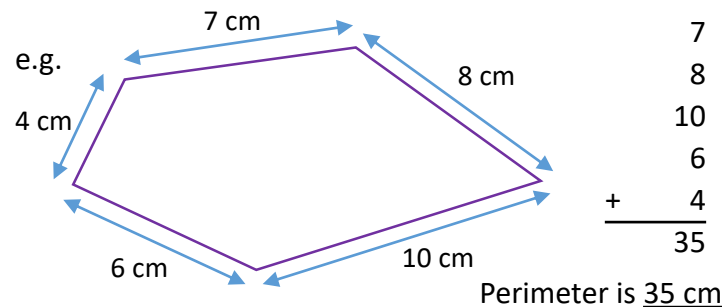
$$0 + 0.1 + 0.1 + 0.1 + 0.1 + 0.1 + 0.01 + 0.01$$

$$= 0 + 0.5 + 0.02$$

$$= 0.52$$

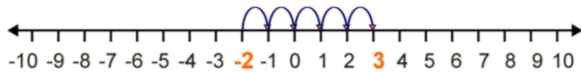
## Perimeter

The length of the boundary of a closed figure.



### Negative and Positive Numbers – Addition & Subtraction

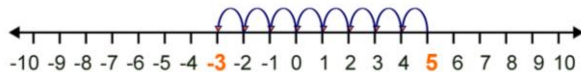
$$-2 + 5 = 3$$



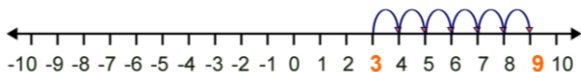
$$-3 + -4 = -7$$



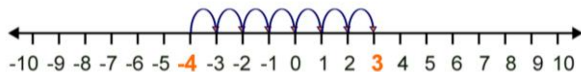
$$5 - 8 = -3$$



$$3 - -6 = 9$$

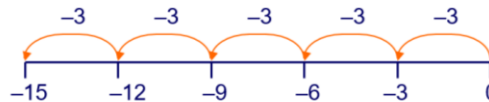


$$-4 - -7 = 3$$



### Negative and Positive Numbers – Multiplication

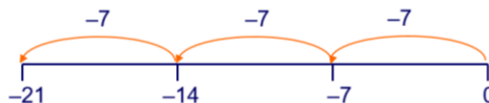
$$-3 + -3 + -3 + -3 + -3 = -15$$



$$5 \times -3 = -15$$

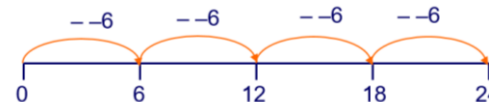
A positive number  $\times$  a negative number = a negative number

$$-7 \times 3 = 3 \times -7 = -21$$



A negative number  $\times$  a positive number = a negative number

$$-4 \times -6 = 4 \times -6 = 24$$



A negative number  $\times$  a negative number = a positive number

### Negative and Positive Numbers – Division

If  $5 \times -3 = -15$ , then  $-15 \div 5 = -3$

A negative number  $\div$  a positive number = a negative number

If  $-7 \times 3 = -21$ , then  $-21 \div -7 = 3$

A negative number  $\div$  a negative number = a positive number

If  $-4 \times -6 = 24$ , then  $24 \div -4 = -6$

A positive number  $\div$  a negative number = a negative number

### Direct Proportion

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



4 cans of pop = £2.40

4 cans of pop = £2.40

2 cans of pop = £1.20

This is a multiplicative change

4 cans of pop = £2.40

12 cans of pop = £7.20

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12 cans of pop = £7.20

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

Tara

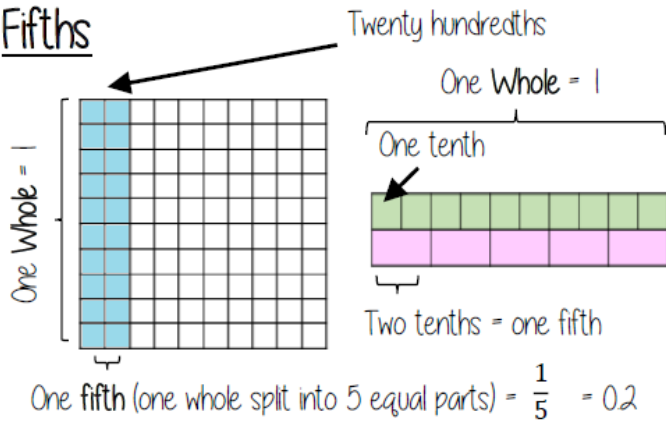
£270

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?

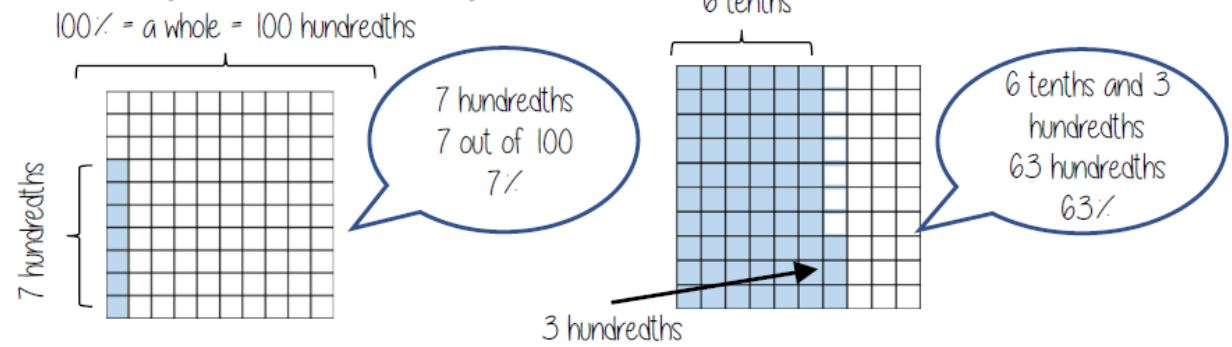
Tom   £20

Tara

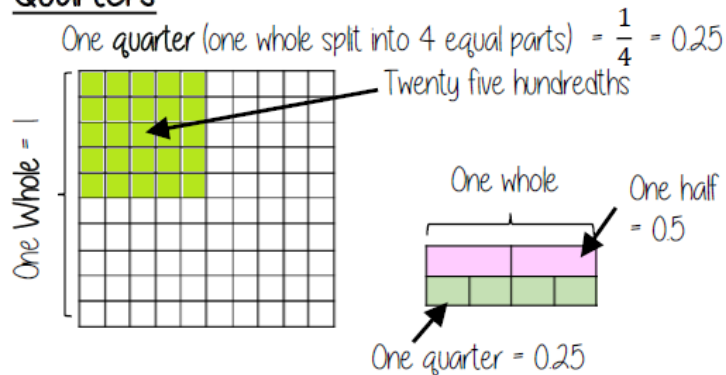
## Fifths



## Percentages on a hundred grid



## Quarters



## 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.

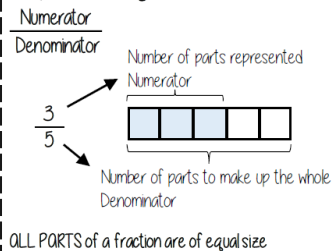
**Divisor:** the number that divides another number.

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

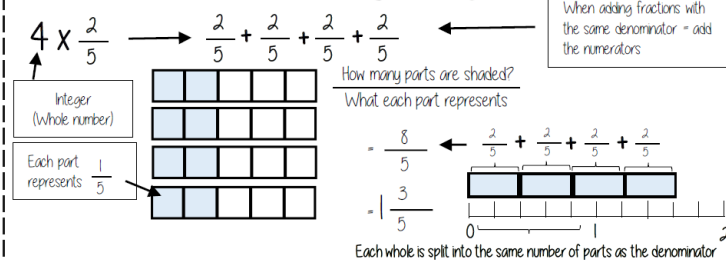
**Reciprocal:** a pair of numbers that multiply together to give 1



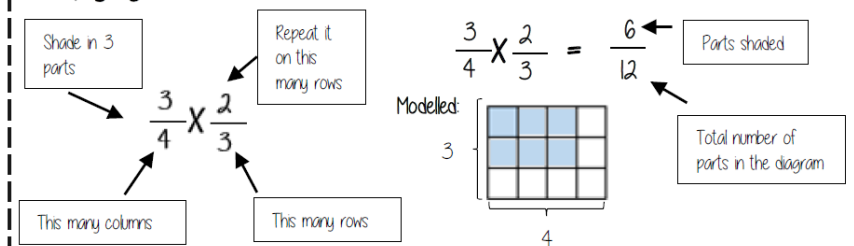
## Representing a fraction



## Repeated addition = multiplication by an integer



## Multiplying non-unit fractions

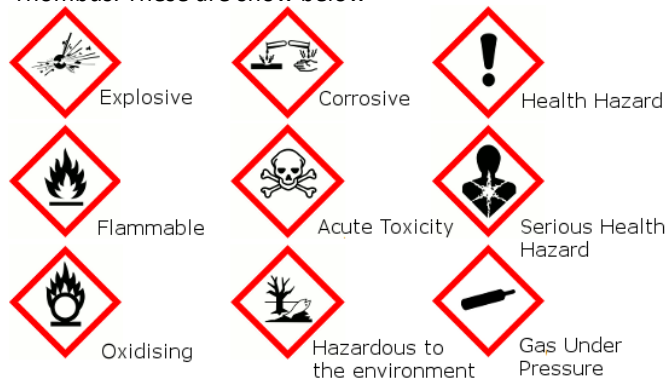


### Hazard symbols

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 shown below.



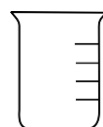
### Safety Equipment

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.

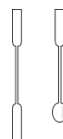
Some examples of laboratory equipment are given below.



**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



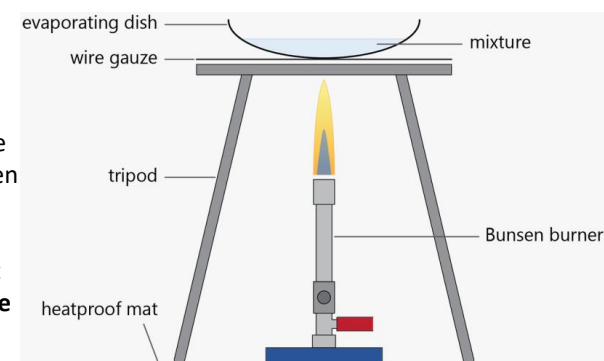
**Conical flask**  
Used to carry out reactions

### 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.

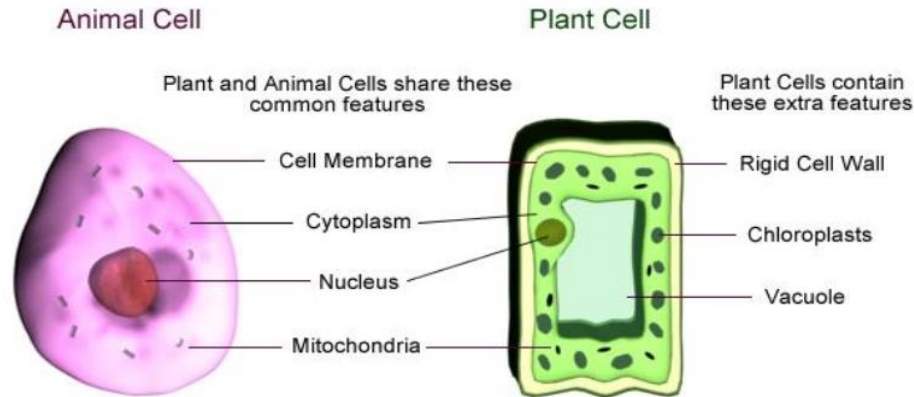
The yellow **safety flame** should never be used to heat equipment, as it leaves sooty residue behind. The **blue** or **nonluminous flame** is hotter, and does not leave soot on the equipment.





## Cells

Cells are the building blocks of all living organisms



Plant and animal cells  
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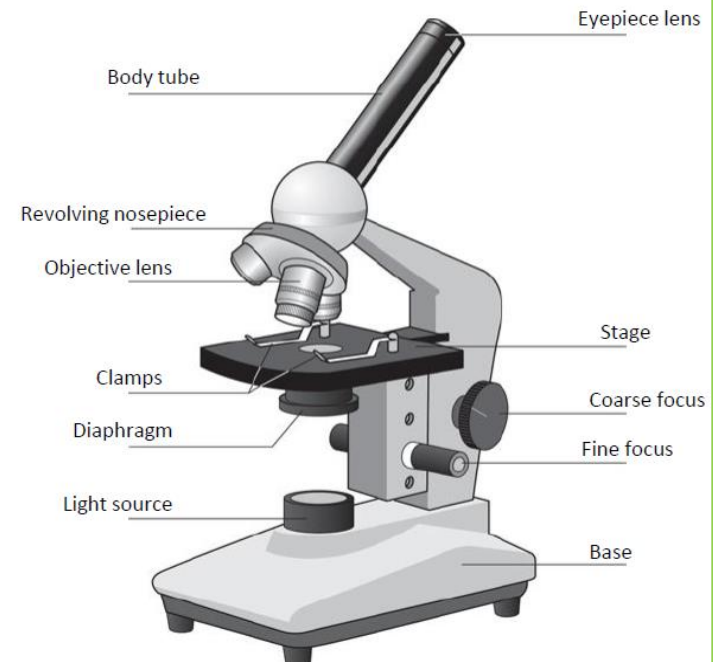
## Using a microscope

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


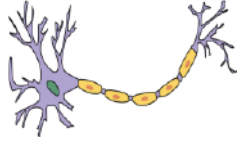


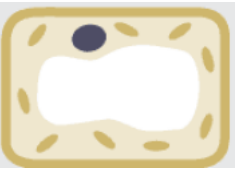
| Key Terms           | Function   |
|---------------------|--|
| Stage               | Area where specimen is placed                        |
| Clamps              | Hold the specimen still whilst it is being viewed    |
| Light source        | Illuminates the specimen                             |
| Objective lens      | Magnifies the image of the specimen                  |
| Eyeiece 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                     |

## 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  |
|    | Nerve cell                          | To carry nerve impulses to different parts of the body |
|    | Male reproductive cell (sperm cell) | To reach female cell (egg cell) and join with it       |
|   | Root hair cell                      | To absorb water and minerals                           |
|  | Leaf cell                           | To absorb sunlight for photosynthesis                  |

### 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:

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

| 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<br>(glucose + oxygen → carbon dioxide + water) |
| Chloroplast   | Where photosynthesis happens<br>(carbon dioxide + water → glucose + oxygen)            |

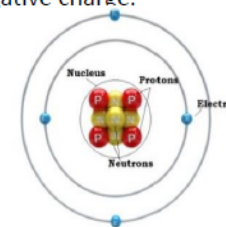
| Key Word | Definition  |
|----------|---|
| Atom     | The smallest unit of an element.  |
| Element  | Substances made out of one type of atom.                                    |
| Compound | Substances made of two or more different types of atoms, chemically bonded. |
| Pure     | A substance that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

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     |

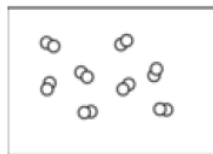
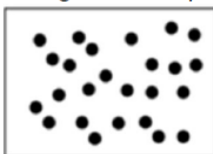
### Structure of the Atom

- 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.



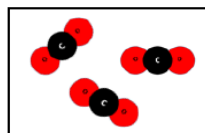
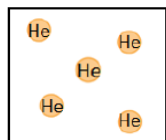
### Elements

- 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.



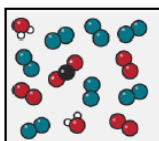
### Pure Substances

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



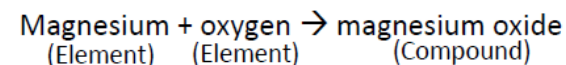
### Impure Substances

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

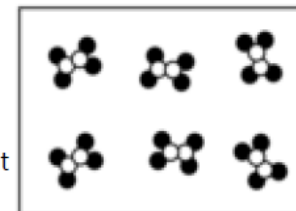


### Compounds

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



- 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<sub>2</sub>)
  - Water (H<sub>2</sub>O)
  - Anything else that has more than one element



### 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

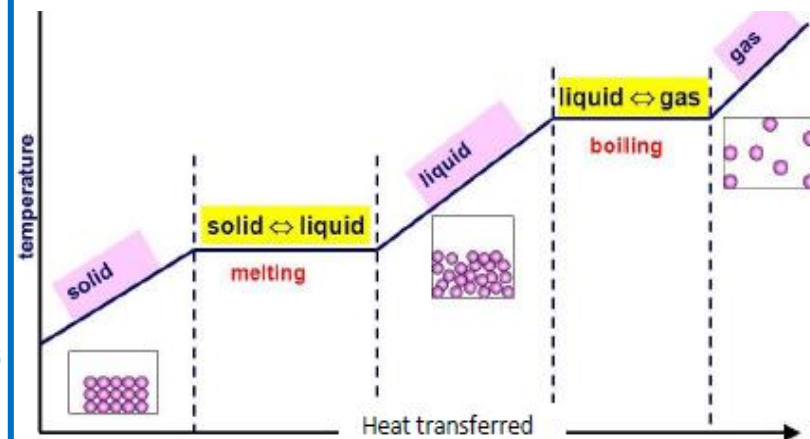
Thermal energy can be transferred between materials that are touching. Thermal energy is still transferred from the hotter object/area to the cooler object/area. This is called **conduction** of thermal energy. As the diagram shows, the particles in the area at a higher temperature vibrate more: their **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.

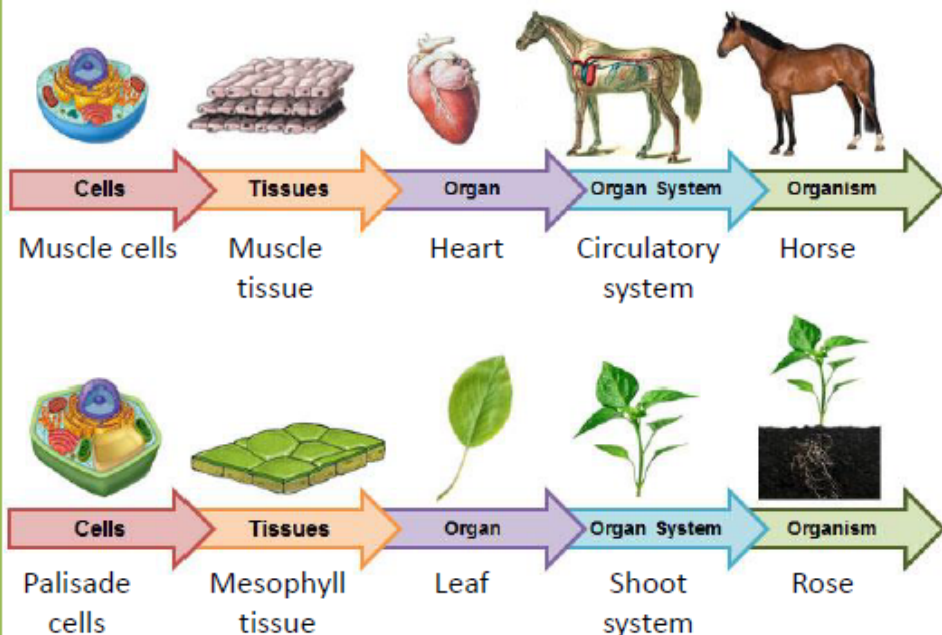
When heating a substance and causing it to change state, its temperature does NOT change during the state change. However, energy cannot disappear. The heat transferred to the substance increases the **potential energy** of the substance: it moves the particles it is made from apart until the substance 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 <b>infra red radiation</b> . 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.



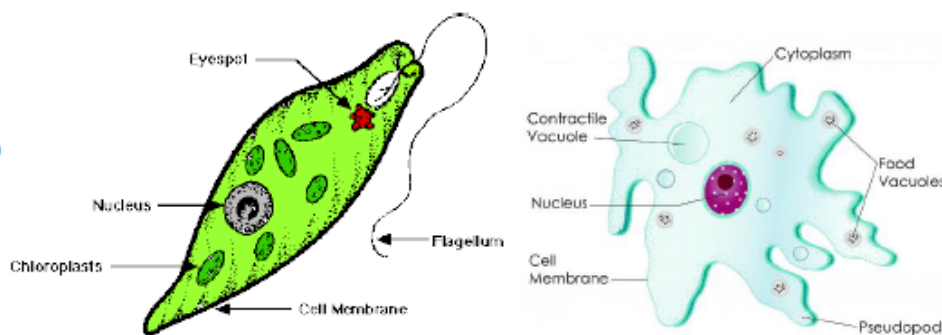
| Key Terms     | Definitions   |
|---------------|---|
| Cell          | The building block of life and the smallest structural unit of an organism          |
| Tissue        | A group of cells working together to perform a particular function                  |
| Organ         | A group of tissues 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.



### Safety

- When handling acids and alkalis in the lab we need to take many **safety precautions** for example wearing goggles.
- If an acid is dilute (lots of water has been added) it will be irritant and cause redness or blistering of the skin.
- If an acid is concentrated it will destroy skin cells.



Hazard Symbol for irritant



Hazard Symbol for Corrosive

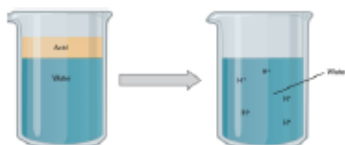
### Bases and Alkalis

- Bases** are a family of chemicals which neutralise alkalis (more on neutralisation on the next page)
- Alkalis** are a type of base. Therefore all alkalis are bases.
- Alkalis dissolve in water and contain  $\text{OH}^-$  ions.
- An example of a base and a base which is an alkali are summarised below

|                           | Copper oxide | Sodium hydroxide |
|---------------------------|--------------|------------------|
| Can it neutralise acids?  | Yes          | Yes              |
| Is it a base?             | Yes          | Yes              |
| Can it dissolve in water? | No           | Yes              |
| Is it an alkali?          | No           | Yes              |

### Acids

- Acids** are a family of chemicals, examples are lemon juice, vinegar and Coca Cola. There is also acid in our stomach.
- Acids contain  $\text{H}^+$  ions**, when dissolved in water. This is hydrogen which has lost an electron.



- Strong acids** like hydrochloric acid are very corrosive this means they destroy skin cells and cause burns
- Weak acids** like vinegar are safe to eat but are still irritant to sensitive parts of the body.

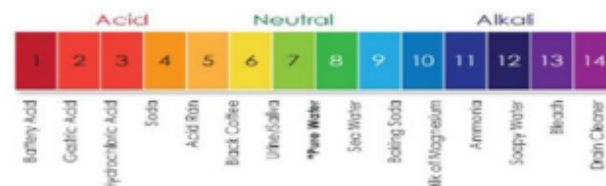
| Key Terms    | Definitions   |
|--------------|---|
| Acid         | A substance which forms $\text{H}^+$ ions.                                    |
| Alkali       | A soluble base that contains $\text{OH}^-$ ions                               |
| Base         | A substance that will neutralise an acid                                      |
| The pH scale | A scale which measure how acidic a substance is                               |
| Indicator    | A chemical which will change colour depending on the acidity of the substance |

### Indicators

- Indicators** are chemicals that show whether a substance is an **acid or an alkali**
- There are many examples of indicators for example **litmus paper** and **universal indicator**
- There are also natural indicators like **red cabbage**

### The pH Scale

- The pH scale measures how **strong an acid or alkali is**
- The pH scale runs from 0-14
- The pH scale measures the **concentration of  $\text{H}^+$  ions**, the lower the number the higher the concentration.
- Acids have a pH between 0 and 6, pH 1-3 are strong acids, 4-6 are weak acids
- Alkalis have a pH between 8 and 14, 8-10 weak alkalis, 11-14 strong alkalis
- Anything with a **pH of 7 is neutral**, for example water





| Key Terms      | Definitions  |
|----------------|--|
| Neutralisation | A reaction where an acid and an alkali make a salt and water |
| Reactant       | What you start with in a chemical reaction                   |
| Product        | What is made in a chemical reaction                          |
| Soluble        | Will dissolve in water                                       |
| Insoluble      | Does not dissolve in water                                   |

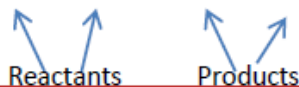
### Salts

- There are two types of salt that could be made in a neutralisation reaction, soluble or insoluble salt
- Insoluble salts can be separated using filtration
- Soluble salts dissolve in water and can be separated using evaporation



### Chemical Reactions

- In chemical reactions, what we start with is known as the reactants and what we make is known as the products.
- We can show reactants and products in a word equation



### Neutralisation

- When an acid reacts with a base a **neutralisation reaction occurs, this means what you make has a pH of 7.**
- When a neutralisation reaction happens the **products are a salt and water. (See below for how to name a salt)**
- There are many examples of neutralisation reactions, for example a wasp sting is alkali so we add vinegar (an acid) to it to neutralise it.
- Farmers also spread alkalis onto fields to **neutralise the acid in the soil.**
- Another example is indigestion when there is too much acid in our stomach, we neutralise this with alkali tablets

### Salts

- When a neutralisation reaction happens a **salt is made**
- To name a salt you need to use the alkali to form the first part of the name and the acid to form the second part of the name
- Hydrochloric acid makes **chlorides**
- Nitric acid makes **nitrates**
- Sulphuric acid makes **sulphates**

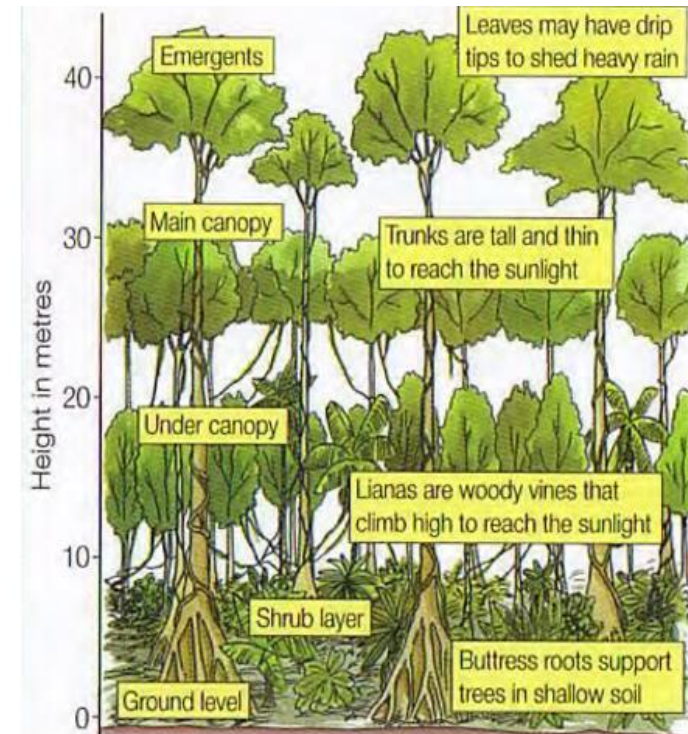
| Alkali              | Acid              | Salt?              |
|---------------------|-------------------|--------------------|
| Calcium hydroxide   | Hydrochloric acid | Calcium Chloride   |
| Magnesium oxide     | Nitric acid       | Magnesium Nitrate  |
| Calcium carbonate   | Sulphuric acid    | Calcium Sulphate   |
| Aluminium hydroxide | Nitric acid       | Aluminum Nitrate   |
| Potassium hydroxide | Sulphuric acid    | Potassium Sulphate |

### Examples of neutralisation reactions

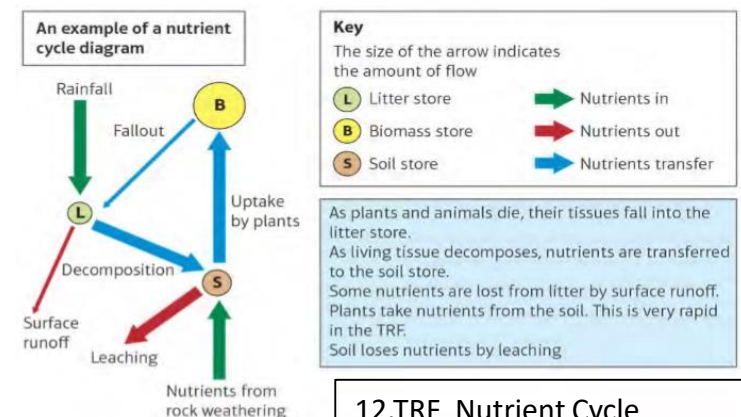
| Reactants                | General equation   | Example   |
|--------------------------|--|---|
| Acid and Alkali          | Acid + Alkali $\rightarrow$ Salt + Water                           | Sodium Hydroxide + Sulphuric Acid $\rightarrow$ Sodium Sulphate + Water                           |
| Acid and Metal Carbonate | Acid + Metal Carbonate $\rightarrow$ Salt + Water + Carbon Dioxide | Hydrochloric acid + Magnesium Carbonate $\rightarrow$ Magnesium Chloride + Carbon Dioxide + Water |
| Acid and metal Oxide     | Acid + Metal Oxide $\rightarrow$ Salt + Water                      | Sulphuric acid + Calcium Oxide $\rightarrow$ Calcium Sulphate + Water                             |



|    |                     |  |
|----|---------------------|--|
| 1  | Tropical Rainforest | A <b>tropical rainforest</b> 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,  |



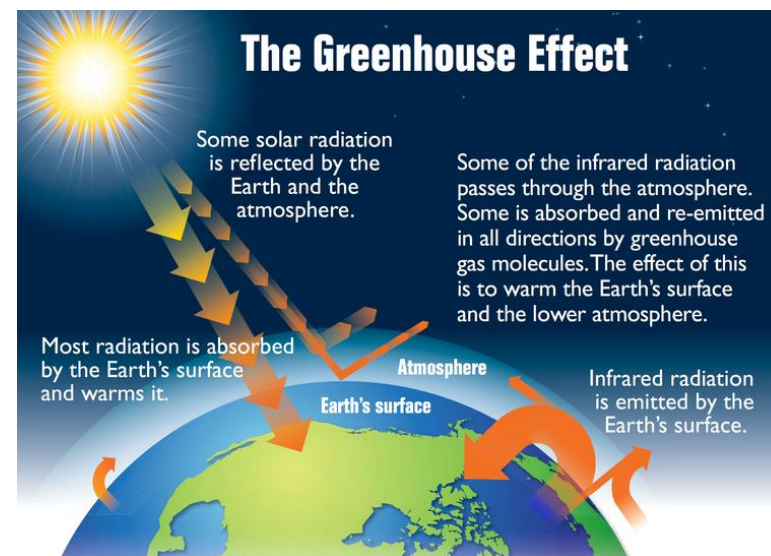
11.Layers of a Tropical Rainforest



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 kn <sup>2</sup>                         |
| 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      | 8000m <sup>2</sup> per year  |



28.The greenhouse effect



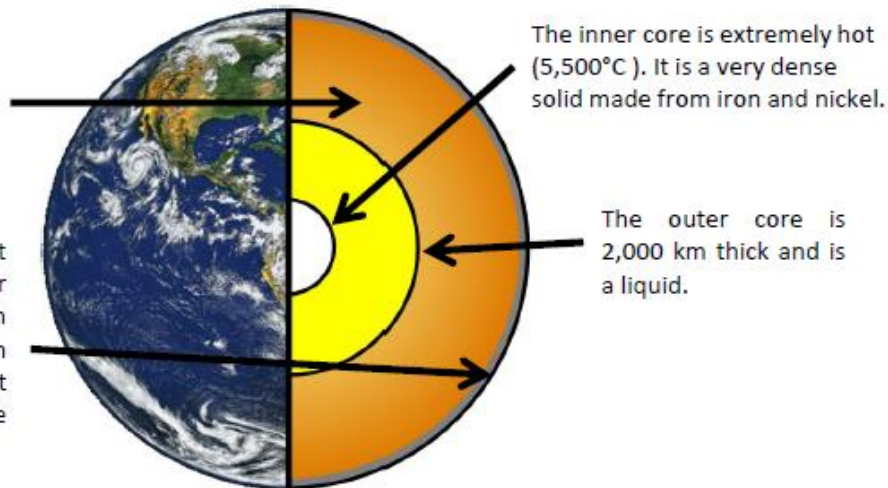
To know the structure of the earth and to know why its unstable

### 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 ( $5,500^{\circ}\text{C}$ ). It is a very dense solid made from iron and nickel.

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

### 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 ( $5,500^{\circ}\text{C}$ ) 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:**

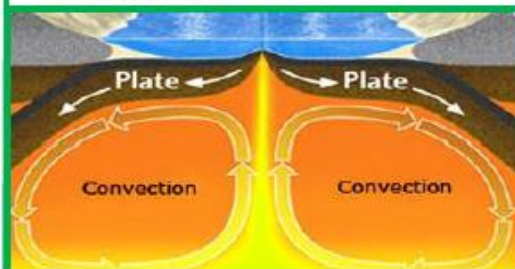
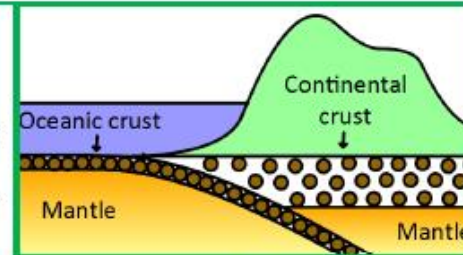
When something is closely packed together.

#### **Molten:**

Something which is melted and has become a liquid.

### 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.

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 <b>collide</b> or the oceanic plate <b>subducts under</b> the continental plate. |         | The Nazca plate being forced under the South American plate. | Volcanoes<br>Fold mountains<br>Earthquakes |
| Constructive | The plates <b>move apart</b> .   |         | The African plate and the South American plate.              | Volcanoes                                  |
| Conservative | The plates move <b>alongside</b> 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.

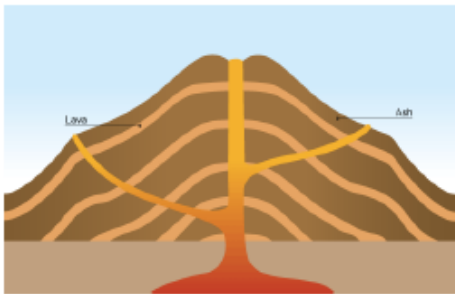
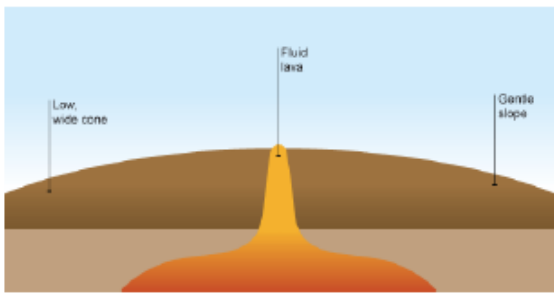
To describe conservative, constructive and destructive plate boundaries.

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



| Key Terms |                 |   |
|-----------|-----------------|---|
| 1         | Medieval        | The period between 1066-1500  |
| 2         | Chronology      | Putting events in the order that they happened  |
| 3         | Century         | 100 years   |
| 4         | Source          | Something from the time which we can use to find out about the past.  |
| 5         | Celts           | The dominant population of Britain before the arrival of the Romans and Anglo-Saxons  |
| 6         | Romans          | Group who ruled England after invading from 40AD. They left around 410AD due to invasions in their homeland.                        |
| 7         | Anglo-Saxons    | People who lived in Britain from the 5th century. They included people from Germanic tribes who migrated to the island from Europe. |
| 8         | Vikings         | Originally from Scandinavia, a vicious warriors group who invaded and settled from around 800AD                                     |
| 9         | Longboats       | The Viking ships that combined oars and sails   |
| 10        | Danegeld        | A large sum of money, given to Vikings to prevent further invasions.  |
| 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          | <b>Edward the Confessor: 1042-1066</b><br>-Edward became king of England in 1042 after his half-brother died. Before this he had been living in Normandy.<br>• Edward married but had no children. It was not clear who Edward wanted to be king after him. <b>For a king to die without an heir was a disaster!</b><br>• He was made a saint and 'the confessor' means someone that is saint-like but not a martyr. |   |
| 2          | <b>Harald Hardrada</b><br>-Viking King of Norway<br>-Vikings had ruled Britain before.<br>-Most feared warrior in Europe –Hardrada means 'hard ruler' and his nickname was 'the Ruthless'.<br>-Harald was supported by Tostig, Harold Godwinson's brother who wanted revenge.  |   |
| 3          | <b>Harold Godwinson</b><br>-Anglo-Saxon. Earl of Wessex, one of the most powerful men in England<br>-Harold's sister was married to King Edward. Harold was a brave and respected soldier with a tough streak.<br>-The Witan, wanted Harold to be the next king.   |   |
| 4          | <b>William of Normandy</b><br>-Duke of Normandy, France.<br>-William came from a fighting family. He was a brave soldier.<br>-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.<br>-It took the Anglo-Saxon army 4 days to march to meet the Vikings, once they had invaded northeast England<br>-Harold Godwinson was betrayed by his brother Tostig by joining the Vikings   |
| 2          | Battle of Hastings   | - The battle took place in October, 1066<br>-The winds suddenly changed at the end of September, allowing William's Norman army to invade<br>-William's heavily armored soldiers on horseback, Knights, were used throughout the battles.<br>-Harold's army positioned themselves at the start of the battle on top of Senlac Hill<br>-The Normans carried out a Fake Retreat to tempt the Saxons away from their high ground?<br>-According to the Bayeux Tapestry, Harold Godwinson died by being shot with an arrow to the eye<br>-According to the first account, Harold Godwinson died by being disemboweled by Norman knights |

| Key Terms |                   |   |
|-----------|-------------------|---|
| 1         | Feudal system     | The social structure of Medieval England  |
| 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         | Taxes             | Money collected from people by the King   |
| 8         | Pope              | Head of the Catholic Church   |
| 9         | Hierarchy         | Form of social organisation ranks people according to status or power   |
| 10        | Loyalty           | Giving something to someone in return for something else.   |
| 11        | Harrying          | To completely destroy   |
| 12        | Domesday book     | vitally important book did William the Conqueror commission in 1086   |
| 13        | Baron             | rank came just below the king in the feudal system, and ruled land on his behalf                                      |
| 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           | <p><b>The Feudal System</b></p> <ul style="list-style-type: none"> <li>-William also sets up the <b>Feudal System</b>. This forces the English to give William their taxes and promises of <b>loyalty</b>, in return for protection and land to farm.</li> <li>-It is based on a system of <b>hierarchy</b></li> <li>-William is at the top of the system, as he holds all the land and money, which he gives to the Barons.</li> <li>-They promise William their money, soldiers and loyalty. They give the land to the Knights in return for loyalty and military service.</li> <li>-Finally the knights give the land to the peasants. The peasants farm the land and give food, money and services to the knights.</li> </ul> | <p><b>FEUDAL SYSTEM</b></p> <pre> graph TD     KING[KING] -- "Grants land to" --&gt; BARONS[BARONS]     BARONS -- "Grant land to" --&gt; KNIGHTS[KNIGHTS]     KNIGHTS -- "Grant land to" --&gt; PEASANTS[PEASANTS]     PEASANTS -- "Provide food and services" --&gt; KNIGHTS     KNIGHTS -- "Provide protection &amp; military service" --&gt; BARONS     BARONS -- "Provide money and knights" --&gt; KING     </pre> |
| 2           | <p><b>Harrying of the North</b></p> <ul style="list-style-type: none"> <li>-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.</li> <li>-<b>To stop rebellions and show his power</b>, 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.</li> </ul>  |   |
| 3           | <p><b>The Domesday Book</b></p> <p>In 1086, William sent out surveyors to every part of England, with orders to list:</p> <ul style="list-style-type: none"> <li>-How much land was there</li> <li>-Who had owned it in 1066 and who owned it now</li> <li>-What was the place like, and who lived there</li> <li>-How much it was worth in 1066 and how much now</li> </ul> <p>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.</p>  |   |
| 4           | <p><b>Castles</b></p> <p>William also kept control by building castles.</p> <p><b>Motte and Bailey</b> – 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.</p> <p><b>Stone Keep</b> – 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.</p>   |   |

| Key Terms |                   |   |
|-----------|-------------------|---|
| 1         | Heaven            | A place where those that have lived a pure life or have paid in purgatory can go and live with God.   |
| 2         | Hell              | a place where people go after death if their sins are so terrible.  |
| 3         | Purgatory         | People will pay for their sins here before going to either heaven or hell.  |
| 4         | Doom painting     | A painting that depicted heaven and hell and were used in churches for people who could not understand Latin.   |
| 5         | Succession        | The person that will become King after the current King has died.   |
| 6         | Crusades          | Religious wars in which crusaders from Europe set out to fight Muslim Turks for control over the Holy Lands.  |
| 7         | Jerusalem         | Was the most important city on earth for Christians and Muslims during the period as it was the place where Jesus had lived, been crucified and buried. |
| 8         | Holy Land         | The area linked to the life of Jesus.   |
| 9         | Pilgrimage        | A religious journey undertaken to clear your sins.  |
| 10        | Indulgence        | A certificate purchased from the church to clear your sins.   |
| 11        | Pope              | Leader of the Catholic church throughout the world. Lives in Rome.  |
| 12        | Archbishop        | Leader of the church in England. They would often be appointed by the monarch and are responsible for church matters across England.                    |
| 13        | Laity/Parishoners | Ordinary people who attend church. They fall at the bottom of the church hierarchy.   |
| 14        | Monk              | A man who devotes his life to serving God.  |
| 15        | Nun               | A woman who devotes her life to serving God.  |
| 16        | Monastery         | a building or buildings occupied by a community of monks living under religious vows.   |
| 17        | Nunnery/convent   | A building or buildings occupied by a community of nuns living under religious vows.  |
| 18        | Cathedral         | Large church.   |
| 19        | Bishop            | The leader of the church in a local area. There were 17 bishops in the Medieval Church, each based at a cathedral.                                      |

| Key idea– Importance of the Medieval Church |                |   |
|---|----------------|---|
| 1   | People's lives | Most people in the Middle Ages lived their lives fully believing in the reality of a spiritual realm all around them, and in heaven or hell when they died  |
| 2   | Services       | The Church provided for people's religious lives – baptism of babies, marriages, confession, the last rites for the dying and burying the dead. The church was much more than a place to go to pray or look for guidance                |
| 2   | Care           | Monasteries and nunneries looked after the old and sick, provided somewhere for travellers to stay, gave alms to the poor and sometimes looked after people's money for them. Monasteries had running water and good toilet facilities. |
| 3   | Schools        | Monks could often read and write, so they copied books and documents and taught children. Monasteries often had libraries. The Church put on processions and 'miracle plays'.   |
| 4   | Politics       | The Church played a big part in government. Bishops sat in the House of Lords. They could raise an army for the king in times of war  |

| Case study – Thomas Becket's Death |                |  |
|------------------------------------|----------------|--|
| 1                                  | Henry II       | King in 1154 following the period called 'the anarchy' where many people were competing for the throne.  |
| 2                                  | Thomas Beckett | Appointed by Henry II as chancellor, his role was to look after the church and king's courts. He later was appointed Archbishop and was tasked with making the courts fairer               |
| 2                                  | King vs Church | In the Middle Ages, it was unclear whether the King had more power than the Church. This was demonstrated in the story of Thomas Becket.   |
| 3                                  | Problem 1      | Henry wanted Becket to force priests to use the King's Courts, instead of getting away with light punishments in the church courts. He also wanted Becket to help him control the bishops. |
| 4                                  | Problem 2      | Becket refused to do this, the two men fell out. In a rage, Henry shouted "Will no one rid me of this troublesome priest?".  |
| 5                                  | The death      | A group of knights overheard him and murdered Becket. Henry was horrified when he heard of Becket's death and ordered monks to whip him to show he was sorry.                              |

| 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 <b>one</b> 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 <b>against</b> 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 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 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 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 Bible.

**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 prophesied 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 4<sup>th</sup> 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 of 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  | TEACHING POINTS FOR PASSING   |
|--|---|
| <p><b>1. How do you start a football match?</b> The football game is started by a kick off in the centre of the pitch.</p>   | <p><b>8. What are the teaching points for the SHORT PASS?</b></p> <ul style="list-style-type: none"> <li>• Non kicking foot next to the ball</li> <li>• Use the side of the kicking foot to contact the ball following a short back swing</li> <li>• Keep head over the ball to improve accuracy and ensure ball stays on the ground</li> <li>• Follow foot through to generate more power</li> </ul>   |
| <p><b>2. What's the number of players on each side during a professional match?</b> In a full sided game each team consists of 11 players.</p>   |   |
| <p><b>3. What happen when the ball goes off at the side of the pitch?</b> 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.</p>   | <p><b>9. What are the teaching points for the LONG PASS?</b></p> <ul style="list-style-type: none"> <li>• Non kicking foot next to the ball</li> <li>• use the front (laces) of the kicking foot to contact the ball following a bigger back swing (flexion of the knee)</li> <li>• keep head over the ball to improve accuracy of the pass</li> <li>• lean back slightly to help generate height if required on the pass</li> <li>• follow foot/leg through to generate more power.</li> </ul>   |
| <p><b>4. What happen if the ball goes off at the end of the pitch?</b><br/>If the ball goes off the end of the pitch it is a corner or a goal kick depending who the ball touched last.</p>  |   |
| KEY TERMINOLOGY  |   |
| <p><b>4. What is meant by the term <u>offside</u>?</b><br/>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.</p>   | <p><b>10. What are the teaching points for a HEADER?</b></p> <ul style="list-style-type: none"> <li>• Keep eyes focused on the ball when preparing to header</li> <li>• use the forehead to contact the ball</li> <li>• move feet to ensure body is slightly behind the ball before heading</li> <li>• use neck to generate more power on the header</li> <li>• 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</li> <li>• Perform a jump before the header to increase power and give yourself more chance of beating the opponent to the header.</li> </ul> |
| <p><b>5. What is meant by the term <u>free-kick</u>?</b><br/>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</p> |   |
| <p><b>6. What is meant by the term <u>marking</u>?</b><br/>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.</p>  | <p><b>FULL FOOTBALL POSITIONS</b></p> <div data-bbox="1307 1005 1935 1362"> </div>  |
| <p><b>7. What is meant by the term <u>VAR</u>?</b><br/>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.</p>   |   |

**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.

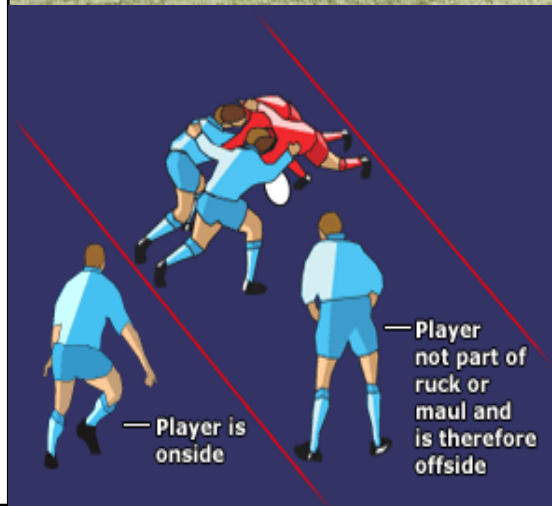
The maul is when at least three players from either side are in contact together, challenging the player with the ball, moving towards a goal line. But what makes the maul different to the ruck is the ball is not on the ground but in hand.

**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.

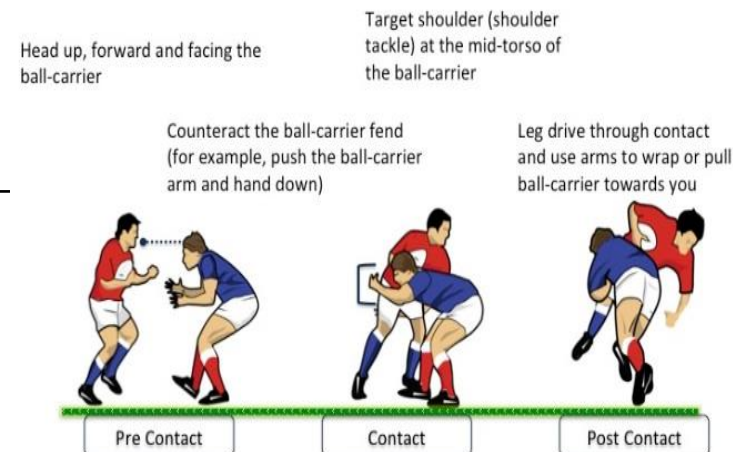
**How can you score points?** - There are several ways to score points.

- 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.

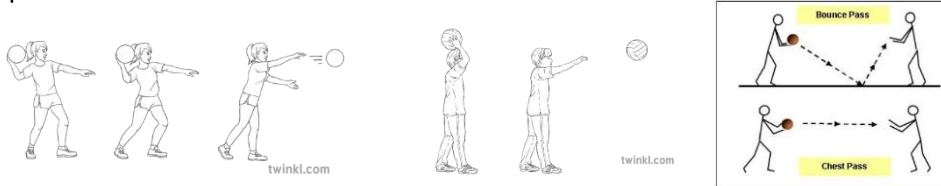
**How do you dropkick a Rugby ball?**

Hold the ball in two hands, pointing downwards. As you step forward with your non-kicking foot, strike the ball on the bounce.



### Key skills:

**Passing and receiving:** Different types of pass include **bounce pass**, **chest pass**, **shoulder pass** and **overhead**.



**Attacking:** Getting free from an opponent in order to receive the ball includes the skills of **sprinting**, **dodging** and **changing direction**.

**Shooting:** With one hand under the ball and the other steadying it at the side, keep your eyes on the hoop, bend your knees and push. The power comes from your fingers.



**Defending:** Marking your opponent player both with and without the ball. There are 3 stages of defense in netball; **man marking**, **marking the ball** and **marking the space**.

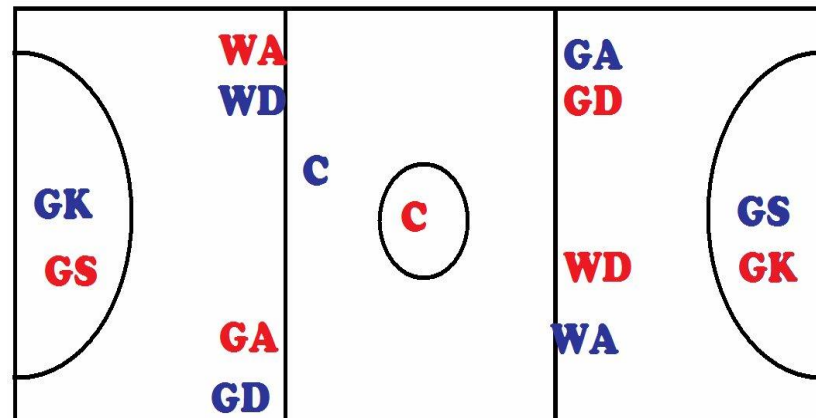
**Footwork:** You must land with a **1 – 2 landing** or land with 2 feet. You must move the landing foot until you have released the ball.

### Rules:

1. The game starts with a Centre pass and the ball must be received in the Centre third. **Teams take it in turns for a center pass.**
2. You must comply with the footwork rule.
3. You only have 3 seconds to release the ball.
4. When defending you must be 1 meter away from the player.
5. It is a non contact game so no contact to be made with an opposing player.
6. The ball must be touched in each third of the court.
7. You cannot catch the ball, drop it or fumble it and re catch it. This is know as repossession. When shooting the ball must touch the ring or net or it is counted as throwing the ball to yourself (repossession).

**What happens if you break a rule?** If a player breaks a minor rule the opposition is awarded a **free pass**, which is a pass taken from the same spot where the rule was broken. If a player breaks a major rule the opposing team is awarded a **penalty pass**. A **penalty pass** is similar to a **free pass**, except the player who broke the rule must stand out of the way until the pass is taken. If a player gives away a penalty pass in the goal circle then the shooter can take a free shot at goal.

### Netball court set up:



= Blue Team.

= Red Team.

### Netball court positions:

Goal shooter (GS): attack and score goals!

Goal attack (GA): feed the ball into the shooter.

Wing attack (WA): create goal scoring passes.

Centre (C): attack the D and feed the shooters.

Wing defence (WD): stop the ball reaching opposition.

Goal defence (GD): as WD but defence in the D.

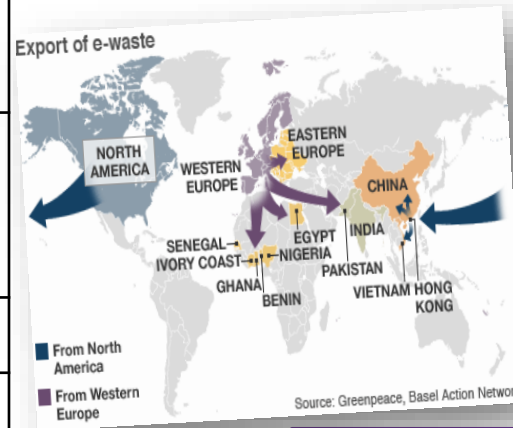
Goal keeper (GK): last line of defence! Ball should not get to GK.

### Key terms:

- ✓ Passing and receiving
- ✓ Attacking
- ✓ Defending
- ✓ Footwork
- ✓ Contact
- ✓ Shooting
- ✓ Dodging
- ✓ Penalty
- ✓ Obstruction
- ✓ Held ball
- ✓ Goal third / centre third / defensive third
- ✓ Centre pass



|   |                         |   |
|---|-------------------------|---|
| 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

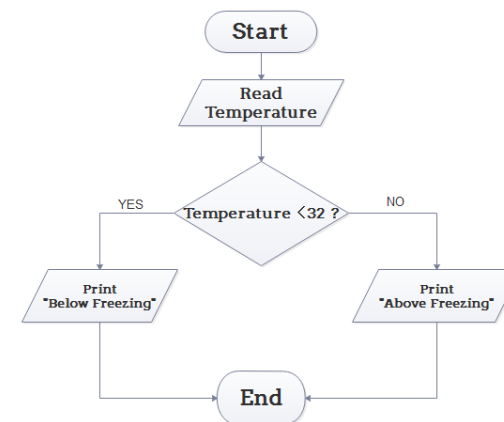
- Inclusion / Accessibility
- The Digital Divide
- Professionalism
- Codes of Conduct

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

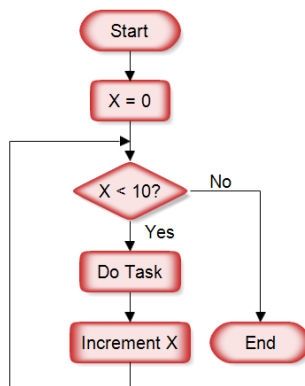


|   |                                   |  |
|---|-----------------------------------|--|
| 1 | Algorithm interpretation          | Understand what an algorithm is, what algorithms are used for and be able to interpret algorithms (flowcharts, pseudo-code, written descriptions, program code)  |
| 2 | 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

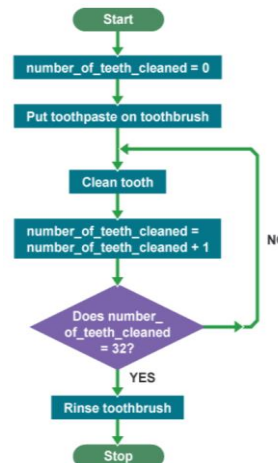


### Flowchart Showing Sequence



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**

## Algorithms

- Sequence, Selection, Iteration →
- Flowcharts
  - Interpreting
  - Creating your own
  - Using symbols correctly

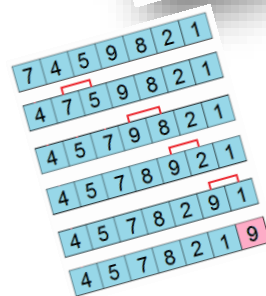
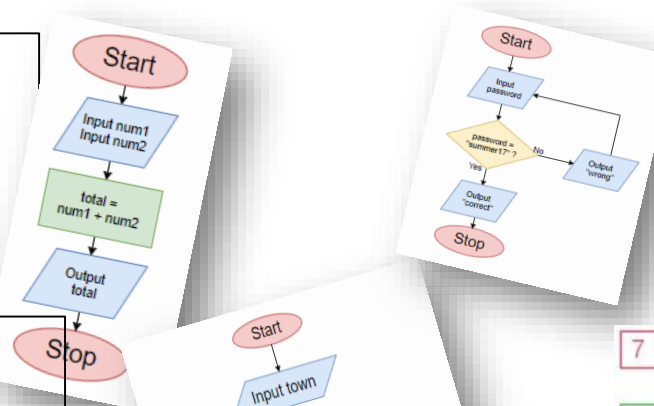
## Evaluating Algorithms

- Importance of data structure
- Fitness for purpose
- Efficiency (Big "O" Notation)

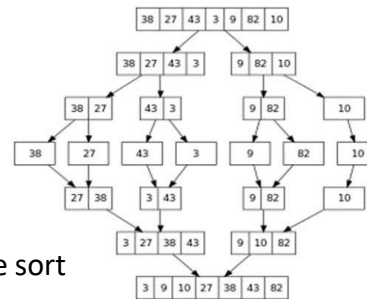
**Bubble sort** Works by repeatedly going through the list to be sorted, comparing each pair of adjacent elements. If the elements are in the wrong order they are swapped, else they are left in position.

**Insertion sort** Sorts data one element at a time. The algorithm takes one data item from the list and places it in the correct location in the list. This process is repeated until there are no more unsorted items in the list. More efficient than bubble sort.

**Merge sort** This is a two-stage sort. Firstly the list is split in half into sub lists repeatedly. The algorithm stops splitting the lists when each list has only 1 element in it. The second stage involves repeatedly merging the lists in order until there is only one sub list remaining.



Bubble sort



Merge sort

## Pseudo-code

- Written Description
- Write an Algorithm
- Complete an unfinished Algorithm
- Code in a High Level Language (e.g. Python)

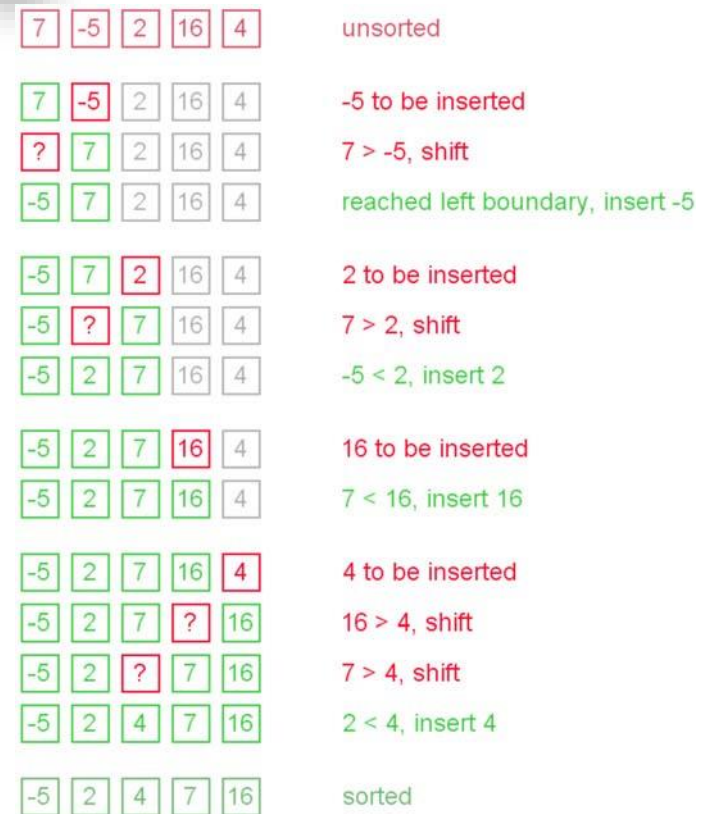


Figure 2: insertion sort



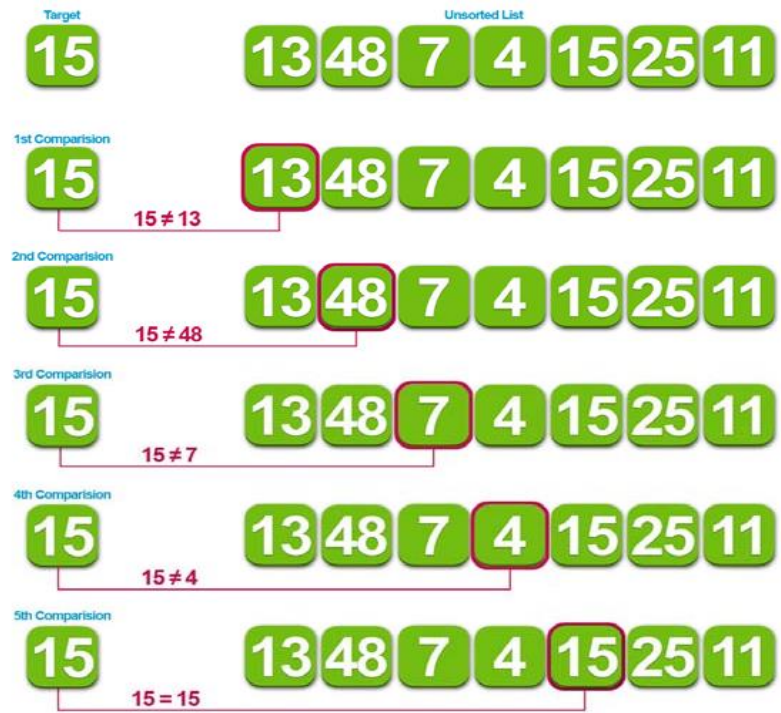


Figure 1 - Linear search example

Use links provided to understand how to apply method too.



Figure 2 - Binary search example

| Key vocabulary |  |
|----------------|--|
| Linear Search  | Data may be in any order to complete a linear search. Each item is inspected in turn to see whether it is what is being searched for. If an item is found, then True is returned, else the next element is inspected until all items have been searched. If nothing is found by the end of the algorithm then False is returned. |
| Binary Search  | If a list is sorted (numerical or alphabetical order) then a more efficient algorithm can be used. It works by repeatedly dividing the list into half and searching in the appropriate half.   |



## 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

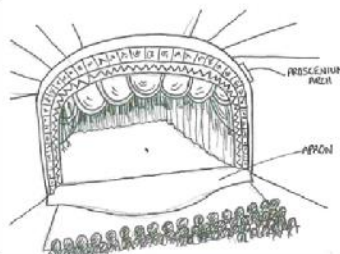
Telling a story through movement. Creating characters and objects without spoken word.

#### Diaries & Letters

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

## Staging Configurations and Stage Positions

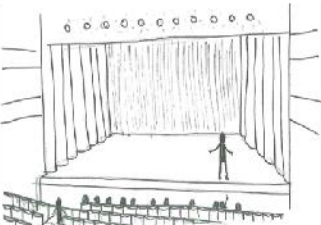
### Proscenium Arch



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.

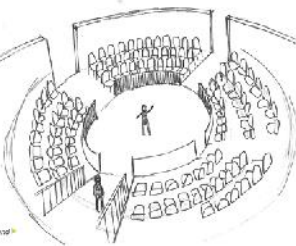
### End on Staging



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 configuration 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.

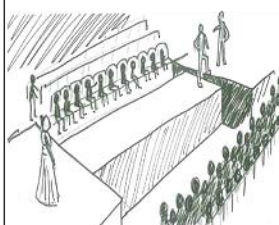
### Thrust Staging



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.

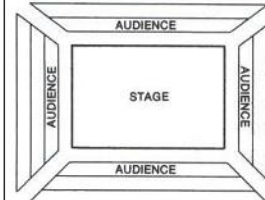
### Traverse Staging



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.

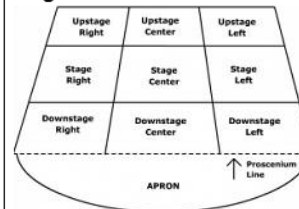
### Arena Staging



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 lines. 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.



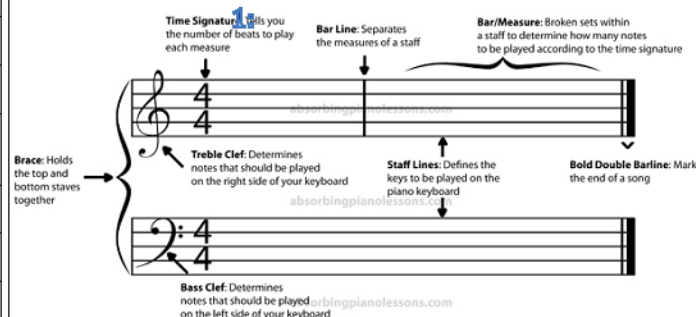
## KEYWORDS

- 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 Staff:** 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 (b), 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 (b):** 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 Good Boy Deserves Football (Treble clef)  
 Fat Alley Cats Eat Garbage (Alto clef)  
 Good Boys Do Fine Always (Bass clef)
- Q2:** What is the mnemonic for the spaces on each clef?  
 FACE in the space (Treble clef)  
 Green Birds Do Fly (Alto clef)  
 All Cows Eat Grass (Bass clef)

## Grand Staff

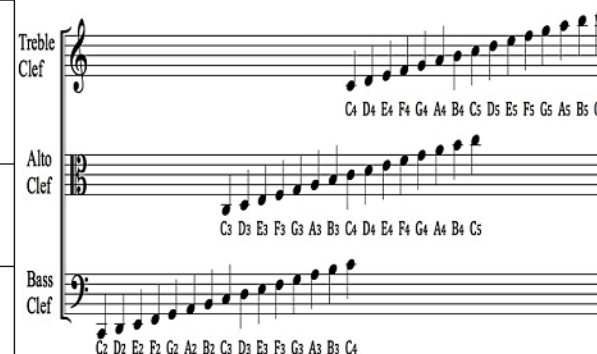


### 3: PITCH - The notes on the stave

Treble Clef Mnemonics  
**FACE** in the space  
 Every Good Boy Deserves Football

Alto Clef Mnemonics  
 Green Birds Do Fly  
 Fat Alley Cats Eat Garbage

Bass Clef Mnemonics  
 All Cows Eat Grass  
 Good Boys Do Fine Always



**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        | ¾ beat   |      |
|      | Semiquaver, Sixteenth Note | 1/4 beat |      |      | Dotted Semiquaver, Dotted Sixteenth Note | ¾ beat   |      |

### Understanding Sharps & Flats

|         |   |                               |
|---------|---|-------------------------------|
| SHARP   | # | = RAISES 1/2 TONE             |
| FLAT    | b | = LOWERS 1/2 TONE             |
| NATURAL | □ | = CANCELS OUT PREVIOUS # OR b |

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



## Strings (Violin, Viola, Cello, Double Bass)

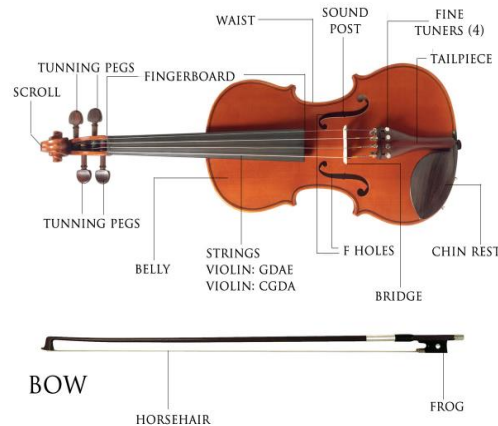
To play a string instrument, your left hand presses down on the strings to change the pitch while your right hand moves the bow or plucks the strings.

### How to Practice

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

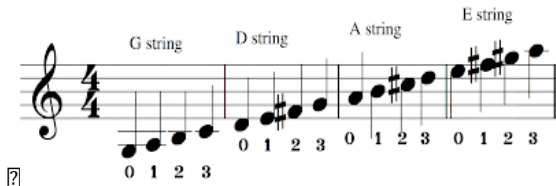
- Use a metronome
- Play it slowly, then speed it up
- Try the part in different rhythms so that you get the pitches accurate
- Aim to play it correctly **three time in a row** – if you make a mistake, start again!

### VIOLIN/VIOLA

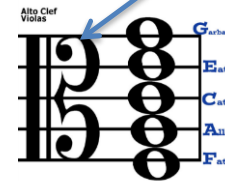


#### Basic notes on the Violin

A violinandviola.co.uk Helpful Handout

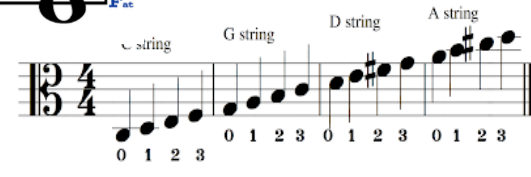


**\*Violas use a different 'clef' to most instruments: The ALTO clef**  
-Middle C is on the middle line!



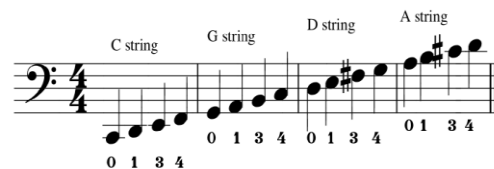
#### Basic notes on the Viola

A violinandviola.co.uk Helpful Handout



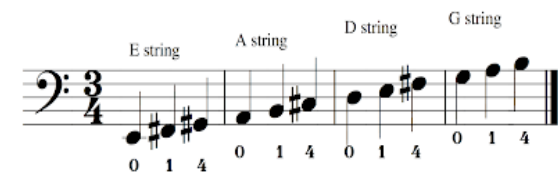
#### Basic notes on the Cello

A violinandviola.co.uk Helpful Handout



#### Basic notes on the Double Bass

A violinandviola.co.uk Helpful Handout



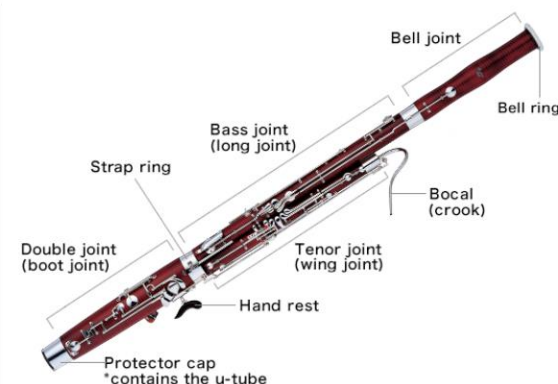
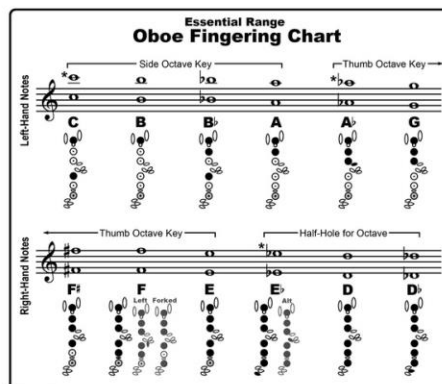
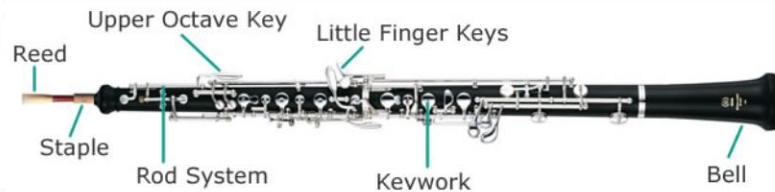
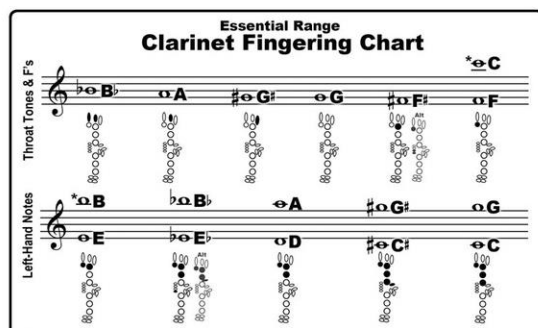
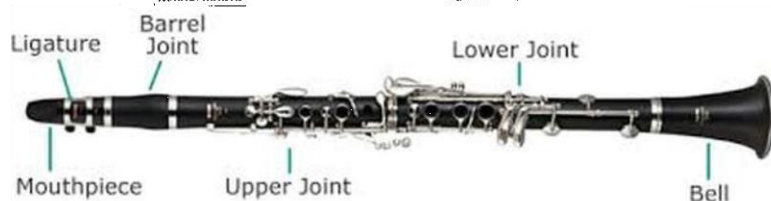
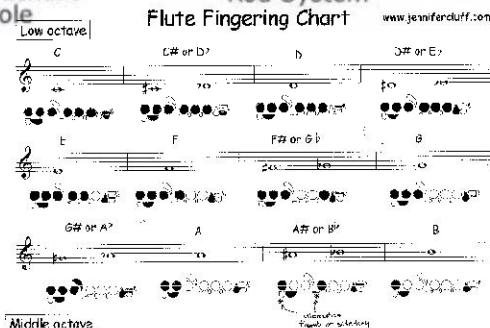
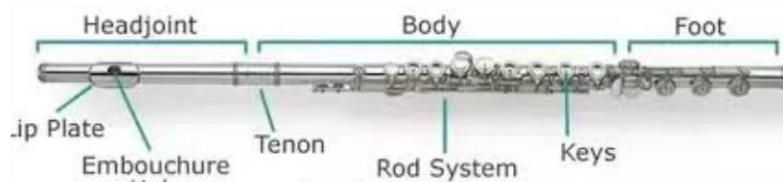
## Woodwind (Flute, Oboe, Clarinet, Saxophone, Bassoon)

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).

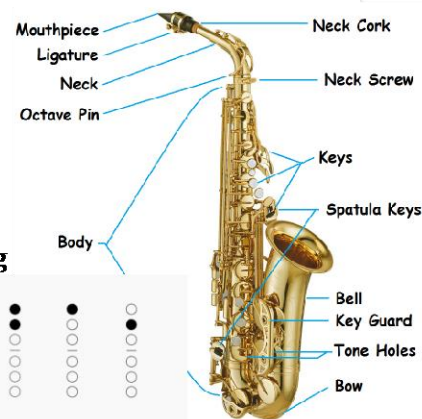
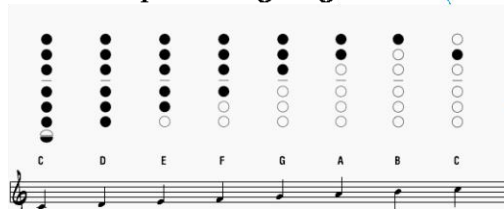
### How to Practice:

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!



### Saxophone Fingering



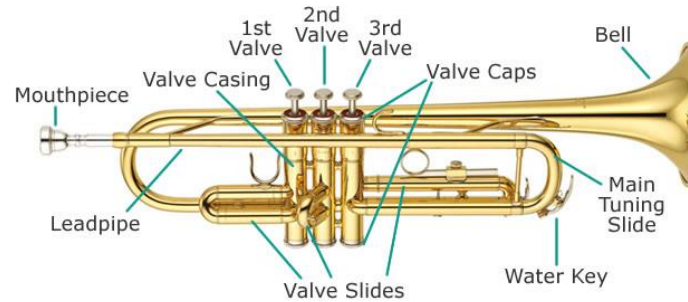
| A1 - B1 | B | C | C# - D1 | D | D# - E1 |
|---------|---|---|---------|---|---------|
|         |   |   |         |   |         |
|         |   |   |         |   |         |

### Bassoon Fingering

# Brass (Trumpet, French Horn, Trombone)



Chromatic Fingering Chart for French Horn  
(F fingerings on top, Bb fingerings below with "T")



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**.

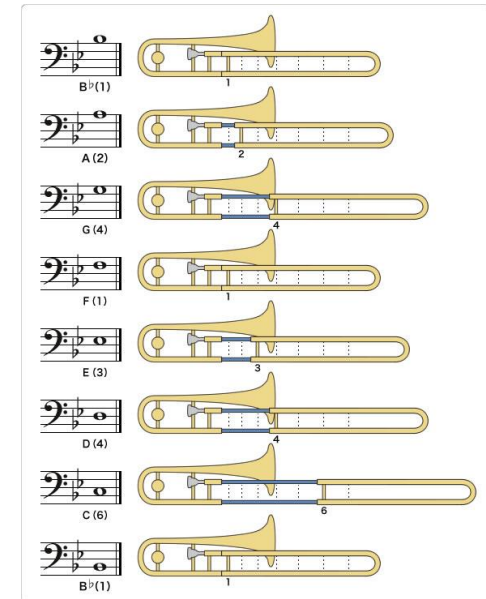
**How to Practice:**  
IDENTIFY THE PROBLEM AREAS  
**Practice the parts you can't play (not the parts you can) first:**

- 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!



Trumpet Fingering Chart

| F#/Gb | G     | G#/Ab | A   | A#/Bb |
|-------|-------|-------|-----|-------|
| ●●●   | ●○    | ○●●   | ●●○ | ●○●   |
| B     | C     | C#/Db | D   | D#/Eb |
| ○●○   | ○●○   | ●●●   | ●●○ | ○●●   |
| E     | F     | F#/Gb | G   | G#/Ab |
| ●●○   | ●○●   | ○●●   | ○●○ | ○●●   |
| A     | A#/Bb | B     | C   | C#/Db |
| ●○●   | ○●○   | ○●○   | ○●○ | ●●○   |





## 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.

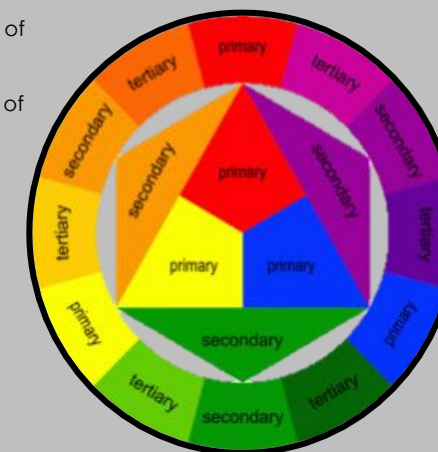
## C. Colour Theory

Key terms 4 – 6 refer to the colour wheel.

- 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    |

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



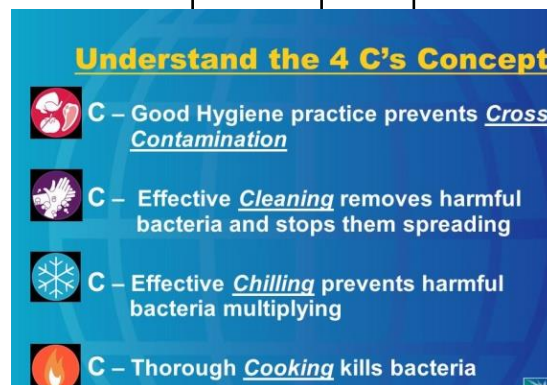
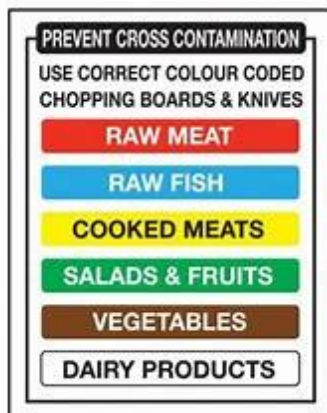


**Key words: Food hygiene and safety**

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.

| Key routines for Food Hygiene and Safety in the food room |   |   |   |
|---|---|---|---|
| Personal Hygiene  |   | Safety rules                                      |   |
|   | Why?  |   | 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 |

| Keywords : Knife skills, equipment and safety |   |                      |   |
|---|---|----------------------|---|
| Skills  |   | Equipment            |   |
|   | How?  |                      | 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   |

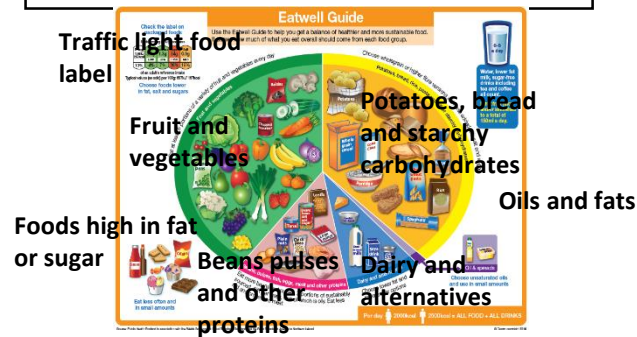


**8 guidelines for a healthy diet**

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**

- 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    |   |
|--------------------|---|
| 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                                 |

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6. Be active and be a healthy weight
7. Drink **6-8 glasses of water** a day
8. Don't skip breakfast

| Equipment used to weigh and measure |   |                  |   |
|-------------------------------------|---|------------------|---|
| 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.



### 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. |

### 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 |
|-------------------------------|-------------------------------|----------------------------|---|------------------------------|

### 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





## Semaine 1

### On se rencontre (Meeting people)

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

### Les salutations (Greetings)

|                  |                     |
|------------------|---------------------|
| Salut            | Hi                  |
| Bonne après-midi | Good afternoon      |
| Bon weekend      | Have a nice weekend |
| Bonne journée    | 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            |

## Semaine 2

### Les nombre 1 - 10 (Numbers 1-10)

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

## Semaine 4

### Les affaires pour le collège (School subjects)

|                       |                  |
|-----------------------|------------------|
| Qu'est-ce que c'est ? | What is this?    |
| C'est ...             | it is ...        |
| Un cahier             | an exercise book |
| Un carnet de textes   | a homework diary |
| Un crayon             | a pencil         |
| Un sac                | a bag            |
| Un stylo              | a pen            |
| Un livre              | a book           |
| Un portable           | a mobile phone   |
| Un porte-monnaie      | a purse          |
| Une gomme             | a rubber         |
| Une règle             | a ruler          |
| Une calculatrice      | a calculator     |
| Une trousse           | a pencil case    |
| Une gomme             | a rubber         |
| Une règle             | a ruler          |
| Une calculatrice      | a calculator     |
| Une trousse           | a pencil case    |
| Une cle USB           | a USB drive      |
| Ce sont ...           | these are...     |
| Des ciseaux           | scissors         |
| Des feutres           | markers          |
| Des feuilles          | (line) papers    |
| Des jeux              | games            |

## Semaine 5

### Les ages et les anniversaires (Ages and birthdays)

|   |                            |
|---|----------------------------|
| Quel age as-tu ?                        | How old are you?           |
| J'ai ... ans                            | I am ... years old         |
| Quelle est la date de ton anniversaire? | When is your birthday?     |
| Mon anniversaire est le ...             | My birthday is on the .... |

### Les mois de l'année (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  |

## Semaine 3

### 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 |              |    |

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

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

### Stratégie 1

Look, say, cover, write, check  
Use the five steps below to learn how to spell any word.

- LOOK** Look carefully at the word for at least 10 seconds.
- SAY** Say the word to yourself or out loud to practise pronunciation.
- COVER** Cover up the word when you feel you have learned it.
- WRITE** Write the word from memory.
- 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.

## Semaine 6

### Ma famille (my family)

|                               |                             |                   |                    |
|-------------------------------|-----------------------------|-------------------|--------------------|
| J'ai ...                      | I have...                   |                   |                    |
| Je n'ai pas de...             | I do not have ...           |                   |                    |
| Tu as ...?                    | do you have ...?            |                   |                    |
| As-tu ...?                    | do you have ...?            |                   |                    |
| un frère                      | A brother                   | une sœur          | a sister           |
| un frère qui s'appelle ...    | a brother called...         |                   |                    |
| deux sœurs qui s'appellent... | two sisters called...       |                   |                    |
| un/mon ami(e)                 | a/my friend                 |                   |                    |
| un/mon copain                 | a/my friend                 | une/ma copine     | a/my friend        |
| un/mon demi-frère             | a/my brother in law         | une/ma demi-sœur  | a/my sister-in-law |
| un/mon grand-père             | a/my grandfather            | une/ma grand-mère | a/my grandmother   |
| un/mon oncle                  | a/my uncle                  | une/ma tante      | a/my aunt          |
| un/mon père                   | a/my father                 | une/ma famille    | a/my family        |
| Je suis fils unique           | I am the only child (male)  |                   |                    |
| Je suis fille unique          | I am the onlychild (female) |                   |                    |

## Semaine 7

### Les animaux domestiques (Pets)

|                      |                           |              |              |
|----------------------|---------------------------|--------------|--------------|
| As-tu un animal?     | Do you have a pet?        | Une araignée | a spider     |
| J'ai ...             | I have ...                | Une souris   | a mouse      |
| C'est ...            | It is ...                 | Une girafe   | a giraffe    |
| Un animal domestique | a pet                     | Une tortue   | a tortoise   |
| Un chat              | a cat                     | Une vache    | a cow        |
| Un chien             | a dog                     | Une sirène   | a mermaid    |
| Un cheval            | a horse                   | Une fée      | a fairy      |
| Un rat               | a rat                     |              |              |
| Un serpent           | a snake                   | Ce sont ...  | these are... |
| Un hamster           | a hamster                 | Des chevaux  | horses       |
| Un cochon d'inde     | a guinea-pig              | Des animaux  | animals      |
| Un lapin             | a rabbit                  | Des oiseaux  | birds        |
| Un oiseau            | a bird                    | Des dragons  | dragons      |
| Un poisson           | a fish                    |              |              |
| Je n'ai pas d'animal | I don't have an any pets. |              |              |



## Mon autoportrait • My self-portrait

|                             |                   |
|-----------------------------|-------------------|
| les animaux (m pl)          | animals           |
| les araignées (f pl)        | spiders           |
| la capoeira                 | a Brazilian dance |
| les chats (m pl)            | cats              |
| les chiens (m pl)           | dogs              |
| le cinéma                   | cinema            |
| les consoles de jeux (f pl) | games consoles    |
| la danse                    | dancing           |
| le foot                     | football          |
| les gâteaux (m pl)          | cakes             |
| le hard rock                | hard rock         |
| l'injustice (f)             | injustice         |
| les insectes (m pl)         | insects           |
| les jeux vidéo (m pl)       | video games       |
| les livres (m pl)           | books             |
| la musique                  | music             |
| les mangas (m pl)           | mangas            |
| les maths (f pl)            | maths             |
| les pizzas (f pl)           | pizzas            |

## Semaine 1

|                       |                   |
|-----------------------|-------------------|
| la poésie             | poetry            |
| le racisme            | racism            |
| le rap                | rap               |
| le reggae             | reggae            |
| les reptiles (m pl)   | reptiles          |
| le roller             | roller-skating    |
| le rugby              | rugby             |
| le skate              | skateboarding     |
| les spaghettis (m pl) | spaghetti         |
| le sport              | sport             |
| la tecktonik          | tecktonik (dance) |
| la télé               | TV                |
| le tennis             | tennis            |
| le théâtre            | theatre, drama    |
| les voyages (m pl)    | journeys          |
| la violence           | violence          |

## Les opinions • Opinions

|                          |                        |
|--------------------------|------------------------|
| j'aime                   | I like                 |
| je n'aime pas            | I don't like           |
| Tu aimes ... ?           | Do you like ... ?      |
| il/elle aime             | he/she likes           |
| Oui, j'aime ça.          | Yes, I like that.      |
| Non, je n'aime pas ça.   | No, I don't like that. |
| Tu es d'accord?          | Do you agree?          |
| Je suis d'accord.        | I agree.               |
| Je ne suis pas d'accord. | I don't agree.         |
| C'est ...                | It's ...               |
| génial                   | great                  |
| cool                     | cool                   |
| bien                     | good                   |
| ennuyeux                 | boring                 |
| nul                      | rubbish                |
| essentiel                | essential              |
| important                | important              |
| Ce n'est pas bien.       | It's not good.         |

## Semaine 2

## Mon kit de survie • My survival kit

|                               |                          |
|-------------------------------|--------------------------|
| j'ai                          | I have                   |
| je n'ai pas de                | I don't have             |
| tu as                         | you have                 |
| il/elle a                     | he/she has               |
| un appareil photo             | a camera                 |
| une barre de céréales         | a cereal bar             |
| un bâton de colle             | a glue stick             |
| des chips (f pl)              | crisps                   |
| des clés (f pl)               | keys                     |
| une clé USB                   | a memory stick           |
| une gourde                    | a water bottle           |
| des kleenex (m pl)            | tissues                  |
| des lunettes de soleil (f pl) | sunglasses               |
| un magazine                   | a magazine               |
| un miroir                     | a mirror                 |
| un portable                   | a mobile phone           |
| un portemonnaie               | a purse                  |
| un paquet de mouchoirs        | a packet of tissues      |
| un sac                        | a bag                    |
| des surligneurs fluo (m pl)   | fluorescent highlighters |
| une trousse                   | a pencil case            |

## Semaine 3

## Semaine 4

## 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           |

## Semaine 5

## Les yeux et les cheveux • Eyes and hair

|   |                                     |
|---|-------------------------------------|
| j'ai                                    | I have                              |
| tu as                                   | you have                            |
| il/elle a                               | he/she has                          |
| mon ami(e) a                            | my friend has                       |
| J'ai les yeux bleus/verts/ gris/marron. | I have blue/green/grey/ brown eyes. |
| J'ai les cheveux ...                    | I have ... hair.                    |
| longs/courts/mi-longs                   | long/short/ medium-length           |
| frisés/raides                           | curly/straight                      |
| blonds/bruns/noirs/roux                 | blond/brown/black/rea               |

## Les musiciens • Musicians

|                               |                             |
|-------------------------------|-----------------------------|
| Il/Elle joue ...              | He/She plays ...            |
| de la batterie                | the drums                   |
| de la guitare                 | the guitar                  |
| Il/Elle chante.               | He/ she sings.              |
| Il/Elle a beaucoup de talent. | He/She has a lot of talent. |

## Semaine 6

## Les mots essentiels • High-frequency words

|                     |            |
|---------------------|------------|
| et                  | and        |
| aussi               | also       |
| mais                | but        |
| très                | very       |
| assez               | quite      |
| toujours            | always     |
| Qu'est-ce que ... ? | What ... ? |
| Qui ... ?           | Who ... ?  |

+ vocabulary learnt in the half term

## Stratégie 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.
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## 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 hermanoastro            | a half- brother/stepbrother        |
| una hermana     | a sister                 | No tengo hermanos.         | I don't have any brothers          |
| un hermano      | a brother                |                            | or sisters.                        |
| una hermanastra | a half-sister/stepsister | Soy hijo único/hija única. | I am an only child. (male/ female) |

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

### ¿Cuántos años tienes? How old are you?

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

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## Semana 1

### ¿Cuántas personas hay en tu familia? How many people are there in your family?

|                      |                            |                             |                               |
|----------------------|----------------------------|-----------------------------|-------------------------------|
| En mi familia hay... | In my family, there are... | mis primos                  | my cousins                    |
| personas.            | people.                    | ¿Cómo se llama tu madre?    | What is your mother called?   |
| mis padres           | my parents                 | Mi madre se llama...        | My mother is called...        |
| mi madre             | my mother                  | ¿Cómo se llaman tus primos? | What are your cousins called? |
| mi padre             | my father                  | Mis primos se llaman...     | My cousins are called...      |
| mi abuelo            | my grandfather             | y...                        | 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?              |         |         |

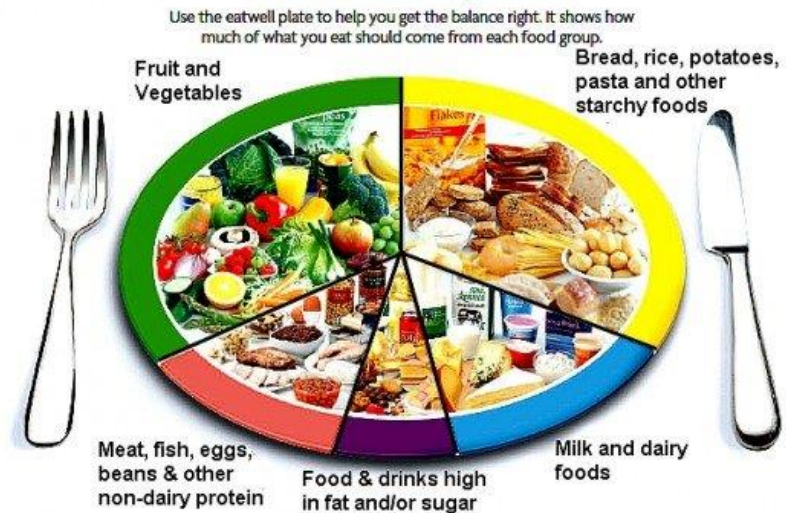


| Key term                           | Definition   |
|------------------------------------|--|
| <b>1. body mass index (or BMI)</b> | a weight-to-height ratio that shows if you're overweight, underweight or at a healthy weight                       |
| <b>2. calorie</b>                  | a unit for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

### The eatwell plate



### 15. trans fat (or trans fatty acid)

an artificial fat that makes food last longer and taste better but is very bad for health



| <b>Fitness Key term</b>        | <b>Definition</b>   |
|--------------------------------|---|
| <b>1. Aerobic fitness</b>      | A measure of how well your blood transports oxygen around the body, and how well your muscles utilize the oxygen.   |
| <b>2. Aerobic</b>              | Meaning with oxygen. Aerobic training is at a lower intensity, with the purpose of stimulating aerobic metabolism to improve.   |
| <b>3. Anaerobic</b>            | 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. |
| <b>4. Body composition</b>     | 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.                  |
| <b>5. Cardiovascular</b>       | Concerning the heart and blood vessels.   |
| <b>6. Endurance</b>            | The body's ability to exercise with minimal fatigue. Often used with other terms such as; endurance training, muscular endurance and cardiorespiratory endurance.   |
| <b>7. Glycogen</b>             | The form in which carbohydrates are stored in the body. Primary sites for storage are the muscles and the liver.  |
| <b>8. obesity</b>              | the state of being very overweight, or the medical condition related to this  |
| <b>9. Interval training</b>    | 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.  |
| <b>10. Lactic acid</b>         | 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.   |
| <b>11. Resistance training</b> | 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