The Knowledge Organisers Pack 2022

Year 9

ATHERTON
HIGH SCHOOL

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Y9 Poetry: Faces of Love Knowledge Organiser

Poetic Techniques

Term	Definition
Plosives	Repeated hard sounds such as 'b', 'p' or 'd'
Metaphor	When you say something **IS** something else which it cannot be. "She's a star."
Simile	When you compare using 'like or 'as.' As brave as a lion"
Oxymoron	Linking two words with opposite meanings. "Silent scream"
Colloquial	Everyday informal expressions used by locals.
Assonance	Repetition of a vowel sound. "o" "Go slow over the road."
Emotive Language	Language to create a specific emotion.
Figurative Language	Use of metaphor, simile and personification to describe non-literally.
Imagery	Description which appeals to our senses.
Structure	The organisation of a poem.
Sibilance	Repeated 's' or 'sh' sound
Semantic Field	A group of words in the same poem which link to the same idea/theme
Caesura	A pause in the poem such a comma, dash or full stop.
Enjambment	Where one line runs into another with no punctuation.
Juxtaposition	Where two contrasting ideas are placed together

Poetic Forms

Term	Definition
Auto biographical	about the poet's life and experiences.
Narrative	tells a story.
Dramatic Monologue	by one speaker and reveals aspects of their character.
Ballad	intended to be performed to music. Often romantic or sentimental.
Spoken Word	Rhythmic performance which does not have to rhyme but focuses on intonation and word play.

Key Vocabulary

Nostalgia, Profound, Conflicted, Juxtapose, Connotations, Hyperbole, Infatuation, Inconsolable, Histrionic, Accusatory, Emancipation, Exclamative, Zeal, Anaphora, Patriotic, Xenophobic

Meet the Poets...

Poet	Background
Day-Lewis	1904-72. Irish born poet with communist views. His work often focuses on social commentary, personal experiences and nature.
Burns	1759-96. National poet of Scotland. A pioneer of the Romantic movement. His work is often blunt, sometimes political and deals with strong emotional highs and lows.
Browning	1812-89. Famous for his DMs. His work is known for its irony, characterisation, social commentary and challenging vocabulary.
Byron	1788-1824. Another pioneer of the Romantic movement but from England. Known for his long intricate poetry and his turbulent, scandalous private life.
Angelou	1928-2014. Famous for her autobiographical work in all forms which focus on her difficult early life being a black woman in America
Walsh	1965-present. Manchester born, working class performance poet most widely famous for "This is the Place" written in response to the Manchester bombing.

What is 'Love'?
How many forms can 'Love' take?

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Squares and square roots R

This can also be written as 6^2

$\sqrt{\ }$ is the square root symbol

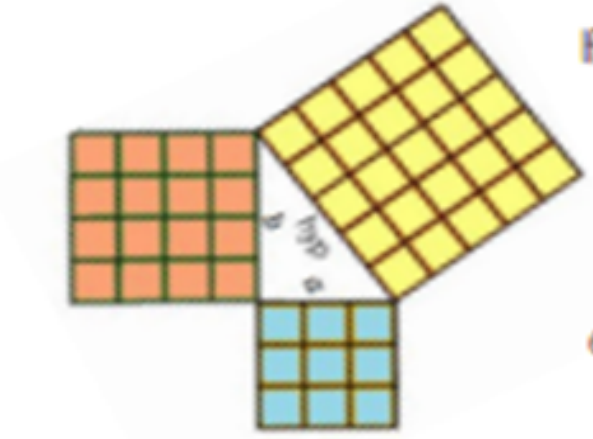
eg $\sqrt{64} = 8$

Because $8 \times 8 = 64$

1×1	2×2	3×3	4×4	5×5	6×6	7×7	8×8	9×9	10×10
1	4	9	16	25	36	49	64	81	100

Square numbers

Determine if a triangle is right-angled



a = 3 b = 4 c = 5

If a triangle is right-angled, the sum of the squares of the shorter sides will equal the square of the hypotenuse

$$a^2 + b^2 = \text{hypotenuse}^2$$

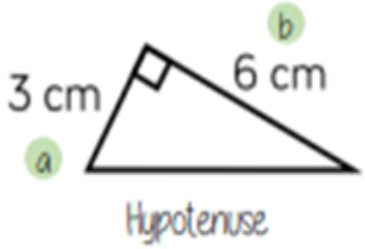
eg $a^2 + b^2 = \text{hypotenuse}^2$

$3^2 + 4^2 = 5^2$

$9 + 16 = 25$

Substituting the numbers into the theorem shows that this is a right-angled triangle

Calculate the hypotenuse



Either of the short sides can be labelled a or b

$$a^2 + b^2 = \text{hypotenuse}^2$$

1 Substitute in the values for a and b

$$3^2+6^2 = \text{hypotenuse}^2$$

$$9 + 36 = \text{hypotenuse}^2$$

$$45 = \text{hypotenuse}^2$$

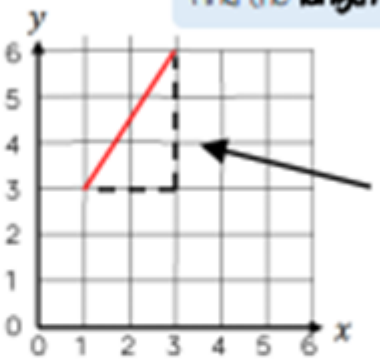
2 To find the hypotenuse square root the sum of the squares of the shorter sides

$$\sqrt{45} = \text{hypotenuse}$$

$$6.71cm = \text{hypotenuse}$$

Pythagoras' theorem on a coordinate axis

Find the **length** of the line segment



The segment can be made into a right-angled triangle by adding the sides on the diagram

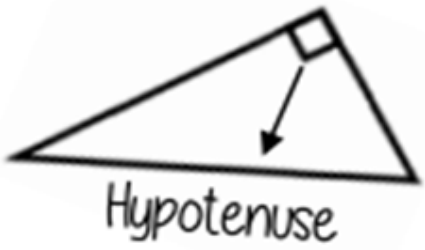
The line segment is the **hypotenuse**

$$a^2 + b^2 = \text{hypotenuse}^2$$

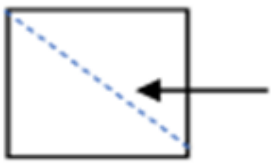
The lengths of a and b are the sides of the triangle

Be careful to check the scale on the axes

Identify the hypotenuse

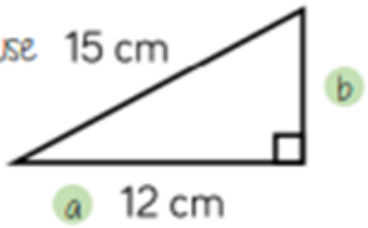


The hypotenuse is always the longest side on a triangle because it is opposite the biggest angle



Polygons can still have a hypotenuse if it is split up into triangles and opposite a right angle

Calculate missing sides



Either of the short sides can be labelled a or b

$$a^2 + b^2 = \text{hypotenuse}^2$$

$$12^2+b^2 = 15^2$$

1 Substitute in the values you are given

$$144 + b^2 = 225$$

$$-144 \qquad -144$$

Rearrange the equation by subtracting the shorter square from the hypotenuse squared

Square root to find the length of the side

$$b^2 = 111$$

$$b = \sqrt{111} = 10.54\ cm$$

Like and unlike terms

Like terms are those whose variables are he same

♡ and 3♡ are **like** terms

the variable is the same

★ 3♡ are **unlike** terms

the variables are NOT the same

Examples and non-examples

Like terms	Un-like terms
y, 7y	y, 7x
$2x^2$, x^2	$2x^2$, $2c^2$
ab, 10ba	ab, 10a
5, -2	5, -2t

Note here ab and ba are commutative operations, so are still like terms

Equivalence

Check equivalence by substitution

e.g. m = 10

5m	2 x 2m	7m – 3m
5 x 10	2 x (2x 10)	(7x 10) – (3x 10)
= 50	= 2 x 20	= 70 – 30
	= 40	= 40

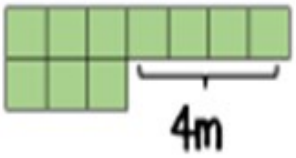
Equivalent expressions

Repeat this with various values for m to check

5m

2 x 2m

7m – 3m



Collecting like terms ≡ symbol

The ≡ symbol means equivalent to

It is used to identify equivalent expressions

Collecting like terms

Only **like terms** can be combined

$4x + 5b - 2x + 10b$

$4x + 5b - 2x + 10b$

$2x + 15b$

Common misconceptions

$2x + 3x^2 + 4x \equiv 6x + 3x^2$

Although they both have the x variable, x2 and x terms are un-like terms so can not be collected

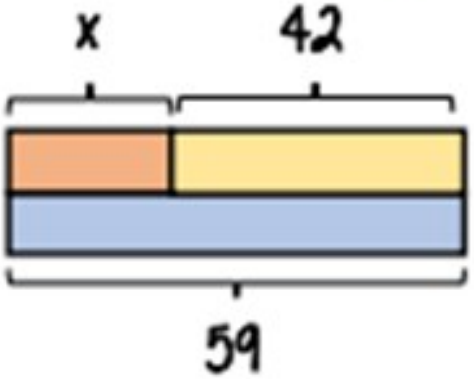
Solve one step equations (+/-)

There is more to this than just spotting the answer

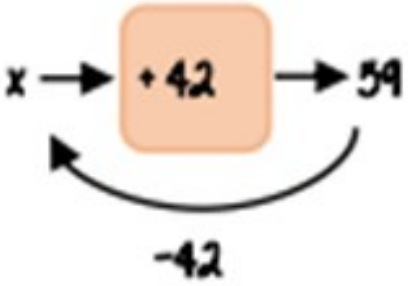
$x + 42 = 59$

$x + 42 = 59$
$42 + x = 59$

$59 - x = 42$
$59 - 42 = x$

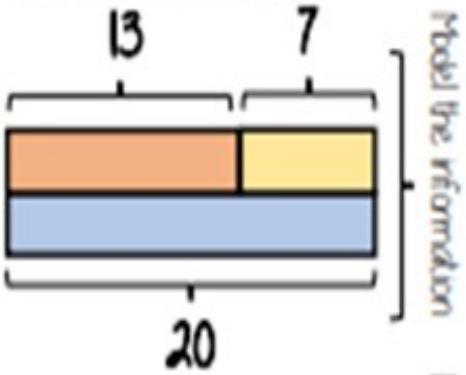


Don't forget you know how to use function machines



Fact Families

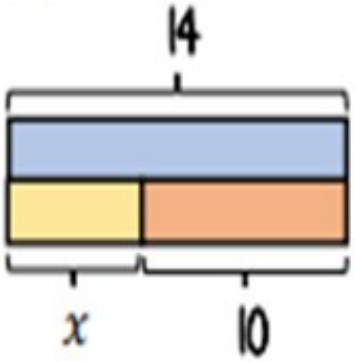
Use a bar model to display the relationships between terms and numbers



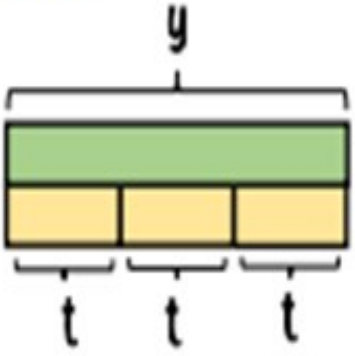
Model the information

$13 + 7 = 20$ $20 - 7 = 13$
$7 + 13 = 20$ $20 - 13 = 7$

Fact Family



$x + 10 = 14$ $14 - 10 = x$
$10 + x = 14$ $14 - x = 10$



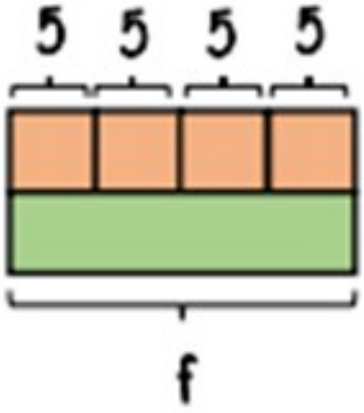
$t + t + t = y$ $y - t - t = t$
$3 \times t = y$ $y \div 3 = t$
$3t = y$ $y \div t = 3$

Solve one step equations (x/+)

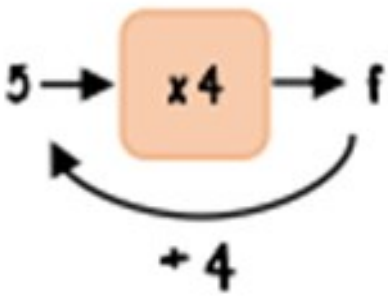
$\frac{f}{4} - 5$

$f \div 4 = 5$
$f \div 5 = 4$

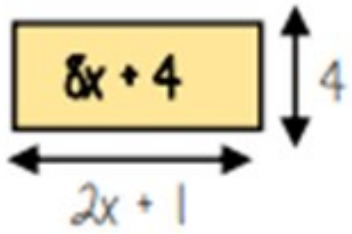
$5 \times 4 = f$
$4 \times 5 = f$



Don't forget you know how to use function machines



Factorise into a single bracket $8x + 4$



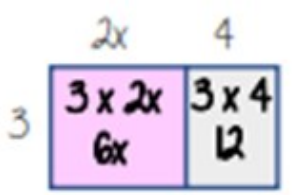
Try and make this the **highest common factor**

The two values **multiply** together (also the area) of the rectangle

$8x + 4 \equiv 4(2x + 1)$

Note
$8x + 4 \equiv 2(4x + 2)$
This is factorised but the HCF has not been used

Multiply single brackets $3(2x + 4)$



Different representations of $3(2x+4) = 6x + 12$

Equality

$2 + 14 = 5 + 5 + 6$

16 "is equal to" 16

The sum on the left has the same result as the sum on the right

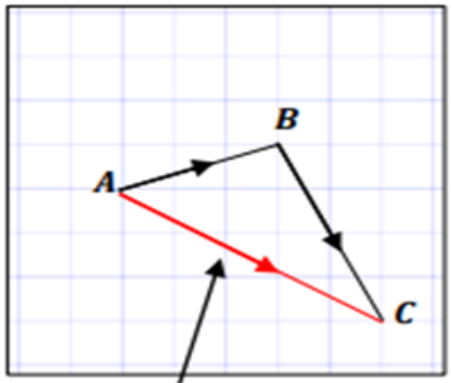
Saying it out loud sometimes helps you to understand equality

Year 9 - Mathematics …

Milestone Assessment 4

Addition of vectors

$\overrightarrow{AB} = \begin{pmatrix} 3 \\ 1 \end{pmatrix}$ $\overrightarrow{BC} = \begin{pmatrix} 2 \\ -4 \end{pmatrix}$



$$\overrightarrow{AB} + \overrightarrow{BC}$$

$$= \begin{pmatrix} 3 \\ 1 \end{pmatrix} + \begin{pmatrix} 2 \\ -4 \end{pmatrix}$$

$$= \begin{pmatrix} 3+2 \\ 1+-4 \end{pmatrix}$$

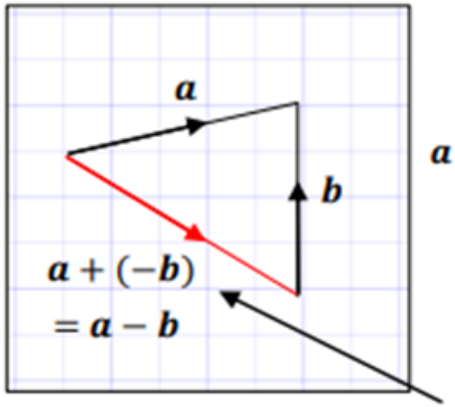
$$\overrightarrow{AC} = \begin{pmatrix} 5 \\ -3 \end{pmatrix}$$

Look how this addition compares to the vector $\overrightarrow{AC}$

The resultant

$$\overrightarrow{AB} + \overrightarrow{BC} = \overrightarrow{AC} = \begin{pmatrix} 5 \\ -3 \end{pmatrix}$$

Addition and subtraction of vectors



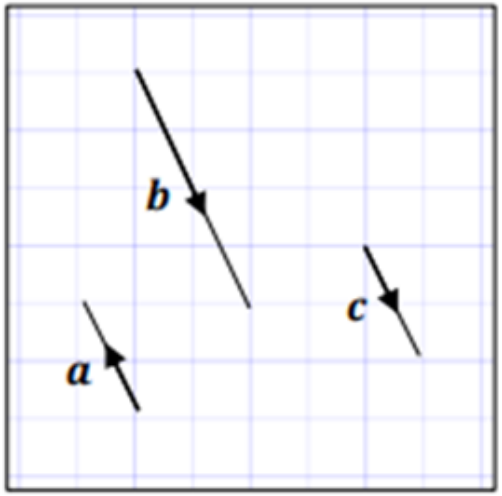
$\boldsymbol{a} = \begin{pmatrix} 5 \\ 1 \end{pmatrix}$ $\boldsymbol{b} = \begin{pmatrix} 0 \\ 4 \end{pmatrix}$

$$\boldsymbol{a} + (-\boldsymbol{b}) = \begin{pmatrix} 5 + -0 \\ 1 + -4 \end{pmatrix} = \begin{pmatrix} 5 \\ -4 \end{pmatrix}$$

The resultant is $\boldsymbol{a} - \boldsymbol{b}$ because the vector is in the opposite direction to b which needs a scalar of -1

Vectors multiplied by a scalar

Parallel vectors are scalar multiples of each other



$\boldsymbol{a} = \begin{pmatrix} -1 \\ 2 \end{pmatrix}$ $\boldsymbol{b} = \begin{pmatrix} 2 \\ -4 \end{pmatrix}$ $\boldsymbol{c} = \begin{pmatrix} 1 \\ -2 \end{pmatrix}$

$\boldsymbol{b} = 2 \times \boldsymbol{c} = 2\boldsymbol{c}$

Multiply $\boldsymbol{c}$ by 2 this becomes $\boldsymbol{b}$.
The two lines are parallel

$\boldsymbol{a} = -1 \times \boldsymbol{c} = -\boldsymbol{c}$

The vectors $\boldsymbol{a}$ and $\boldsymbol{c}$ are also parallel. A negative scalar causes the vector to reverse direction

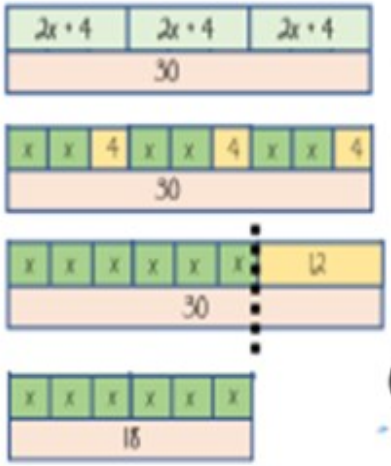
$\boldsymbol{b} = -2 \times \boldsymbol{a} = -2\boldsymbol{a}$

Formulae and Equations

Substitute in values

Formulae – all expressed in symbols → **Equations** – include numbers and can be solved

Solve equations with brackets



$3(2x + 4) = 30$

Expand the brackets

$6x + 12 = 30$

$-12 \quad -12$

$6x = 18$

$-6 \quad -6$

$x = 3$

Form and solve inequalities

Two more than treble my number is greater than 11

Find the possible range of values

$3x + 2 > 11$

Solve

$x \leftarrow -3 \leftarrow -2 \leftarrow 11$

$x > 3$

Equations with unknown on both sides

$4x + 5 = 3x + 24$

$-3x \quad -3x$

$x + 5 = 24$

$-5 \quad -5$

$x = 19$

Inequalities with unknown on both sides

Solving inequalities has the same method as equations

$5(x + 4) < 3(x + 2)$

$5x + 20 < 3x + 6$

$2x + 20 < 6$

$2x < -14$

$x < -7$

Check it!

$5(-8 + 4) < 3(-8 + 2)$

$5(-4) < 3(-6)$

$-20 < -18$

✓ -20 IS smaller than -18

Inequalities with negatives

Method 1 Make x positive first

$2 - 3x > 17$

$+3x \quad +3x$

$2 > 17 + 3x$

$-17 \quad -17$

$-15 > 3x$

$\div 3 \quad \div 3$

$-5 > x$

x is true for any value smaller than -5

Smaller ← → Bigger

-7 -5 -3

✓ **CHECK IT!**

$2 - 3(-6) = 20$

TRUE/ CORRECT

Method 2 Keep the negative x

$2 - 3x > 17$

$-2 \quad -2$

$-3x > 15$

$\div -3 \quad \div -3$

$x > -5$

x is true for any value bigger than -5

This cannot be true...

$x < -5$

When you multiply or divide x by a negative you need to reverse the inequality

Complex algebraic rules

Misconceptions and comparisons

$2n^2$

2 times whatever n squared is

eg
1st term = $2 \times 1^2 = 2$
2nd term = $2 \times 2^2 = 8$
100th term = $2 \times 100^2 = 2000$

$(2n)^2$

2 times n then square the answer

eg
1st term = $(2 \times 1)^2 = 4$
2nd term = $(2 \times 2)^2 = 16$
100th term = $(2 \times 100)^2 = 40000$

$n(n + 5)$ ←

eg
1st term = $1(1 + 5) = 6$
2nd term = $2(2 + 5) = 14$
100th term = $100(100 + 5) = 10500$

You don't need to expand the expression

Sequences from algebraic rules

This is substitution!

$3n + 7$

This will be linear - note the single power of n. The values increase at a constant rate

$3n^2 + 7$

This is not linear as there is a power for n

$2n - 5$ → Substitute the number of the term you are looking for in place of 'n'

eg
1st term = $2(1) - 5 = -3$
2nd term = $2(2) - 5 = -1$
100th term = $2(100) - 5 = 195$

Checking for a term in a sequence

Form an equation

Is 201 in the sequence $3n - 4$?

$3n - 4 = 201$ ← Term to check

Algebraic rule

Solving this will find the position of the term in the sequence. ONLY an integer solution can be in the sequence.

H Finding the algebraic rule

This is the 4 times table → 4, 8, 12, 16, 20....

$4n$

7, 11, 15, 19, 22 ←

This has the same constant difference – but is 3 more than the original sequence

$4n + 3$

$4n + 3$

This is the constant difference between the terms in the sequence

This is the comparison (difference) between the original and new sequence

Basic angle rules and notation

R

Acute Angles
0° < angle < 90°

Right Angles
90°

Right angle notation

Obtuse
90° < angle < 180°

Reflex
180° < angle < 360°

Straight Line
180°

The letter in the middle is the angle
The arc represents the part of the angle

Angle Notation: three letters **ABC**
This is the angle at B = 113°
Line Notation: two letters **EC**
The line that joins E to C

Vertically opposite angles
Equal

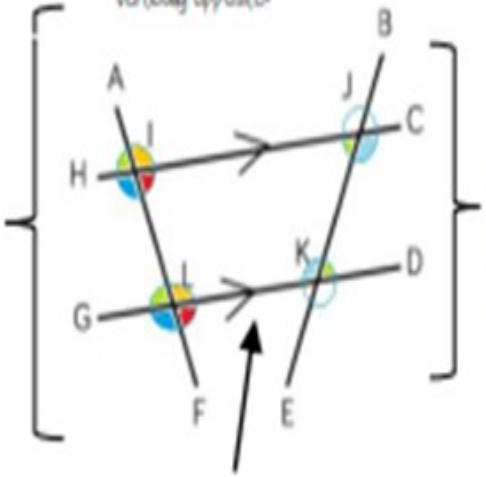
Angles around a point
360°

Parallel lines

Still remember to look for angles on straight lines, around a point and vertically opposite!

Lines OF and BE are **transversals** (lines that bisect the parallel lines)

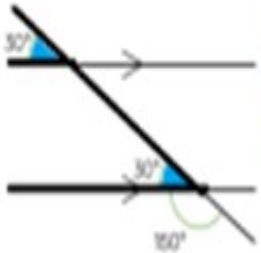
Corresponding angles often identified by their **"F shape"** in postion



Alternate angles often identified by their **"Z shape"** in postion

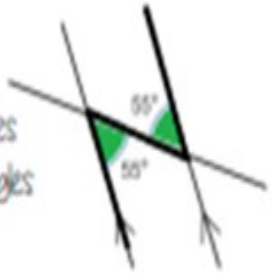
This notation identifies parallel lines

Alternate/ Corresponding angles

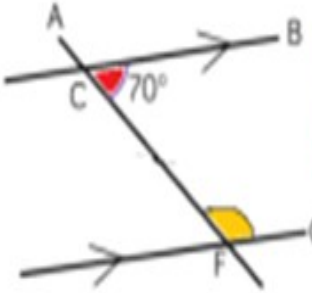


Because alternate angles are equal the highlighted angles are the same size

Because corresponding angles are equal the highlighted angles are the same size



Co-interior angles



Because co-interior angles have a sum of 180° the highlighted angle is 110°

As angles on a line add up to 180° co-interior angles can also be calculated from applying alternate/ corresponding rules first

Triangles & Quadrilaterals

Link to slope

R

Side, Angle, Angle

Side, Angle, Side

Side, Side, Side

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Science: Trainee Doctors

1. Organisation

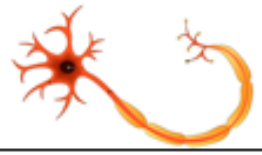
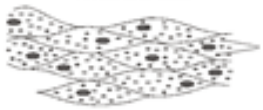
Structure	Description	Example
Organelle	Structures inside the cell.	Mitochondria
Cell	Specialised for a specific function.	Muscle cell
Tissue	A group of cells working together.	Muscle tissue
Organ	A group of tissues working together.	Heart
Organ system	A group of organs working together.	Circulatory system
Organism	A group of organ systems working together.	Human

2. Electromagnetic spectrum

The electromagnetic spectrum is a range of transverse waves with different wavelengths

Type of electromagnetic wave	Uses	Dangers
Radio waves	TV signals	Almost harmless.
Microwaves	Mobile phones	Can cause heating of body tissues.
Infrared	Heating and cooking	Felt as heat and can cause burns.
Visible light	Photography	Can cause damage to eye cells.
Ultraviolet	Detecting forgeries	Skin cells can become cancerous.
X rays	Seeing broken bones	Damages cells.
Gamma rays	Killing cancer cells	Kills cells.

3. Specialised cells

Cell	Function	Adaptation
Sperm Cell 	To fertilise the egg.	• Tail to swim towards the egg. • Mitochondria to release energy from respiration.
Nerve cell 	Carry electrical impulses around the body.	• Long to reduce the number of synapses. • Lots of branches to connect to many cells.
Muscle cell 	Contracts and relaxes to cause movement.	• Many mitochondria to release energy. • Contains protein fibres that can contract.

4. Stem cells

Stem cells	Cells that have not differentiated yet.		
Embryonic stem cells		**Adult stem cells**	
Stem cells from the embryo.		Stem cells found in body tissues such as skin and bone marrow.	
Advantages	Disadvantages	Advantages	Disadvantages
• Can make any type of body cell. • Can be cloned to reduce rejection. • Unwanted IVF embryos could be used.	• Unknown side effects. • Ethical issues as it kills the embryo. • Embryo cannot give permission. • Expensive.	• Easy to obtain as permission can be given when donated. • Safe as they have been used for over 50 years.	• Can only make a limited number of different cells. • High chance of being rejected by the body.

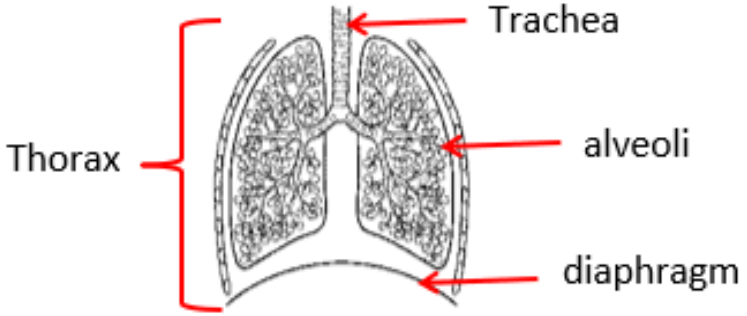
5. Non-communicable diseases

Non-communicable disease	Condition that is caused by lifestyle and is not spread by a pathogen.
Risk Factor	Environmental or lifestyle factor that can increase the likelihood of developing a non-communicable disease.
Diabetes	Condition where the pancreas cannot make enough or does not make any insulin to control blood sugar levels.
Deficiency disease	Condition caused by a lack of a specific nutrient, mineral or vitamin, e.g. anaemia or scurvy.
Coronary Heart Disease	Condition where fat (cholesterol) builds up in the coronary arteries, reducing blood flow to the heart muscles.

Treatments for CHD

Treatment	How it works	Advantages	Disadvantages
Statins	Breaks down cholesterol in the body.	Reduces risk of heart attack by up to 35%, reduces likelihood of developing CHD.	Side effects include headaches, memory loss and liver damage.
Aspirin or Warfarin	Thins the blood and prevents blood clots.	Aspirin can be bought cheaply at supermarkets.	Increased risk of strokes if a blood vessel bursts and it cannot clot.
Stent	Metal mesh that widens the blood vessel to increase blood flow.	Increases blood flow to the heart reducing the chance of heart attacks.	Temporary solution as cholesterol can build up over the stent.

6. Breathing



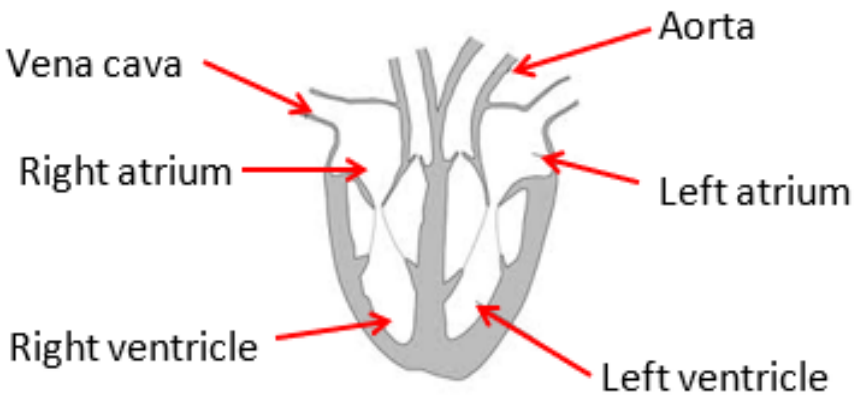
Diaphragm	Flat muscle underneath the lungs that contracts and relaxes to cause breathing.
Trachea	Tube containing rings of cartilage that allows air to move in and out of the lungs.
Thorax	Air tight chest cavity containing the respiratory system and the heart.
Alveoli	Small blind ending sacs where gases are exchanged between the air and the blood.
Asthma	An inflammation in the airways that restricts flow of air into and out of the lungs.

7. Smoking

Cigarettes are very harmful and contain a range of harmful substances.

Substance	Effect
Tar	Irritates and narrows airways. Contains chemicals that can cause cancer.
Nicotine	An addictive drug that speeds up the heart and narrows blood vessels.
Carbon monoxide	A poisonous gas that stops blood from carrying oxygen.

8. The circulatory system

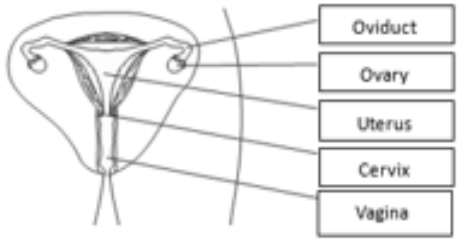


Key Word	Definition
Vena cava	Vein that brings deoxygenated blood back to the heart from the body.
Right atrium	Pumps blood into the ventricle and where the pacemaker cells are located.
Right ventricle	Pumps blood out of the heat to the lungs.
Left atrium	Pumps blood to the left ventricle.
Left ventricle	Pumps blood out of the heart to the body. Has a large muscle wall to pump blood at a high pressure.
Aorta	Artery that carries blood away from the heart to the body.
Valves	These prevent the backflow of blood through the circulatory system.

9. Reproductive system

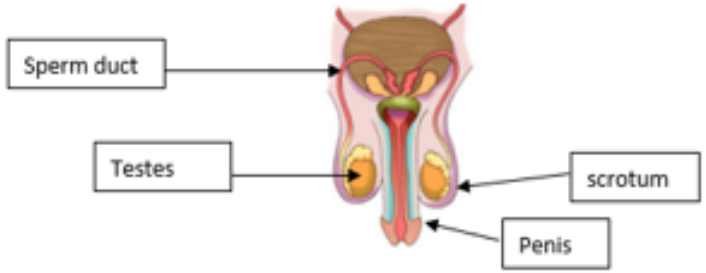
Female reproductive system

Organ	Function
Oviduct	Where fertilisation takes place, sweeps the egg towards the uterus.
Ovary	Stores and matures the egg.
Uterus	Where the embryo develops.



Male reproductive system

Organ	Function
Sperm duct	Tube that carries sperm cells from the testes to the penis.
Testis	Site of sperm production.



10. IVF

Hormone	Function
FSH	Matures and egg in the ovary.
LH	Causes ovulation (an egg to be released from the ovary).
Oestrogen	Causes the lining of the uterus to thicken.
Progesterone	Maintains the thick lining of the uterus.

Stages of IVF:

1	Injections of fertility hormones are administered for a month.
2	Egg cells are collected from the oviduct.
3	Egg cells are fertilised in a petri dish using sperm cells.
4	Fertilised egg cells are incubated until embryos form after days 3-7.
5	Embryo is implanted into the uterus.

Advantages	Disadvantages
• Allows low fertility or infertile couples to have a baby.	• Low success rates. • Emotionally stressful. • Increased risk of multiple births. • Side effects of vomiting and abdominal pain.

11. Careers linked to this unit

Biomedical engineers	These conduct research using stem cells to create customized gene therapy treatments for patients and develop technology that helps people with immune diseases regenerate tissue and cells
Paramedic & ambulance technicians	Paramedics are first responders during a medical emergency. Both assess, triage, treat and move patients.
Radiographer	Using technology, X rays, CT scans to investigate injuries and illnesses
Project manager	Organising the running of changes to a service from staffing to ICT systems

Key Vocabulary…

Name	Purpose
Computational Thinking	Thinking in a logical way.
Abstraction	Picking the important bits of infomration out of a problem.
Decomposition	Breaking a bigger problem into subtasks, making it easier to complete.
Algorithm	A step-by-step set of precise instructions
Linear Search	A searching algorithm that checks each item in a list until it finds what it is looking for. Can be very slow.
Binary Search	A searching algorithm that looks for an item in a sorted list. It works by comparng it with the middle value and deciding if it is higher or lower. It repeats this process until the item is found.
Bubble Sort	An algorithm used to sort out a list by comparing two values next to each other and swapping them over if needed.
Merge Sort	Divide and conquer algorithm where the list is split and then merged back together.
Insertion Sort	A sorting algorithm that move the item along a list until the item is put in the correct position in the list.
Sequence	Tasks that are carried out one after another.
Selection	A decision has to be made before the program flow can continue.
Iteration	Tasks are repeated in a loop.

Picture This…

Linear Search

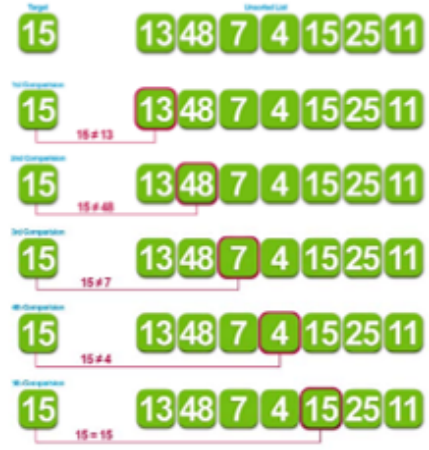
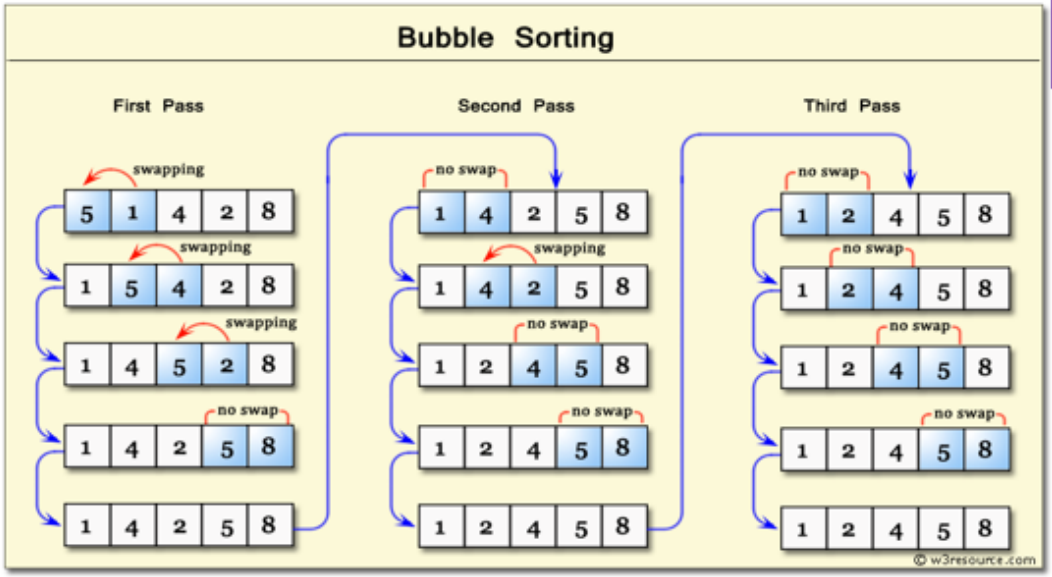


Figure 1 - Linear search example

Binary Search

Figure 2 - Binary search example

Linear searches can be slower than a binary search if the item is further down the list as it will have to check through all of the items in the list to find the target.



Bubble sorts check each item next to each other and then swap them if they are smaller. In a Bubble sort the largest number will always be at the end of the list. You may need to go through the list more than once – this is known as a Pass

Deep Learning

Sorted data is easier for a computer to work with. You can write this all of these algorithms out in Python or another high-level code on a computer to see how they work.
There are a lot of YouTube tutorials available to watch and then you can code along with them.

Activity – Research the difference between symmetric encryption and asymmetric encryption.

Key Vocabulary…

Name	Purpose
Ethical Issue	Something which might not be morally correct.
Environmental Issue	How computers can affect the natural world through e-waste.
Cultural issue	How different groups of people might be affected by an issue.
Stakeholder	Someone has an interest in a business or issue.
Digital Divide	The gap between people who have access to technology and those who don't.
Non-renewable resources	Resources that once used can't be used again.
Computer Legislation	Rules that are set out to govern how computers are used.
Data Protection Act (2018) GDPR – EU	A set of laws that controls how people's personal data is held.
Freedom of Information Act (2000)	Allows members of the public to access data held about them from organisations.
Computer Misuse Act (1990)	Laws which stop users using computers illegally such as hacking.
Copyright, Designs and Patents Act (1988)	Law to protect the intellectual property. This stops someone's idea, such as a game design being stolen.
Creative Commons License	A license which lets you use someone's work as long as they have put a CC license on the work.
Cyberbullying	Intentionally hurting someone by name calling or teasing using social media or text messages.

Picture This…

Data should be obtained lawfully

Data should only be used for specific purpose

Data should not be excessive- only hold what is needed

Data should be up to date

Data Protection Act (2018)

Data should not be kept longer than necessary

Data should not leave EU.

Data must be kept secure so it can't be stolen.

People are allowed to ask to see data held about them.

Creative Commons License

Sometimes people who created work will allow others to use it under Creative Commons license. There are 4 different licenses

Remember - legislation

Computer Misuse Act(1990)

Makes it illegal to…..

1. Gain unauthorised access to computer systems such as files.
2. Steal material that you don't have access to.
3. Break into a computer system and deliberately destroy files.

Questions

1. Which law would protect against hacking?
2. Explain what is meant by the digital divide and give an example.
3. Which legislation allows people to share and adapt other people's work?
4. What is the purpose of the Data Protection Act?
5. What is meant by the term stakeholder?

Deeper Learning…

Computer technlogy is changing our lives as communication becomes more instant and more data is held about us. Social networks allow people to publish and upload thoughts, stories and images on a wider scale. Medical advances have happened too, and we can monitor our bodies and transmit the data online.
AI is now a common experience with driverless cars and automated technology being developed.
Do you think that this anything we should worry about?

Activity – Many organisations provide free public access to a wireless network. Explain THREE ethical, legal or data privacy issues that an organisation should be aware of when allowing this access.

Design & Technology Department Schemes of Work
Knowledge Organiser:

Design Brief: A clock manufacturer would like you design and make your own version of a clock from sustainable materials you can obtain yourself. It is important that you make sure that the final design meets all the requirements that you identify for such a product. For instance, if you decide to designthe clock that is for a young child, it should meet all of the criteria for this type of user.

RETHINK	Do we make too many products? Design in a way that considers people and the environment
REUSE	Use a product to make something else with all or parts of it.
RECYCLE	Reprocess a material or product and make something else
REPAIR	When a product breaks down or doesn't work try to fix it
REDUCE	Cut down the amount of material and energy you use as much as you can
REFUSE	Don't use a material or buy a product if you don't need it or if it's bad for people or the environment

Key words- Environment, Sustainable, Mechanism, Moulding, Composites

P.P.E
Personal Protective Equipment

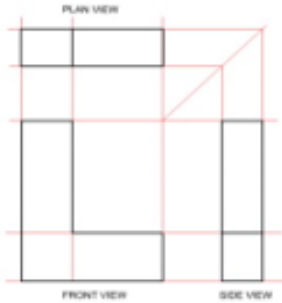
P.P.E for the workshop
Gloves, Apron, Safety Goggles, Facemask,

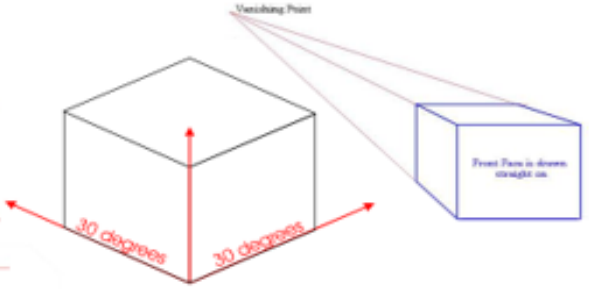
The Design Process

RESEARCH SECTION
Examples include:
- Task Analysis
- Product Analysis
- Consumer Profile

Manufactured Boards
Strips or pieces of wood (chips/dust) glued and pressed with heat to form boards or sheets.

Sketching Techniques
Third angle Projection
One Point Perspective
Isometric Projection





Plastics:
There are 2 types of plastic THERMOPLASTIC & THERMOSETTING.
Thermoplastics are polymers (chemical compound with molecules bonded together in long chains) that can be melted and formed many times. Examples include – HIPs, Acrylic Polypropylene and ABS (Acrylonitrile Butadiene Styrene)

Clock Mechanism:
POLYPROPYLENE CASE / RUBBER WASHER / BUILT-IN HANGER / CENTRE FIXIN6 NUT / SPINDLE.

Time phrases

Present	
normalement	normally
d'habitude	usually
tous les jours	every day
de temps en temps	from time to time
parfois / quelquefois	sometimes
toutes les semaines	every week
tous les mois	every month
chaque année	every year
toujours	always
souvent	often
jamais	never

Past	
hier	yesterday
Avant-hier	the day before yesterday
Ce matin	this morning
hier soir	last night
la semaine dernière	last week
le mois dernière	last month
l'année dernière	last year
samedi dernier	last Saturday
le weekend dernier	last weekend
Il y a longtemps	a long time ago

Future	
demain	tomorrow
cet après-midi	this afternoon
ce soir	tonight
le weekend prochain	next weekend
la semaine prochaine	next week
le mois prochain	next month
l'année prochaine	next year
dans quelques années	In a few years

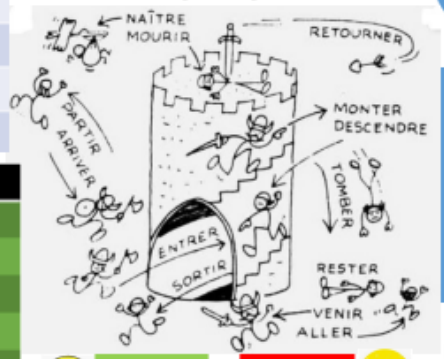
c'est
It is

c'était
It was

ce sera
It will be

Question	
Quoi? Qu'est-ce que?	What?
Où?	Where?
Quand?	When?
Combien?	How much / How many?
Comment?	How?

Dr and Mrs Vandertramp (Être)



Quantifiers			
très	very	pas très	not very
assez	quite	complètement	completely
un peu	a bit	sériesement	seriously
tellement	really	extrement	extremely
vraiment	really	certainement	certainly
ratement	really	plutôt	rarely

et	and	surtout	especially
mais	but	cependant	however
ou	or	d'abord	firstly
où	where	puis	then
aussi	also	ensuite	next
par exemple	for example	après	after
heuresement	luckily	alors	then/so
malheuresment	unfortunately	finalement	finally
par contre	on the other hand	pendant que	while

à mon avis
(In my opinion)

je trouve que
(I find that)

je pense que
(I think that)

je crois que
(I believe that)

je suis passionné(e) de
(I am passionate about)

j'aime beaucoup
(I like...a lot)

j'ai l'impression que
(I have the impression that)

j'aime aussi
(I also like)

j'aime sûrtout
(I especially like)

BECAUSE

JUSTIFICATIONS	
parce que	because
car	because
comme	as
puisque	since
étant donné que	given that
ayant dit cela	having said that

Connectives

à (at)	à la piscine	à la maison	à la plage	à la campagne	à la montagne
au (at)	au collège	au bord de la mer	au centre sportif	au centre commercial	au cinéma
chez (in/to)	chez moi	chez mon ami	chez mes grandparents	chez mes copains	
dans (in)	dans le parc	dans le jardin			
en (in)	en Paris	en Madrid			

Positive

- génial (great)
- amusant (funny)
- facile (easy)
- intéressant (interesting)
- agréable (pleasant)
- sympa (nice)
- utile (useful)
- passionnant (exciting)

Negative

- difficile (difficult)
- ennuyeux (boring)
- bête (stupid)
- nul (rubbish)
- fatigant (tiring)
- désagréable (unpleasant)
- affreux (awful)
- mauvais (bad)

Take the infinitive − ER/IR/RE + Add the endings = Present tense

I speak: parler -> parl -> je parle

Present tense	ER	IR	RE
je	e	is	s
tu	es	is	s
il/elle	e	it	-
nous	ons	issons	ons
vous	ez	issez	ez
ils / elles	ent	issent	ent

Take the present tense of Être / Avoir + Past participle = Passé compose

I spoke: j'ai parlé

Passé compose	AVOIR (present)	ÊTRE (present)	
j'ai or je	j'ai	je suis	-ER – é
tu	as	es	-IR – I
il /elle	a	est	-RE - u
nous	avons	sommes	
vous	avez	êtes	
ils / elles	ont	sont	

Present tense nous form of the verb − Remove -ons + Add endings = Imparfait

I was speaking: nous parlons -> je parl -> je parlais

Imparfait	ER / IR / RE
je	ais
tu	ais
il/elle	ait
nous	ions
vous	iez
ils / elles	aient

PRESENT	PAST	FUTURE
je joue	j'ai joué	je vais jouer
je regarde	j'ai regardé	je vais regarder
je visite	j'ai visité	je vais visiter
je mange	j'ai mange	je vais manger
j'écoute	j'ai écouté	je vais écouter
je fais	j'ai fait	je vais faire
je vais	je suis allé / alleé	je vais aller

Y9 KNOWLEDGE ORGANISER: Portraiture/Realism.

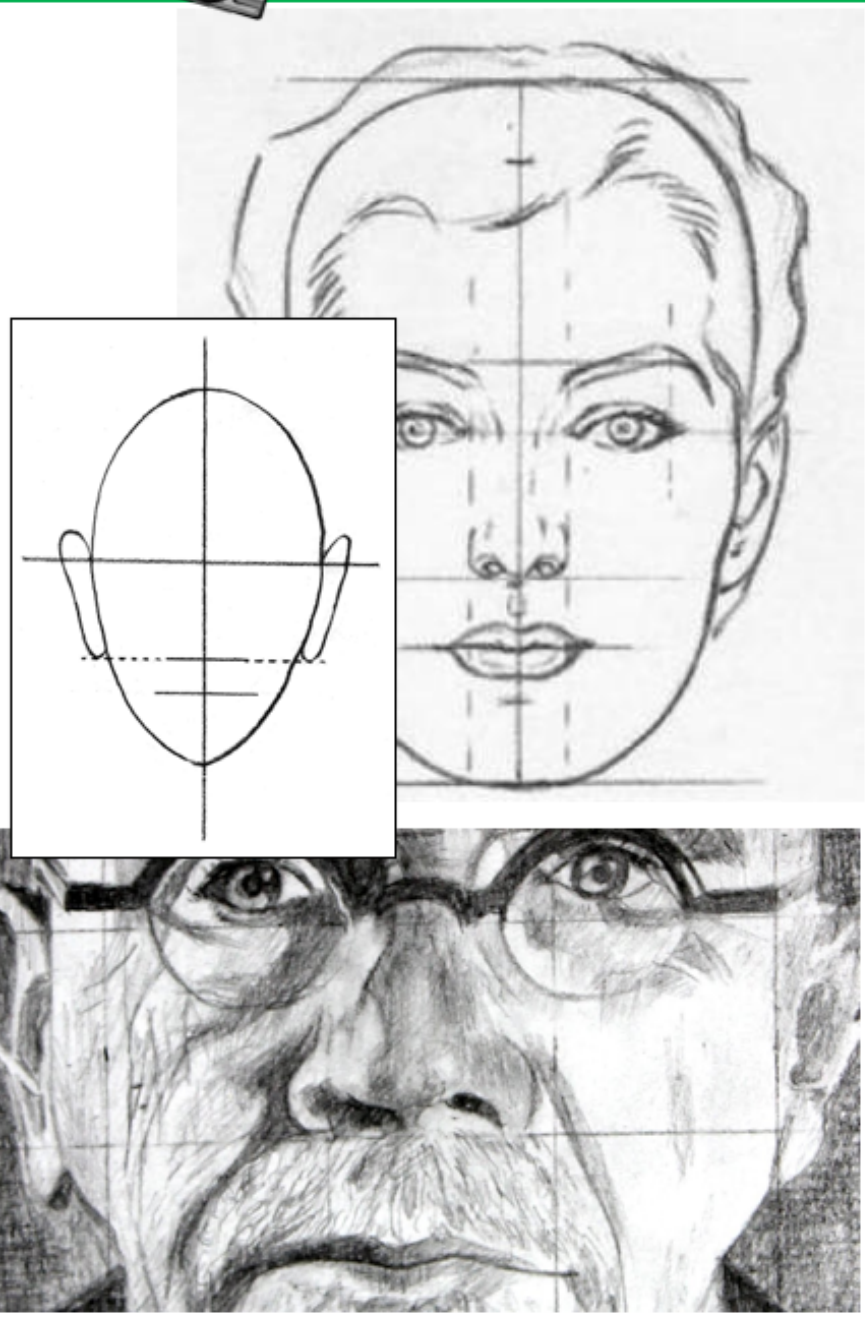
Key Vocabulary…

TONE	In painting, tone refers to the relative lightness or darkness of a colour. One colour can have an almost infinite number of different tones. Tone can also mean the colour itself.
PORTRAITURE	Portraiture is the recording of an individual's appearance and personality. It can be a photograph, painting or sculpture and dates back to at least Ancient Egypt, where it flourished around 5000 years ago.

Always remember…

THE GRID METHOD	The grid method is drawing a grid over your reference photo and then drawing a grid of equal ratio on your work surface. Then draw the image on your paper, focusing on one square at a time, until the entire image has been transferred.
REALISM	The quality or fact of representing a person or thing in a way that is accurate and true to life.

Picture This…



Deeper Learning…

PROPORTIONS OF THE FACE

The eyes are positioned **halfway** down the face.

The top of the ears falls in line with the eyes and the bottom of the ears fall in like with the nose.

The **nose** is **halfway** between the eyes and the bottom of the face. The **mouth** is **halfway** between the nose and the bottom of the face.

The edge of the mouth falls in line with the pupils and you should be able to fit ***5*** eyes in a row to ensure you have got an accurate size and shape.

Obviously, everybody has different facial features, the size and shape may differ slightly but this is just a general rule to follow to ensure you have got accuracy and realism within your artwork.

The Big Question…

NEXT STEPS: -

Try drawing a grid but increase the scale of the squares to create a bigger piece of artwork.

CULTURES & CUISINES

The cuisine of a country is influenced by many factors. These include:

- Religion
- Climate
- Terrain/Geography
- Availability of imported foods
- Migration/immigration
- Culture
- Economy/wages/wealth

England

Ingredients:

Apples, Potato, Beef

Dishes:

Shepherds Pie, Roast Beef, Scones

Ireland

Ingredients:

Potatoes, Bacon, Cabbage

Dishes:

Irish Stew, Soda Bread, Colcannon

Wales

Ingredients:

Caerphilly Cheese, Lamb, Salmon

Dishes:

Cawl,Faggots, Welsh Rarebit

Scotland

Ingredients:

Salmon, Oats, Raspberries

Dishes:

Porridge, Haggis. Cullen Skink

France

Ingredients:

Foie Gras, Escargot, Cheese

Dishes:

Pate, Bouillabaisse, coq au vin

Spain

Ingredients:

Oranges, Chorizo, Olive oil

Dishes:

Tapas. Gazpacho, Paella

Italy

Ingredients:

Veal, Sardines, Parmesan, Mozzarella

Dishes:

Pizza, Ravioli, Focaccia, tirimisu

Mexico

Ingredients:

Bananas, pineapple, beef, chocolate

Dishes:

Ceviche, quesadilla, empanada

India

Ingredients:

Chilli, garlic, ginger, mutton, paneer

Dishes:

Samosas, Dhal, Chutneys, Saag Aloo

China

Ingredients:

Lychee, ginger, rice, noodles

Dishes:

Dim sum, chow Mein, Peking duck

Japan

Ingredients:

Rice, udon noodles, soy sauce

Dishes:

Sushi, katsu curry, gyoza, teriyaki

Caribbean

Ingredients:

Okra, plantain, goat, coconut

Dishes:

Salt cod, metagee, curried goat

USA

Ingredients:

Beef, peanuts. Pumpkins, blueberries

Dishes:

Chowder, Jambalaya, Meatloaf

Russia

Ingredients:

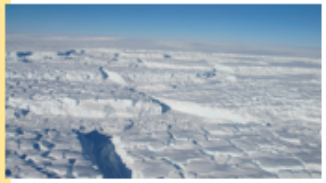
Beetroot, rye, caviar, potatoes

Dishes:

Borsch, Pelmeni, Blinis,

Key Terms:

Ice Age – A time period when ice advances from the north and south poles towards the equator.



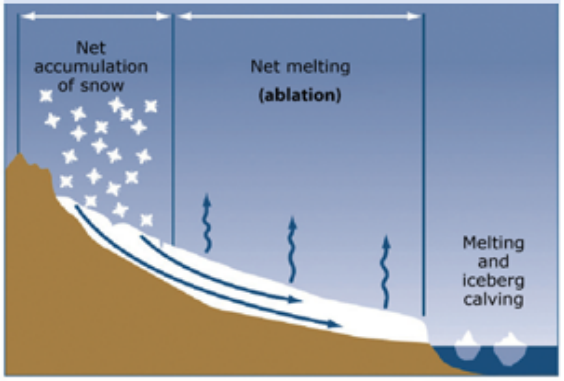
Ice Sheet – A large, expansive body of ice, 1-2 miles thick which covers a land surface, covering continental areas.

Glacier – A frozen land-based river like feature, flowing from the upland areas down towards the low-lying coastal areas.

Accumulation – the build up of snow in layers which is compressed into ice.

Ablation – the melting or breaking up of the ice.

Mass Balance

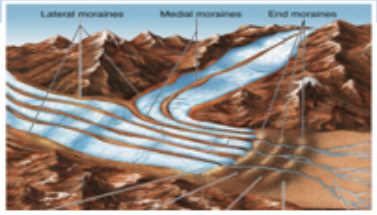


Mass balance is the difference between accumulation and ablation.
If there is more accumulation than ablation the glacier advances.
If there is more ablation than accumulation the glacier retreats.

Glacial Landforms

A **corrie** is an armchair-shaped hollow found on the side of a mountain. This is where a glacier forms. Plucking and abrasion deepen the corrie into a deep hollow with a higher rock lip at the front. When the glacier melts this lip traps the water and creates a lake called a **tarn**.

An **arête** is a knife-edge **ridge**. It is formed when two neighbouring corries run back to back. A **pyramidal peak** is formed where three or more corries and arêtes meet.

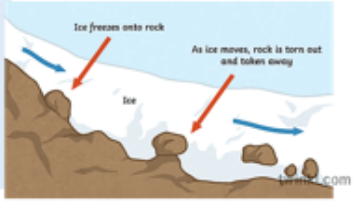


Morraines are accumulations of dirt and rocks that have fallen onto the glacier surface or have been pushed along by the glacier as it moves.

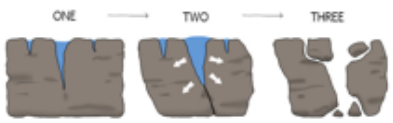
Glacial Erosion

Abrasion – When the ice wears away the bedrock using the rock and pebbles being carried in the base of the glacier.

Plucking – When the base of glaciers freezes onto bedrock and pulls up large pieces of bedrock as it flows over the land surface.



Freeze-thaw weathering – The action of water flowing into cracks, freezing as ice and widening the cracks so much that rock breaks apart.



10, 0000 years ago the UK was covered in Ice. This means a lot of our landscape has been shaped by glaciers. We can see cories, arêtes, tarns and moraines in the UK today despite there not being any glaciers now.

How is Climate change effecting glaciers around the world?

Global warming is resulting in glaciers melting all over the world.
This is resulting in water shortages for those people who rely on melt water and is creating sea level rise.

Geography: Year 9 - Glaciation

Benefits of glaciated areas

Tourist Attractions – **People visit these places to enjoy the beautiful landscape created by glaciation.** This environment is popular with tourists because it provides opportunities for **walking, cycling, sailing and kayaking.**

Agriculture - Fertile soils of lowland areas provide good opportunities for arable and livestock farming. This also **creates jobs** and provides a boost for the economy. When glaciers melt in summer their **meltwater** flows into rivers and onto floodplains.

Hydro-electric Power - energy that uses the **power of water to generate electricity. Glacial areas are perfect because**

-Steep sided mountains

-Reliable meltwater in the spring and summer.

Drawbacks of living in glaciated areas

Flooding - When glaciers melt rapidly or a glacial lake floods it releases a huge volume of water. This can flood the valley below destroying homes, business and killing people.

Avalanches are masses of ice moving or falling downhill. They can destroy habitats, homes and kill people.

Lake District Case Study

15 million tourists visit the lake district every year.
People visit to walk, climb, swim and cycle in the glaciated landscape. This brings in money to the local economy however it results in congestion, littering and footpath erosion.

Tasks…

1. What was the extent of the ice in the UK during the last Ice Age?
2. Describe and explain the formation of a glacier.
3. What is mass balance?
4. How does a glacier erode the landscape?
5. Explain the formation of a corrie, arête and pyramidal peak.
6. Why is the soil fertile in glacial environments?
7. Explain how climate change is affecting glaciers and ice sheets around the world.
8. Why is it important as a geographer to understand glaciation?

Do you research…….. Choose a named glacier and research what is happening to it, how it is changing and the impacts this is having on the surrounding area and people

Prepare for your extended write

Question: 'Evaluate the benefits and drawbacks of living in a glacial environment.

1. BUG the question by boxing the command word and underlining the content you need to write about.
2. List the key vocabulary you will use.
3. Create a plan of what you would write in each paragraph.
4. Practice writing your answer from memory.

Homework Activity…

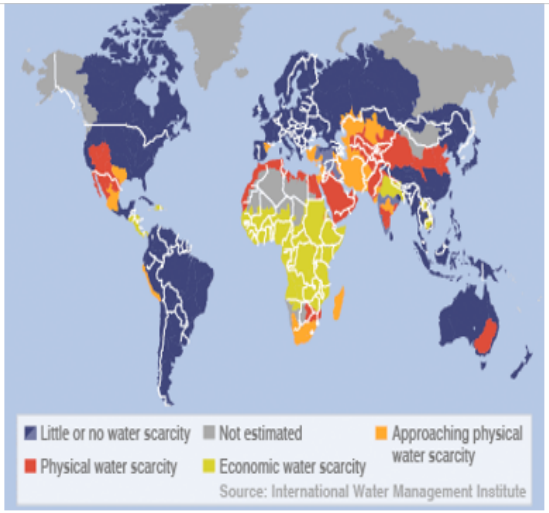
Write a newspaper article discussing the evidence of glaciers in the Lake District. Use google maps to help find more evidence.

Subject: Geography : Yr9 Topic: Resources

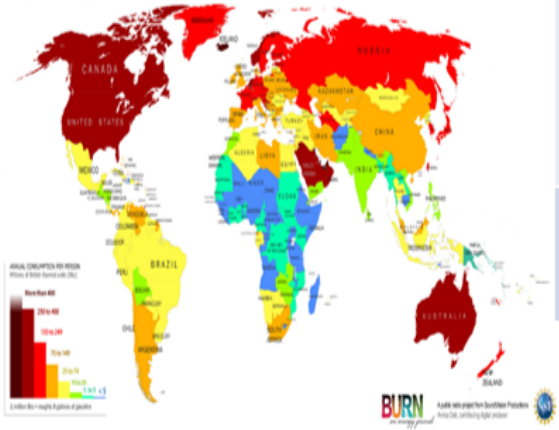
What are Resources?

Key term	Definition
Resources	Materials that have value for people. They may be needed for basic survival e.g. water, or appreciated as something that improves quality of life e.g. coffee.
Resource management	The control and monitoring of resources so they don't become depleted or exhausted.
Surplus	When there is more of a resource than is needed to meet demand.
Deficit	When there is not enough of a resource to meet demand.

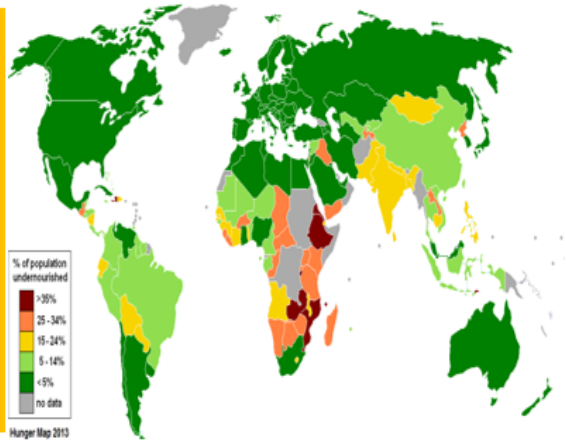
Distribution of water scarcity



Distribution of Energy Used



Distribution of malnourishment



Changing demand for food in the UK creates opportunities and challenges

The growing demand for high value food exports from LICs and all year demands for seasonal food and organic produce.	• Food used to be seasonally and locally sourced. Now we eat globally sourced foods all year. • In 2013 47% of UK food was imported. • More disposable income has led to an increased demand for greater quantities and wider choice. • Not all foods can be grown the UK, and some foods can only be grown at certain times e.g. strawberries in July and August. • Positive impacts : Jobs and wages for those in LICs, more tax income leads to a better quality of life. • Negative impacts - less land for locals to farm for themselves, high water use and exposure to chemicals (pesticides and fertilisers). • Organic - no pesticides or fertilisers used. Since the 1990s there has been an increase in demand. Now worth £2 billion a year in the UK.
Larger carbon footprints due to the increased number of food miles travelled.	• Food can be grown more cheaply elsewhere. • Production and transport create a carbon footprint. • 17% of the UK's carbon footprint is due to food. • Tomatoes have less of a carbon footprint being grown in Spain and imported to the UK than if we grew them in the UK where greenhouses would have to be heated. • Annual food miles travelled by UK food imports is 18.8 billion miles. • 68% of food imported to the UK is from within the EU, 32% from the rest of the world.
A trend towards agribusiness.	• Agribusiness is a farm run as a business with the main aim being profit. • Agribusiness has significant impacts on the environment as they are associated with heavy use of pesticides and fertilizers leading to reduction in wildlife and eutrophication.

The significance of food, water and energy to economic and social well being

Water food and energy are key for human wellbeing. All lead to social and economic benefits, which all increase the standard of living and quality of life.

Food	• Calories provide energy. • Availability of food depends on climate, soil and level of technology. • Malnourishment leads to disease and death. In children it can lead to underperforming at school which decreases economic wellbeing in life. In adults they will be less productive (less able to work). • Globally more than 1 billion people are malnourished.
Water	• Used for survival, washing, food production, industry. • Clean, safe water enables development and allows people to break free from the cycle of poverty. • Globally 2 billion people drink from contaminated water sources. Over 500,000 people a year die because of diarrhoeal diseases and linked to contaminated water supplies.
Energy	• Traditionally we get energy from oil, coal and wood. • Many different sources are generated by changing technology. • Used for electricity production, heating, transport and for water supply (e.g. wells). • Supports industrialisation and development.

Subject: Geography : Yr9 Topic: Resources

Global inequalities in the supply and consumption of resources

Food

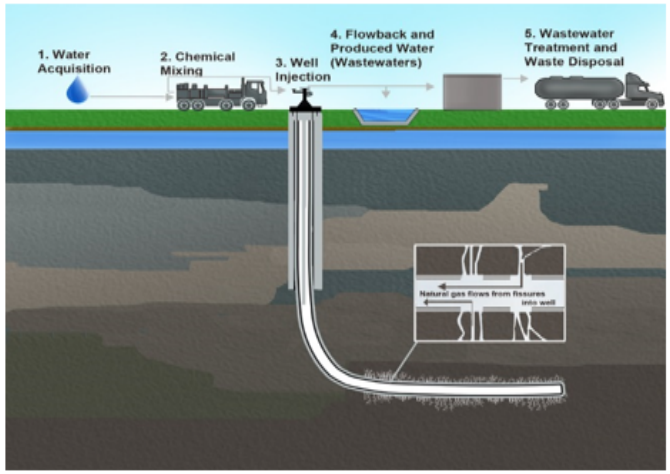
- Average UK calorie consumption is 3200 calories per person per day.
- Average calorie consumption in Mali is 2590 calories per person per day.
- Areas of greatest population growth have highest levels of undernourishment.
- Demand depends on changing diets and increasing population.
- Supply depends on climate, soil and level of technology.

Water

- Fresh water is unequally distributed.
- Water footprint is the amount of water used per day.
- Global average is 1240 litres per day
- Bangladesh is 896 litres per day, USA is 2483 litres per day.
- Water scarcity (where demand is greater than supply) can be physical e.g. reduction in rainfall or economic e.g. lack of money to enable access to water.
- 1 in 5 (more than 1.2 billion people) live in areas of water scarcity.
- 1 in 3 (2.4 billion people) have no access to clean drinking water.

Energy

- The richest 13% of people globally use 50% of the world's energy.
- The poorest 13% of people globally use 4% of the world's energy.
- Countries import and export energy.
- Some countries do not have their own sources of energy.



Fracking – Opportunities and Challenges

Opportunities

- Shale gas is readily available in UK.
- Will act as a bridging fuel until alternative technologies are developed.
- Increased cost of fuel makes fracking now affordable.

Challenges

- Contaminated water is pumped back into the ground and can affect water supplies.
- Fracking uses a lot of energy.
- 3% of gas extracted is lost to atmosphere; this is methane, a greenhouse gas.

Tasks...

1. What is organic farming? Explain why there is a growing demand in the UK for food from LICs.
2. What is meant by famine?
3. Suggest one reason why energy consumption in the UK has changed between 1970-2015.
4. Outline one advantage of sourcing food locally in the UK.
5. Outline one advantage of the trend towards agribusiness in the UK.
6. To what extent is it preferable to source food locally in the UK rather than import from abroad?
7. Explain how food security can be improved.
8. Explain how different strategies can be used to make food supplies more sustainable.

Prepare for your extended write

Question: Why is long term planning essential to make sure resources don't run out?

BUG the question by boxing the command word and underlining the content you need to write about.

1. List the key vocabulary you will use.
2. Create a plan of what you would write in each paragraph.
3. Practice writing your answer from memory.

Homework...

You will be given two reading homework's per half term.

They will be collected and glued into your classwork book.

This will be followed by a quiz with some questions based on the homework.

Key Vocabulary

Suffrage	The right to vote in elections.
Suffragist	A person who supports, in a peaceful way, the right to vote be extended to more people, especially to women
Suffragettes	Women who organised radical protest to get the vote.
Reparations	The action of making amends for a wrong one has done, by providing payment or other assistance to those who have been wronged.
General Strike	A strike by workers in all/most industries.

Key Vocabulary

Economy	The state of a country in terms of production (making goods), consumption (buying goods) and the supply of money.
Dictator	A ruler with total power over a country.
Democracy	A system of government where people exercise power through voting
Appeasement	Appeasement in an international context is a policy of making concessions to an aggressive power in order to avoid conflict.

Picture This

Banner from a suffragist protest.

Emmeline Pankhurst being arrested near parliament

The Treaty of Versailles was a peace treaty signed on 28th June 1919, exactly five years after the assassination of Archduke Franz Ferdinand. It officially brought an end to WWI. However, the Germans were not invited to the negotiations but were forced to sign the treaty – known as forced peace or 'diktat'. We remember the terms of the treaty and the things that Germany had to agree to/give up with the acronym – LAMB.

Land:
Germany lost 13% of its land all of its empire

Army:
100,00 men/no air force/
6 battleships

Money:
Had to pay £6.6bn in war damages (reparations) clause and accept blame

Blame:
Had to sign the 'War Guilt' for starting WWI

The Wall Street Crash 1929

- **Ending of the 'boom' of the 1920s**
- **Too many goods produced and not enough people wealthy enough to buy them.**
- **Too much food – prices went down.**
- **Banks did not have enough money when people started to withdraw their savings.**
- **16 million shares were sold in one day on the New York Stock Market (October 1929) and led to the stock market crashing.**
- **This in turn led to the Great Depression of the 1930s**

- America had lent huge sums of money to European countries to recover from WWI When the stock market collapsed, they suddenly recalled those loans. This had a devastating impact.
- The collapse of European banks caused a world financial crisis.
- Unemployment - 13 million people were out of work.
- Production dropped by 45 per cent between 1929 and 1932.
- House-building fell by 80 per cent between 1929 and 1932.
- These effects were mirrored in Britain

Key individuals

Millicent Fawcett		Led the NUWSS (National Union of Women's Suffrage Societies) for the women's suffrage campaign.
Emmeline Pankhurst		In Manchester in 1903 Emmeline Pankhurst founded the Women's Social and Political Union (WSPU) with her daughters Christabel and Sylvia. The organisation grew to include branches all over Britain and involved more working-class women. The WSPU adopted militant, direct action tactics.
Benito Mussolini		Ruled Italy from 1922 – 1943. He became dictator in 1925.
Joseph Stalin		Revolutionary Soviet born in Georgia. He led the Soviet Union (Russia) from the mid 1920s – 1953.
Adolf Hitler		Born in Austria, fought for Germany in WWI and became leader in of the Nazi party in 1921. He became chancellor of Germany in 1933 and dictator by 1934. He led Germany until the end of WWII in 1945.
Neville Chamberlain		Conservative politician and Prime Minister from 1937-1940. Remembered for the policy of appeasement towards Germany.

Deeper Learning - The General Strike 1926

The strike was called by the TUC (Trade Union Congress – an organisation that represents the rights and interests of workers) for one minute to midnight on 3 May, 1926.

For the previous two days, some one million coal miners had been locked out of their mines after a dispute with the owners who wanted them to work longer hours for less money.

In solidarity, huge numbers from other industries stayed off work, including bus, rail and dock workers, as well as people with printing, gas, electricity, building, iron, steel and chemical jobs.

The aim was to force the government to act to prevent mine owners reducing miners' wages by 13% and increasing their shifts from seven to eight hours.

The industrial action came against a backdrop of tough economic times following the First World War and a growing fear of communism

Tasks

Red:
State three European countries which had dictators in the inter-war years.

Define the following words: strike, solidarity and communism

Amber: Describe the difference between a suffragist and suffragette

Green:
Explain why Neville Chamberlain followed policy of appeasement

Purple:
Taking land from the Germany was the harshest part of the Treaty of Versailles for Germany. Evaluate.

Taking land from Germany had a huge impact because…

However, there were other aspects of the Treaty of Versailles which were harsh such as…

Overall, I agree/disagree with the statement because…

Subject Knowledge Organiser
Basketball – Rules, Scoring, Officials, Court Dimensions & Player Positions

Rules

- ❑ A basketball team can have a maximum of five players on the court.
- ❑ Player substitutions can be made at any time and there is no restriction on the number of substitutions made.
- ❑ A ball can travel through dribbling or passing.
- ❑ A player is no longer able to dribble with the ball once the player puts two hands on the ball. At this point, a player must either pass or shoot.
- ❑ If a team wins possession back in their own half, they have ten seconds to get it into their opponent's end or a foul will be called.
- ❑ An attacking team has 24 seconds from gaining possession of the ball to shoot
- ❑ After the shot is taken, the clock is restarted for another 24 seconds.
- ❑ After a team scores a basket, the ball is returned back to the opposition to start again.
- ❑ All fouls that are committed throughout a game are to be accumulated and when a certain number is reached, the umpire will award a free throw.
- ❑ Depending on where a technical foul is committed, the umpire may award a number of free throws a player will receive.
- ❑ Violations can be awarded by the officials in basketball for player handling errors. These include travelling, double dribble, goal-tending and back court violation.

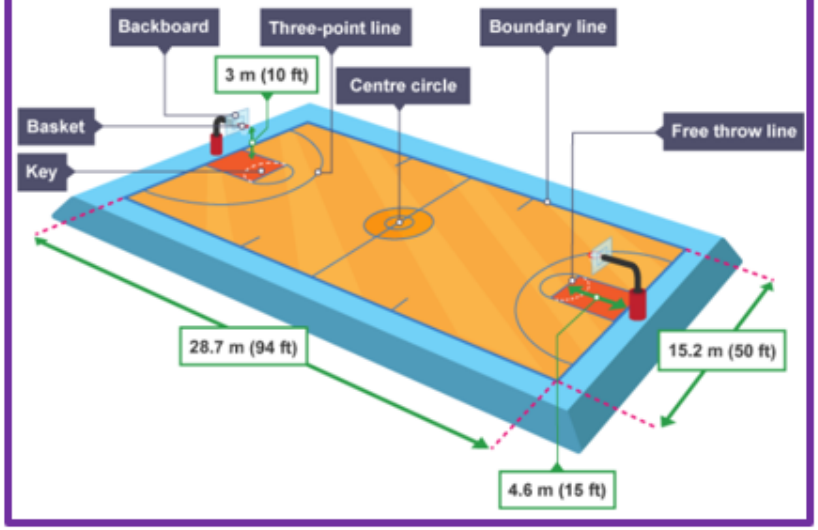
Scoring

In a game of basketball there are three clear ways to score points. If a shot is successfully scored from outside of the three-point line, three points are awarded. If a shot is successfully scored from inside of the three-point line, two points are awarded. If a team is awarded a technical foul then they will receive between one and three free shots. Each shot scored will be awarded with one point.

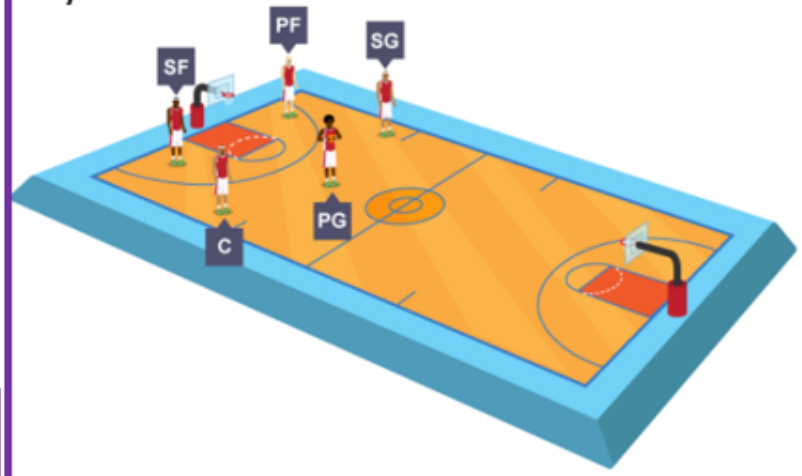
Officials

During a competitive game of basketball there are two referees, a scorekeeper, timekeeper and a shot clock operator. To ensure that everybody is aware of a decision made, the referees perform a series of hand and arm signals.

Court Dimensions



Player Positions



SF	Small forward	PF	Power forward	SG	Shooting guard
C	Centre	PG	Point guard		

Subject Knowledge Organiser
Basketball – Bounce Pass, Chest Pass, Jump Shot & Lay-up

Bounce Pass

A bounce pass is a short pass that enables the player to find a teammate in a crowded area. The height of the ball makes it difficult for the opposition to intercept.

Stage one
Feet shoulder width apart in opposition, with knees bent. Place hands each side and slightly behind the ball, with the fingers comfortably spread. Hold the ball at waist level, with elbows tucked in.

Stage two
Step in the direction of the pass, through extending your legs, back and arms. The wrist and fingers should be forced through the ball releasing it off the first and second fingers of both hands. Follow through with the arms fully extended, fingers pointing at the target and thumbs pointing to the floor.

Chest Pass

A chest pass is a very fast and flat pass. This enables a team to move quickly up a court in a precise and accurate fashion.

Stage one
Stand with feet shoulder width apart, on the balls of your feet with back straight and knees slightly bent. Place hands on the sides of the ball with the thumbs directly behind the ball and fingers comfortably spread. The ball should be held in front of the chest with the elbows tucked in.

Stage two
Step in the direction of the pass by extending your legs, back and arms. Push the ball from the chest with both arms (not from one shoulder). Fingers are rotated behind the ball and the thumbs are turned down. The back of the hands face one another with the thumbs straight down.

Stage three
Make sure the ball is released off the first and second fingers of both hands. Follow through to finish up with the arms fully extended, fingers pointing at the target and thumbs pointing to the floor.

Jump shot

The purpose of the jump shot is to allow the shooter to take aim from a higher position and therefore prevent a defender from blocking it.

Stage one
Place feet shoulder width apart, toes pointing straight ahead, and knees bent. Place non-shooting hand on the side of the ball and the shooting hand at the back of the ball, with the elbow tucked in. Hold the ball at chest height.

Stage two
Extend the legs/ankles by jumping straight up. Whilst in flight, extend back, shoulders and elbow. Flex the wrist and fingers forwards and release the ball at the highest point. After release, fingers should be pointed at the target, with the palm facing down.

Lay-up

A lay-up provides a player with the opportunity to drive at the opponent's basket, jump close to the target and release the ball safely at the backboard. When used effectively it has the highest percentage chance of scoring points.

Stage one
Dribble to the side of net. When a few metres away from the basket, hold the ball with both hands on the shooting hands side of the body.
Place the non-shooting hand on the side of the ball, and shooting hand on top of the ball.

Stage two
The last step before the lay-up jump should ensure that take off foot is opposite to the shooting hand (left foot/right hand). Flex the knee at take-off.

Stage three
Whilst jumping, extend the shooting knee and raise the ball up. Bring the ball between the shoulder and ear. Direct the wrist and fingers straight at the basket and release the ball at the highest point. Complete the follow through with the arm up and palm facing down, and hold until the ball has reached the basket.

Always remember: You cannot dribble with the ball, catch the ball in two hands and then dribble again this is called "double dribbling".

Key words: dribbling, spin dribble, cross-over, chest pass, bounce pass, overhead pass, shoulder pass, double dribble, travelling, set shot, lay-up.

Progress Vocabulary: *Identify, Define, describe, explain, compare and contrast, sporting links, analyse, evaluate*

Subject Knowledge Organiser
Football – Rules, Player Positions & Pitch Dimensions

Rules

- A senior football match consists of two 45-minute halves and must have a 15-minute break in the middle.
- A team can start with a maximum of 11 players, of which one is the designated goalkeeper.
- To continue a match, a team must have a minimum of 7 players on the field.
- A team is able to make substitutions at any time of the match and are able to make a maximum of three changes.
- A competitive game must be officiated by a referee and two assistant referees, also known as linesmen.
- The whole ball must cross the goal line for it to constitute a goal.
- A referee may award a foul if they believe an unfair act is committed by a player. A foul contravenes the laws of the game and can be given for a range of offences (for example, kicking the player, pushing, handball etc.).
- Fouls are punished by the award of a free kick (direct or indirect, depending on the offence) or penalty kick to the opposing team if it is committed in the penalty box.
- In cases of foul play, a referee can penalise players with either a yellow or red card. A yellow card gives a player a warning about their conduct and a red card requires them to leave the pitch.
- In the event that a player receives two yellow cards, the referee will automatically show a red card.
- A throw-in is awarded to a team if the opposition kicks the ball over the side-lines.
- A corner kick is awarded to a team if the opposition kicks the ball over the goal line and either side of the goal posts.
- A player is deemed offside if they are in front of the last defender when a teammate passes the ball through to them.

Player Positions

Pitch Dimensions

Key Words: Passing, dribbling, close control, knee, chest, thigh, head, attacking header, defensive header, block tackle, slide tackle, lofted pass, chipped pass, side foot pass, jockeying, corner, throw-in, centre circle, corner flag, penalty, agility, balance, co-ordination, power, reaction time , speed, muscular endurance, cardiovascular fitness, flexibility.

Always remember:

When tackling an opponent always keep your eyes on the ball, do not dive in as this may lead to a foul being committed

Subject Knowledge Organiser
Football – Short/Long Pass, Control, Block Tackle, Throw In & Heading

Short pass

A short side foot pass enables a team to quickly pass a ball and help maintain possession. It is used for accuracy.

- ❑ Move parallel to the ball and place your non-kicking foot to the side of the ball.
- ❑ Keep your eye on the ball until you have it under your control.
- ❑ Look up to see where is the best place to pass it.
- ❑ On selection of your pass, maintain a strong body position.
- ❑ Swing your kicking foot through and strike the ball with the inside of your foot.
- ❑ Aim to hit the middle of the ball to ensure it stays close to the ground.
- ❑ Keep looking at your target.
- ❑ Follow your kicking leg through towards the intended target.
- ❑ The speed of the kicking leg will direct how hard you kick the ball.

Long pass

A long pass is an attacking skill that allows players to switch the direction of the attack very quickly to create space, find a teammate or to catch out the opposition.

- ❑ Move parallel to the ball and place your non-kicking foot to the side of the ball.
- ❑ Keep your eye on the ball until you have it under your control.
- ❑ Look up to see where is the best place to pass the ball.
- ❑ On selection of your pass, maintain a strong body position.
- ❑ Explosively bring your kicking foot through and strike the ball with laces of your football boot.
- ❑ Aim to hit the middle of the ball to ensure it stays close to the ground or the lower half of the ball if you want to lift it over opposition players.
- ❑ Keep looking at your target.
- ❑ Follow your kicking leg through towards the intended target and your body over the ball.
- ❑ The speed of the kicking leg will direct how hard you kick the ball.

Control

Good control of the football is an essential skill to maintain possession of the ball from the opposition and, if done accurately, gives the player more time to make the correct next decision.

- ❑ Keep your eye on the ball at all times.
- ❑ On contact with the ball, withdraw the foot slightly to take the momentum out of the ball (this is known as "cushioning").
- ❑ Aim to contact the middle of the ball to ensure that it stays close to the ground and does not bounce up.
- ❑ Once under control, move the ball out of your feet to allow the next decision to be made.

Block tackle

The block tackle is an essential skill for winning the ball back in football. It is mainly used when confronting an opponent head on and it is important to complete it with good timing and technique to prevent injury or fouls.

- ❑ Close down your opponent quickly but do not rush uncontrolled at them.
- ❑ Try to reduce any space around you and monitor for passing options.
- ❑ Stay on the balls of your feet, arms slightly out to jockey your opponent.
- ❑ Keep your eye on the ball and wait for a clear view of the ball.
- ❑ When you can see most of the ball, transfer your weight from your back to front foot and move the inside of your foot towards the ball.
- ❑ Maintain a strong body position.

Throw-in

The throw-in is the legal way to restart the game if the ball has gone out of play from either of the side-lines.

- ❑ Hold the ball with both hands and ensure that the thumbs are behind the ball and fingers are spread.
- ❑ Hold the ball behind the head with relaxed arms and elbows bent.
- ❑ Keep your feet shoulder-width apart.
- ❑ Face your target.
- ❑ Lean back with both feet in contact with the ground.
- ❑ Slightly bend your knees and arch your head, neck, shoulders and trunk.
- ❑ When ready, propel yourself forward and release the ball just as it passes your head.
- ❑ Once the ball is released, bring your strongest leg forward and out in front of you for balance.

Heading

The header can be an attacking or defensive skill and is used to try and win the ball when it is in the air.

- ❑ Keep your eyes on the ball.
- ❑ Use your forehead to make contact with the bottom of the ball for a defensive header or the top of the ball for an attacking header.
- ❑ For a defensive header it is importing to get good height and distance but for an attacking header you need power and accuracy.
- ❑ You can also use flick headers to pass to a team mate.

Progress Vocabulary: *Identify, Define, describe, explain, compare and contrast, sporting links, analyse, evaluate*

Subject Knowledge Organiser
Handball – Laws, Player Positions & Pitch Dimensions

Players roles in Handball

Goal Keeper – The goalkeeper defends the goal with ever part of the body. They are the only player who can touch the ball with their feet. The goalkeeper can leave the 6 yard/ metre? box if they do not have contact with the ball.

Left/Right Wingers – These are the fastest players on the court and patrol the sides of the court. They counter the opposition wingers in attack in order to create openings for their team mates. They can also shoot from tighter angles.

Left/Right Backs – These are the largest players on the court. When attacking they are responsible for driving at the defence and long range shooting. However, when defending they are used to black opposition shots.

Pivot – The pivot is the creative force in attack. They are expected to stand among the defenders on the 6m line to create space for their team mates or themselves to shoot. When defending, they either play right or left inside defender. Their roles are to ensure there are no spaces in the centre of the defence and that the opposition centre and pivot cannot create chances.

Centre Back – The centre back is a creative handball player also known as the 'playmaker'. They are responsible for setting up the play tactics. When defending they either play right or left inside defender. Their roles are to ensure there are no spaces in the centre of the defence and that the opposition centre and pivot cannot create chances

Rules of Handball

Attackers

Can: Take three steps with the ball then must pass of shoot
Can't: Dribble with the ball
Must: Shoot within 30 seconds. Only use their hands to play the ball.

Defenders

Can: regain possession of the ball by intercepting a pass or blocking a shot
Cant: Snatch the ball from an attacker's hands.

Goalkeepers

Can: Block the ball with any part of their body in the goal area. Leave the goal area and join the attack.
Can't: Leave the goal area in possession of the ball

Fouls

Any foul will lead to a free pass for the opposition team.
The offending team must retreat three meters at a free pass.

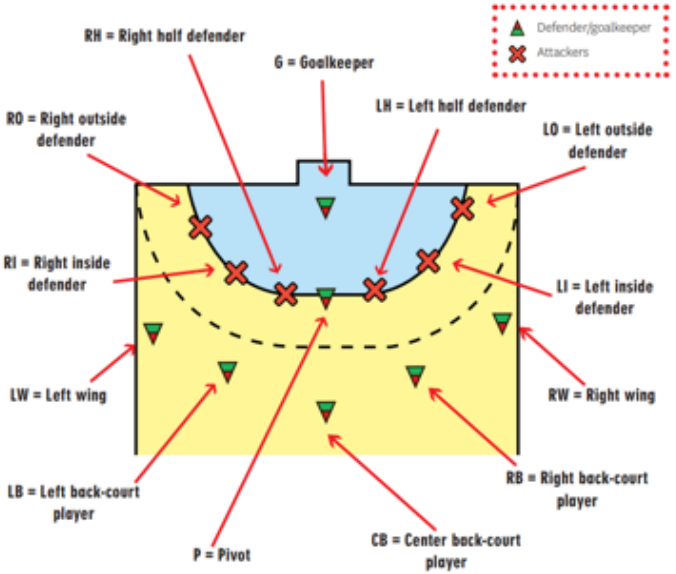
Penalty

A penalty is a free throw from one meter outside the goal area. All players apart from the goalkeeper must be behind the penalty taker.

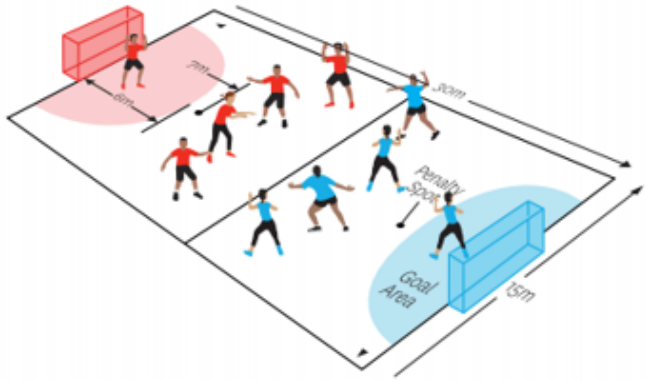
It is awarded if:

- A defender enters the goal area
- A foul prevents a goal scoring opportunity

Player Positions on court



Pitch Layout



Subject Knowledge Organiser
Handball – Dribbling, shooting, catching, throwing

Dribbling

1. Touch the ball with your fingertips, not your palm

2. Bend your knees and get in a low stance

3. Push down firmly onto the ball and release

4. Use your wrist to control the bounce of the ball and power within the bounce

5. Keep your head up and look for team mates, space and opposition players

6. Move on the balls of your feet Use your agility, dribbling skills and speed to get past defenders.

Throwing

1. Weight always on front foot

2. The ball is gripped in your fingers and thumb, never your palm

3. The arm is raised, with the throwing elbow above the shoulder

4. Throw forward your arm and release the ball

5. Remember to aim at your partner's W

Always Remember: Defenders are not allowed to step into the goal area as this will result in a penalty shot to the opposition team.

Shooting

1. Receive the ball on the move 2.

2. Attack open space using your three steps

3. Raise the throwing arm backwards, the ball should be above your head and elbow above your shoulder

4. Transfer your weight onto your front foot

5. Aim at your target. and follow through your throwing arm and release the ball.

Jump Shot

1. Follow the first three steps from the technique above

2. When attacking the open space, jump past the 6M line through the space into the

3. Before landing throw forward the throwing arm and release ball

Catching

1. Create a W with your hands

2. Fingers spread wide and elbows bent

3. Weight on the front foot and knees slightly bent

Key words: passing, dribbling, high catch, low catch, passing on the move, shooting, jump shot, goal area, penalty line, half way line, catching, throwing, three steps.

Progress Vocabulary: *Identify, Define, describe, explain, compare and contrast, sporting links, analyse, evaluate*

Subject Knowledge Organiser
Volleyball – Rules, Scoring, Officials, Court Dimensions & Player Positions

Rules

- ❑ An official volleyball court is 18 m × 9 m.
- ❑ To start a point, the server can serve from anywhere behind the end line, either overarm or underarm, into the opposing team's side of the court.
- ❑ The opposing team is allowed a maximum of three touches on their side of the court before sending the ball back over the net.
- ❑ A player is not allowed to touch the ball twice in a row. However, they could hit the ball on the first and third contact.
- ❑ The ball must be hit - not caught.
- ❑ In side out scoring, the serving team scores a point when the opponents fail to return the ball over the net, hit the ball out of bounds or commit an infraction.
- ❑ Whichever team wins the point then goes on to serve.
- ❑ Every time a team wins the serve from the other team, the players rotate their position on court clockwise so that everyone gets a chance to serve.

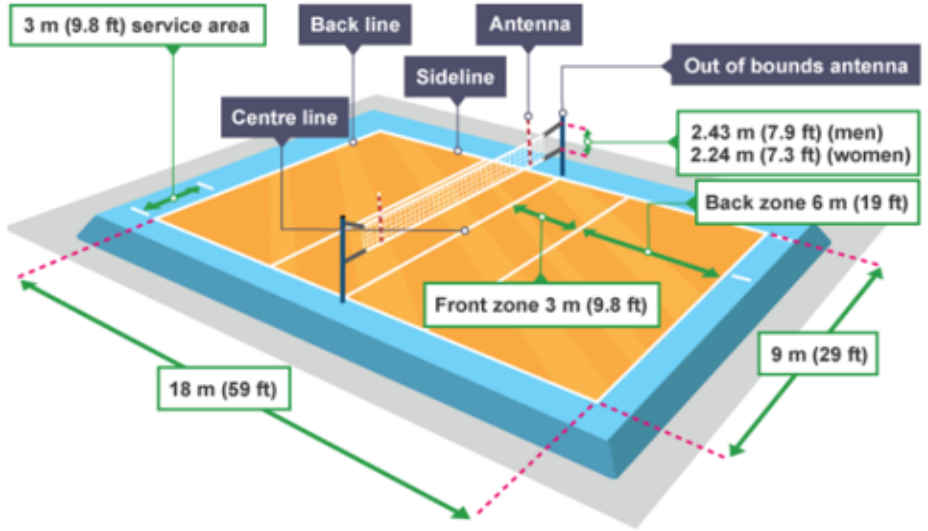
Scoring

In competitive adult matches all games are played to a best of five sets. Volleyball is very different to most sports as the first four sets are played to 25 points, but if the match goes to a fifth set this game is only played to 15 points. In order to win a set, a team must win by two clear points.

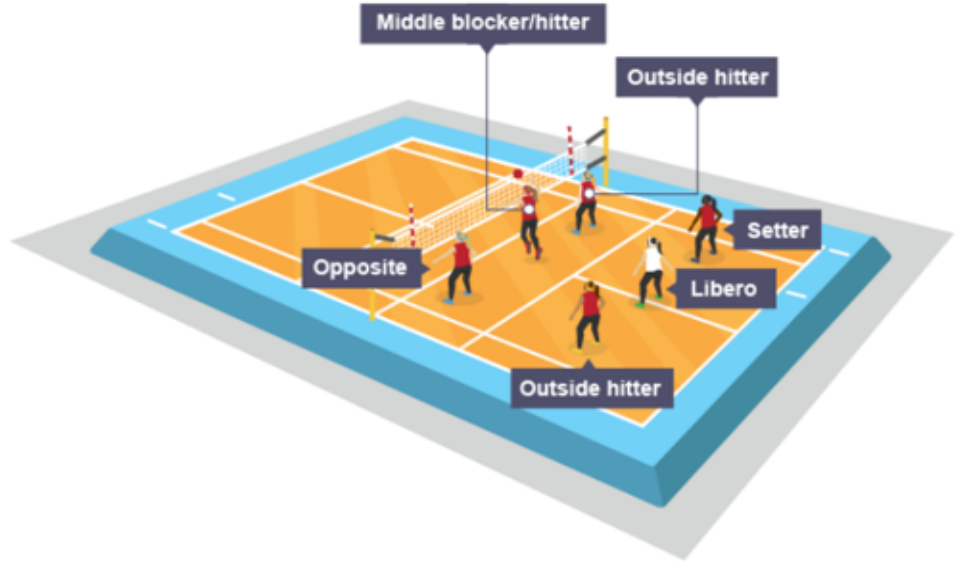
Officials

A first (or main) referee, second referee, a scorer and two line judges are required to umpire an official game of volleyball. Just like most sports, the main referee upholds the rules throughout the whole game and their decision is final. However, unlike football, a volleyball team is allowed to make a formal protest with the scorer. The second referee stands opposite the main referee and is responsible for all substitutions, timeouts and the actions of the scorer's table.

Court Dimensions



Player Positions



Subject Knowledge Organiser
Volleyball Key words – Serve, Dig, Set, Block, net

Serve

A volleyball serve can be hit either overarm or underarm. A player is allowed to travel with the ball and jump whilst serving, and providing it reaches the opponent's court, it is deemed legal.

Stage one
Stand in position on the balls of your feet, with knees slightly flexed.
Face forwards with your chest facing towards the target. Hold the ball in front of your body with left hand, right hand held back. Body weight should be on the back foot.

Stage two
Throw the ball gently into the air, swing the straight arm forward to strike underneath the ball with the heel of the hand, with your fingers clenched. Transfer bodyweight from back to front foot.

Stage three
Follow through with the fist pointing towards the intended target or the sky.

Dig

The dig shot requires players to get low and to stop the ball touching the ground. When completed successfully the shot provides accurate and consistent passing, which is essential to create a multiple attack.

Stage one
Stand in position on the balls of both feet, with knees slightly flexed. Drive off from legs to get towards the path of the ball.

Stage two
Keep both eyes on the ball. Place the back of the right hand on top of the palm of the left hand. Bring both thumbs together and place them side by side. Keep fingers and thumbs close together. Lock your elbows together.
Hold arms out straight in front.

Stage three
Hands start low in front of the body and swing up to strike the ball upwards. Strike the ball with the lower forearms. Follow through with the hands pointing towards the intended target or the sky.

Set

The set shot is a delicate attacking shot that is an important part of the pass-set-spike sequence required for a successful attack.

Stage one
Stand in position on the balls of your feet, with knees slightly flexed. Drive off from legs to get towards the path of the ball. Call for the ball. Get in line with the ball's path. Keep your eyes on the ball at all times.

Stage two
Move towards the ball. Extend your elbows so that your arms are out in front of you at head height. Slightly flex your elbows. Have your palms facing up and fingers spread. Keep your eyes on the ball.

Stage three
Watch the ball. Face the ball in ready position with knees slightly flexed. Hands are held above the head, palms up. Move body underneath the ball and push the ball into the air with your fingertips. Extend knees to help with the push into the air. Follow through with fingers pointing at the sky.

Block

The block is not technically a maintaining possession shot, but a well-timed and effective block diffuses an offensive attack.

Stage one
Stand in position on the balls of your feet, with knees slightly flexed. Drive off from legs to get towards the path of the ball. Get in line with the ball's path. Keep your eyes on the ball at all times.

Stage two
Move towards the ball. Extend arms up above head. Have your palms facing forward and fingers spread. Keep your eyes on the ball.

Stage three
Upon contact, try to angle the ball downwards. Begin to land move arms outwards for balance. Flex knees to help cushion landing. Get back into position to regain formation.

Progress Vocabulary: *Identify, Define, describe, explain, compare and contrast, sporting links, analyse, evaluate*

Key Words: set, dig, volley, spike, tennis serve, overhead serve, block, baseline, rotate, finger tips, forearm, control, height, time.

Subject: Life Studies Year 9 Religion, Relationships and family

Key Vocabulary…

Citizen	A person who is legally a member of a certain country and has the absolute right to live there.
Nation	A group of people who share a common language, history or culture.
Religion	An organised set of beliefs based on the idea that there is more than just the physical world.
Marriage	The legal joining of two people in which they share everything.
Heterosexual	A person who is attracted to people of the opposite sex than themselves.
Homosexual	A person who is attracted to people of the same sex as themselves.
Bisexual	A person who is attracted to people of the same sex or other sex than themselves.
Gender	An identity based on how a person would like to be perceived and treated, not limited to simply male or female.
LGBTQ+	A community of people who may be lesbian, gay, bisexual, transgender, queer or belong to one of many other groups.
Human Rights	The basic rights which any person should always have without exception.

The Big Idea

There are more than 7 billion people in the world and most of them believe in some form of religion. It is therefore really important to understand some of these religious beliefs. The more we know about each other, the better our chances are of all surviving together on the same planet – there's no getting off it for the foreseeable future! With that in mind, we need to understand we people hold the beliefs that they do and what that means for their communities. This can lead us to understand how they interact with each other in terms of building a family, what those families look like and how people of different religions raise their children.

The British Values and Some Other Rights

Democracy	The idea that the people should be able to collectively choose their leaders.
The Rule of Law	The idea that all people should follow the law and be treated equally by the law.
Individual Liberty	The idea that people should be free to choose their own path in life.
Mutual Respect and Tolerance	The idea that no one should be mistreated based on their race, gender, religion, disability or any other difference.
Freedom of Speech	The idea that people should be free to express themselves and their views without fear of punishment.
The Right to Protest unfair Treatment	Within certain rules, UK citizens are legally allowed to protest against treatment or rules that they deem unfair.
Human Rights	The basic rights which are considered to be common to all people rather than having to be earned.

Religious Matters

The Bible	The Christian holy book, actually a collection of different books.
The Koran	The Muslim holy book, communicated to Muhammad by Allah
Church	The name for a Christian place of worship.
Mosque	The name for a Muslim place of worship.
Priest Minister Vicar Pastor	Various names for a leader/teacher of the Christian faith.
Imam	A leader/teacher in the Islamic faith.

Always Remember…

- Religions affect our lives even if you don't have a religious belief.
- Religions have affected the ways our laws have been decided and our calendar.
- Within Britain there is a huge amount of diversity, not only of race or ethnicity, but of religious belief.
- There are many different styles of family which have the same rewarding and supportive relationships as the tradition one father and one mother with children.
- All people deserve respect in life, especially if you hope to get respect.
- Religious texts may not always reflect more modern ideas of equality as centuries may have past since they were written.

Deeper Learning…

State three key beliefs of Christians and three key beliefs of Muslims.

Describe the key features of a Christian wedding ceremony.

Explain three important features of an Islamic wedding or marriage.
Explain the methods used by Jesus to explain how Christians should behave, as written down in The Bible.

'Christians and Muslims have very similar beliefs about marriage'. How far do you agree with this statement?

Activity – Research the British Values online and then explain which you think is the most important and why.

Subject: Life Studies Year 9 Social Justice and Human Rights

Key Vocabulary…

Citizen	A person who is legally a member of a certain country and has the absolute right to live there.
Nation	A group of people who share a common language, history or culture.
Religion	An organised set of beliefs based on the idea that there is more than just the physical world.
Fair Trade	The purchase of goods at a price which allows the maker of those goods to earn a reasonable living.
Social Justice	The effort to make the world a fairer place and allow each person to lead a good life regardless of their wealth.
Human Trafficking	The forced movement of people for the purpose of exploiting them as part of criminal activity.
The United Nations (UN)	An organisation set up in 1945 which allows all countries to come together to solve global problems.
Exploitation	To use someone, by not allowing them free choice or fair compensation in order to gain a benefit from them.
Slavery	The forced labour of people, with no choice about how they live or compensation for their work.

The British Values and Some Other Rights

Democracy	The idea that the people should be able to collectively choose their leaders.
The Rule of Law	The idea that all people should follow the law and be treated equally by the law.
Individual Liberty	The idea that people should be free to choose their own path in life.
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Religious Matters

The Bible	The Christian holy book, actually a collection of different books.
The Koran	The Muslim holy book, communicated to Muhammad by Allah
Church	The name for a Christian place of worship.
Mosque	The name for a Muslim place of worship.
Parable	Various names for a leader/teacher of the Christian faith.
Imam	A leader/teacher in the Islamic faith.

The Big Idea

Social justice is a general principle which seeks to make life fairer and improve the lives of people who are born into poverty. However, social justice is difficult to make happen, there are many problems which cannot simply be solved by one big effort from a government or organisation, they need ordinary people to make better choices everyday, such as choosing to buy fairtrade goods. Human trafficking presents a particular problem, as it is perpetrated by criminal gangs and affects the lives of millions of people worldwide. No single police force can deal with alone, therefore international organisations such as the UN must lead the fight against this dreadful practice.

Always Remember…

- All people deserve respect in life, especially if you hope to get respect.
- Religions affect our lives even if you don't have a religious belief.
- Within Britain there is a huge amount of diversity, not only of race or ethnicity, but of religious belief.
- Human trafficking is illegal, anyone who engages in human trafficking is a criminal, but many people buy goods made by modern slaves and don't know they are supporting the practice.
- Slavery is illegal in every country in the world, therefore anyone who keeps slaves or forces someone to work for them is a criminal.
- The UN was set up to solve global problems, but it only works if we all work together.

Deeper Learning…

State three items that are commonly made by people who are the victims of slavery.

Describe the key features of the United Nations including when and why it was set up.

Explain the ways in which fairtrade helps to improve social justice.
Explain the methods the ways in which the British Values protect UK citizens from slavery or human trafficking.

'The police cannot stop human trafficking on their own'. How far do you agree with this statement?

Activity – Research modern slavery online and produce a fact-file on the topic.

Subject: PSHE. Year 9 The British Values

Key Vocabulary…

Laws	Rules which are set by the government that every single person must follow.
Election	The event at which people vote to choose the government.
Respect	Giving consideration to the feelings, wishes, needs or abilities of another person.
Racism	Prejudice or discrimination based on someone's skin colour or place of origin.
Sexism	Prejudice or discrimination based on someone's gender or biological sex.
Prejudice	Making judgements about someone based on their gender, race, sexual orientation or religion.
Discrimination	Mistreatment of someone based on their gender, race, sexual orientation or religion.
Protest	A public demonstration of dissatisfaction with the rules.
Liberty	Freedom, the right to make decisions about one's own life.

The British Values and Some Other Rights

Democracy	The idea that the people should be able to collectively choose their leaders.
The Rule of Law	The idea that all people should follow the law and be treated equally by the law.
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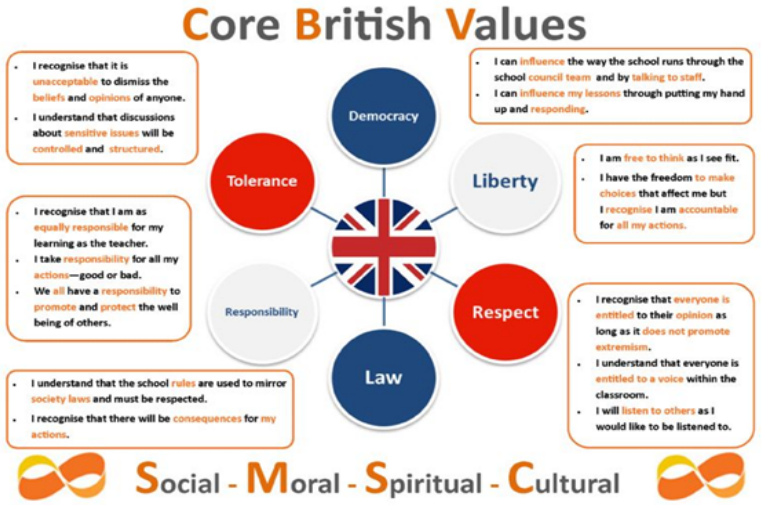


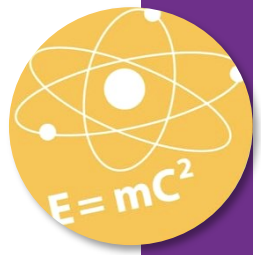
The Big Idea

In many countries the rights and freedoms of the people are not guaranteed and protected by law. We are very lucky in Britain to be living in a country which protects us in this way and allows us to live our lives as we choose, as long as we don't have a negative affect on others.

It has been a long journey through history to gain these rights and freedoms. Democracy, for example, has developed over more than 800 years, beginning with King John being forced by his barons to grant them some basic rights in a document which we now call Magna Carta, signed in the year 1215. Over this period, there have been many people how have fought for the rights of the British people, brave campaigners such as Annie Besant and William Wilberforce, who both worked hard to make sure that eventually all British people would be free and have a say in how the country is governed.

Activity – Research the five key British Values of democracy, the rule of law, individual liberty, mutual respect and freedom of speech. Create a fact-file explaining how these rights and values are protected in Britain.

Notes



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