YEAR 8 - PROPORTIONAL REASONING...

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Multiplying and Dividing Fractions

What do I need to be able to do?

By the end of this unit you should be able to:

- Carry out any multiplication or division using fractions and integers.
- Solutions can be modelled, described and reasoned

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

Numerator
Denominator

$\frac{3}{5}$

Number of parts represented
Numerator

Number of parts to make up the whole
Denominator

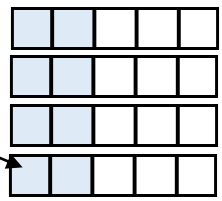
ALL PARTS of a fraction are of equal size

Repeated addition = multiplication by an integer

$4 \times \frac{2}{5} = \frac{2}{5} + \frac{2}{5} + \frac{2}{5} + \frac{2}{5}$

Integer (Whole number)

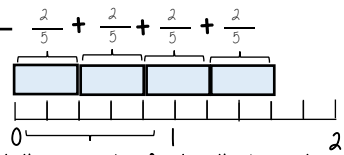
Each part represents $\frac{1}{5}$



How many parts are shaded?
What each part represents

$= \frac{8}{5}$

$= 1\frac{3}{5}$



Each whole is split into the same number of parts as the denominator

Revisit
When adding fractions with the same denominator = add the numerators

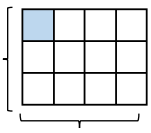
Multiplying unit fractions

$\frac{1}{4} \times \frac{1}{3} = \frac{1}{12}$

Parts shaded

Total number of parts in the diagram

Modelled:



Multiplying non-unit fractions

Shade in 3 parts

Repeat it on this many rows

$\frac{3}{4} \times \frac{2}{3}$

This many columns

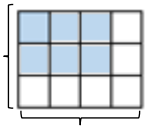
This many rows

$\frac{3}{4} \times \frac{2}{3} = \frac{6}{12}$

Parts shaded

Total number of parts in the diagram

Modelled:



Quick Multiplying and Cancelling down

$\frac{\cancel{3}^{1}}{5} \times \frac{4}{\cancel{9}_{3}}$

The 3 and the 9 have a common factor and can be simplified

Quick Solving
Multiply the numerators
Multiply the denominators

$\frac{1 \times 4}{5 \times 3} = \frac{4}{15}$

The reciprocal *When you multiply a number by its reciprocal the answer is always 1*

$3 \times \frac{1}{3} = 1$

$\frac{1}{3} + \frac{1}{3} + \frac{1}{3} = 1$

The reciprocal of 3 is $\frac{1}{3}$ and vice versa

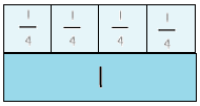
Reciprocals for division

e.g $5 \div \frac{1}{4} = 20$

$5 \times 4 = 20$

Multiplying by a reciprocal gives the same outcome

Dividing an integer by an unit fraction



$1 \div \frac{1}{4} = 4$

How many quarters are in 1?

"There are 4 quarters in 1 whole. Therefore, there are 20 quarters in 5 wholes"

$5 \div \frac{1}{4} = 20$

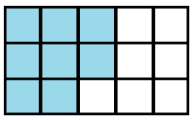
Dividing any fractions *Remember to use reciprocals*

$\frac{2}{5} \div \frac{3}{4}$

$\frac{2}{5} \times \frac{4}{3}$

Multiplying by a reciprocal gives the same outcome

Represented



$= \frac{8}{15}$

YEAR 8 - REPRESENTATIONS...

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Working in the Cartesian plane

What do I need to be able to do?

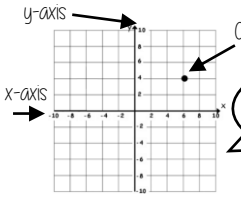
By the end of this unit you should be able to:

- Label and identify lines parallel to the axes
- Recognise and use basic straight lines
- Identify positive and negative gradients
- Link linear graphs to sequences
- Plot y = mx + c graphs

Keywords

Quadrant: four quarters of the coordinate plane.
Coordinate: a set of values that show an exact position.
Horizontal: a straight line from left to right (parallel to the x axis)
Vertical: a straight line from top to bottom (parallel to the y axis)
Origin: (0,0) on a graph. The point the two axes cross
Parallel: Lines that never meet
Gradient: The steepness of a line
Intercept: Where lines cross

Coordinates in four quadrants



Coordinate (x, y) (6, 4)

From the origin this coordinate is 6 places along the positive x axis and 4 places up the positive y axis

(x, y)

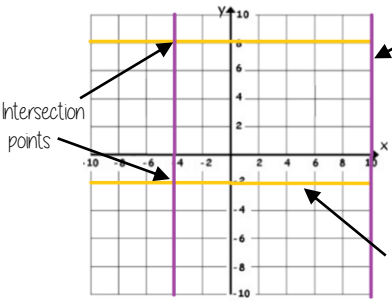
Always the position on the x axis first

Always the position on the y axis second

(0, a) Will be always be a point on the y axis (a can be any number)

(a, 0) Will be always be a point on the x axis (a can be any number)

Lines parallel to the axes



All the points on this line have a x coordinate of 10

'a' can be ANY positive or negative value including 0

Lines parallel to the **y axis** take the form **x = a** and are **vertical**

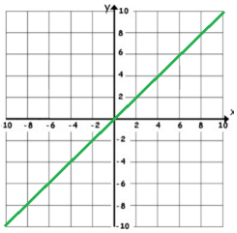
Lines parallel to the **x axis** take the form **y = a** and are **horizontal**

All the points on this line have a y coordinate of -2

e.g. (3, -2) (7, -2) (-2, -2) all lay on this line because the y coordinate is -2

Recognise and use the line y=x

This means the x and the y coordinate have the same value

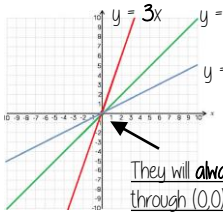


Examples of coordinates on this line: (0, 0) (-3, -3) (8, 8)

The axes **scale is important** – if the scale is the same y = x will be a straight line at 45°

Recognise and use the lines y=kx

The value of **k** changes the steepness of the line



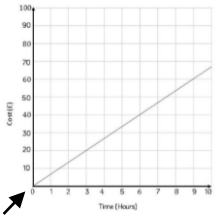
Note: y =x is the same as y= 1x

The bigger the value of k the **steeper** the line will be

They will **always** go through (0,0)

The closer to 0 the value of k the closer the line will be to the x axis.

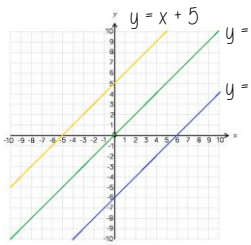
Direct Proportion using y=kx



The line must be straight to be directly proportional – variables increase at the same rate **k**

Direct proportion graphs always start at (0,0) as they are describing relationships between two variables

Lines in the form y = x + a



All the lines are **parallel** because the gradients are the same

y = x + a

This is the line y=x when the y and x coordinate are the same

This shows the translation of that line

e.g y = x + 5 Is the line y=x moved 5 places up the graph

5 has been added to each of the x coordinates

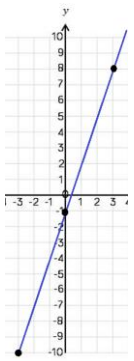
Plotting y = mx + c graphs

$y = 3x - 1$ → 3 x the x coordinate then – 1

x	-3	0	3
y	-10	-1	8

Draw a table to display this information

This represents a coordinate pair (-3, -10)

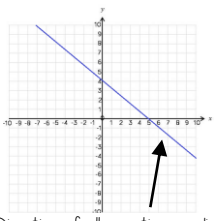


You only need two points to form a straight line

Plotting more points helps you decide if your calculations are correct (if they do make a straight line)

Remember to join the points to make a line

Lines with negative gradients



Any straight-line graph with a negative x value has a negative gradient

E.g y = -2x
y = -x y + x = 12

Direction of all negative gradients

YEAR 8 - REPRESENTATIONS...

Representing Data

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What do I need to be able to do?

By the end of this unit you should be able to:

- Draw and interpret scatter graphs
- Describe correlation and relationships
- Identify different types of non-linear relationships
- Design and complete an ungrouped frequency table
- Read and interpret grouped tables (discrete and continuous data)
- Represent data in two way tables

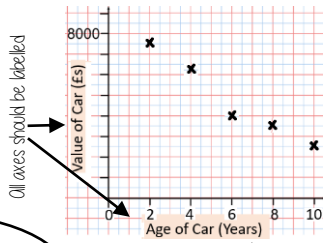
Keywords

Variable: a quantity that may change within the context of the problem.
Relationship: the link between two variables (items). E.g. Between sunny days and ice cream sales
Correlation: the mathematical definition for the type of relationship.
Origin: where two axes meet on a graph.
Line of best fit: a straight line on a graph that represents the data on a scatter graph.
Outlier: a point that lies outside the trend of graph.
Quantitative: numerical data
Qualitative: descriptive information, colours, genders, names, emotions etc.
Continuous: quantitative data that has an infinite number of possible values within its range.
Discrete: quantitative or qualitative data that only takes certain values.
Frequency: the number of times a particular data value occurs.

Draw and interpret a scatter graph

Age of Car (Years)	2	4	6	8	10
Value of Car (£s)	7500	6250	4000	3500	2500

- This data may not be given in size order
- The data forms information pairs for the scatter graph
- Not all data has a relationship



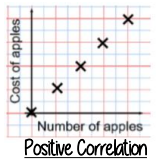
All axes should be labelled

"This scatter graph show as the age of a car increases the value decreases"

The link between the data can be explained verbally

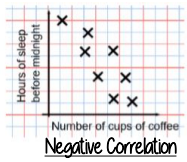
The axis should fit all the values on and be equally spread out

Linear Correlation



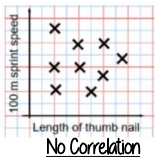
Positive Correlation

As one variable increases so does the other variable



Negative Correlation

As one variable increases the other variable decreases



No Correlation

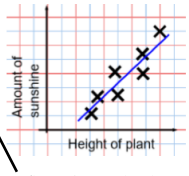
There is no relationship between the two variables

The line of best fit

The Line of best fit is used to make estimates about the information in your scatter graph

Things to know:

- The line of best fit **DOES NOT** need to go through the origin (The point the axes cross)
- There should be approximately the same number of points above and below the line (It may not go through any points)
- The line extends across the whole graph



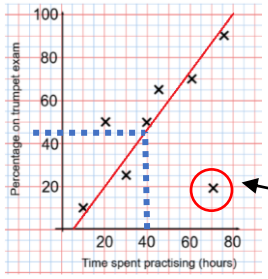
It is only an estimate because the line is designed to be an average representation of the data

It is always a **straight line.**

Using a line of best fit

Interpolation is using the line of best fit to estimate values inside our data point.

e.g. 40 hours revising predicts a percentage of 45.



Extrapolation is where we use our line of best fit to predict information outside of our data.
This is not always useful – in this example you cannot score more that 100%. So revising for longer can not be estimated

This point is an "**outlier**"
It is an outlier because it doesn't fit this model and stands apart from the data

Ungrouped Data

The table shows the number of siblings students have. The answers were
3, 1, 2, 2, 0, 3, 4, 1, 1, 2, 0, 2

The number of times an event happened

Number of siblings	Frequency
0	2
1	3
2	4
3	2
4	1

2 people had 0 siblings. This means there are 0 siblings to be counted here

0
3
2 + 2 + 2 + 2 OR 2 x 4 = 8
3 + 3 OR 3 x 2 = 6
4

2 people have 3 siblings so there are 6 siblings in total

Best represented by discrete data (Not always a number)

OVERALL there are
0 + 3 + 8 + 6 + 4
Siblings = 21 siblings

Grouped Data

If we have a large spread of data it is better to group it. This is so it is easier to look for a trend. Form groups of equal size to make comparison more valid and spread the groups out from the smallest to the largest value.

Discrete Data
The groups do not overlap

Cost of TV (£)	Tally	Frequency
101 - 150	𝍸 ||	7
151 - 200	𝍸 𝍸 |	11
201 - 250	𝍸	5
251 - 300	|||	3

We do not know the exact value of each item in a group – so an estimate would be based to calculate the overall total (Midpoint)

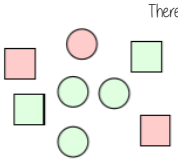
Continuous Data
To make sure all values are included inequalities represent the subgroups

x Weight(g)	Frequency
$40 < x \leq 50$	1
$50 < x \leq 60$	3
$60 < x \leq 70$	5

e.g. this group includes every weight bigger that 60Kg up to and including 70Kg

Representing data in two-way tables

Two-way tables represent discrete information in a visual way that allows you to make conclusions, find probability or find totals of sub groups



There are 2 green squares

There are 5 green shapes

	Squares	Circles	Total
Green	2	3	5
Red	2	1	3
Total	4	4	8

There are 8 items in total

Using your two-way table

To find a fraction
e.g. What fraction of the items are red? **3 red items**
but **8 items in total** = $\frac{3}{8}$

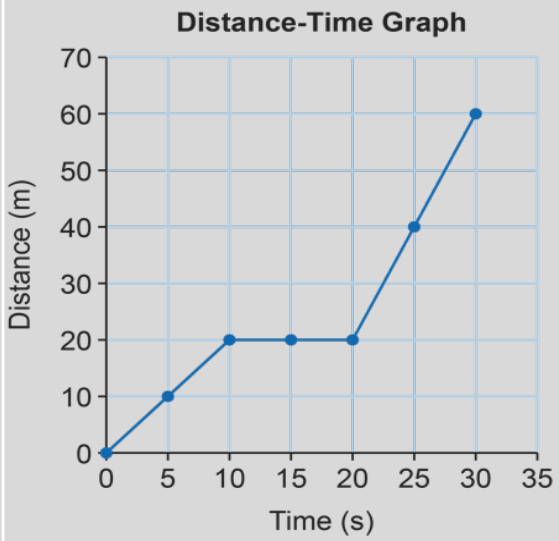
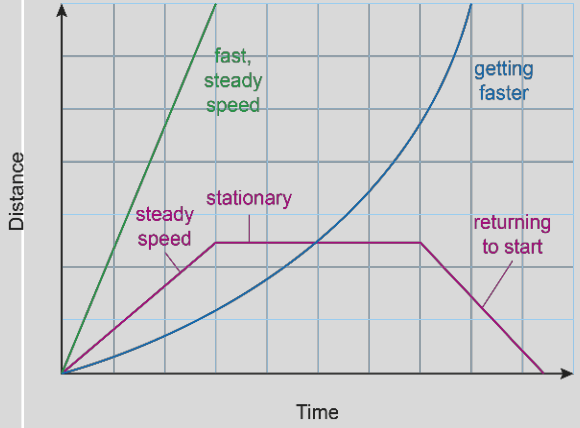
Interleaving: Use your fraction, decimal percentage equivalence knowledge

Year 8 Knowledge Organiser – Movement and Pressure

Speed

1	Speed is how much distance is covered per unit time
2	Speed = Distance/Time
3	The SI unit for speed is m/s
4	If an object is stationary its speed is 0 m/s
5	Average speed is the overall distance divided by the overall time taken for a journey $Speed = \frac{Distance}{Time}$ $Time = \frac{Distance}{Speed}$ $Distance = Speed\ x\ Time$
6	Relative motion describes how different observers judge speed differently if they are in motion too
7	If an observer is stationary, the relative motion of the moving object will be the same as its actual speed
8	If an observer is travelling in the same direction as the moving object, the relative motion is the difference in their speeds and the object will seem to be moving more slowly
9	If an observer is travelling in the opposite direction as the moving object, the relative motion is their speeds added together and the object will seem to be moving faster
10	Acceleration describes how quickly a speed is changing (either speeding up or slowing down)
11	An object speeding up has positive acceleration
12	An object slowing down has negative acceleration
13	Acceleration can also refer to a change in direction

Distance-Time Graphs

14	A distance-time graph can be used to describe an object's motion 
15	A horizontal line represents a stationary object (speed = 0m/ s)
16	A straight line represents an object moving at constant speed
17	The gradient of a distance-time graph represents speed
18	The steeper the gradient the greater the speed
19	A line returning to the x-axis represents an object returning to its starting position
20	A curved line represents an object accelerating 

Pressure

21	Pressure is the force applied per unit area.
22	Pressure (N/m^2) = Force (N)/ area (m^2)
23	Pressure is increased by a smaller area and decreased by larger area
24	Pressure is increased by a larger force and decreased by a smaller force $p = F / A$ $F = p \times A$ $A = F / p$

Year 9 Science Knowledge Organiser – Respiration & Photosynthesis

Key Vocabulary:

1	Aerobic	Requiring oxygen.
2	Anaerobic	Without oxygen.
3	Biodomes	A self-contained and self-sufficient environment.
4	Breathing	The movement of air into and out of the lungs through the nose and mouth.
5	Chloroplast	Organelle that contains the green pigment, chlorophyll, which absorbs light energy for photosynthesis
6	Chlorophyll	One among a group of pigments used to convert sunlight energy into chemical energy through the process of photosynthesis.
7	Epidermis	Epidermis is the outermost layer of (skin or leaves).
8	Fermentation	An anaerobic process in which energy can be released from glucose even if oxygen is not available.
9	Glucose	One of a group of carbohydrates known as simple sugars
10	Lactic acid	An acid present in muscle tissue as a product of anaerobic respiration.
11	Mitochondria	Part of the cell where energy is released.
12	Oxygen Debt	The volume of extra oxygen the body needs after exercise to react with the accumulated lactic acid and remove it from the cells.
13	Transpiration	Movement of water through a plant from where is absorbed at the roots to where it evaporates from stomata.
14	Stomata	Microscopic pores found on the epidermis of plants.

Respiration

15. Aerobic Respiration

- Respiration is a chemical reaction that gives out heat (exothermic)
- All living things respire.
- Respiration is carried out in all cells continuously.
- The purpose of respiration is to release energy for organisms to use.
- Living things need energy for movement, keeping warm and for other chemical reactions to build molecules
- Aerobic means 'requiring oxygen'
- The word equation for aerobic respiration is:

Glucose + oxygen → carbon dioxide + water

16. Anaerobic Respiration

- Anaerobic means 'without oxygen'
- Anaerobic respiration takes place without oxygen and releases less energy than aerobic respiration
- During intense exercise, if there is not enough oxygen then anaerobic respiration takes place
- Aerobic respiration uses oxygen and releases more energy than anaerobic respiration
- Anaerobic respiration in muscle cells causes a build-up of lactic acid which results in an oxygen debt
- The word equation for anaerobic respiration in animals is:

Glucose → lactic acid

- Anaerobic respiration in yeast cells is called fermentation and is used to make bread and alcoholic drinks
- The word equation for fermentation is:

Glucose → ethanol + carbon dioxide

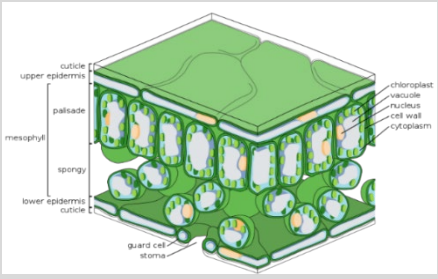
17 Photosynthesis

- Plants and algae make their own food using a process called photosynthesis.
- Light provides the energy needed for photosynthesis
- Water and carbon dioxide are the reactants required for photosynthesis.
- Plants make carbohydrates in their leaves by photosynthesis and gain mineral nutrients and water from the soil via their roots.
- The products of photosynthesis are oxygen and glucose.
- The word equation for photosynthesis is:

carbon dioxide + water → glucose + oxygen

Photosynthesis

18. The Leaf



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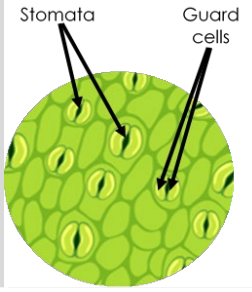
- Epidermis – thin and transparent to allow more light to pass through leaf to get to chloroplasts
- Palisade mesophyll - site of photosynthesis and contains lots of chloroplasts to absorb max sunlight
- Spongy mesophyll – contains lots of air spaces to increase surface area and allow carbon dioxide and oxygen to diffuse easily
- Stomata – holes in the leaf to allow carbon dioxide to diffuse in and oxygen to diffuse out
- Guard cells – to open and close the stomata to let substances in and out and to close it in order to prevent water loss
- Xylem - transport water from roots to leaves and the wall is strengthened with cellulose and lignin
- Phloem - transport water and glucose in a two way system.

20 The Leaf

- Leaves are the primary site of photosynthesis in plants.
- Chloroplasts in plant cells contain a green pigment called chlorophyll which uses the energy in light for photosynthesis.
- Leaves have a number of adaptations which allow them to carry out photosynthesis effectively.
- Water leaves the plant via the stomata on the underside of leaves.



Year 8 ART HT1 Knowledge Organiser

Sonia Delaunay (1885-1979)

Sonia Delaunay was a French artist. She co-founded the Orphism art movement with her husband Robert Delaunay and others.

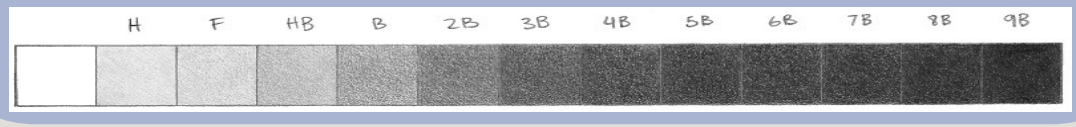
Her work in modern design included the concepts of geometric abstraction, and the mixing of furniture, fabrics, wall coverings, and clothing into her art.

Tips for Creating Tone

Pencils are graded to determine the hardness and the darkness of pencils. For example, a 6B pencil is soft and dark, whereas a 6H pencil is hard and light. 'H' stands for hard, 'B' stands for black.

The harder pencils can be used to create very precise lines, which are useful for detailed design work. Softer pencils are less good for detail as the marks they make tend to be thicker and less precise but are good for blending.

To create a successful piece of work, remember to create graduated tone by blending from light to dark. This can be achieved by varying your pencil pressure, or using the pencil on its side.



Blending

Oil pastels are designed to have an oily texture across paper and can be easily blended.

If you are using oil pastels, remember to colour with dark colours first and then blending them with lighter colours, such as a white. Always blend from dark to light.

Consider colour theory; experiment with placing and blending harmonious colours together.

Keywords

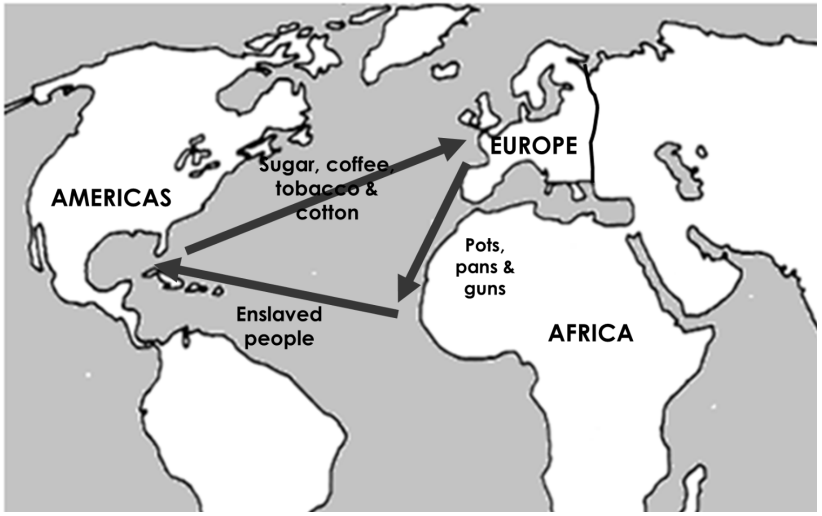
Orphism – An abstract, cubist influenced painting style developed by Robert and Sonia Delaunay around 1912.
Simultanism – This is Delaunay's technique, inspired by 'simultaneous contrast', in which colours look different depending on the colours around them.
Blending - The technique of gently intermingling two or more colours to create a gradual transition.
Multi-disciplinary – This is combining different artforms, and is often experimental.
Geometric abstraction - A form of abstract art made out of geometric shapes, such as triangles and circles.

Year 8 History Term 1 Knowledge Organiser: The Slave Trade

Key People

John Hawkins (1532-1595)	British sailor and slave trader – sometimes called 'the father of the slave trade'.
Toussaint L'Ouverture (1743-1803)	The leader the slave rebellion in Saint-Domingue. Defeated British and French troops and renamed the island Haiti.
Olaudah Equiano (1745-1797)	Former slave who campaigned to persuade British people that the slave trade was wrong.
Mary Prince (1788-1833)	Former slave who wrote her life story and campaigned for the end of slavery in Britain.
William Wilberforce (1759-1833)	Member of Parliament who played a significant role in the abolition movement in Britain.

The Trade Triangle



SLAVERY	a system in which one human being is owned by another.
ENSLAVED PEOPLE	people who are owned by, and forced to work, for other people with no pay or rights.
CIVILISED	when humans are educated and refined, not impulsive or destructive.
SAVAGE	wild, fierce, cruel and uneducated. Uncivilised.
TRADE	the buying and selling of goods and services.
MIDDLE PASSAGE	the 6 and 8 week voyage of the slave ships from Africa to the Americas.
RAW MATERIALS	the basic material that is used to make other things. E.g. the cotton plant is the raw material of cotton cloth.
INDUSTRY	businesses that transform raw materials into a product.
PLANTATION	a large farm that usually grows one specific crop to sell e.g. cotton.
PROFIT	the amount of money made by a business that is more than the amount put in at the start or paid out as expenses.
ECONOMIC	related to money or trade.
RESISTANCE	to refuse to accept or join-in with something.
REBELLION	to fight against those in charge.
OPPOSITION	to disagree with something and act against it.
ABOLITION	to get rid of something, usually a law.

TIMELINE OF THE SLAVE TRADE

- **1560 onwards.** Britain was involved in the Slave Trade
- **1788** Manchester cotton workers signed a petition to end slavery.
- **1791** Enslaved people rebelled in Saint-Domingue.
- **1807** the British Parliament abolished the slave trade.
- **1833** Slavery was abolished in the British Empire.
- **1865** The end of the Civil War in the USA

Year 8 Drama HT2 Knowledge Organiser

Summary of topic

I will explore the theatrical genre of physical theatre. I will learn the origins of the style. I will explore modern texts such as 'Too Much Punch for Judy' by Mark Wheeller. I will also be introduced to Berkoff style of drama developing a performance piece to 'Metamorphosis'. I will develop strong movement skills, developing choral work working from text as a strong ensemble performer.

Metamorphosis by Stephen Berkoff

Gregor Samsa has to look after his family as his father is too poorly to work. With the weight on his shoulders Gregor feels and the responsibility he symbolically turns into a beetle to protect himself.

Aims of the topic

To explore the genre of physical theatre and develop its techniques and influence in Drama

Physical Theatre Y8

Knowledge Organiser

DRAMA

Key Words

Rhythmic
Gesture
Posture
Movement
Physicality
Physical Theatre
Metamorphosis
Genre

Assessment & Performance Tips

The assessment is a group scripted piece using a Berkoff text

- Face the audience at all times
- Speak loud and clear so everyone can hear you
- Try not to laugh and stay focused.
- Use a real range of movement skills.
- Use choral skills.
- Add emotion to your performance.

Year 8 Subject Term Knowledge Organiser: The World Wide Web

The Internet:
The internet is a worldwide network of computers. It is the physical hardware, i.e. the cables, the routers, and other pieces of hardware used to connect devices together.

Packets:
Networks send and receive messages in small units of data known as 'packets'.
A single message may be too large to fit in one packet. It is often split into many packets.
Each packet contains a part of the message, an address of where it came from, and an address of where it is going. These addresses are known as 'IP addresses', and they are unique.

IP Address:
An IP address is made up of 4 groups of numbers between 0 and 255, each separated by a full stop.
These are unique for every device on the internet.

Protocol:
A set of rules that must be followed.

Transmission Control Protocol:
Splits the messages sent across the internet into smaller pieces called 'packets'
Assembles the packets in the correct order at the receiver end

IP:
A protocol to route the packets. Each device on the internet has an IP address that uniquely identifies it from all other devices

The World Wide Web:
A collection of webpages found on the internet

Web Browser:
A piece of software (code) used to view information on the World Wide Web

Search Engine
A website that allows you to look up information on the World Wide Web.

HTML:
HTML stands for **H**yper **T**ext **M**arkup **L**anguage
and is the **standard markup** language for Web pages

HTML Tags:

Opening Tag	Closing Tag	Structure Specified
		Paragraph Text
<h1>	</h1>	Main heading
<h2>	</h2>	Sub heading
		Hyperlink
		List item
		Bulleted (unordered) list
		Numbered (ordered) list
	None	Image

Year 8 Subject Term Knowledge Organiser

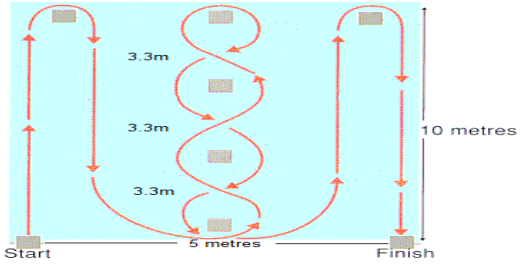
Fitness

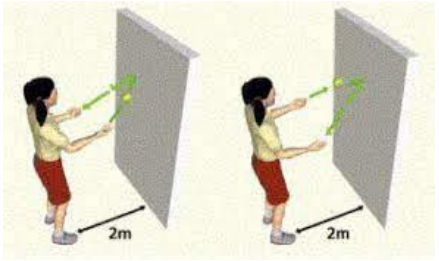
Knowledge

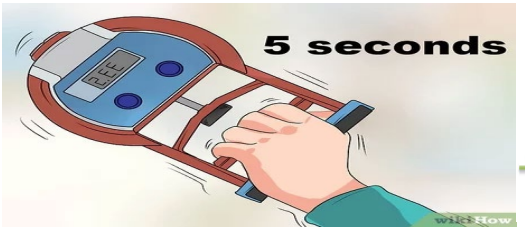
Develop an understanding of the benefits of fitness testing. When would you Fitness test, why would you Fitness test?

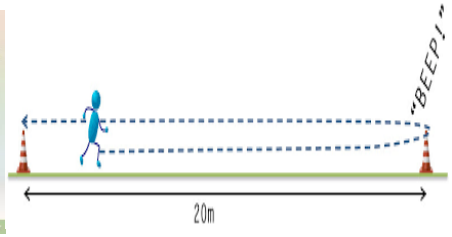
Skills

Understand the benefits of fitness testing e.g. Illinois Agility Test, Alternate hand wall toss test, Hand Grip Dynamometer test, Multi stage Fitness Test









Components of Fitness

Agility – Ability to change direction quickly and precisely without losing balance
Co-ordination – The ability of parts of the body to work together to move smoothly and accurately
Strength – Maximum force that can be generated by a muscle or group of muscles
Cardiovascular endurance - Ability of your heart and lungs to efficiently deliver oxygen to working muscles during exercise

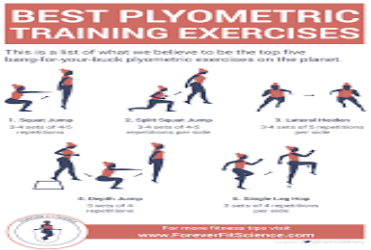
Fitness

Knowledge

Develop an understanding of the benefits of Fitness Training Methods.

Skills

Understand the training methods that can be used to develop your fitness e.g. High Intensity Interval Training, Weight Training, Plyometric training, Flexibility Training



Key Words

Collaboration – The action of working with someone to produce something.
Analyse – Examine (something) methodically and in detail, typically in order to explain and interpret it.
Health – A state of physical, mental and social well being, not merely being absent from illness
Fitness – Fit for purpose or the ability to meet the demands of your environment

MFL Knowledge Organiser

KO. Yr 8 Jobs

Tenses-Present

Être = to be	
Je suis	I am
Tu es	You are
Il/Elle est	He/She/It is
Nous sommes	We are
Vous êtes	You all are
Ils sont	They are

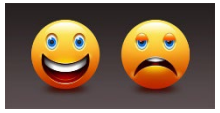
REGULAR **PRESENT TENSE**

	-ER	-IR	-RE
Je	e	is	s
Tu	es	is	s
Il/Elle/On	e	it	
Nous	ons	issons	ons
Vous	ez	issez	ez
Ils/Elles	ent	issent	ent

Opinions & Pronouns

Agréable — Regular

Trés bien — mauvaise



Bien

Connectives

- **Aussi = also**
- **Et= and**
- **Mais = but**
- **Pourtant = however**
- **Parce que/ car = because**

Adjectives

Actif/Active	*Active*
Interéssant	*Interesting*
Amusant	*fun*
Facile	*Easy*
Gratifiant	*Gratifying (rewarding)*
Barbant	*Boring*
Dificile	*Difficult*
Dur	*Hard*
Stressant	*Stressful*

Il aime = he likes
Elle aime = she likes

Il travaille comme… = he works as…
Elle travaille comme… = she works as…

Year 8 Subject Term Knowledge Organiser: Computing: Computer Systems

Embedded Computer
A computer system that is designed for a specific and dedicated purpose.

Personal Computer
A small computer with a microprocessor, designed for use by an individual.

Portable Computer
A computer designed to be easily moved from one place to another.

Super Computer:
An extremely powerful computer that operates at the fastest possible speed.

Artificial Intelligence:
The development of computer systems that can perform tasks that usually require human intelligence

Hardware
This is the physical parts of the computer which you can touch, for example monitors, keyboard, printers, wiring etc.

Software
This is the set of instructions for the computer to run a particular task or boot up, for example a word processor will be used to create documents and a virus checker can be used to check and clear viruses on the system

Input Devices
These are used to control the computer and are used to put data into the system. E.g. Keyboard and Mouse

Output Devices
These get something out of the computer for instance data or sound. E.g. Monitor, Speaker, Printer

Storage Devices
These are used to save data onto and can be inside the computer or portable so the data can be taken with the user.

Magnetic Storage Devices
These uses a magnetised surface area in order to hold bits of information. E.g.
- Fixed Hard Disk Drive
- Portable Hard Disc Drive
- Floppy Disc Drive

Optical Storage Devices
Optical Storage Devices use light sources to read/write data onto a disc. Data is stored using a series of dots that is read using the light.
- CD-ROM
- CD - RW
- DVD – ROM
- DVD – RW
- BlueRay

ROM - READ ONLY MEMORY
Can't be written over or added too. Can only be READ

RW - READ ONLY MEMORY
Can be written over and read

Solid State Memory
These have no moving parts e.g. no spinning discs or laser beams. E.g.
- Memory Stick/Pen
- Flash Memory Cards

Year 8 Subject Term Knowledge Organiser: Computing: Computer Systems

A peripheral device
This is a computer component that is not part of the computer.
They are external devices and are attached to the outside of a computer

The Central Processing Unit
The CPU is often called the "**brains of the computer**."
The purpose of the CPU is to process data. The CPU is where processes such as calculating, sorting and searching take place. Anything that is done on our computers, such as checking emails, playing games and doing homework, the CPU has processed the data we use.

ROM: Read Only Memory
Read-Only Memory can not be changed. This means it is also an example of **non volatile memory as it doesn't get deleted when the computer is switched off**.
A computer will have a ROM chip that usually stores the data the manufacturer has put on there. It contains all of the data to get a computer running

RAM: Random Access Memory
This is 'Short Term' memory of a computer which is very fast. It gets deleted when the computer is switched off and it contains the information the computer needs whilst it is running.
It Is known as **volatile memory as it can be changed.**

Operating systems
These are pieces of software that manage everything that happens in your computer and they instruct the hardware on what to do.
The operating system makes your system useful. Without it your computer would sit there and do nothing.

Network
A **network** is where devices are connected together usually by cable or Wi-Fi. This could be a few computers in a room, many computers in a building or lots of computers across the world.

Type of Network	Description	Example
Local Area Network (LAN)	Connect computers over a building or a site.	School network
Wide Area Network (WAN)	Connect computers over a larger area such as a town, city or country.	The internet or a businesses that has locations all over the world

RE 8.1 Islam

Key terms

Qur 'an - Holy book which gives Muslims instructions on how to live this life.
Jihad - Struggle. Greater Jihad is the struggle to be a good Muslim, Lesser Jihad is the struggle to protect Islam.
Hajj - A special pilgrimage to Makkah
Ramadan - The month in the Islamic calendar where Muslims will fast.
Islamic Relief - A charity run by the Muslim community
Empathy - Understanding another person
Unity - Oneness
Zakat - Charity
Ummah - the community
Impact - the effect something has
Salat - prayer

Crucial Commands:

Describe:Say in detail what something or someone is like, and the impact it has. E.g. Describe Hajj.

Explain: Say why something or someone is important, and the impact it has. E.g. Explain why Zakat is important...

Discuss: Write about at least two points of view and explain why these points of view are valuable or not. E.g. ""Zakat is the most

Sunni and Shi'a

After the Prophet Muhammad died some Muslims believed that his cousin Ali should be the next leader. These Muslims became Shi'a Muslims. Other Muslims believed that Muhammad's friend Abu Bakr should become the next leader - these are Sunni Muslims.
Sunni and Shi'a Muslims share many of the same core beliefs, however some of the things that each group believes differ, as do some of the things each group does. The majority of Muslims are Sunni Muslims.

Hajj

Hajj is pilgrimage to Makkah performed in the second week of the Islamic month of Dhul Hijjah. Muslims will visit sites of religious importance, and perform rituals to commemorate events in the lives of prophets such as Adam, Ibrahim and Ismail.
Hajj provides many benefits - not only is it a great experience, but if performed properly Muslims may have their sins forgiven, feel close to God, and experience a great feeling of unity. Millions of Muslims attend each year.

Ramadan/Sawm

Sawm is the Arabic word for fasting during the month of Ramadan and is one of the Five Pillars of Islam.. There are many spiritual benefits to fasting. Muslims feel a strong sense of community because all Muslims are fasting at the same time, and it helps them to consider and empathise with the

Jihad

Greater jihad is a struggle to be a good Muslim, to struggle against unfairness in the world and to struggle against temptation and selfishness by following the teachings of Muhammad. Good examples include fasting during Ramadan, and saving money to help the poor.
Lesser jihad is a struggle to defend Islam. Muslims nowadays believe that using violence to do this is unacceptable.

Salat

Muslims must perform five prayers a day. Sunni Muslims perform five separate sets of prayers while Shi'a Muslims combine their five prayers and perform them three times a day.
Prayer provides many benefits - not only does it show dedication to God, it also strengthens the world-wide community of Muslims, and provides time for individuals to spend time not worrying about everyday life. Many Muslims feel refreshed after prayer.

Zakat

Each year, Muslims must give 2.5% of their wealth to charity. Muslims believe that their wealth is given to them by God and therefore they have a responsibility to share it with others who are less fortunate than themselves. Zakat has many benefits - it helps Muslims not to become greedy, it brings

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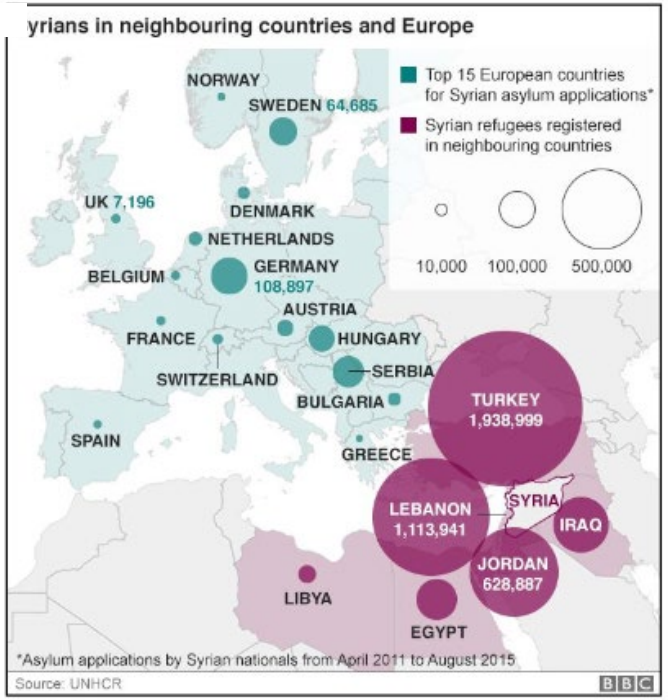
The Middle East knowledge organiser

F) Key terms

- Refugee – a person fleeing from war, persecution or natural disasters. They are protected by law. People have to prove they are a refugee if they want a safe country to accept them
- Asylum seeker – someone who claims to be a refugee, looking for a safe place to live. But whose case has not yet been proven.
- Migrant – A migrant is a person who moves from one place to another. Refugees are a type of migrant. Another type is an economic migrant. Someone who moves to another country for a job there. Refugees are very different to economic migrants.



Refugee movements from Syria

- Around 6 million refugees have now left Syria. 2.7 million are in Turkey and 1 million are in Jordan.
- Germany, Bulgaria and Sweden are the European countries that have accepted the most refugees from Syria.
- Only 3000 Syrian refugees have applied for asylum (safety) in the UK in comparison to 160,000 in Germany.

Causes of war/conflict

- Economic gain (to take control of another country's wealth)
- Territorial gain (to take control of land)
- Nationalism (to prove your country is superior/better than another country)
- Civil war (fighting between different groups of people within the same country)
- Revolutionary war (when large numbers of people in a country tries to topple the government or leader of a country)

Middle East's physical geography

- The Middle East is a transcontinental region, located where Asia, Africa and Europe meet.
- This region is rich in oil
- There are two seasons. Winter and summer. Even winters are hot.
- The climate can be described as arid. There is little rainfall in the region.
- The northern countries receive the most rainfall including Turkey and Syria.

1- Many people in Syria had been unhappy with President Assad for a long time. There was high unemployment and corruption.
2- In 2011 15 school children were arrested for writing anti-government graffiti on a wall. People were unhappy with this and so started to protest.
3- The government responded angrily opening fire and killing 4 protesters.
4- People demanded that the president resign. Fighting broke out between the president's supporters and those against the president (called rebels)
5- Russia and Iran became involved. Carrying out air strikes against cities held by rebel groups
6- The USA has shipped weapons to support the rebels
7- The UK and France carried out air strikes against government forces after they reportedly used chemical weapons against civilians (people not involved in the fighting)

Zoom

Year 8 Subject Term Knowledge Organiser- PE orienteering

Skills and Techniques

Orienteering is a sport that require **navigational skills** using a **map and compass** to **navigate** from point to point in **diverse** and often unfamiliar **terrain** whilst moving at **speed.** Participants are given a **topographical map**, usually a specially prepared orienteering map, which they use to find **control points**.

Running activities: All lessons start with running activities to encourage pace and speed. Cardiovascular fitness is required over different types of terrain.

Observing surroundings: Look at your surroundings (playground/ cage/ grass areas/ tree) and identify key features that help you find your precise location. You need to observe your surroundings before looking for markings on a map.

Orientating a Map. You need to orientate your map (move it) to line up with the key features on the ground and check it is the correct way round to the direction you are facing.

Directions: - understand the Cardinal Markers – North, South, East and West and their relation to features on the ground and to places beyond the school site.

Map Reading – Recognise symbols on a map, be able to use a key to recognise symbols and colours on an orienteering map.

Human features: Know that a human feature is influenced by man (buildings, benches, fences, walls)

Physical Features: Know that a physical feature is natural (rivers, beaches, hills, forests)

.Skills and techniques

KEY: know the symbols used in the key for the school and fields Maps

Glossary

Orienteering, Location, Speed, Cardiovascular Fitness, Setting a Map, Navigation, Diverse, Direction, Key, Cardinal Markers, Terrain, Map, Compass, Control point, Thumbing

Pictures

Orienteering flag

Working as a team

Rules:

Tactics

.

The main aim of orienteering is to complete the set course by finding control markers in the correct order in the shortest time.

Although it Is based on accurate map reading it is also a test of physical fitness.

You must find all the controls you are told to visit and record them on your score sheet.

You have to consider the terrain you are moving over ensuring your safety and the safety of any team members at all times, taking into account the varying fitness level of all your team members.

If you are working in a team, you must share the responsibility of finding the controls and make sure that all members of your team have an opportunity to problem solve to find each of the controls.

Team work is necessary when you are completing an orienteering course with others. You must communicate and discuss each decision before navigating to the next control point. Mistakes can easily be made through poor communication.

All control marker are outside, you must not go inside the school building to cut through to find controls.

You and your team must find the controls yourself and not shout out control symbols to others

In order to be given a finish time for finding controls the whole team has to finish together

A key tactic to use is pace. You must make sure that you don't sprint off too quickly without orientating yourself and your map. You need to be able to keep a steady pace up all the way round the course.

You need to be able to orientate your map quickly by finding key features on the ground and then lining yourself and your map up to face the same direction

Each time you change direction whilst you are running you should change your grip on the map so that the map is re-orientated and remains facing the same direction as the features on the ground.

Star exercises: In a start exercise you have to run out from a central start point to a control and remember the answer on the control marker, if you are in a team you should each remember a different answer if you have to run to more than on control marker.

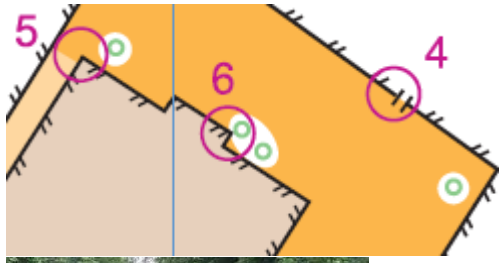
Courses, sometimes you will be given more than one control to find at a time which makes up a course. You may do a different course to another team and as it's a race you should not shout out your answers.

Thumbing- to help you know where you are on the map, you mark your position with your thumb. As you move along the ground, you should move your thumb to your new position on the map.

Line features – you can use features on the ground to help you run towards the control marker, (e.g. edge of the cage/ line of trees / fence) so that you can run in the general direction towards a control and then be more precise in your navigation as you get closer to the control.

Orienteering Control

Orienteering Map



Racing to the finish

Year 8 PE Knowledge Organiser- Orienteering

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Skills and Techniques

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Observing surroundings: Look at your surroundings (playground/ cage/ grass areas/ tree) and identify key features that help you find your precise location. You need to observe your surroundings before looking for markings on a map.

Orientating a Map. You need to orientate your map (move it) to line up with the key features on the ground and check it is the correct way round to the direction you are facing.

Directions: - understand the Cardinal Markers – North, South, East and West and their relation to features on the ground and to places beyond the school site.

Map Reading – Recognise symbols on a map, be able to use a key to recognise symbols and colours on an orienteering map.

Human features: Know that a human feature is influenced by man (buildings, benches, fences, walls)

Physical Features: Know that a physical feature is natural (rivers, beaches, hills, forests)

Tactics

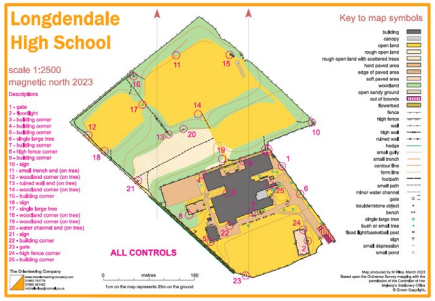
A key tactic to use is pace. You must make sure that you don't sprint off too quickly without orientating yourself and your map. You need to be able to keep a steady pace up all the way round the course.

You need to be able to orientate your map quickly by finding key features on the ground and then lining yourself and your map up to face the same direction

Each time you change direction whilst you are running you should change your grip on the map so that the map is re-orientated and remains facing the same direction as the features on the ground.

Star exercises: In a start exercise you have to run out from a central start point to a control and remember the answer on the control marker, if you are in a team you should each remember a different answer if you have to run to more than on control marker.

Courses, sometimes you will be given more than one control to find at a time which makes up a course. You may do a different course to another team and as it's a race you should not shout out your answers.



MFL Knowledge Organiser

KO. Yr 8 Jobs

Tenses-Present

Ser = to be	
Soy	I am
Eres	You are
Es	He/She/It is
Somos	We are
Sois	You all are
Son	They are

Verbos Regulares	VERBOS -AR	VERBOS -ER	VERBOS -IR
	HABLAR	COMER	VIVIR
yo	hablo	como	vivo
tú	hablas	comes	vives
él / ella	habla	come	vive
usted	habla	come	vive
nosotros / as	hablamos	comemos	vivimos
vosotros / as	habláis	coméis	vivís
ellos / ellas	hablan	comen	viven
ustedes	hablan	comen	viven

Opinions & Pronouns

Me gusta

Me gusta mucho

Me encanta

Me chifla

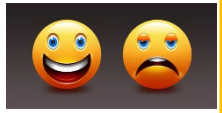
Me flipa

No me gusta

No me gusta nada

Odio

Detesto



Connectives

- **También= also**
- **Y= and**
- **Pero= but**
- **Sin embargo = however**
- **Porque = because**

Adjectives

Activo	*Active*
Interesante	*Interesting*
Estimulante	*Stimulatiing*
Facil	*Easy*
Gratificante	*Gratifying (rewarding)*
Interesante	*Interesting*
Aburrido	*Boring*
Dificil	*Difficult*
Duro	*Hard*
Estresante	*Stressful*

Le gusta = He/she likes
Le encanta = He/she loves

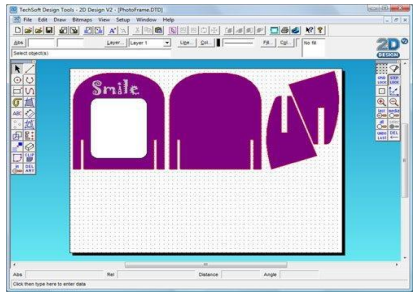
Trabaja como… = he/ she works as…
Trabaja en… = he/she works in

Year 8 Design Knowledge Organiser

Longdendale HIGH SCHOOL

CAD / CAM

CAD and CAM are a really important part of designing products and manufacturing them. They're used in lots of different industries from food packing to component manufacture.



CAD stands for computer aided design. It involves designing products on a computer rather than using a pencil or paper. CAD software packages allow you to make 2D or 3D designs.

CAM stands for computer aided manufacture. It's the process of manufacturing products with the help of computers.

Health and Safety

Sustainability & The 6 R's

Recycle
Products converted back into their basic materials and then remade into new products.

Reuse
Think of another use for a product before throwing it away.

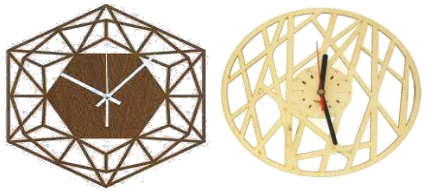
Repair
Fix broken products instead of throwing them away.

Refuse
We should decide not to buy products that harm the environment.

Rethink
Decide whether you actually need that product before you buy it.

Reduce
We should decrease the amount of finite materials that we use

Symmetry



Symmetrical design, or symmetrical balance, is a concept where both sides of something mirror one another.

If you cut a symmetrical design in half, one side would be identical to the other side.

When you create symmetrical art, all areas attract an equal amount of attention.

Cardboard

Cardboard is a specially engineered material made from paper pulp. It can be strong, lightweight and versatile.

You might recognise the wavy shape of its distinctive fluting (or corrugation). This is often sandwiched between two layers of board.

Eco-friendly

It consists of integrating environmental protection criteria over a service or a product's lifecycle.

The main goal of eco design is to anticipate and minimize negative environmental impacts (of manufacturing, using and disposing of products)

Year 8 Design Knowledge Organiser

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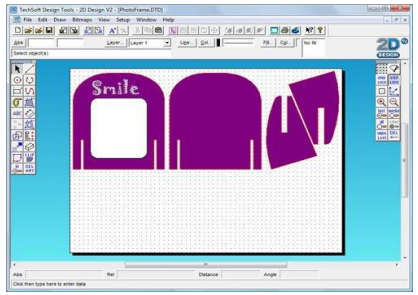

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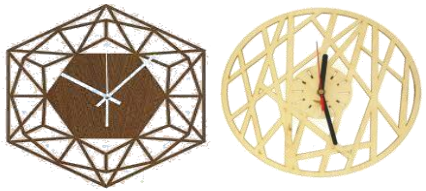

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Refugee Boy by Benjamin Zephaniah - Knowledge Organiser

Inference: Using your own knowledge to work out what is being suggested in a text.	**First and third person narrative:** The type of voice the text is written in.
Emotive language: Words used to influence readers' emotions.	**Pronoun:** A word which replaces a noun.
Context: Information about the world and the time the text was written or set in.	**Noun:** A word which is a name of a person, place, or thing.
Adjective: A word which is used to describe a noun.	**Verb:** An action or state of being.
Adverb: A describing word for an action.	**Pathos:** Using language to create pity or sadness.
Connotation: Links or associations we have with a word or phrase, what it makes you think of.	**Ethos:** The credibility of the writer or speaker of a text.
Logos: Using reason and judgement to persuade on your overall purpose.	**Metaphor:** A figure of speech or a thing which is symbolic of something else.
Rhetoric: Language designed to be effective or persuasive writing or speaking.	**Semantic field:** A collection of words which are related to one another through similar meanings or abstract relation.
Theme: An idea repeated within a text.	**Symbolism:** Use of symbols to represent ideas or qualities.
Juxtaposition: Two or more things which are close together but contrast and/or opposite.	**Message:** A point that is being conveyed by the writer e.g. moral, social or political.

Analysing an Extract

- Write as **succinctly** as you can, without letting your **point** get lost in lots of wasteful words.
- Try to **embed** your **quotations**, choose the shortest, most **precise** phrase from the text as you can and try to let it flow naturally in the paragraph you're writing.
- Zoom in to **key words**, particularly explaining **connotations** and the **semantic field.**
- Don't rely on knowing what the text means, focus instead on **working out** what the writer is **implying**.

Analysing the Full Text

- Don't try to quote when you're writing about the full text, instead, try to describe a **specific moment, scene or event** in the novel which proves your point.
- It's important you don't just find yourself retelling the story; instead, after each event you describe, **explain** and **infer** what you think Zephaniah was trying to **imply** or **suggest**.
- Remember the intentions of the writer, and what you think Zephaniah is trying to say about the **issues** faced by refugees and asylum seekers and, most importantly, **why**.

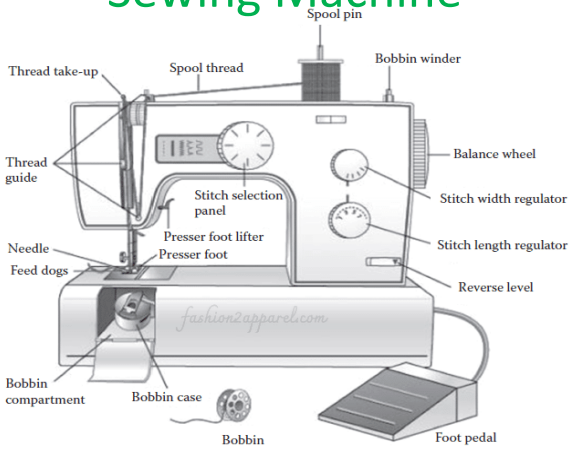
Creative Writing

- You can control the mood and tone of your writing by choosing **vocabulary** with the right **connotations.**
- Imagery creates a powerful image in the reader's mind if you write in enough detail; consider what you can see (**visual imagery**), hear (**auditory imagery**), smell (**olfactory imagery**), taste (**gustatory imagery**), and touch (**tactile imagery**)
- Write a piece to match the **purpose, audience and format.**
- Create **pathos** using **emotive language.**
- Create **ethos** through the **perspective** your write in.
- Create **logos** through **facts and statistics**.
- **Proof reading** is a key skill; no writer publishes their first draft of anything! Check your **punctuation**, particularly **capital letters** and that your **sentences** are complete.

Year 8 Textiles Knowledge Organiser

Longdendale High School

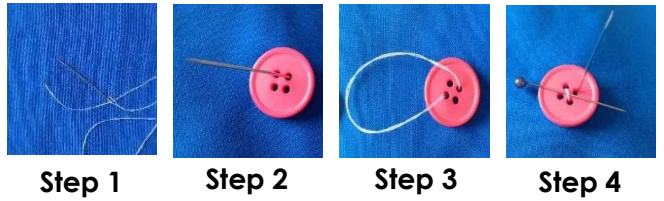
Sewing Machine



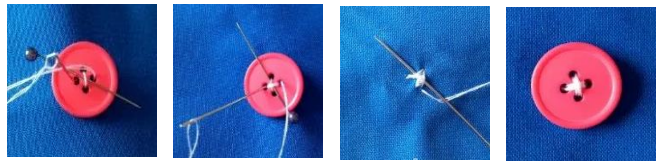
Health & Safety

1. Needles are sharp. Keep fingers away.
2. Avoid distractions.
3. Switch off your sewing machine when you're away from it.
4. Be cautious of cords and foot pedal.
5. Avoid sewing over pins – they can fly out and hurt you if the needle sews over them.
6. Don't make your machine sew through thick or tough materials.

Sewing a Button



Step 1 | Step 2 | Step 3 | Step 4



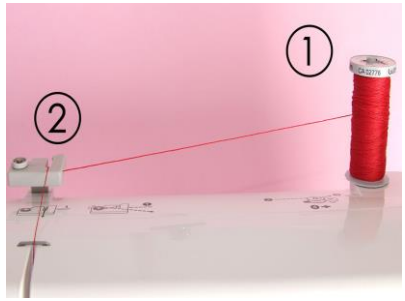
Step 5 | Step 6 | Step 7 | Step 8

Velcro

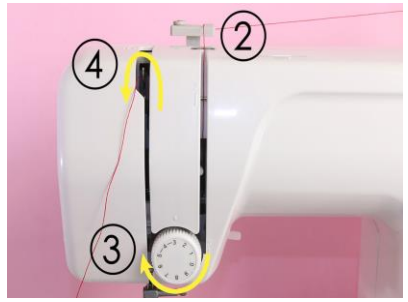
Velcro is a material consisting of two strips of nylon fabric which you press together to close things such as pockets and bags.

It is a type of hook and loop fastening.

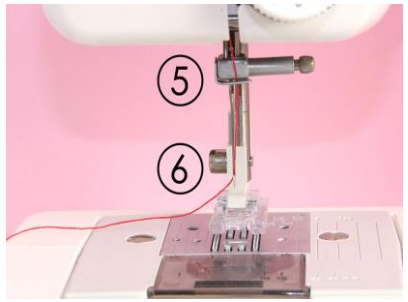
Threading a Sewing Machine



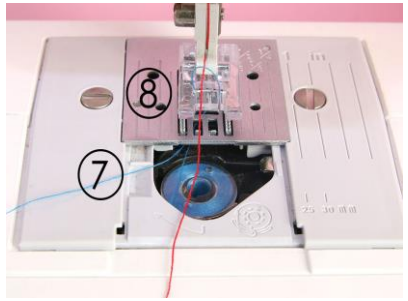
Step 1
Put the cotton on the spool at the top of the machine at (1). Pull the thread through the thread guide on the top at (2).



Step 2
Pull the thread down towards you and loop it around the tension discs below at (3). Then pull the thread back up again into the second thread guide (4).



Step 3
Bring the thread down to the needle, following any hooks to hold the thread (5). Then thread the needle from the front to the back (6).



Step 4
Check that your bobbin is inserted correctly (7). Turn the flywheel towards you so the needle hooks up the top thread with the bottom thread. The Sewing machine is now ready.

Marbling

Marbling is a centuries-old technique that involves paint, adhesives or any dispersant and water to create unique patterns on fabric, paper or any object.

Paint is added to thickened water and allowed to float for some time. It is then swirled into designs and then transferred to the object.

Year 8 Textiles Knowledge Organiser

Longdendale High School

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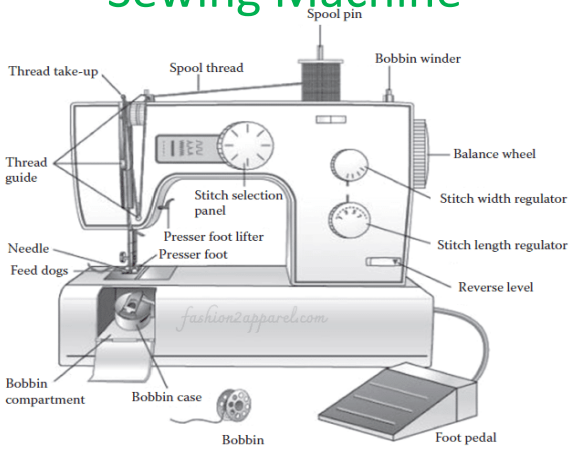

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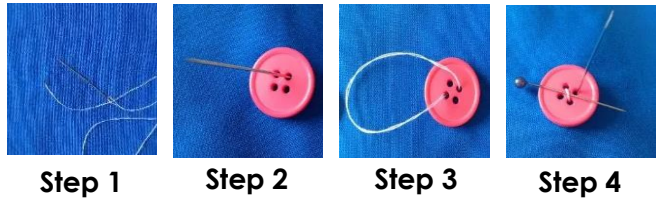

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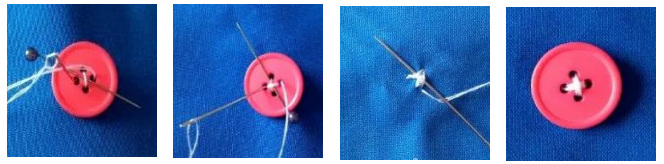

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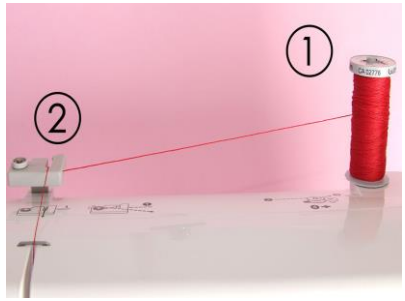

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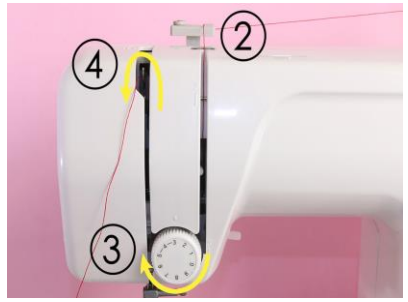

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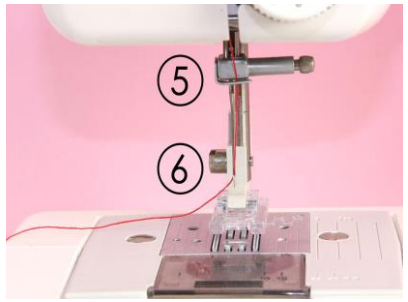

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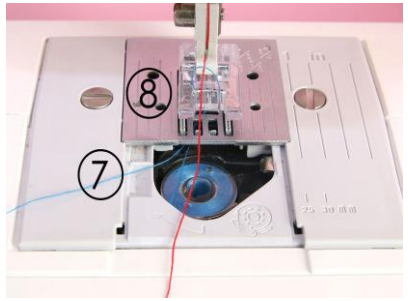

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Year 8 MUSIC HT2 Knowledge Organiser – Live Sound

Keywords:

PA system – Collective name for speakers, amp and mixer

XLR lead – For Microphones

Jack lead – For instruments

Kettle lead – For power

Mixing desk – To balance the sound

Reverb – Similar to echo

JACK LEAD

XLR LEAD

SM58 MICROPHONE

GUITAR AMP

MIXING DESK

MONITOR SPEAKER