

ASPIRATION ~ INTEGRITY ~ RESPECT



KNOWLEDGE ORGANISER

CYCLE 1

YEAR 8

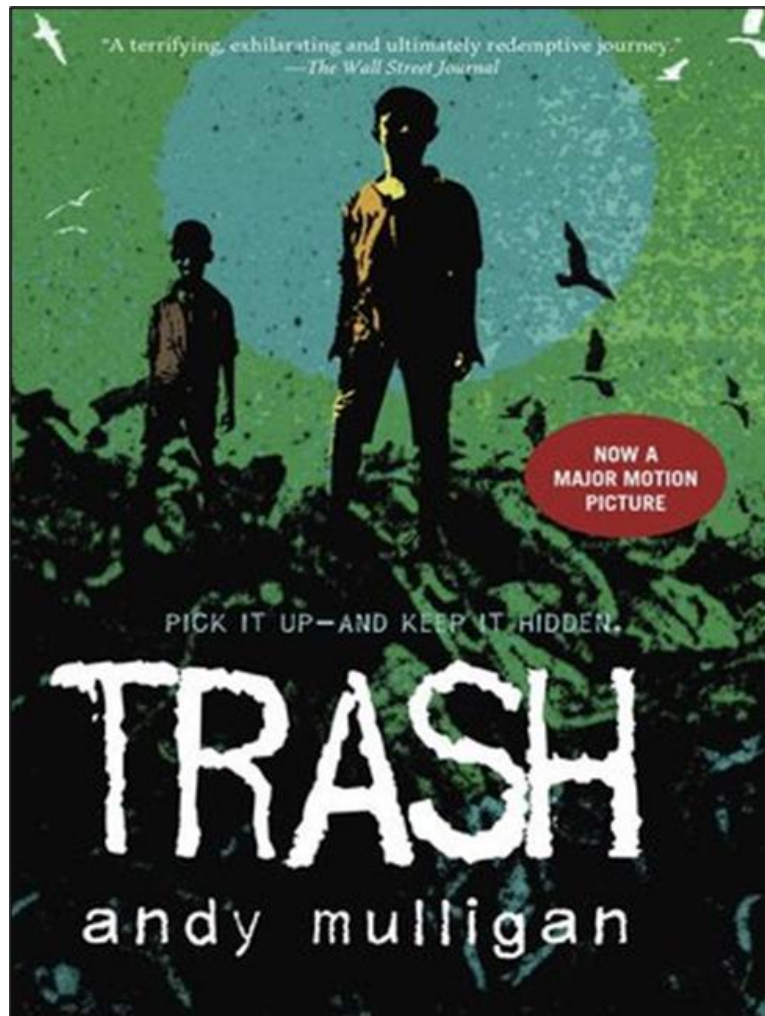




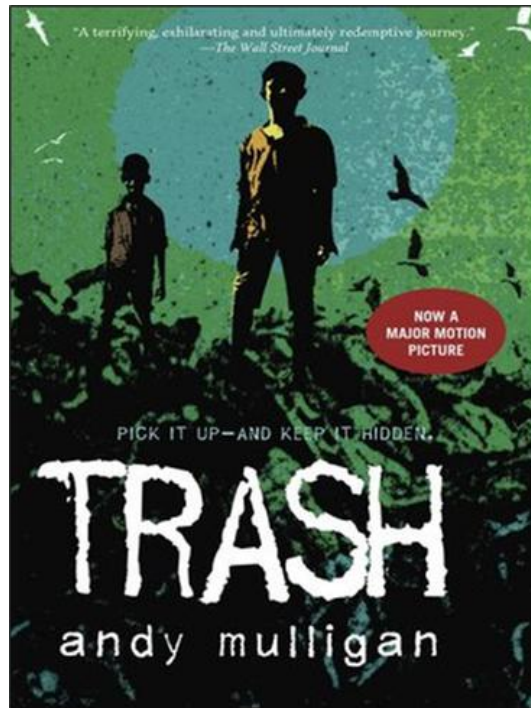
ENGLISH

Trash

During Cycle 1 (9 weeks) we will be reading Andy Mulligan's novel, Trash. Written in 2010 it tells the story of Rat, Raphael and Gardo – three “dumpsite boys” - that find something very special and mysterious!



Keywords for language analysis	Definitions
Simile	Comparing one thing with another thing. The comparison uses the words 'like', 'as' or 'seem'.
Metaphor	A word or phrase where we say something IS something else.
Alliteration	The occurrence of the same letter or sound at the beginning of adjacent or closely connected words.
Personification	Giving human characteristics to something non-human.
Repetition	The action of repeating something important that has already been said or written
Onomatopoeia	The formation of a word from a sound associated with what is named. Buzz.
Verb	A doing word; a word used to suggest an action.
Adjective	A word that describes a noun or pronoun.
Adverb	A word that describes or gives more information about a verb
Noun	A ppt word. The name of something, such as a p erson, animal, p lace, t hing, quality or idea.
Juxtaposition	Putting two things next to each other to highlight the difference.
Hyperbole	Exaggeration for effect.



Set in a developing country (similar to the Philippines), loosely based on upon a real dumpsite, “Smokey Mountain”, in Manila, the capital of the Philippines. Smokey Mountain took up 71.6 acres of land.

Key Characters

Raphael is a fourteen year old dumpsite boy who lives in Behala. He is very proud of being a trash boy. He is a very important member of his family as well as the community as a whole because he is strong and determined. Raphael wants to accomplish things in his life and is willing to work hard to be successful.

Gardo is another strong character. He is like a brother to Raphael and proves this by sticking to his side. Gardo is very caring and shows this many times when he helps Raphael.

Rat is the 3rd boy in the group and is the least fortunate in lots of ways. He’s the most street smart in lots of ways but has low self esteem.

Father Julliardi is in charge of the Pascal Aguila Mission School. He wants to encourage the dumpsite children to attend school but this is a difficult task.

Plot Summary

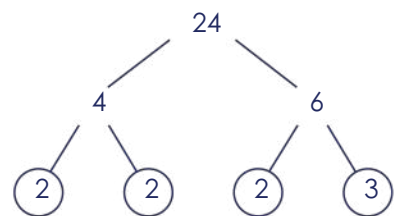
We are immediately introduced to the protagonist at the beginning of chapter 1. Raphael Fernandez is a "trash or dumpsite boy." Along with his friend, Gardo, Raphael rummages through the Behala dumpsite every day, hoping to find treasures to sell. On a good day, Raphael may make two hundred pesos. It's the only way he can survive in his poverty-stricken town. Both Raphael and Gardo are fourteen years old. One day, the boys find a small leather bag that turns their lives upside down. The bag contains a wallet, a folded-up map of the city, a key, eleven hundred pesos, a few old papers, photos, and an ID card. Raphael gives five hundred pesos to Gardo and keeps six hundred for himself. When they look at the ID card, they see that it belongs to a man named Jose Angelico. From the card, they learn that Jose is thirty-three years old, unmarried, employed as a houseboy, and lives in Green Hills. The key has the number 101 on both sides. More importantly, there are photos of Jose and a little girl, presumably his daughter, inside the envelope. Soon, the police come looking for the bag, but Raphael lies to them about his discovery. His aunt becomes uneasy about his lies and begs him to turn the bag over to the police. For his part, Raphael decides against doing so and leaves the next day with Gardo. Both boys decide to take the bag and its contents (minus the money) to a friend (Rat) for safekeeping. For a hundred pesos, Rat agrees to take Gardo and Raphael to Central Station: there's a locker outside of Platform Four, which the key will open. The boys eventually make their way to the station. After unlocking the right locker, Rat retrieves a brown envelope. Inside is a letter with an address. The name above the address is Gabriel Olondriz. Meanwhile, the address is Prisoner 746229, Cell Block 34K, South Wing, Colva Prison. There is also a slip with numbers in the envelope. As the story progresses, Father Julliardi is introduced. He is the sixty-three-year-old administrator of the Pascal Aguila Mission School. As an administrator, his main goal is to educate dump-site children like Gardo, Raphael, and Rat. However, he often experiences little success in getting them to attend school. Meanwhile, Raphael and his two side-kicks trick Father Julliardi into letting them use one of the school computers. This is how they discover information about Jose Angelico and Gabriel Olondriz. Accordingly, Jose Angelico was arrested for robbing Senator Zapanta of six million dollars. Before he was arrested, Jose discarded the leather bag. As for Gabriel Olondriz, he is the father of Dante Jerome; Jerome was the man who adopted Jose when the latter was a child. For his part, Jose wrote to Gabriel Olondriz to entrust his eight-year-old daughter (Pia Dante) to his safekeeping. Sadly, Jose is deceased: he was tortured to death during a police interrogation. Before he died, Jose tried to make provisions for Pia Dante. Meanwhile, Raphael is later arrested and interrogated. During his interrogation, he is physically assaulted. The attacks are terrible, but the police eventually let Raphael go. From Gabriel Olondriz, the boys learn that the numbers on the slip of paper are a type of Bible code. Raphael, Rat, and Gardo eventually crack the code and are led to the Angelico family grave site in the city's cemetery. There, the boys are stumped, until Pia reveals herself nearby. When the boys question Pia, she tells them that she has been waiting at the cemetery for her father, Jose, for about a week. Eventually, the boys notice that one of the graves has Pia's name on it. The story ends on a happy note, however. The boys open Pia's "grave" and find the six million dollars in there. With the money, the children (Raphael, Gardo, Rat, and Pia) make a new life for themselves in Sampalo, Rat's childhood village.

MATHS

KPI 8.01 Powers and Roots

1) Square number	The result of multiplying a number by itself. It will always be positive. The first 12 square numbers are: 1, 4, 9, 16, 25, 36, 49, 64, 81, 100, 121, 144.	2) Square root	The opposite of squaring a number to find the original factor. E.g. $\sqrt{64} = 8$ or -8 because $8^2 = 64$ and $(-8)^2 = 64$
3) Cube number	The result of multiplying a number by itself, then itself again. The first 10 cube numbers are: 1, 8, 27, 64, 125, 216, 343, 512, 729, 1000.	4) Cube root	The opposite of cubing a number to find the original factor. E.g. $\sqrt[3]{8} = 2$ because $2^3 = 8$ Note: $(-2)^3 = -8$ so $\sqrt[3]{-8} = -2$
5) Index notation	Example $a \times a \times a \times a = a^4$. The number 4 is called the index (plural indices). This tells us how many times the "base" a has been multiplied by itself.		
6) Multiplying powers	$a^m \times a^n = a^{m+n}$ ADD the powers only if the bases are the same. E.g. $a^5 \times a^3 = a^8$	7) Dividing powers	$a^m \div a^n = a^{m-n}$ SUBTRACT the powers only if the bases are the same. E.g. $a^6 \div a^2 = a^{6-2} = a^4$
8) Indices with brackets	$(a^m)^n = a^{m \times n}$ MULTIPLY the powers. E.g. $(a^3)^5 = a^{15}$	9) Indices with brackets	$(ab)^n = a^n \times b^n$ Raise each number or variable to the same power. E.g. $(2p)^4 = 2^4 \times p^4 = 16p^4$
10) Power of 0	$a^0 = 1$. Any number or variable to the power of zero equals 1.	11) Power of $\frac{1}{2}$	$a^{\frac{1}{2}} = \sqrt{a}$ E.g. $16^{\frac{1}{2}} = \sqrt{16} = 4$

KPI 8.02 Prime Factorisation

1) Prime numbers	A prime number only has two distinct factors: 1 and itself. 2 is the only even prime number. 1 is not a prime number. Prime numbers between 1 and 100: 2, 3, 5, 7, 11, 13, 17, 19, 23, 29, 31, 37, 41, 43, 47, 53, 59, 61, 67, 71, 73, 79, 83, 89, 97.		
2) Prime factor decomposition	The process of expressing a number as a product of its prime factors. $24 = 2 \times 2 \times 2 \times 3 \rightarrow 24 = 2^3 \times 3$	3) Prime factor trees	

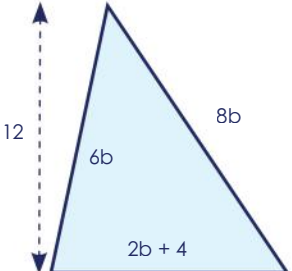
KPI 8.03 Rounding

1) Significant figures	The total number of digits in a number, not counting zeros at the beginning of a number or at the end of a decimal number. 345 000 has 6 significant figures. 0.3047 has 4 significant figures. 10.500 has 3 significant figures.						
2) Rounding to significant figures	Round to...	0.0076 ~~3~~ 8 to 3 sf	0.007 ~~6~~ 38 to 2 sf	0.00 ~~7~~ 638 to 1 sf	2.0 ~~5~~ 07 to 3 sf	2. ~~0~~ 507 to 2 sf	~~2~~ .0507 to 1 sf
	Answer	0.00764	0.0076	0.008	2.05	2.1	2
3) Estimate	Find a rough or approximate answer by calculating with numbers rounded to one significant figure. e.g. $2.3 \times 18.4 \approx 2 \times 20 = 40$ $\approx$ "approximately equal to"						

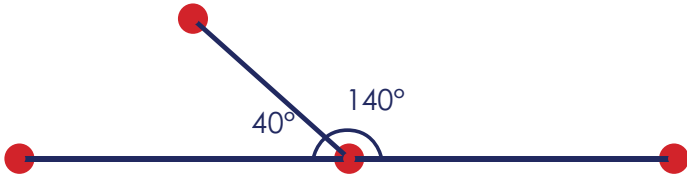
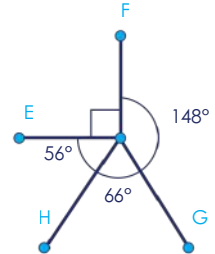
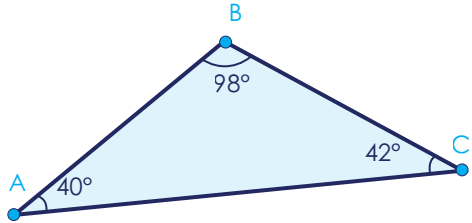
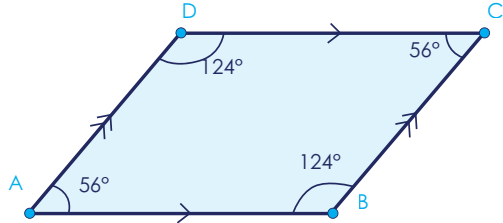
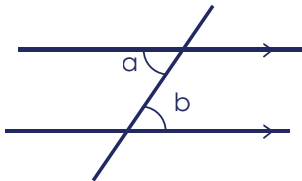
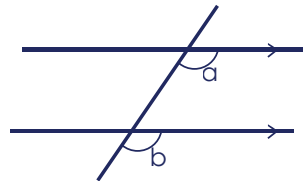
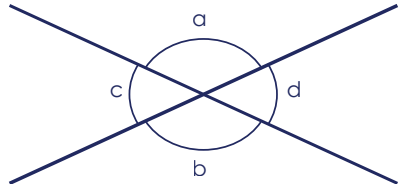
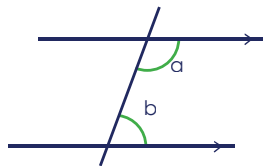
KPI 8.04 Fractions

1) Converting an improper fraction to a mixed number	$\frac{15}{7} = 2\frac{1}{7}$	2) Converting a mixed number to an improper fraction	$3\frac{4}{5} = \frac{(3 \times 5) + 4}{5} = \frac{19}{5}$
3) Adding and subtracting fractions	Make the denominators the same (find the LCM). Use equivalent fractions to ensure fractions have a common denominator. Add/subtract the numerators only.	$\frac{2}{7} + \frac{2}{5} = \frac{2 \times 5}{7 \times 5} + \frac{2 \times 7}{5 \times 7} = \frac{10}{35} + \frac{14}{35} = \frac{24}{35}$	
4) Multiplying fractions	Multiply the numerators. Multiply the denominators. Simplify where possible.	$\frac{4}{5} \times \frac{8}{8} = \frac{4 \times 8}{5 \times 8} = \frac{32}{40} = \frac{4}{5}$	
5) Dividing fractions	Keep the first fraction the same. Change the second to its reciprocal. Multiply the fractions. Simplify or convert to a mixed number where possible.	$\frac{4}{5} \div \frac{3}{8} = \frac{4}{5} \times \frac{8}{3} = \frac{32}{15} = 2\frac{2}{15}$	

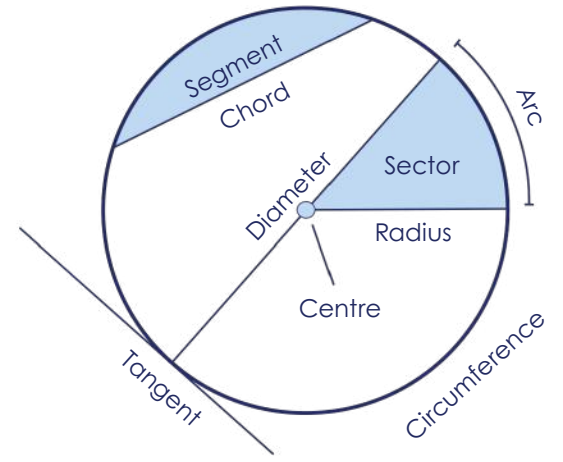
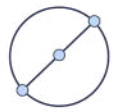
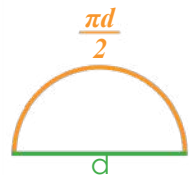
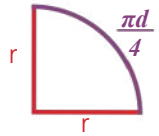
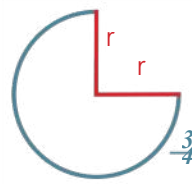
KPI 8.05 Solving Equations 1

1) Inverse operations	Addition and Subtraction are inverse operations. Multiplication and Division are inverse operations. Squaring and taking the square root are inverse operations.	2) Variable	A letter used to represent any number.
3) Coefficient	The number to the left of the variable. This is the value that we multiply the variable by. $4x$ → The coefficient of x is 4. x → The coefficient of x is 1.	4) Term	A single number, variable or numbers and variables multiplied together.
5) Collecting like terms	Combining the like terms in an expression. $7x + 3y - 2x$ is simplified to $5x + 3y$.	6) Expression	A mathematical statement which contains one or more terms combined with addition and/or subtraction signs E.g. $4x + 3y$.
7) Linear equation	Contains an equals sign (=) and has one unknown. E.g. $5x - 2 = 2x + 7$.		
8) Solve	Use inverse operations to find the solution of an equation. E.g. 1. (One step)		
	$\begin{array}{ccc} & x = 12 & \\ x4 & & x4 \\ & x = 48 & \end{array}$	E.g. 2. (Two step) $\begin{array}{ccc} 3p - 7 = 8 & & \\ +7 & & +7 \\ 3p = 15 & & \\ \div 3 & & \div 3 \\ p = 5 & & \end{array}$	E.g. 3. (Unknown on bothsides) $\begin{array}{ccc} 2x + 10 = 19 - 9x & & \\ +9x & & +9x \\ 11x + 10 = 19 & & \\ -10 & & -10 \\ 11x = 9 & & \\ \div 11 & & \div 11 \\ x = \frac{9}{11} & & \end{array}$
9) Form and solve a linear equation	E.g. 1 Jake is y years old. Lilly is 15. Kobe is 3 years younger than Jake. They have a total age of 36. Work out their individual ages. $\begin{array}{l} y + 15 + y - 3 = 36 \\ 2y + 12 = 36 \\ 2y = 24 \\ y = 12 \end{array}$ Jake: 12, Lily: 15, Kobe: 9	E.g. 2 The area of the triangle is 120 cm^2 . Find the value of b .  $\begin{array}{l} \frac{12(2b + 4)}{2} = 120 \\ \frac{24b + 48}{2} = 120 \\ 12b + 24 = 120 \\ 12b = 96 \\ b = 8\text{cm} \end{array}$	

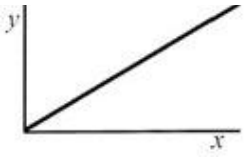
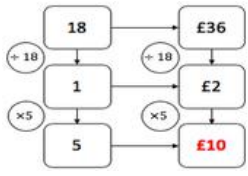
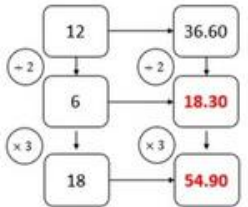
KPI 8.06 Angles in Parallel Lines 1

1) Parallel lines	Always equidistant. Parallel lines have the same gradient. They never meet however far they are extended.		
2) Angles on a straight line	Angles on a straight line sum to 180° 	3) Angles around a point	Angles around a point sum to 360° 
4) Angles in a triangle	Angles in a triangle sum to 180° 	5) Angles in a quadrilateral	Angles in a quadrilateral sum to 360° 
6) Alternate angles	Alternate angles are equal, so $a = b$ 	7) Corresponding angles	Corresponding angles are equal, so $a = b$ 
8) Vertically opposite angles	Vertically opposite angles are equal, so, $a = b$ and $c = d$ 	9) Co-interior angles	Co-interior angles sum to 180° , so $a + b = 180^\circ$ 

KPI 8.07 Circumference

1) Diameter	A straight line going straight through the centre of the circle and touching the circumference at each end.		
2) Radius Plural: radii	A straight line joining the centre to the circumference.		
3) Chord	A straight line joining any two parts of the circumference.		
4) Tangent	A straight line that touches the circumference at a single point.		
5) Arc	A section of the circumference.		
6) Sector	The area bound by two radii and an arc.		
7) Segment	The area bound by the circumference and a chord.		
8) Circumference	The perimeter of the circle. $C = \pi \times \text{diameter}$ $C = \pi d$ $d = 5\text{cm}$  $c = \pi d$ $c = \pi \times 5$ $c = 5\pi \text{ cm}$ $c = 15.70796327\text{cm}$ $c = 15.7\text{cm (3sf)}$	9) π (Pi)	The ratio of a circle's circumference to its diameter. It has an estimated value of $\frac{22}{7}$ or 3.14 rounded to 3 significant figures.
10) Revolution	A revolution is a full turn of a circle. The distance covered by one revolution is equal to the circumference of the circle.	13) Semi circle	 Perimeter $\frac{\pi d}{2} + d$
12) Quarter- circle	 Perimeter $\frac{\pi d}{4} + 2r$	14) Three-quarter circle	 Perimeter $\frac{3}{4}\pi d + 2r$

KPI 8.08 Direct Proportion

1) Proportion	A relationship between two quantities.	2) Direct proportion	A relationship between two variables where, as one increases, the other also increases. The graphical representation of this relationship is a straight line through the origin. 
3) Unitary method	To find the value of one unit first. 	5) Best buy	Better value for money means that the cost is cheaper when buying an identical item or amount. Equal quantities must be compared.
4) Multiple intersections		6) Recipes	Option 1: Find the amount of ingredients needed for a specific number of people. Option 2: Find how much of the recipe can be made with the quantities available in the question.

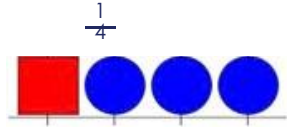
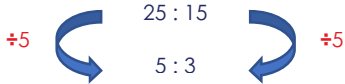
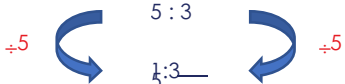
KPI 8.09 Fractions, Decimals and Percentages

1) Common conversions	<table><tr><th>Fraction</th><th>Decimal</th><th>Percentage</th></tr><tr><td>$\frac{1}{10}$</td><td>0.1</td><td>10%</td></tr><tr><td>$\frac{1}{8}$</td><td>0.125</td><td>12.5%</td></tr><tr><td>$\frac{1}{5}$</td><td>0.2</td><td>20%</td></tr><tr><td>$\frac{1}{4}$</td><td>0.25</td><td>25%</td></tr><tr><td>$\frac{1}{3}$</td><td>0.33333....</td><td>33.3% (1dp)</td></tr><tr><td>$\frac{1}{2}$</td><td>0.5</td><td>50%</td></tr><tr><td>$\frac{3}{4}$</td><td>0.75</td><td>75%</td></tr><tr><td>$\frac{1}{1}$</td><td>1</td><td>100%</td></tr></table>	Fraction	Decimal	Percentage	$\frac{1}{10}$	0.1	10%	$\frac{1}{8}$	0.125	12.5%	$\frac{1}{5}$	0.2	20%	$\frac{1}{4}$	0.25	25%	$\frac{1}{3}$	0.33333....	33.3% (1dp)	$\frac{1}{2}$	0.5	50%	$\frac{3}{4}$	0.75	75%	$\frac{1}{1}$	1	100%	2) Fraction to decimal	Divide the numerator by the denominator. $\frac{1}{5} \rightarrow 1 \div 5 \rightarrow 0.2$ $5 \overline{) 1.10}$
		Fraction	Decimal	Percentage																										
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$\frac{1}{1}$	1	100%																												
3) Decimal to percentage	Multiply by 100 and add the percentage symbol. $0.09 \rightarrow 0.09 \times 100 = 9\%$																													
4) Percentage to fraction	Write the percentage as the numerator and make 100 the denominator. Simplify if possible. $30\% \rightarrow \frac{30}{100} = \frac{3}{10}$																													
4) Percentage change	Percentage Increase or Decrease = $\frac{\text{Change}}{\text{Original}} \times 100$																													

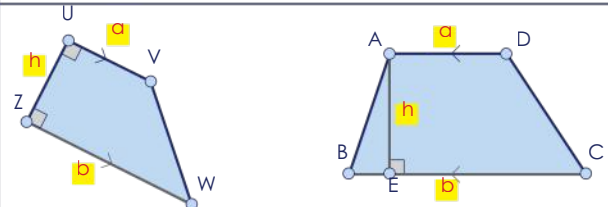
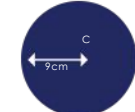
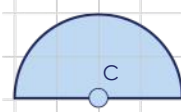
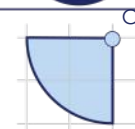
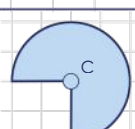
KPI 8.10 Percentages Calculations

1) Multiplier	A percentage written as a decimal is the percentage multiplier.	2) Percentage of an amount with a calculator	The percentage multiplier multiplied by the amount.
3) Percentage change	$\frac{\text{difference}}{\text{original}} \times 100$	4) Reverse percentages	$\text{original} = \frac{\text{new amount}}{\text{multiplier}}$

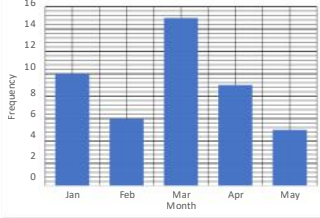
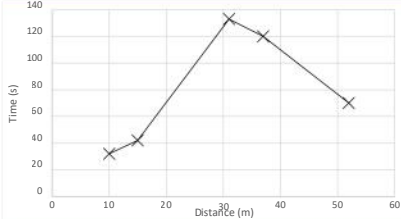
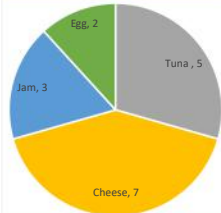
KPI 8.11 Ratio 1

1) Ratio	A part-to-part comparison. The ratio of a to b is written a:b	2) Ratio as a fraction	Fraction of shapes which are squares: 
3) Equivalent ratios	Found by multiplying or dividing all parts of the ratio by the same number.		Fraction of shapes which are circles: 
4) Simplifying ratios	Ratios can be simplified by dividing each part of the ratio by the same number. 	5) Sharing into a given ratio	Add the parts together. Divide the total by this. Multiply this by each part of the ratio. Share £18 in the ratio of 5:4 Add the parts → $4 + 5 = 9$ parts $£18 \div 9 = £2 \rightarrow 1 \text{ part} = £2$ 5 parts: $5 \times £2 = £10$ 4 parts: $4 \times £2 = £8$ £10: £8
6) Unitary Ratio	Write the ratio 5:3 in the form 1:n 		

KPI 8.12 Area of Circles

1) Trapezium	Quadrilateral with one pair of parallel sides.	2) Isosceles trapezium	Quadrilateral with one pair of parallel side and two right angles.
3) Area of trapezium	Sum of the parallel sides. Divide by 2. Multiply by the vertical height.	$A = \left(\frac{a+b}{2}\right) \times h$	
4) Area of a circle	$A = \pi r^2$ $A = \pi \times 9^2$ $A = 81\pi \text{ cm}^2$ 	5) Area of a semi-circle	$A = \frac{\pi r^2}{2}$ 
6) Area of a quarter-circle	$A = \frac{\pi r^2}{4}$ 	7) Area of a three-quarter circle	$A = \frac{3\pi r^2}{4}$ 

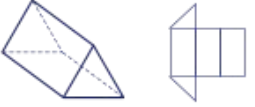
KPI 8.13 Statistics 1

1) Frequency table	A table showing how often (frequent) something occurs. Can include tally charts. <table><tr><th>Score</th><th>Tally</th><th>Frequency (<i>f</i>)</th></tr><tr><td>1</td><td> </td><td>4</td></tr><tr><td>2</td><td> </td><td>9</td></tr><tr><td>3</td><td> </td><td>6</td></tr><tr><td>4</td><td> </td><td>8</td></tr><tr><td>5</td><td> </td><td>3</td></tr><tr><td>6</td><td> </td><td>1</td></tr></table>	Score	Tally	Frequency (<i>f</i>)	1		4	2		9	3		6	4		8	5		3	6		1	2) Bar chart	A way of displaying data, using horizontal or vertical bars which are the same width and have gaps between them. Data can also be presented in dual and composite bar charts in which case a key word would be used. Bar Chart 
Score	Tally	Frequency (<i>f</i>)																						
1		4																						
2		9																						
3		6																						
4		8																						
5		3																						
6		1																						
3) Line graph	Uses lines to join points on a graph to represent a data set. 	4) Pie chart	Method of displaying proportional information by dividing a circle up into different-sized sectors. 																					
5) Stem and Leaf diagrams	Presents data in a table where the place value columns are split. For example, the tens and the ones columns may be split where the tens become the "stem" and the ones become the "leaf". Stem and lead diagrams come with a key and must always be written in order. <table><tr><td>12</td><td>5</td></tr><tr><td>34</td><td>31</td></tr><tr><td>27</td><td>22</td></tr><tr><td>19</td><td>6</td></tr><tr><td>39</td><td>40</td></tr></table><table><tr><td>0</td><td>5 6</td></tr><tr><td>1</td><td>2 9</td></tr><tr><td>2</td><td>2 7</td></tr><tr><td>3</td><td>1 4 9</td></tr><tr><td>4</td><td>0</td></tr></table> Key 2 9 = 29			12	5	34	31	27	22	19	6	39	40	0	5 6	1	2 9	2	2 7	3	1 4 9	4	0	
12	5																							
34	31																							
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0	5 6																							
1	2 9																							
2	2 7																							
3	1 4 9																							
4	0																							

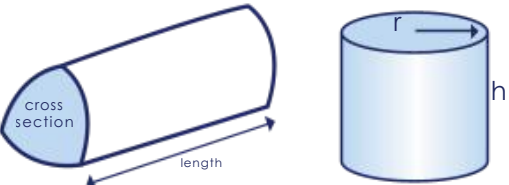
KPI 8.14 Averages and spread

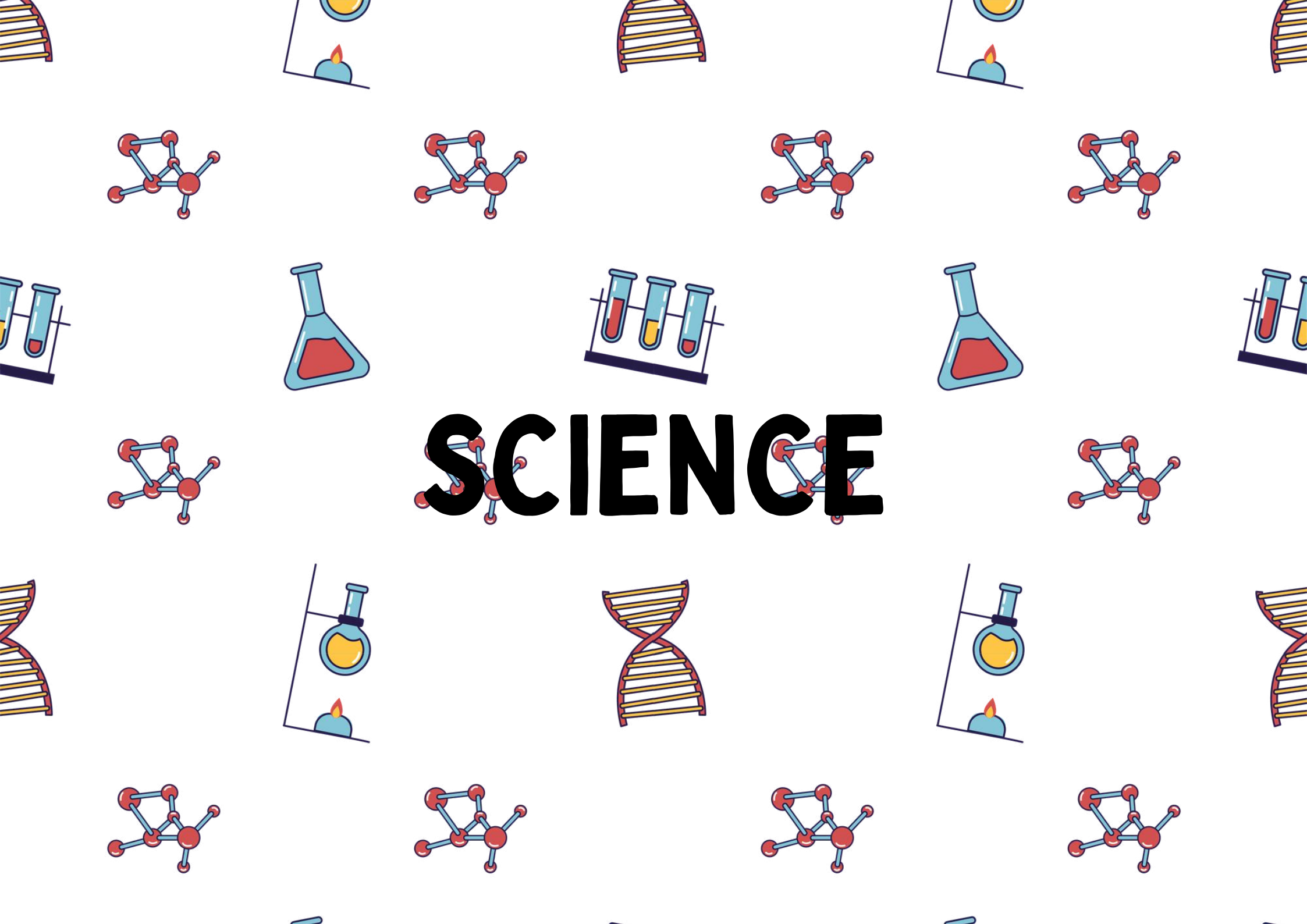
1) Average	The central or typical value in a data set. There are three types of averages: mode, median and mean.	2) Mode	The most common/frequent value from a set of data. Mode of 3, 3, 6, 7, 7, 7, 8, 9, 10 = 7
3) Median	The middle value when the data is in order. Median of 9, 5, 15, 6, 8 → 5, 6, 8, 9, 15 = 8	4) Mean	Add up all the numbers and divide the total by how many numbers there are. Mean of 7, 8, 9: $\frac{7+8+9}{3} = \frac{24}{3} = 8$
5) Range	A measure of the spread of the data, = Largest Value – Smallest Value.		
6) Reversing the mean	If we have the mean but one of the data points is missing, we can find the missing value by: 1) Multiplying the 'mean' by the number of data points to get the total of the values; 2) Subtracting the sum of the known values from the total of all values.		E.g. The mean of three numbers is 5. Two of the numbers are 3 and 10. Find the third value. Total of the values: $5 \times 3 = 15$ $15 - (3 + 10) = 2$ The third value is 2

KPI 8.15 3D Visualisation

1) Face	A face is a single flat surface.	2) Edge	An edge is a line segment between faces.	3) Vertex	A vertex is a corner.
4) Cube	6 faces 12 edges 8 vertices 	5) Cuboid	6 faces 12 edges 8 vertices 	6) Triangular prism	5 faces 9 edges 6 vertices 
7) Pentagonal prism	7 faces 15 edges 10 vertices 	8) Square-based pyramid	5 faces 8 edges 5 vertices 	9) Triangular-based pyramid	4 faces 6 edges 4 vertices 
10) Cylinder	3 faces 2 edges 0 vertices 	11) Cone	2 faces 1 edge 1 vertex 	12) Sphere	1 face 0 edges 0 vertices 

KPI 8.16 Volume

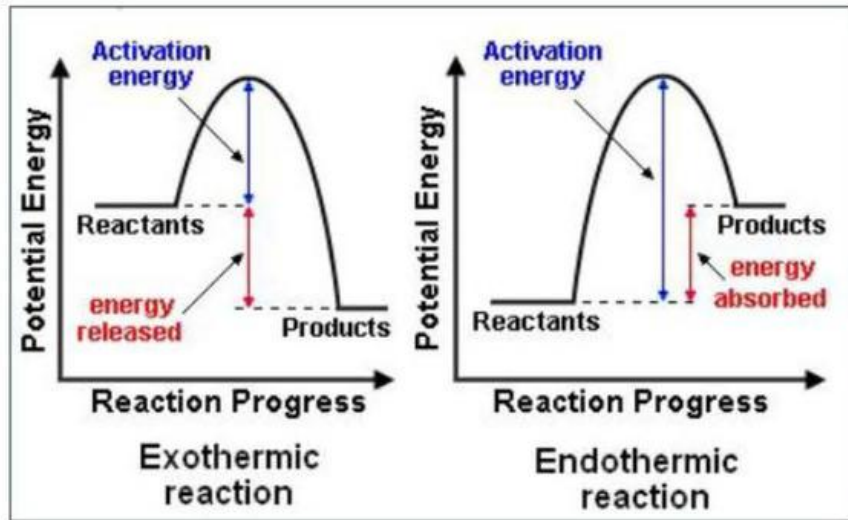
1) Volume	The volume of a solid body is the amount of 'space' it occupies. It is measured in cubic units e.g. cubic centimetres (cm³).		
2) Volume of a prism	Volume of a prism = area of cross section × length Volume of cylinder = $\pi r^2 h$ 	3) Units of capacity	1 L = 1000 ml; 1 L = 1000 cm³

The background features a repeating pattern of various scientific icons. These include DNA double helix structures, molecular models with red and blue spheres, laboratory glassware like Erlenmeyer flasks and test tubes containing colored liquids, and a Bunsen burner with a flame. The word "SCIENCE" is centered in a large, bold, black font, with a molecular model integrated into the letter "S".

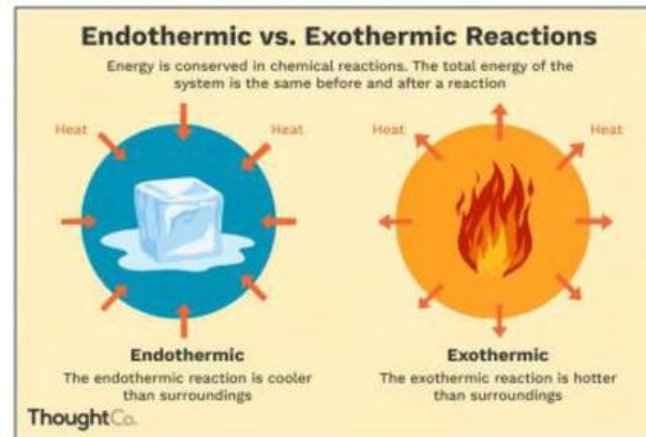
SCIENCE

Year 8 Cycle 1 - Science

Key concept- Exothermic and endothermic reactions



Endothermic	More heat taken in than given out to the surroundings.
Exothermic	More heat given out than taken in from the surroundings.



Endothermic

- Cold packs are **endothermic** – they make the surroundings **colder**
- Heat is taken from the surroundings and transferred to the object
- Examples include **melting** and **boiling**

In cold packs, two chemicals are mixed together to create a reaction which makes the surroundings colder.



Exothermic

- Hand warmers are **exothermic** – they make the surroundings **warmer**
- Heat is transferred from the object to the surroundings and makes it feel warmer
- Examples include **condensing** and **freezing**

In hand warmers, an exothermic reaction is caused by two substances being mixed together – this gives off heat.



Examples of exothermic reactions are combustion, most oxidation reactions and neutralisation.

Examples of endothermic reactions are thermal decomposition reactions and the reaction of citric acid with sodium hydrogencarbonate.

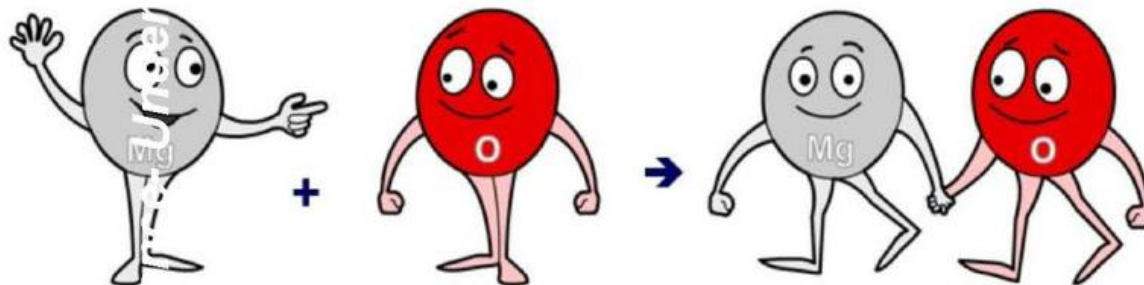
Key Concept- Hazards

Risk	The potential for harm
Hazard	Something that may cause harm

Hazard symbol	Meaning	Typical hazard
	Moderate health hazard	Causes skin irritation
	Serious health hazard	Causes breathing difficulties
	Toxic	Could cause death if swallowed or inhaled
	Corrosive	Damages skin and clothing
	Flammable	Catches fire easily
	Oxidising	Makes flammable substances burn more fiercely
	Harmful to the environment	Could cause damage to animal and plant life

Key concept- Oxidation and Combustion

Oxidation and Combustion	
balanced chemical equation	A chemical equation written using the symbols and formulae of the reactants and products, so that the number of units of each element present is the same on both sides of the arrow.
base	A substance that reacts with an acid to neutralise it and produce a salt.
chemical change	A type of stored energy. It is taken in when chemical bonds break, and given out when chemical bonds are made.
combustion	The process of burning by heat.
oxidation	The gain of oxygen, or loss of electrons, by a substance during a chemical reaction.
reduction	The loss of oxygen, or gain of electrons, by a substance during a chemical reaction.



1. How to recognise oxidation

Oxidation is a chemical reaction where a substance gains oxygen.

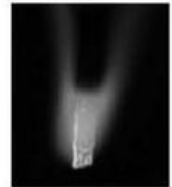
Example: heated magnesium reacts with oxygen

magnesium + oxygen → magnesium oxide



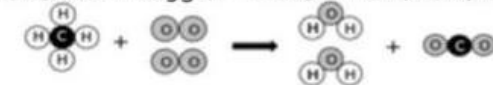
Magnesium and oxygen atoms combine.

Oxidation makes compounds called oxides.



Burning, or **combustion**, is a type of oxidation. Example: Methane gas in a Bunsen burner:

methane + oxygen → water + carbon dioxide



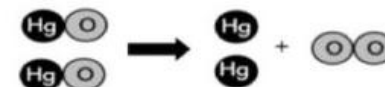
The carbon and hydrogen atoms are both oxidised.

2. How to recognise reduction

Reduction is a chemical reaction where a substance loses oxygen.

Example: Heating mercury oxide:

mercury oxide → mercury + oxygen

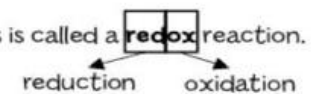


Mercury oxide loses oxygen to form mercury.

Since mercury oxide breaks up, the reaction is called **decomposition**.

2. How to recognise a redox reaction

Oxidation and reduction can happen together. This is called a **redox** reaction.



Example: heating copper oxide with carbon.

copper oxide + carbon → copper + carbon monoxide



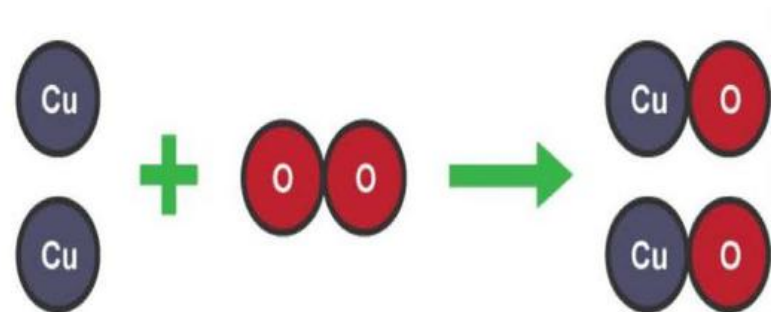
Reduction: copper oxide loses oxygen to form copper.

Oxidation: carbon gains oxygen to form carbon monoxide.

Year 8 Cycle 1 - Science

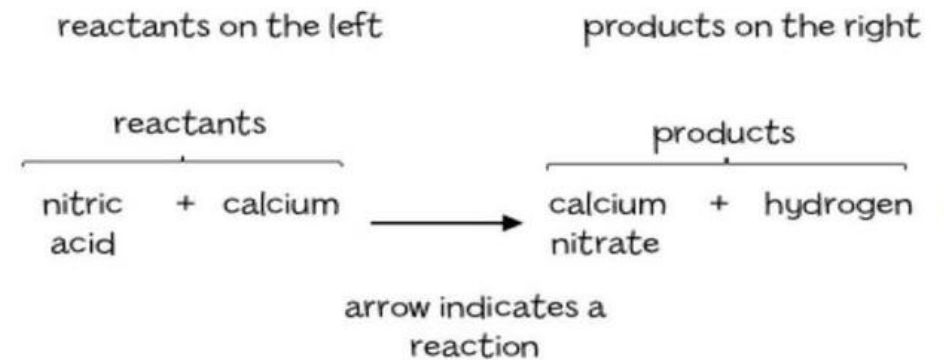
Key concept- Conservation of mass

Conservation of Mass	
Product	A substance formed in a chemical reaction.
Reactants	Substances present at the start of a chemical reaction.
Word equation	An equation in which only the names of the reactants and products are used to model a reaction.



1. How a word equation shows a reaction

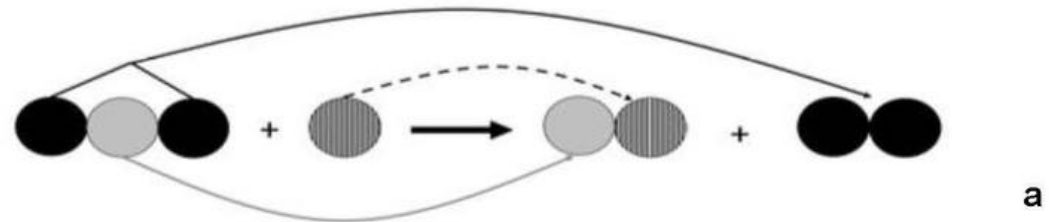
A **word equation** is a summary of the reactants and products:



2. How a reaction rearranges atoms

If we could zoom into a chemical reaction, we would see the atoms changing places. No atoms are lost or made.

We can show this in a particle diagram. Each circle shows an atom.



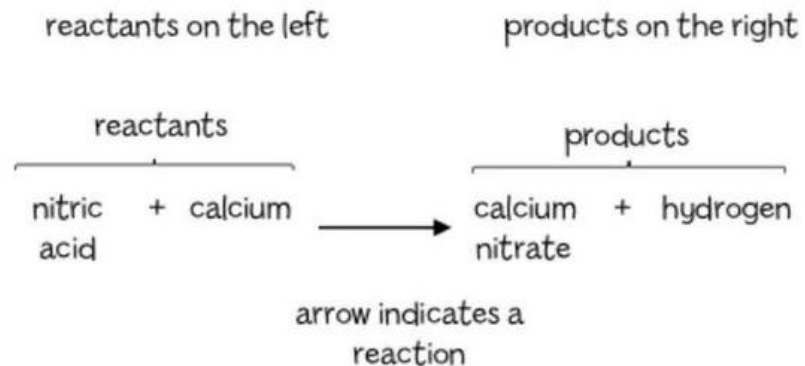
If you know the atoms in the reactants, you can work out what products the atoms become when they rearrange.

3. Heat or light product

Year 8 Cycle 1 - Science

1. How a word equation shows a reaction

A **word equation** is a summary of the reactants and products:



1. How to recognise oxidation

Oxidation is a chemical reaction where a substance gains oxygen.

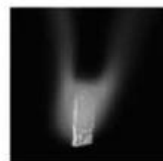
Example: heated magnesium reacts with in oxygen

magnesium + oxygen → magnesium oxide



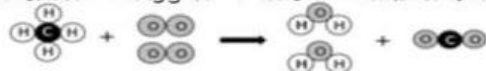
Magnesium and oxygen atoms combine.

Oxidation makes compounds called oxides.



Burning, or **combustion**, is a type of oxidation.
Example: Methane gas in a Bunsen burner:

methane + oxygen → water + carbon dioxide



The carbon and hydrogen atoms are both oxidised.

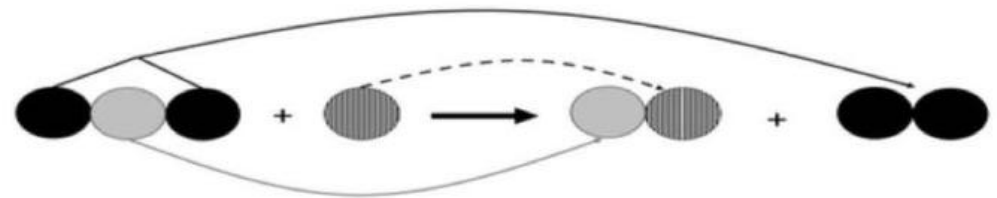


magnesium + oxygen → magnesium oxide

2. How a reaction rearranges atoms

If we could zoom into a chemical reaction, we would see the atoms changing places. No atoms are lost or made.

We can show this in a particle diagram. Each circle shows an atom.



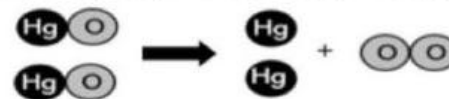
If you know the atoms in the reactants, you can work out what products the atoms become when they rearrange.

2. How to recognise reduction

Reduction is a chemical reaction where a substance loses oxygen.

Example: Heating mercury oxide:

mercury oxide → mercury + oxygen



Mercury oxide loses oxygen to form mercury.

Since mercury oxide breaks up, the reaction is called **decomposition**.

2. How to recognise a redox reaction

Oxidation and reduction can happen together. This is called a **redox** reaction.



Example: heating copper oxide with carbon.

copper oxide + carbon → copper + carbon monoxide



Reduction: copper oxide loses oxygen to form copper.

Oxidation: carbon gains oxygen to form carbon monoxide.

Year 8 Cycle 1 - Science

Key Concept- Chemical and Physical Change

8RP- Reactants and Products

Key words and definitions

Product	A substance formed in a chemical reaction.
Reactants	Substances present at the start of a chemical reaction.
Word equation	An equation in which only the names of the reactants and products are used to model a reaction.
Balanced chemical equation	A chemical equation written using the symbols and formulae of reactants and products, so that the number of units of each present in the same on both sides of the arrow.
Combustion	The process of burning by heat.
Physical change	The appearance of a substance changes.
Chemical change	A new substance forms.
Thermal Decomposition	The breakdown of a compound using heat
Compound-	Made up of 2 or more different atoms chemically joined

PHYSICAL CHANGES

In a physical change, matter changes form but not chemical identity.



CHEMICAL CHANGES

In a chemical change, a chemical reaction occurs and new products are formed.

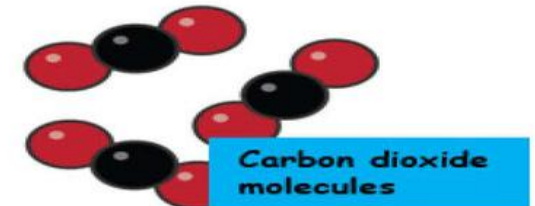
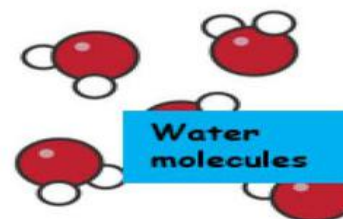


The Section 3: Compounds

A **compound** is a substance that contains atoms of two or more different elements, and these atoms are **chemically joined together**. For example, water is a compound of hydrogen and oxygen. Each of its molecules contains two hydrogen atoms and one oxygen atom.

A physical change means no new substances are made.

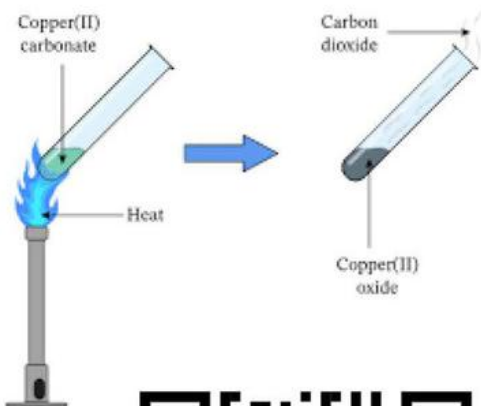
Evidence of physical change	Evidence of chemical change
Change of state	New substance forms
Making a mixture	Fizzing
Easily reversed	Produces heat or light



Year 8 Cycle 1 - Science

Key Concept- Thermal Decomposition

- Thermal means heat. Decomposing is the process of breaking down.
- Thermal decomposition is a chemical reaction that happens when a compound breaks down when heated.



Thermal decomposition reactions happen at high temperatures. The reactants absorb lots of energy as they break down into the *products*.

The starting *compound* is the *reactant*. It breaks down to simpler substances, which could be *elements* or they could be compounds.

Thermal decomposition reactions are examples of *endothermic* reactions, and are useful when cooking and baking cakes.



Year 8 Cycle 1 - Science

8TO – Tissues and Organs

Key words and definitions

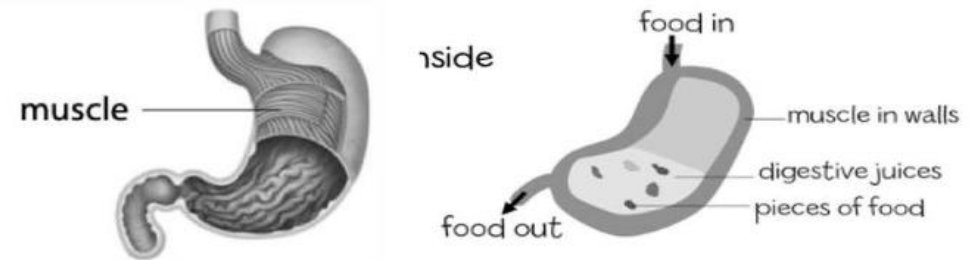
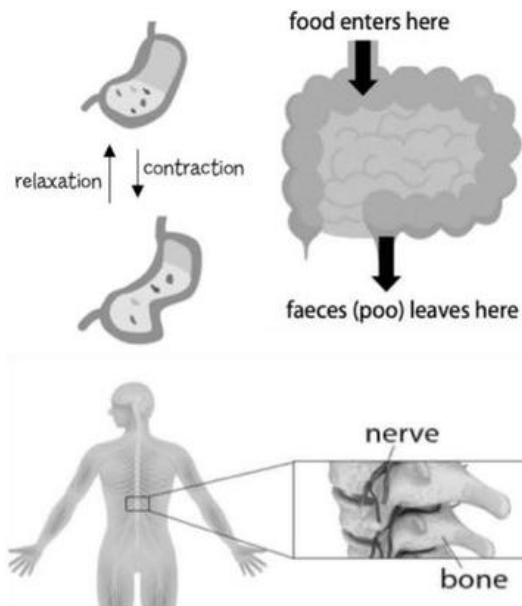
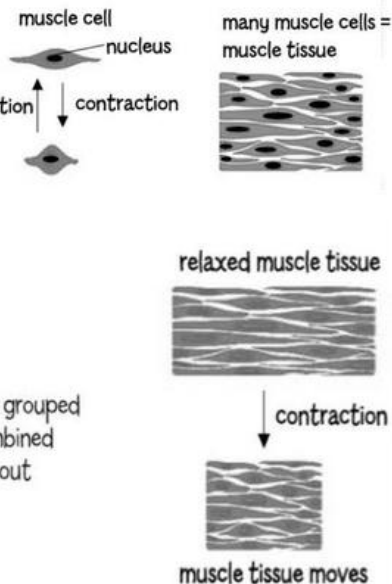
Cell	The basic building blocks of all living things. They provide structure for the body, take in nutrients from food, convert those nutrients into energy, and carry out specialized functions.
Tissue	A group of cells with a similar structure, organised to carry out specific functions.
Organ	a self-contained group of tissues that performs a specific function in the body.
Organ system	groups of organs within the body that can be thought of as working together as a unit to carry out specific tasks or functions within the body.
Organisms	Living things that are capable of reacting to stimuli, reproduction, growth, and homeostasis.
Multicellular	Organisms that consist of more than one cell, in contrast to unicellular organisms

Muscle tissue is made up of many muscle cells.

A muscle cell gets shorter (contracts) when a nerve stimulates it.

Then it relaxes to its original shape.

When muscle cells are grouped into a tissue their combined contraction brings about movement.



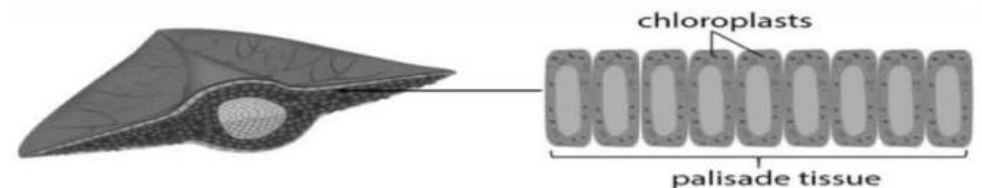
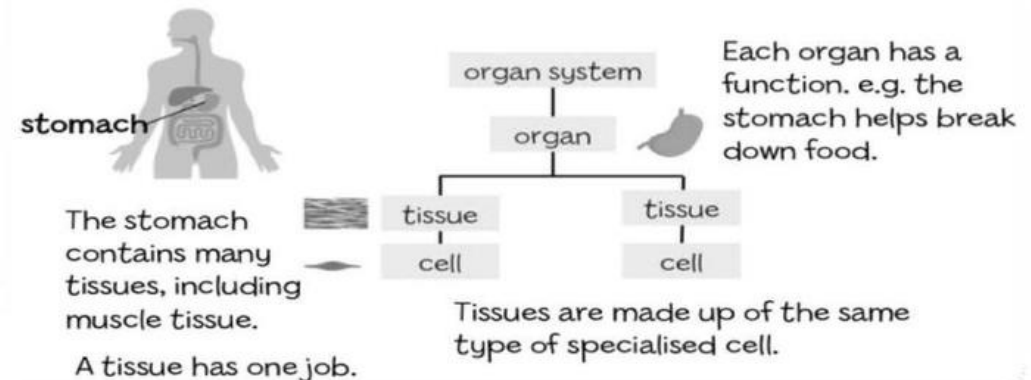
How cells, tissues and organs are related

In multicellular organisms, cells are organised into tissues, organs and systems that work together so each cell is kept alive.

It's a hierarchy. At the top is an organ system.

Organ systems are made up of many different organs.

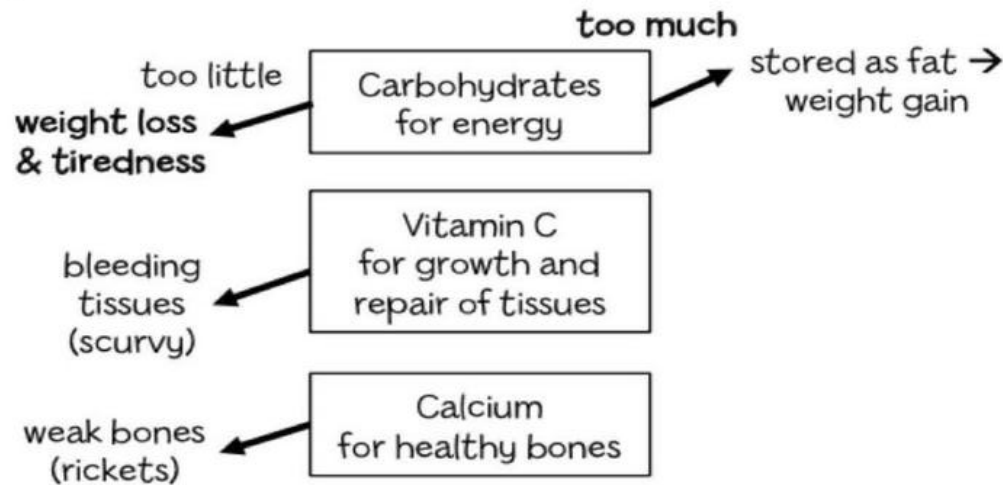
e.g. the stomach is part of the digestive system.



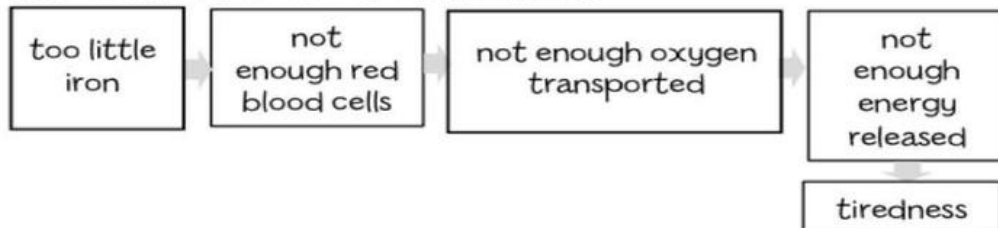
Year 8 Cycle 1 - Science

We need moderate amounts of each main nutrient: carbohydrate, fat, protein
Together these make a balanced diet.

Plus tiny amounts of vitamins and minerals.

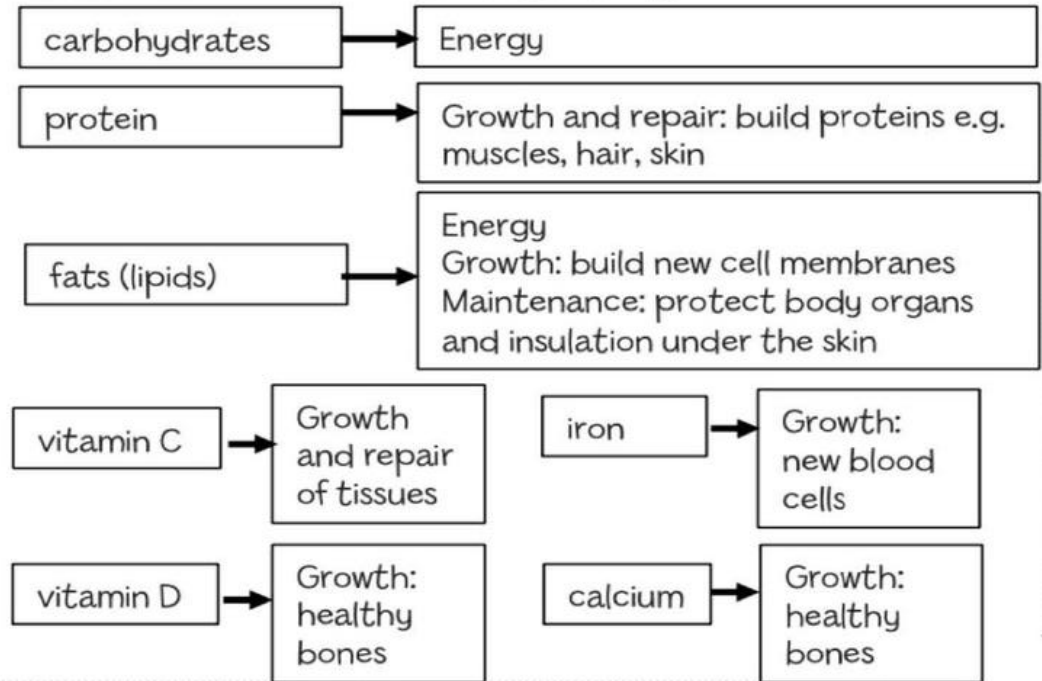


So if there is not enough iron, then I can show how the cause (too little iron) leads to the effect (tiredness).

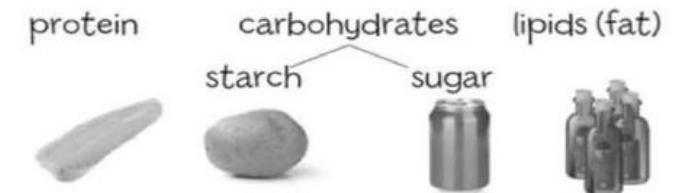


nutrient

use in the body



Main components of a balanced diet.



The amount depends on:

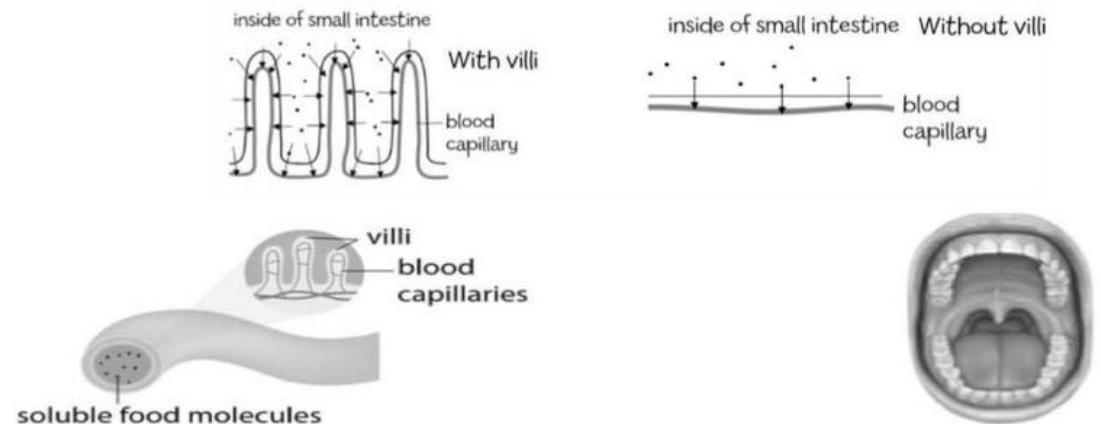
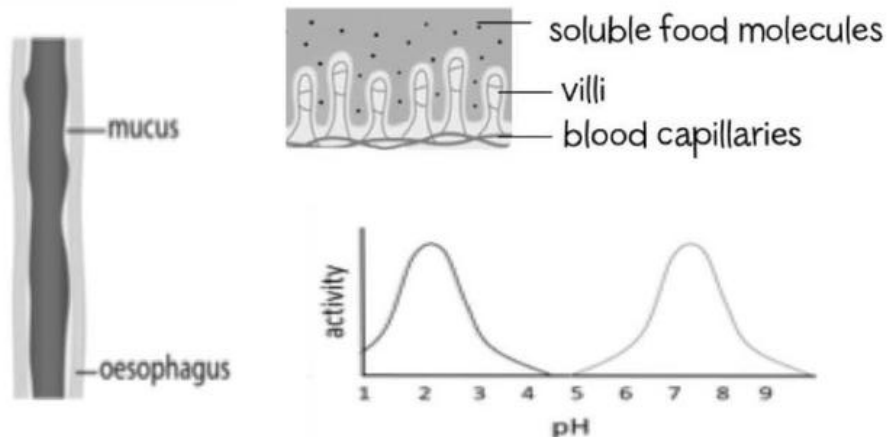
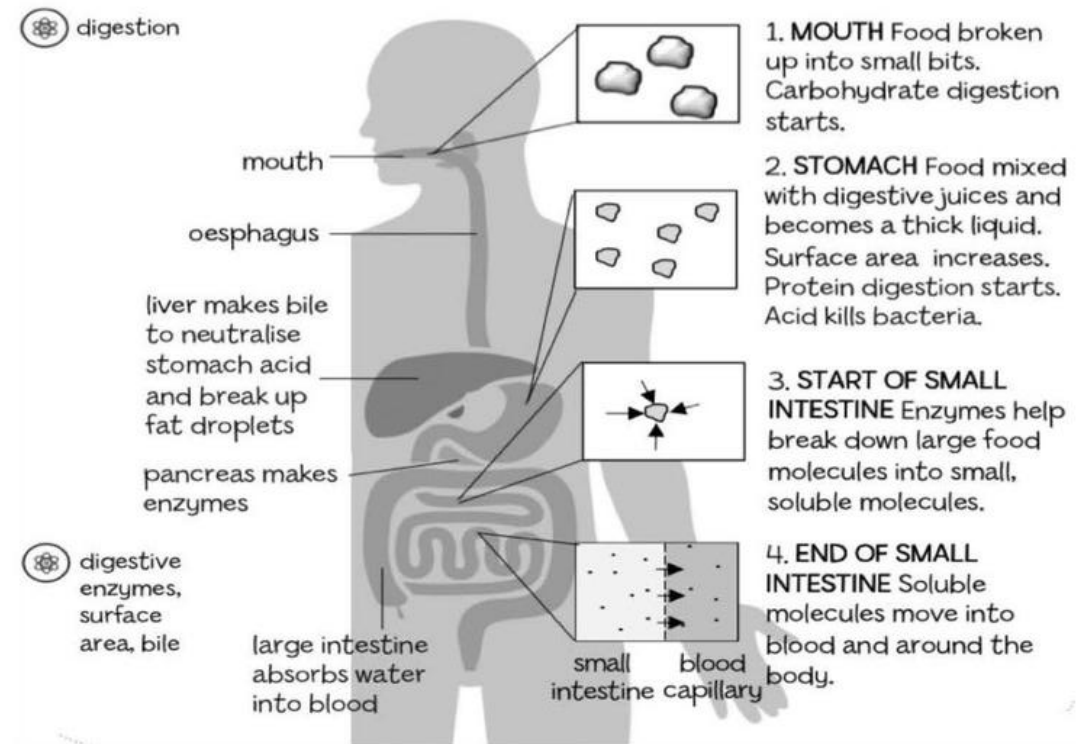
Age: Adults need more energy, children more nutrients to grow.

Lifestyle: active people need more energy.

Pregnancy: pregnant women need more so the foetus grows.

Year 8 Cycle 1 - Science

Organ	Adaptations
mouth 	Makes saliva: - contains a carbohydrase enzyme. - Makes the food slippery so it can be swallowed.
oesophagus 	Contains muscles in its walls to squeeze the food towards the stomach.
stomach 	Walls make juices that contain: - an enzyme to break down protein (protease). - acid to kill any bacteria in food.
small intestine 	A very long tube for maximum absorption into the blood.
large intestine 	



Year 8 Cycle 1 - Science

8TO – Tissues and Organs

Key words and definitions

Trachea

The airway that leads from the larynx (voice box) to the bronchi (large airways that lead to the lungs). Also called windpipe.

Bronchi

The airways that lead from the trachea into the lungs and then branch off into progressively smaller structures called bronchioles until they reach the alveoli.

Asthma

Is caused by swelling (inflammation) of the breathing tubes that carry air in and out of the lungs.

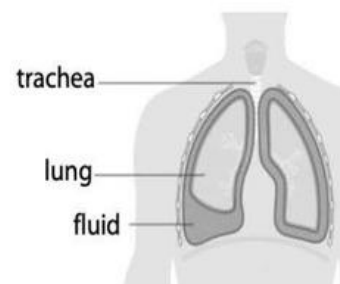
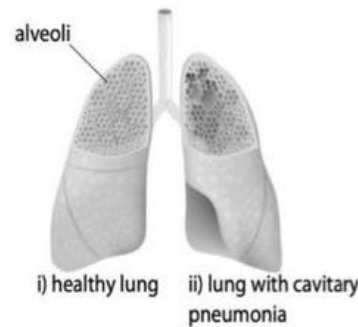
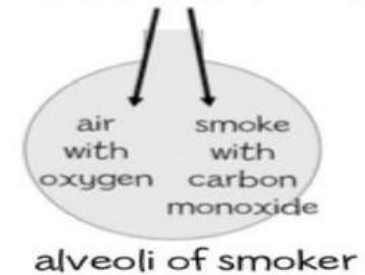
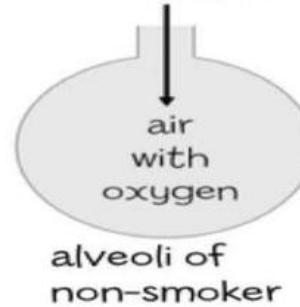
Alveoli

Tiny air sacs found in the lungs where gas exchange in the blood occurs to provide oxygen to the cells and remove carbon dioxide as a waste product.

Gas exchange system

The respiratory system that contains the organs that allow us to get the oxygen we need and to remove the waste carbon dioxide we do not need.

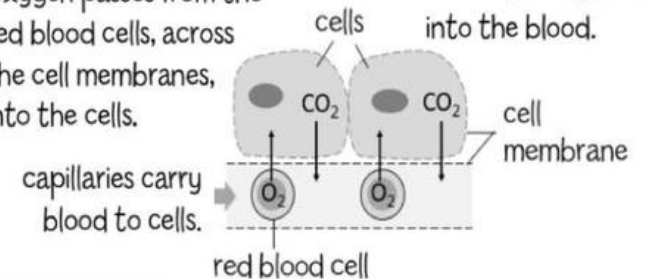
Air contains oxygen gas that cells need.



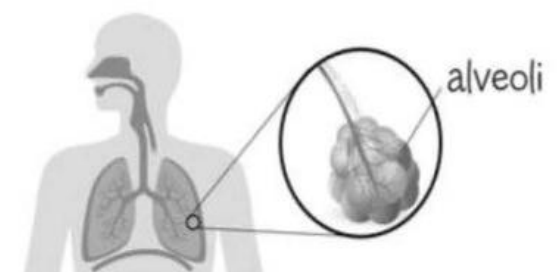
Oxygen and carbon dioxide move between cells and the blood, by crossing cell membranes.

Cells take in oxygen to release energy from food.

Oxygen passes from the red blood cells, across the cell membranes, into the cells.



Cells make carbon dioxide as a waste product. It moves across the cell membranes, into the blood.



Year 8 Cycle 1 - Science

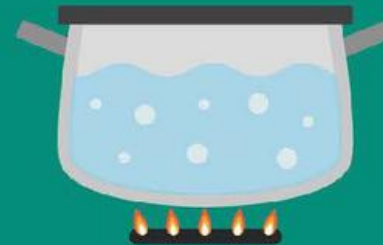
Key concept- Heat and Temperature

Heat and Temperature

Heat	The total energy of the particles
Temperature	How hot or cold something is in °C
Thermometer	Piece of equipment used to measure temperature

Heat

The heat **energy** from the stove burner warms up the water.



Temperature

The thermometer **measures** the temperature of the water.

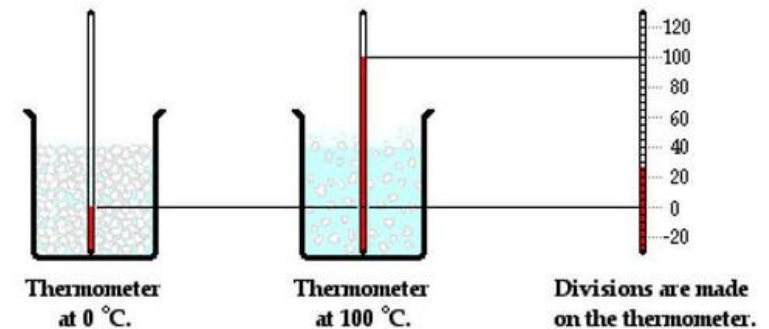
Boiling water =
212°F (100°C)



The change in temperature of an object can depend on:

- mass of the object
- substance the object is made from
- amount of energy transferred to the object

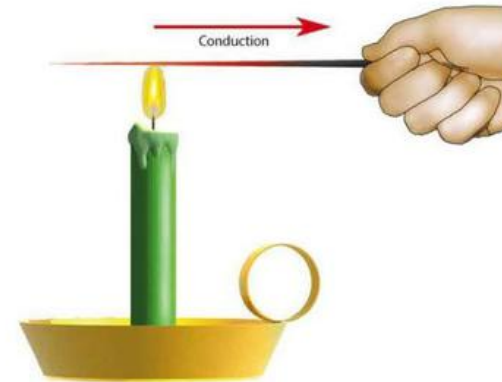
Calibrating a Celsius Thermometer



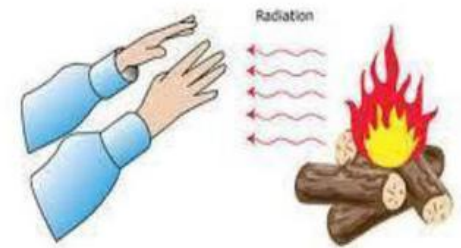
Year 8 Cycle 1 - Science

Key concept- Energy Transfer

Energy Transfer	
Conduction	The process by which heat energy is transmitted through collisions between neighboring atoms or molecules.
Convection	The movement of particles through a substance, transporting their heat energy from hotter areas to cooler areas.
Radiation	The transfer of heat energy by electromagnetic waves without involving particles
Insulator	Something that does not allow heat/electricity to pass through it easily
Conductor	Something that transfers heat/electricity through it easily

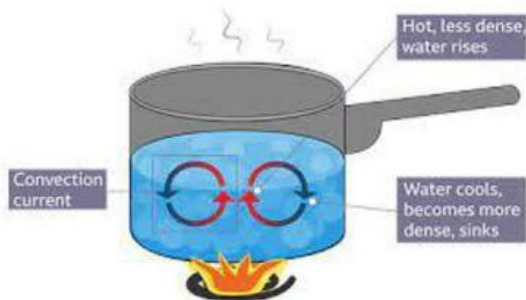


Conduction



Radiation

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Convection

Conductors and Insulators

Conductors allow energy to pass.

Insulators slow energy transfer.

Electrical		
Thermal		

sciencenotes.org



CREATIVE

ART | DRAMA | MUSIC

Cycle 1 in Art will focus on:
Art & Design skills

This cycle we will be developing an understanding of **the key skills in art and design.**

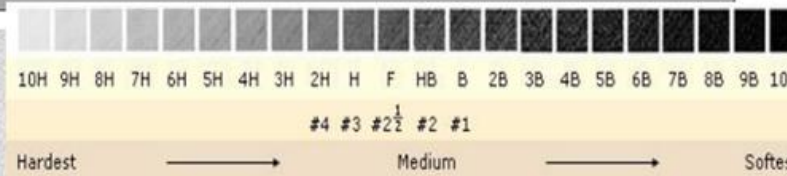
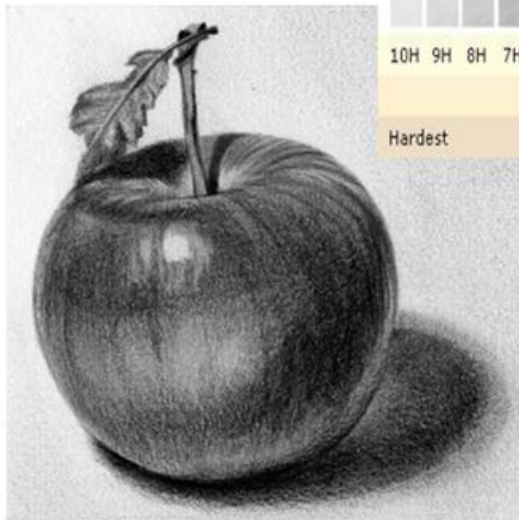
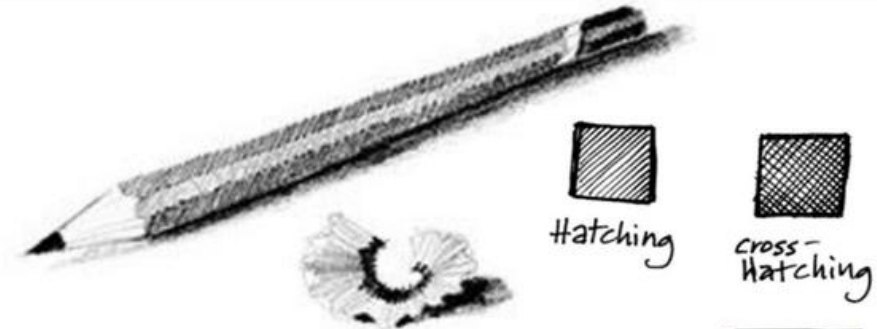
We are doing this because we want you to become more **creative and confident artists.**

HOW TO USE A PENCIL

Tone refers to the lightness or darkness of something.

This could be a shade or how dark or light a colour appears.

Tones are created by the way light falls on a 3D object. The parts of the object on which the light is strongest are called highlights and the darker areas are called shadows.



Pencils come in a range of hardness:

- The **H** range is hard and light and useful for design or technical drawings
- The **B** range is soft and dark and more suitable for shading and tonal drawings.

How many different types of marks can you see in this Vincent Van Gogh drawing?

Mark making is a term used to describe the different lines, patterns, and textures we create in an artwork.



USEFUL WEBSITE for DRAWING :
<https://www.bbc.com/bitesize/guides/zc7sfrd/revision/2>

Term 1 -will focus on the genre Physical Theatre. We will look at a variety of physical theatre practitioners and their influence on modern day physical theatre.

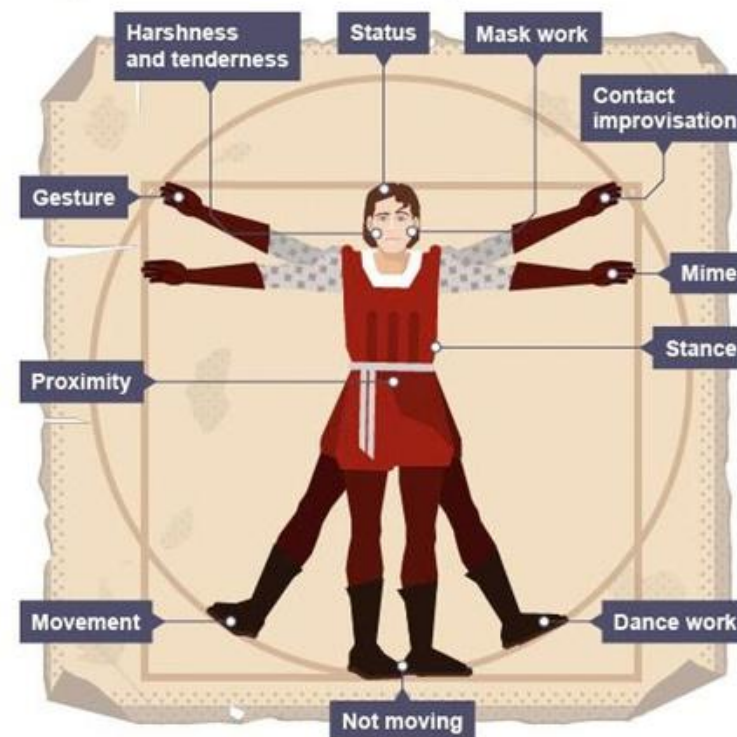
KEYWORDLOG– Physical Theatre

Drama Skill	Definition
Levels	Using different heights on stage to create visual interest and show status.
Proxemics	The space between yourself and other characters on stage.
Pace	How fast or how slow the movement is. Varying the pace means a more interesting performance.
Dynamics	How harsh or how soft your movement is. Varying dynamics means a more interesting performance.
Motif	This is repeated use of a movement pattern which has meaning and reminds us of the central theme of the work.
Gesture	The movement you make with your hands and body to show your character and their thoughts and feelings.
Stance	The position of a person's body when standing or sitting.
Cannon	When a group of people all complete the same action, movement or gesture one after another.
Unison	A group using the same action, movement or gesture at the same time. repetition when a movement happens more then once it's highlightthe importance.
Stillness	A moment of compelling absence of talk or action that reveals intense, unexpressed feelings.
Mime	Showing a character, scene or scenario entirely by gesture and bodily movement and without the use of props. Silent mine is the same but with no speech.
Precision	extremely accurate
Ensemble	A group of musicians, actors or dancers who perform together. Working as a group

Physical Theatre Definition:

- A form of theatre which emphasises the use of physical movement for expression.
- Puts the human body at the centre of the storytelling process.
- Often abstract in style, using movement in a stylised and representational way.

Physical theatre techniques



Modern physical theatre has strong roots in more ancient traditions such as Commedia Dell'Arte, and some suggest links to the ancient Greek theatre, particularly the theatre of Aristophanes.

One of the greatest appeals of physical theatre today is that as an art form, it crosses multiple cultures and languages, making it accessible to all audiences everywhere.

It encompasses body language and physical interpretation. It can refer to the physicality used within any style of performance or to specific styles such as mime, mask, clown, Noh, puppetry, children's theatre, stand up improvised comedy or commedia.

Physical theatre shows that you don't have to use words to express ideas. It uses techniques such as movement, mime, gesture and dance and can be used to explore complex social and cultural issues.

At its simplest, you could define Physical theatre as a form of theatre that puts emphasis on movement rather than dialogue.

Physical Theatre Practitioners are directors, actors, and theatre companies who create performances where **physical movement is the primary tool for storytelling**, rather than spoken dialogue. Instead of relying just on a script, these practitioners train actors to use their entire bodies—through mime, dance, gesture, and ensemble teamwork—to build environments, represent abstract ideas, and express deep emotions.

The Physical Theatre Practitioners we study during this term are:

Jacques Lecoq: A French pioneer who used mime, masks, and "neutral space" to teach actors how to mimic the physical world around them.

Jerzy Grotowski: A Polish director who created "Poor Theatre," stripping away lavish sets and costumes to focus purely on the intense physical and vocal skill of the actor.

Steven Berkoff: A British practitioner famous for "Total Theatre," combining exaggerated, grotesque facial expressions and stylized mime to create intense, nightmarish dramas.

DV8: A groundbreaking company that blended contemporary dance with theatre to challenge stereotypes and tackle serious, real-life social issues.

Frantic Assembly: A modern British company famous for accessible, high-energy movement using techniques like lifts, touch, and Chair Duets to show emotions words cannot express.

Hip Hop– CYCLE 4

Origins – Hip Hop is a genre of music that was created in the Bronx, New York City during the 1970s. Key elements of Hip Hop include rapping, DJing, breakdancing and beatboxing.

The Bronx hip-hop scene emerged from 'block parties' thrown by artists like DJ Kool Herc and Afrika Bambaataa.

Afrika Bambaataa had previously been a member of the 'black spades' gang but after seeing his best friend killed, he decided to move away from drugs and violence and set up the Zulu Nation, a collective of dancers, rappers and DJs. This gave many young people in the Bronx, which was a deprived area in the 1970s, something positive and fun to do.

KEY WORDS

Breakbeat – A sample of a drum solo that is repeated

Breakdancing – A style of street dance that accompanied Hip Hop music

Scratching – Moving a record back and forth on a turntable to produce a percussive or rhythmic sound

Back spinning – Spinning the record backwards to extend a section of music

Riff – A repeating pattern

MC – Master of ceremonies- the rapper.

DJ – Disc Jockey – operates the turntables.

Turntable – a device used to play vinyl records.

Record – A black, vinyl disk used to play music.

Sampling – Cutting out a small section of a song and reusing it in a different song.

Couplet - a pair of successive lines of verse, typically rhyming and of the same length.

Pair of DJ Turntables



Mixer – Allows DJ to switch between two records

T
E
X
T
U
R
E

RAP

RIFF

BASS LINE

DRUM BEAT

KEY ARTISTS

DJ Kool Herc, Afrika Bambaataa, Eminem, Dr Dre, Missy Elliot, Lauryn Hill, Snoop Dogg, Sugar Hill Gang



HUMANITIES

HISTORY | GEOGRAPHY | RE

Timeline of the British Empire

1171 – Henry II in Ireland

The first English king to claim control of Ireland.

1580s–1603 – Elizabeth I in Ireland

Elizabeth's armies crush rebellions; plantations (settlements of English and Scottish people) begin.

1603–1625 – James I in Ireland

Starts the **Plantation of Ulster** – English and Scottish Protestants are settled on Irish land.

1650s – Oliver Cromwell in Ireland

Cromwell's army brutally conquers much of Ireland; many lose land and lives.

1600 – East India Company founded

(Overlaps with Ireland events) Begins trading in India and Asia.

1757 – Battle of Plassey

The East India Company takes control of Bengal in India.

1807 – Slave trade abolished

Britain bans buying and selling enslaved Africans.

1833 – Slavery abolished across the empire

1845–1852 – The Great Famine in Ireland

About 1 million die and 1 million emigrate; deepens Irish resentment of British rule.

1857 – Indian Rebellion

India comes under direct British rule.

1877 – Queen Victoria becomes Empress of India

1914–18 – First World War

Millions from the empire fight for Britain.

1921 – Partition of Ireland

Ireland is divided: the south becomes independent (later the Republic of Ireland), while the north (Northern Ireland) stays in the UK.

1939–45 – Second World War

The empire again supports Britain.

1947 – India and Pakistan gain independence

The "jewel in the crown" is lost.

1950s–60s – Decolonisation

Many African and Caribbean colonies gain independence.

1997 – Hong Kong returned to China

Often seen as the end of the British Empire

Cycle 1 Knowledge Organiser

The British Empire was known as **the empire on which "the sun never set"**. It began in the 16th century and declined in the 20th century, and at its height in 1922 it ruled over 400 million people / $\frac{1}{4}$ of the world's



Assessment Questions

Section 1: Knowledge Assessment

Section 2: Skills Assessment

Study Interpretations 1 and 2, they give different views about

- What is the main difference between these views?

- Explain your answer, using details from both interpretations.

Section 3: Extended Writing

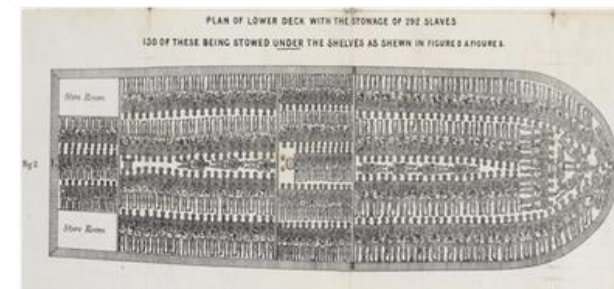
"statement" e.g. "Sugar cane is the main reason the Caribbean became the hub of the British Empire". How far do you agree with this statement?

Key words and definitions

Empire	a group of territories ruled by one single ruler or state.
Colony	a country under control of another country and occupied by settlers from that country
Indigenous people	original inhabitants of a place, rather than people who moved there from elsewhere.
Imperial	relating to an empire
Imperialism	the policy of building up and strengthening an empire
Resistance	the refusal to accept something
Nationalism	the idea that Ireland should be independent from the United Kingdom
Unionism	the idea that there should be a continued union between Britain and Ireland
Partition	to divide into parts
Slavery	The practice and system of owning a person as property
Plantation	a large farm, especially in a hot part of the world, on which a particular type of crop is grown.
Emancipation	the freeing of enslaved people
Abolition	the act of officially ending or stopping something
Mughal Empire	Ruled most of northern India from the 1500s to the 1700s. The Mughal rulers practiced the religion of Islam.



- Enslaved Africans worked on **sugar, cotton, and tobacco** plantations.
- Long hours, harsh punishments, little freedom.
- Families were often separated.
- Resistance to enslavement on plantations came in many forms



The **Triangular Trade** was a trading system in the 1600s–1800s that linked **Europe, Africa, and the Americas**. It is called “triangular” because ships travelled in a triangle-shaped route:



The East India Company

What was it?

- A trading company set up in **1600** by English merchants.
- Its aim: to trade goods like **spices, silk, tea, and cotton** from Asia.
- It started as a business but grew into a **powerful empire-builder**

How powerful was it?

- The Company had its own **army and navy**.
- It made alliances, collected taxes, and even ruled areas like a government.
- By the mid-1700s it controlled large parts of **India**.

Why does it matter?

- The East India Company helped create the **British Empire in India**.
- It brought Britain great wealth but also led to **exploitation and conflict**.
- Its rule caused major famines and unrest in India.

Why are some countries more developed than others?

Cycle 1 in year 8 Geography will focus on the topic of development. You will look at what development is, how development can be measured, reasons for uneven development and what can be done to help countries develop.

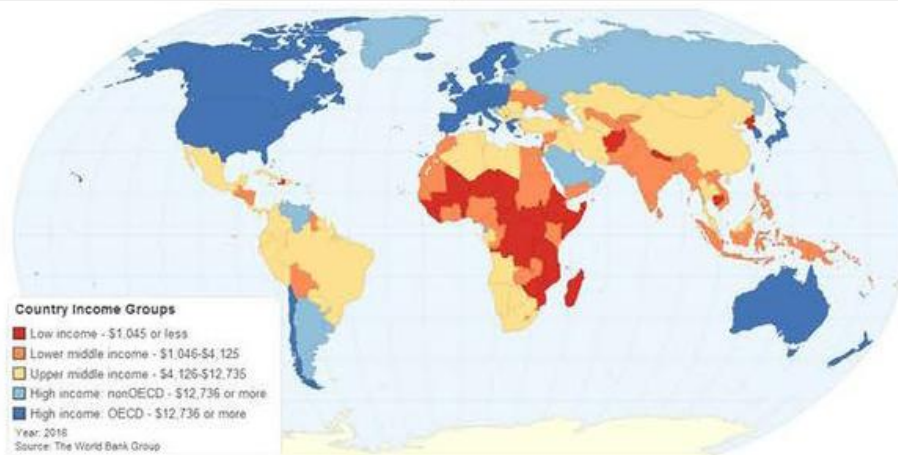
Key vocabulary and definitions	
Development	Is the process of a country becoming richer
Quality of life	The general well-being of people
Standard of living	The level of wealth, comfort, material goods and necessities available to the population.
HIC	High income country
LIC	Low income country
NEE	Newly emerging economy
Life expectancy	The average age someone is expected to live
GNI	Gross National income is the value of the country's income divided by its population
Aid	Help or support
Fairtrade	Fairtrade is where farmers get a better price for their goods

LICs	Poorest countries in the world. GNI per capita is low and most citizens have a low standard of living.
NEEs	These countries are getting richer as their economy is developing. Greater exports leads to better wages.
HICs	These countries are wealthy with a high GNI per capita and standards of living. These countries can spend money on services.

Measuring development	
These are used to compare and understand a country's level of development.	
Economic indicator examples	
Employment type	The proportion of the population working in primary, secondary, tertiary and quaternary industries.
Gross Domestic Product per capita	This is the total value of goods and services produced in a country per person, per year.
Gross National Income per capita	An average of gross national income per person, per year in US dollars.
Social indicator examples	
Infant mortality	The number of children who die before reaching 1 per 1000 babies born.
Literacy rate	The percentage of population over the age of 15 who can read and write.
Life expectancy	The average lifespan of someone born in that country.
Mixed indicators	
Human Development Index (HDI)	A number that uses life expectancy, education level and income per person.

Why are some countries more developed than others?

Factors affecting uneven development	
Natural Resources 	Natural Hazards 
Fuel sources such as oil. Minerals and metals for fuel. Availability of timber. Access to safe water.	Risk of tectonic hazards. Benefits from volcanic material and floodwater. Frequent hazards undermines redevelopment.
Climate 	Location/Terrain 
Reliability of rainfall to benefit farming. Extreme climates limit industry and affects health. Climate can attract tourists.	Landlocked countries may find trade difficulties. Mountainous terrain makes farming difficult. Scenery attracts tourists.
Politics 	Health 
Corruption in local and national governments. The stability of the government can affect the country's ability to trade. Ability of the country to invest into services and infrastructure	Lack of clean water and poor healthcare means a large number of people suffer from diseases. People who are ill cannot work so there is little contribution to the economy. More money on healthcare means less spent on development



Reducing the Global Development Gap

Aid

This is given by one country to another as money or resources.

- + Improve literacy rates, building dams, improving agriculture.
- Can be wasted by corrupt governments or they can become too reliant on aid.

Fair trade

This is a movement where farmers get a fair price for the goods produced.

- + Paid fairly so they can develop schools & health centres.
- Only a tiny proportion of the extra money reaches producers.

Bottom up development

Resources and money is provided to people who make the decisions about how to develop their own area.

- + Cheaper
- May only help a small number of people.

Top Down development

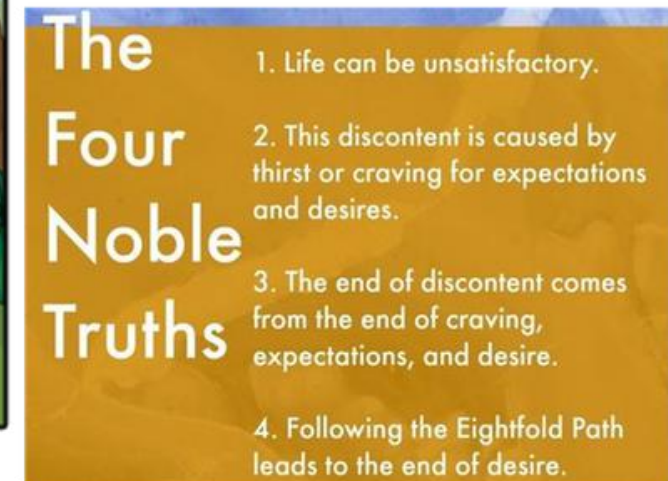
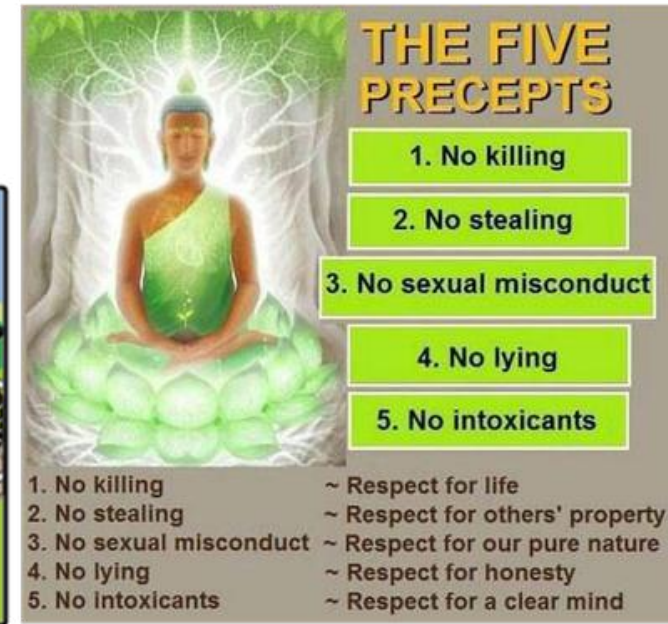
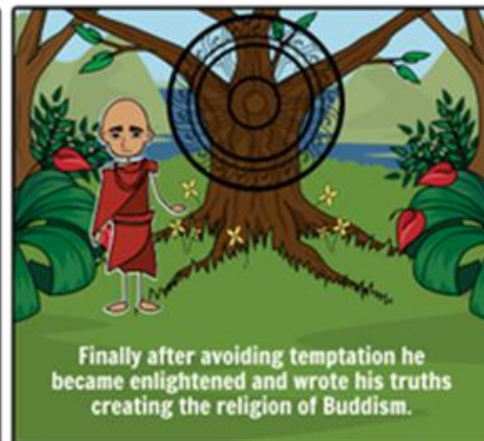
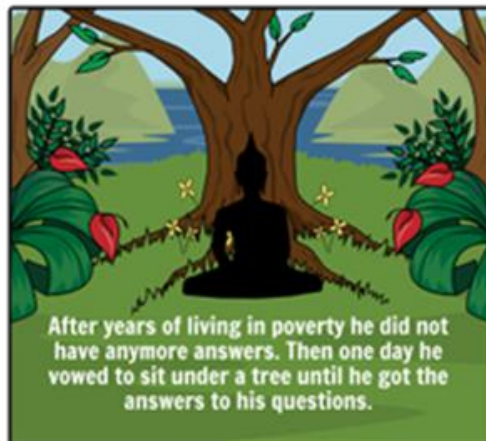
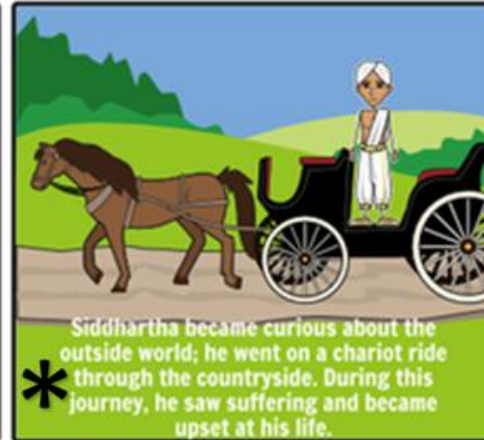
The government borrows money to spend on big projects and infrastructure.

- + Helps a large number of people.
- Expensive and money often is borrowed from other countries.



Buddhist Beliefs and Practices

The Life of the Buddha



The four sights he saw were: old age, death, disease and then a happy man who made him curious to follow his path. These led him to try to seek enlightenment which he eventually did.

Year 8 Cycle 1 - RE

Meditation for Buddhists:

Meditation is a mental and physical course of action that a person uses to separate themselves from their thoughts and feelings in order to become fully aware.

Buddhism asks its followers to understand the world and themselves in a deep and transforming way. If they succeed, they are 'awakened'. Meditation is one of the tools that Buddhism employs to bring this about. It already existed in the Hindu tradition, and the Buddha himself used meditation as a means to enlightenment.

Over the centuries Buddhism has evolved many different techniques: for example, mindfulness; loving-kindness and visualisation.

The purpose of meditation is to stop the mind rushing about in an aimless (or even a purposeful) stream of thoughts. People often say that the aim of meditation is to still the mind.

Some Buddhists use
mandalas to help them to
meditate



Key words:

Bikkhu/ Bikkhuni- Buddhist monk/ nun. The word literally means beggar.

Buddha- the enlightened one.

Dukkha- suffering

Enlightenment- understanding the nature of the world and being human

Five precepts- guidelines for how to live life

Nirvana- a state of bliss (enlightenment)

Mandala- patterns Buddhists use to calm their mind

Meditation- process of relaxing and clearing the mind

Sangha- the Buddhist community

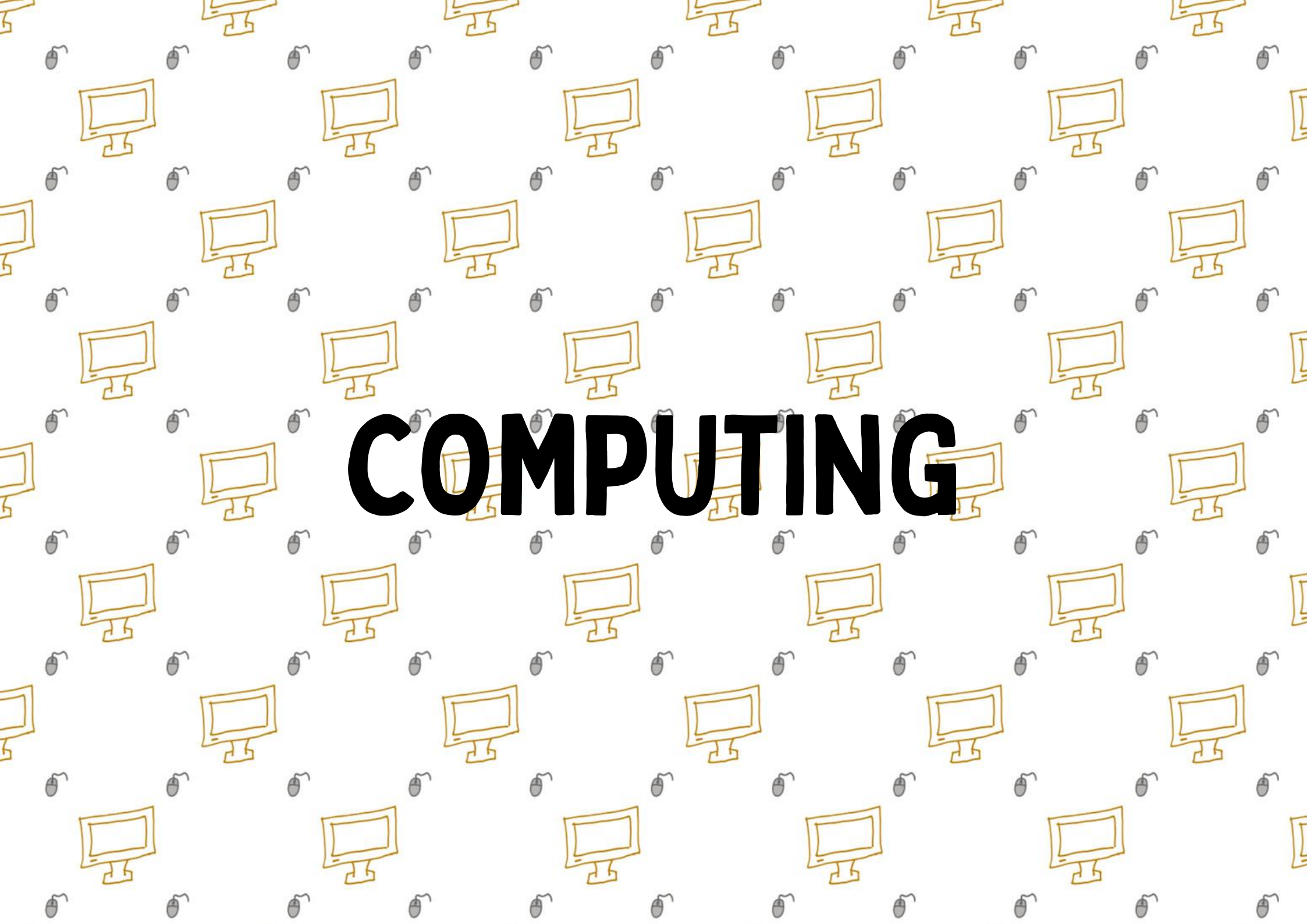
The Sangha

Sangha, meaning 'company' or 'community', refers to the monastic communities of monks and nuns across the Buddhist world. The Sangha has kept Buddhist texts safe over the centuries and has interpreted and taught Buddhist philosophy. The Sangha has also provided inspiration and guidance on how to live a good Buddhist life.

The Sangha generally refers to orders of monks and nuns who have chosen a life that focuses entirely on the teachings of the Buddha. They live according to the rules of the order of monks or nuns they join. These rules are called the **vinaya**, meaning 'discipline'.

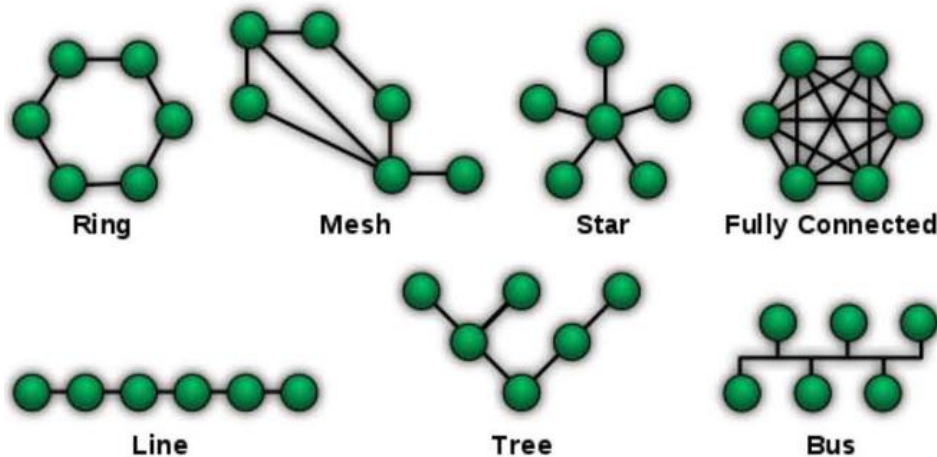
Orders of monks and nuns follow strict rules of conduct, such as eating only before midday and refraining from gossip. Between midday and the following day, monks chant, **meditate** and study. They also keep the monastery clean and neat. Monks own very little, often just their robes and belt, a food bowl, a needle and thread to mend their robes, and a razor to shave their hair.

All Buddhists should follow the **Five Precepts**, but bhikkus live by Ten Precepts. As well as following the Five Precepts bhikkus refrain from: eating after midday; dancing, singing and music; personal adornment; luxurious beds or chairs; and possessing money, gold or silver.



COMPUTING

Cycle 1 in Computer Science will focus on computer networks. We will be finding out how computer equipment can be connected together and the different types of network. We will also look at network security and how to keep your data safe by creating a strong password.



Topic for this cycle Networks

Learning Objectives: To understand how computer equipment can be connected together into networks and how to keep the network safe from outside influences.

LAN Hardware

Server

Stores all user data and information within a network in a central location. This allows users to log into any work station access their files.



Switch

Using Ethernet cables to connect to both the server and individual work stations, a switch directs information between the server and individual workstations.



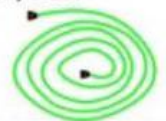
Router

Allows wireless connection of mobile devices to a network if within suitable range. Allows several devices to be connected at the same time.



Ethernet Cable

Networking hardware used to connect one network device to another. They can be used to share devices such as printers and scanners amongst many users.



Networks

LAN – Local Area Network, connects devices together over a small geographical location e.g. a building. They connect computers using a combination of Ethernet cables and switches and require a Network Interface Card.

WAN – Wide Area Network A computer network where devices are connected over a large geographical area (e.g. the internet). They require access to the internet via a router / modem.

WPAN – Wireless Personal Area Network used to connect devices to your personal computer system without the use of wires. Most commonly uses Bluetooth. E.g. connecting a peripheral device to your laptop, connecting a mobile phone to a car, wireless headphones to your phone etc.

Viruses

A virus embeds itself within computer software. When the software is run it creates copies of itself using software as a host. A virus is capable of slowing down your digital device, can stop it running or even steal your data.



Spyware

Spyware is a type of program that secretly records what you do on a computer. Spyware can be used to steal personal information such as capture passwords, email addresses or banking information. They can even control your webcam.



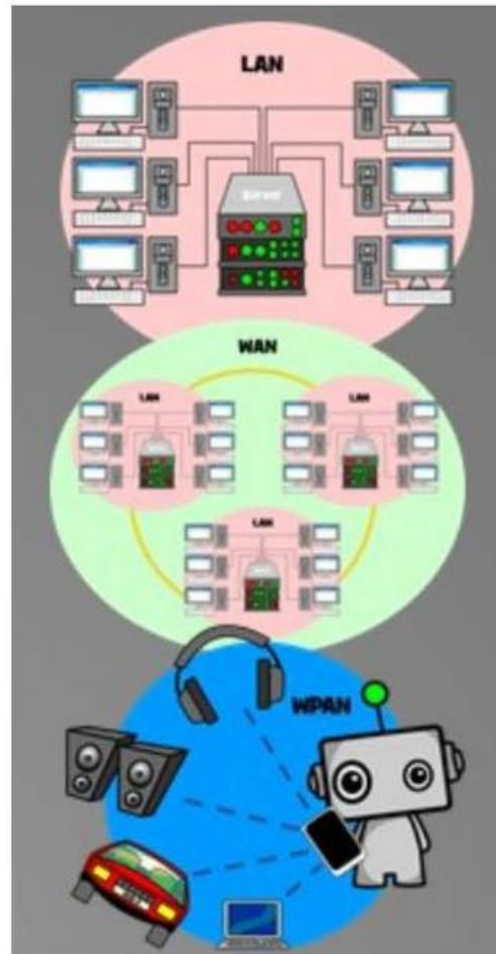
Network Security

Firewall: Controls which programs on your computer can send and receive data packets.

Antimalware: Scans your computer system and files for malicious software.

Encryption: Scrambles data to make it unreadable.

Decryption: Unscrambles it so that it is readable.



Worms

Worms attack systems connected to the internet. Like a virus, a worm is capable of **copying itself**, causing similar damage to a virus. However, worms are **standalone software** and don't require existing software to host them.



Trojan

A Trojan is a harmful piece of software, **pretending to be useful**. Commonly spread through **email attachments**, a user is typically tricked into loading it onto their computer. Attacks can vary from deleting files and stealing data to creating access points for hackers.



Passwords

A strong password contains a mixture of numbers, letters, symbols and is at least 8 characters in length, for example:

Ce91!*8dj

Malware combines the words '**malicious**' (meaning 'harmful') and '**software**'. It is a program designed to cause damage to a computer or a computer network.



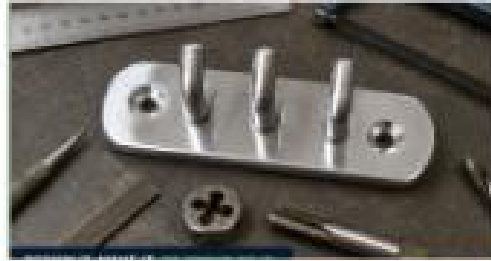
DESIGN & TECHNOLOGY

DT | FOOD & NUTRITION

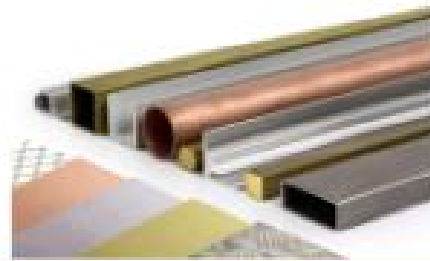
Aluminium Key Hook Knowledge Organiser

Materials, properties and essential facts

1/2



PROJECT EXAMPLE



MATERIAL RECOGNITION

Project focus

An aluminium back plate with drilled fixing holes and threaded aluminium hooks. The project introduces accurate metal marking, drilling, thread cutting, forming and polishing.

Material families and project material

Ferrous metal: contains iron. Most ferrous metals can rust and most are magnetic. Mild steel and cast iron are examples.

Non-ferrous metal: does not contain iron. Aluminium is non-ferrous, lightweight and corrosion resistant. Copper and zinc are other examples.

Alloy: a metal mixed with other elements to improve properties. Aluminium alloys are normally stronger than pure aluminium.

Stock forms: metals are supplied as sheet, plate, bar, rod, tube and angle.

Properties that explain material choice

Malleability: ability to be bent or pressed into shape.

Ductility: ability to be drawn into wire.

Toughness: ability to absorb impact without breaking.

Corrosion resistance: ability to resist chemical attack by the environment.

Essential facts

1. Aluminium comes from bauxite ore and needs a large amount of energy to extract, so recycling it is valuable.
2. Aluminium reacts with oxygen to form a thin protective oxide layer.
3. A centre punch creates a small dent that prevents the drill wandering.

Aluminium Key Hook Knowledge Organiser

Tools, processes, vocabulary, safety and quality



Steel rule - measuring



Scribe - fine marking line



Tap wrench - cuts an internal thread



Die stock - cuts an external thread

ALSO RECOGNISE: Engineer's square • centre punch • dividers • odd-leg calipers • countersink • machine vice • wet and dry paper • buffer

Generic manufacturing processes

Marking out: coat the surface with engineer's blue, then use a rule, scribe, dividers and odd-leg calipers.

Drilling: clamp the metal in a machine vice and align the punch mark below the drill.

Thread cutting: start square. Turn forward to cut and slightly back to break swarf. Use cutting fluid when directed.

Forming: bending changes the shape without removing material.

Finishing: remove sharp edges, use wet and dry paper, then buff to improve the surface.

Keywords and definitions

Swarf: small chips produced by cutting or drilling

Pitch: distance between adjacent thread peaks

Internal thread: thread cut inside a hole

External thread: thread cut around a rod

Chamfer: small angled edge

Corrosion: gradual damage caused by reaction with the environment

Checks before you finish

Accuracy: Check hole centres before punching. Start threads square and compare hook bends with a template.

Safety: Wear goggles. Tie hair back. Clamp drilling work. Hold work below the centre of the buffing wheel.

Quality: Aligned holes, flush screws, clean threads, matching hooks and no sharp edges.

Safety signs to know



Wear goggles
Mandatory sign – eye protection must be worn



Danger
Warning sign – potential hazard or risk



Fire exit
Safe route out in an emergency



Do not run
Prohibition sign – no running in the workshop

General workshop safety

- **Bags away:** keep bags and coats in the storage area to prevent trip hazards.
- **Walk sensibly:** do not run in the workshop.
- **Tie hair back:** long hair can get caught in machines.
- **Remove jewellery:** take off rings, necklaces and bracelets.
- **Wear an apron or suitable PPE** when instructed by your teacher.
- **Keep the work area tidy:** clear swarf and offcuts, keep benches organised.
- **Report damage or accidents:** tell your teacher straight away.



Safe use of hand tools

- **Use a scribe, centre punch and file safely:** always work on a stable surface and away from your body.
- **Clamp metal in a machine vice before drilling:** make sure the work is held firmly and aligned.
- **Keep fingers clear when using a hacksaw:** hold the handle with a firm grip and use smooth strokes.
- **Remove burrs carefully:** use a file, deburring tool or wet and dry paper – do not use your fingers.
- **Carry tools safely:** hold with the point or cutting edge down.



Machinery safety

- **Pillar drill:** wear goggles, secure the work in a vice and make sure the drill is set to the correct speed.
- **Keep sleeves clear:** roll up loose sleeves and keep drawstrings inside.
- **Buffing wheel:** wear goggles and hold the work below the centre of the wheel.
- **Keep long hair tied back:** it can get caught in rotating machines.
- **Know the emergency stop buttons:** know where they are and how to use them.



Project-specific safety

- **Thread cutting:** start taps and dies square and use a tap wrench or die stock correctly.
- **Use cutting fluid:** when directed, to reduce friction and improve the finish.
- **Metal forming:** check the hooks match a template before bending.
- **Take care with sharp edges:** newly cut metal can be sharp – remove burrs and handle with care.



Before you finish

- **Accuracy:** check hole centres, thread sizes and bent hooks match the template.
- **Safety:** remove swarf, clean the area and return tools to the correct place.
- **Quality:** smooth finish, no sharp edges, clean threads, matching hooks and a tidy final product.

Acrylic Clock Knowledge Organiser

Materials, properties and essential facts

1/2



PROJECT EXAMPLE



MATERIAL RECOGNITION

Project focus

An acrylic clock face designed in TechSoft 2D Design and manufactured with a laser cutter. Aluminium parts form the supporting stand.

Material families and project material

Thermoplastic: softens when heated and can be reshaped. Acrylic is a thermoplastic that is rigid, smooth and available in many colours. It laser cuts well but can scratch and crack.

Thermosetting plastic: sets permanently during manufacture and does not soften again when reheated.

Aluminium: a lightweight, corrosion-resistant non-ferrous metal used for the stand.

Material choice: acrylic suits the face because it gives a clean finish and can be cut accurately by CAM.

Properties that explain material choice

Transparency: allows light to pass through.

Brittleness: likely to crack or snap with little bending.

Stiffness: resistance to bending.

Durability: ability to remain useful over time.

Repeatability: ability to make the same result consistently.

Essential facts

1. CAD means computer-aided design. It makes editing, copying, dimensioning and accurate drawing easier.
2. CAM means computer-aided manufacture. A computer controls the machine using digital design data.
3. Vectors are mathematical lines and shapes. The laser cutter follows vector paths.

Acrylic Clock Knowledge Organiser

Tools, processes, vocabulary, safety and quality

2/2



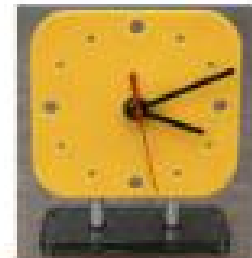
2D Design - vector CAD



Laser cutter - computer-controlled CAM



Steel rule - checking sizes



Clock assembly - testing clearance

ALSO RECOGNISE: Scriber • engineer's square • centre punch • machine vice • pillar drill • tap wrench • Allen key

Generic manufacturing processes

CAD modelling: create the outside shape, centre hole, fixing holes, numbers and engraved detail using vectors.

Digital accuracy: use dimensions, snap, align, group and array rather than judging positions by eye.

Laser cutting: a focused laser follows digital paths to cut through or engrave the surface.

Forming metal: bending changes the aluminium stand without removing material.

Assembly and testing: align holes, avoid overtightening acrylic and check that the hands rotate freely.



Keywords and definitions

Vector: mathematically defined line or shape

Array: repeats an object at equal spacing

Group: combines selected objects so they move together

Dimension: measurement shown on a drawing

Path: line followed by the machine

Clearance: space that prevents moving parts touching

Checks before you finish

Accuracy: Check dimensions, equal spacing, line colours and duplicate lines before laser cutting.

Safety: Keep the laser lid closed and extraction on. Wear goggles for drilling and shaping metal.

Quality: Clean cuts, equal spacing, aligned holes, stable stand and freely rotating hands.

Safety signs to know



Wear goggles

Mandatory sign

You must wear eye protection.



Danger

Warning sign

Be aware of a hazard or risk.



Fire exit

Information sign

Shows the direction to a safe exit.



Do not run

Prohibition sign

Running can cause accidents and injuries.

General workshop safety



- Keep bags and coats away from walkways to prevent trip hazards.



- Walk, do not run, in the workshop.



- Tie long hair back.



- Keep benches tidy and clear of unnecessary items.



- Follow all instructions from your teacher.



- Report any damage, faults or accidents immediately.

Laser cutter safety



- Only use the laser cutter with teacher permission.



- Keep the lid closed while it is running.



- Never reach inside the machine while it is running.



- Make sure the extraction system is on.



- Stand clear and observe safety while it is working.
- Know the location of the emergency stop button.



- Use only approved materials (e.g. acrylic) given by your teacher.

Metalwork and assembly safety



- Secure work in a vice before drilling.



- Wear goggles for drilling and shaping metal.



- Use an Allen key safely and correctly.



- Avoid overtightening acrylic as it can crack.
- Handle acrylic carefully and keep edges smooth.

CAD/CAM safety and good practice



- Check line colours and dimensions before cutting.



- Keep the area around machinery clear.



- Wait for your teacher's instruction before collecting parts from the laser cutter.

Before you finish

Accuracy: Check dimensions, line colours and that the design matches the plan before cutting or assembly.

Safety: Work safely, keep the area tidy and check equipment is turned off or stopped.

Quality: Clean cuts, no damage to acrylic, secure assembly and a neat, professional finish.

Y8

Mirror Frame Knowledge Organiser

Materials, properties and essential facts

1/2



PROJECT EXAMPLE



MATERIAL RECOGNITION

Project focus

A pine frame using accurately made corner joints. A mirror is fixed flush to the rear face and a low-voltage LED strip provides lighting.

Material families and project material

Softwood: pine comes from a coniferous tree. It is easy to work, widely available and has a visible grain.

Hardwood: often denser timber from broad-leaved trees, such as oak or beech.

Sustainable timber: comes from responsibly managed sources where forests are protected and replanted. FSC certification can help identify responsible supply.

Components: the mirror overlaps the opening and sits on the flat rear face. The LED strip is a flexible electrical component.

Properties that explain material choice

Stability: resistance to twisting, cupping or warping.

Strength: ability to withstand force without failing.

Conductivity: ability to allow electricity to flow. Metals conduct; most plastics insulate.

Aesthetic quality: visual and tactile features such as grain, finish.

Essential facts

1. A face side and face edge form the datum for accurate marking.
2. A mitre uses two 45 degree ends to make a 90 degree corner.
3. A half-lap removes half the thickness from each piece, keeping the joint flush.

Y8

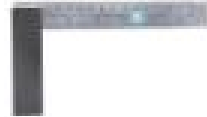
Mirror Frame Knowledge Organiser

Tools, processes, vocabulary, safety and quality

2/2



Tape measure - long measurements



Try square - 90 degree lines



Mitre box - guided angle cuts



Pillar drill - dowel holes

ALSO RECOGNISE: Tenon saw • bench hook • marking gauge • clamps • file • glass paper • wire cutters • soldering iron

Generic manufacturing processes

Marking out: work from the face side and face edge so every measurement uses the same references.

Wasting: use sawing, drilling, filing and abrasion to remove unwanted timber.

Joining: joint choice affects appearance, strength, accuracy and difficulty.

Reinforcing: a glued dowel locks the overlapping half-lap pieces together.

Electrical assembly: connect the LED strip with correct polarity, insulate connections and test before fitting.

Keywords and definitions

Mitre: joint formed by angled ends.

Half-lap: joint with half the thickness removed from each part.

Dowel: round timber pin used for alignment or strength.

Polarity: correct positive and negative electrical direction.

Insulator: material that resists electric current.

Sustainable: meeting present needs without preventing future supply.

Checks before you finish

Accuracy: Make opposite sides equal. Check 90 degree corners and compare diagonal measurements.

Safety: Clamp before sawing. Keep hands behind the blade. Wear goggles. Test only the low-voltage circuit.

Quality: Flat frame, closed joints, even mirror border and secure insulated LED connections.

Safety signs to know



Wear goggles
(mandatory sign)



Danger
(warning sign)



Fire exit
(safe condition sign)



Do not run
(prohibition sign)

General workshop safety

- **Keep bags away:** store bags in the allocated area to prevent trip hazards.
- **Walk sensibly:** no running in the workshop.
- **Tie hair back:** long hair must be tied back.
- **Remove jewellery:** take off rings, bracelets and necklaces.
- **Wear goggles:** wear safety goggles when instructed.
- **Keep benches tidy:** clear away unnecessary items and keep your area clean and organised.
- **Report accidents:** tell the teacher immediately, no matter how minor.



Wear safety goggles when instructed.



Keep bags away to prevent trip hazards.

Safe use of tools and machines

- **Secure the work:** clamp timber on a bench hook or in a clamp before sawing.
- **Keep hands behind the blade:** always keep your hands and fingers away from the cutting line.
- **Use a vice or clamp:** secure the timber firmly before drilling dowel holes.
- **Know the emergency stops:** be aware of the emergency stop buttons on machines such as the pillar drill.
- **Wear goggles:** wear safety goggles for drilling and shaping operations.



Clamp timber before drilling dowel holes.



Know the emergency stop buttons.

Soldering safety

- **Soldering irons become very hot:** the tip can reach over 300°C.
- **Place the iron in its stand:** when not in use.
- **Never touch the tip:** it will cause serious burns.
- **Keep cables tidy:** avoid trailing cables across the bench.
- **Work in a ventilated area:** do not breathe in solder fumes.
- **Allow joints to cool:** let soldered joints cool before touching.
- **Wash hands:** wash your hands after soldering if appropriate to school rules.



Place the iron in its stand when not in use.



Allow joints to cool before touching.

Electrical and project-specific safety

- **Only test low-voltage:** use the low-voltage LED strip (typically 5V or 12V). Do not use mains electricity.
- **Check polarity:** make sure + and - are correct before connecting.
- **Keep wires neat:** tidy and insulate connections to avoid short circuits.
- **Take care with wire cutters:** keep fingers clear and cut away from your body.
- **Do not look directly:** do not look directly into bright LEDs at close range as they can be harmful to your eyes.

Before you finish

Accuracy: check all measurements, joints and electrical connections.

Safety: make sure all tools are off, the area is tidy and the soldering iron is cool and stored safely.

Quality: check the mirror frame is strong, the finish is neat and all electrical connections are secure and insulated.



COURSE FOCUS

Learning focus and essential facts

Develop nutrient knowledge, allergy awareness and accurate practical skills. An allergy involves the immune system and can be life-threatening; an intolerance affects digestion. Protein supports growth and repair. Carbohydrate supplies energy. Cooking changes flavour, colour, texture and nutritional value.

Food groups, nutrients and functions

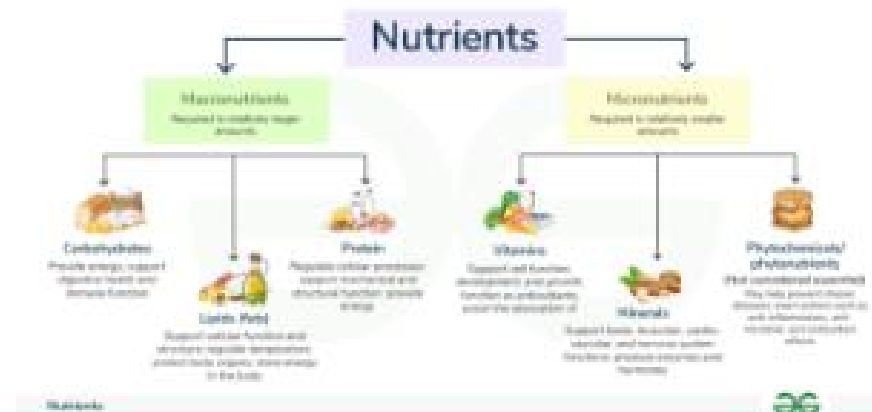
Macronutrients: carbohydrate, protein and fat are needed in larger amounts.

Micronutrients: vitamins and minerals are needed in small amounts.

Fibre: supports digestion. **Water:** transports nutrients and controls temperature.

Gluten: forms an elastic network. **Egg:** traps air and sets when heated. **Starch:** thickens sauces. **Fat:** adds flavour, colour and texture.

KEY INFORMATION VISUAL

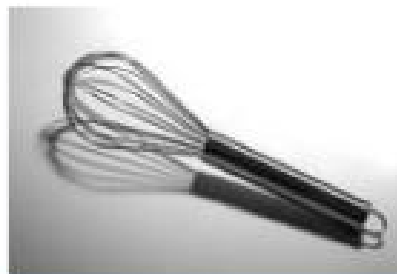


Year 8 Hospitality & Catering Knowledge Organiser

Equipment, processes, vocabulary and quality



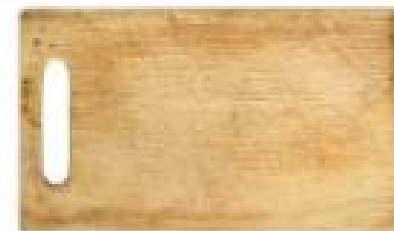
Saucepan



Balloon whisk



Measuring jug



Chopping board

Practical processes

Baton or jardinière: even sticks. **Julienne:** thin matchsticks. **Brunoise:** small dice. **Paysanne:** thin flat shapes. **Chiffonade:** fine leafy ribbons. **Sauté** quickly in a little fat. **Reduction** removes water and strengthens flavour. Make a **roux** from fat and flour, then whisk in milk for a **béchamel**. **Au gratin** means topped and browned. **Pané** means coated in flour, egg and breadcrumbs.

Keywords and quality

Creaming: beating fat and sugar traps air.
Rubbing in: fat is rubbed into flour.
Glaze: egg or milk adds colour and shine.
Biological raising agent: yeast releases gas.
Chemical raising agent: baking powder releases gas.
Enzymic browning: cut fruit reacts with oxygen.

Accuracy and quality: Keep cuts even, use correct ratios and add liquid slowly. Roux should be smooth; bakes need the intended rise, colour and texture.

Year 8 Hospitality & Catering Knowledge Organiser

Health, hygiene and safe food preparation

COLOUR-CODED CHOPPING BOARDS

RED	RAW MEAT
BLUE	RAW FISH
YELLOW	COOKED MEATS
GREEN	SALAD AND FRUIT PRODUCTS
BROWN	VEGETABLE PRODUCTS
WHITE	BAKERY AND DAIRY PRODUCTS

Safety and hygiene rules

Allergens: check every ingredient and prevent contact with allergen-free food.

Cross-contamination: separate raw food from ready-to-eat food, use the correct board and sanitise surfaces.

Temperature: keep chilled food at 5°C or below, reheat until steaming and cook high-risk food thoroughly.

Practical safety: turn saucepan handles in, add hot liquid carefully and use dry oven gloves.

Nutrition and protein

Energy intake should match energy used. HBV protein contains all essential amino acids. Combining plant proteins can improve their amino-acid balance.

Critical controls

Control hazards at key stages. Cook high-risk food thoroughly, chill at 5°C or below and keep raw food away from ready-to-eat food.

Quality points

Cuts should be even. Roux sauce should be smooth. Bakes should have the intended rise, colour and texture.

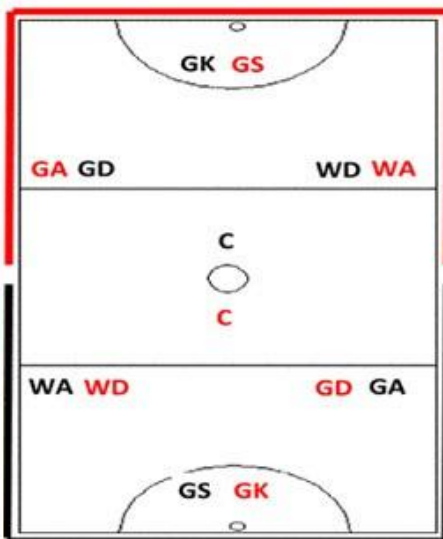


PE

<https://www.youtube.com/watch?v=8XISfjXXakQ>

Cycle 1 Knowledge Organiser

Basic netball rules video



Basic Rules

Players: Only 7 players per side, who all have different positions

Contact rule: You can't touch or push any player during the game as it is a non-contact sport. **This will result in a penalty pass or if they contact you whilst you are in the shooting circle, you will get a penalty shot.**

Footwork rule: You are not allowed to move with the ball. When catching the ball the foot that lands first must stay in contact with the floor until ball is passed. **If footwork happens a free pass is awarded.**

Obstruction rule: you must be 1 metre away from the player you are marking before your arms go up and over the ball. **If your defender is obstructing you before you shoot, you get a penalty shot.**

3 seconds rule: You can only hold the ball for 3 seconds before you pass or shoot. **If a player holds a ball to long a free pass is awarded.**

Centre pass rule: To start a game and after a goal is scored you go back to the centre pass and players must receive in the centre third.

Repossession: If a player drops the ball or bounces the ball and picks it back up again the other team gets a free pass.

Offside rule: If you go into a third that you are not allowed in or if any other player than GS GA GK GD go into the shooting circle the other team gets a free pass. **If offside happens a free pass is awarded.**

How to score: A goal is scored when a GA or GS gets the ball into the hoop from within the D.

Out of court: If the ball gets knocked out of the court by team A, then team B will gain the throw in.

Key components of a warm up

Pulse Raiser

Exercises that slowly increase heart rate and body temperature. E.g. **A netballer jogging for 5 minutes around the court.**

Dynamic Stretching

Placing the body into a position where the muscle or group of muscles is put under tension. E.g. **A netball player doing lateral lunges**

Mobility

Exercises that take the joints through their full range of movement (ROM). E.g. **A netball player doing open/close the gate.**

Skill Rehearsal

Rehearsing common movement patterns and skills which will be used in the activity E.g. **A netball player shooting.**

Major Sporting Events

Regular

An event that is annual (held each year) or biennial (every 2 years) which is held in different city each year. E.g. **Annual = the UEFA Champions League. Biennial = the Ryder Cup.**

One-Off

An event held only once or very occasionally in a city or country. E.g. **The Olympics**

Regular and Recurring

An event that happens around the same time each year and hosted in the same place E.g. **Wimbledon.**

Positives aspects of hosting a Major Sporting Event:

- Global attention on the country
- Improved transport to facilities
- Increased income from sponsorship
- More jobs to build and run the events.

TBAT understand rules of netball and identify major sporting events and how to warm up effectively

Cycle 1 Knowledge Organiser

Basic rugby rules video



Basic Rules

The object of the game is score more points than your opponents in the 80 minute time frame allotted for each rugby match.

Tackling: cannot be made above sternum height or by tripping a player with your feet. Once a tackle is made the player must let go of the ball.

Knock ons If the ball is dropped or deflected forward by a player from their hands, this is classed as a knock on.

Offside Attacking players must be behind the ball to stay remain onside in rugby.

Lineout A lineout is called if the ball travels past the sideline ('in touch').

Scrumming The scrum is used to restart play after a number of rule breaks, including; knock ons, accidental offside or the ball being passed forwards.

- Keep the spine straight
- Elbows in
- Hips inline with shoulders

Rucking After a tackle, the players can form a ruck to gain possession of the ball. This is where the tackled player presents after a tackle, while the players from both teams contests the ball on their feet.

- Place the ball on the floor, Drive over the ball player, Leave the ball on the ground, Keep driving to obtain ball.

A try Teams can score a try by grounding the ball in the defending 'in goal area'. The player who grounds the ball must have it under control. This is worth 5 points.

Key components of a warm up

Pulse Raiser

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LANGUAGES

FRENCH | SPANISH

Learning Cycle 1 is a module that will enable you to talk about your personality and your friendships. You will explore French music and fashions and you will be reinforce the Future Tense (The near Future)

Key words	Definitions
Subject Pronouns	je (I) / tu (you) / il/elle (he/she), nous (we) / vous (you (pl)) / ils/ells (they (m))/they (f)
Nouns	used to identify any of a class of people, places, or things
Adjectives	used to describe a noun
Verbs	a word used to describe an action, state, or occurrence, and forming the main part of the predicate of a sentence, such as <i>hear, become, happen</i> .
Adverbs of frequency	used to say how often someone does something
Infinitive	A verb in its unchanged form / A verb which can be found in a dictionary / A verb which has an ER/IR/RE ending in French (jouer) / A verb which has 'to' in front of it in English (to play)
Present tense	Used to say what someone is currently doing (I do / I play)
The Future tense	Used to talk about what someone will do in the future (I will play football)
The Near Future tense	Used to talk about what someone is going to do in the future (I am going to play football)

You use the near future tense to talk about what you are going to do.

je vais porter I am going to wear
tu vas porter you are going to wear
il/elle va porter he/she is going to wear
on va porter we are going to wear

Key verb to know by heart !

je suis - I am

je ne suis pas - I'm not

je ne suis jamais - I'm never

il est - he is

elle est - she is

nous sommes / on est - we are

Frequencies

rarement - rarely

quelquefois - sometimes

souvent - often

normalement - normally

toujours - always

jamais - never



Intensifiers



un peu - a bit

plutôt - rather

assez - quite

très - very

vraiment - really

on means 'we'. The verb form is the same as for *il* and *elle*.

on parle we speak

on regarde we watch

on va we go

on rigole we have a laugh

Learn the irregular verb *venir* by heart.

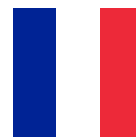
venir (to come)

je viens I come

tu viens you come

il/elle vient he/she comes

on vient we come



Into your notes:

	MY	YOUR (INFORMAL)	HIS/HER
MASCULINE NOUNS	MON	TON	SON
FEMININE NOUNS	MA	TA	SA
PLURAL NOUNS	MES	TES	SES

Adverbs

évidemment - obviously

certainement - certainly

sans doute - undoubtedly

heureusement - fortunately / luckily

malheureusement - unfortunately



3 ways to say "MY" in French!

• **MON** is used in front of **masculine** nouns

eg: *mon père / mon frère*

• **MA** is used in front of **feminine** nouns

eg: *ma mère / ma sœur*

• **MES** is used in front of **plural** nouns

eg: *mes parents / mes chats*

Studio Grammaire

Page 62

With reflexive verbs, you need to use an extra pronoun.

je **me** fâche

I get angry

on **se** chamaille

we squabble

If the verb begins with a vowel sound, the pronoun changes:

je **m'**entends bien avec ...

I get on well with ...

on **s'**amuse

we have fun

se chamailler

to squabble

je **me** chamaille

I squabble

tu **te** chamailles

you squabble

il/elle/on **se** chamaille

he/she squabbles/we squabble

nous **nous** chamaillons

we squabble

vous **vous** chameillez

you squabble

ils/elles **se** chamaillent

they squabble

Sentence starters to give your opinion:

à mon avis - in my opinion

je pense que - I think that

selon moi - according to me

Regular colours:

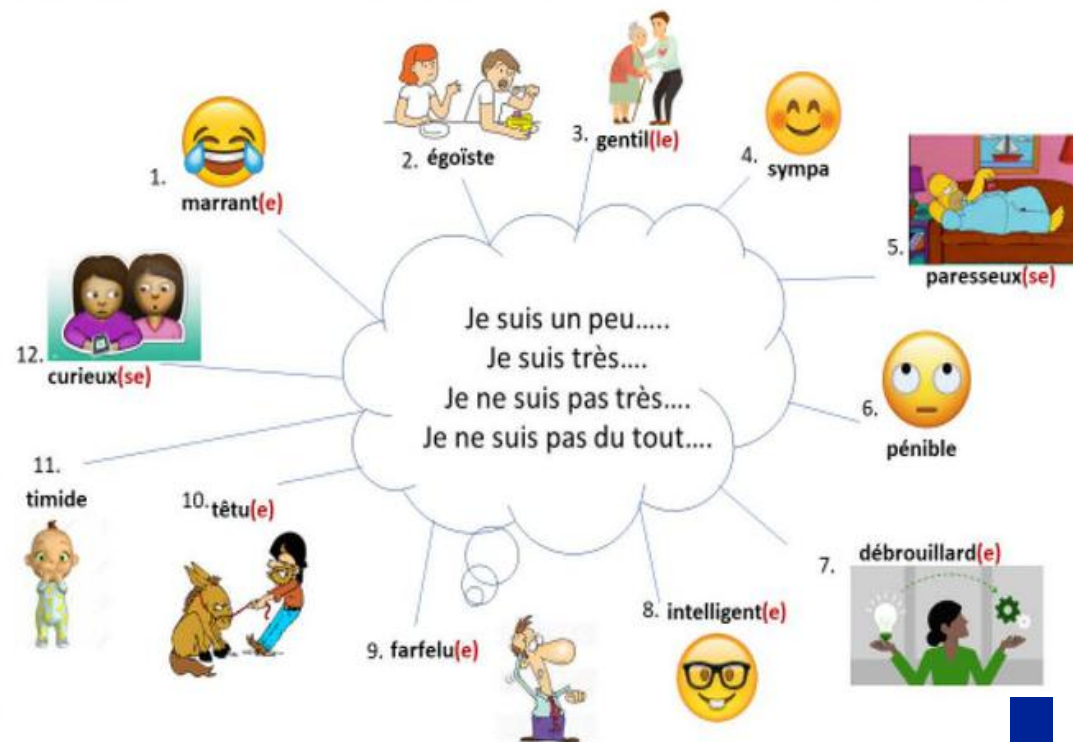
Masculin	Féminin
Bleu	Bleue
Vert	Verte
(un pull) Noir	(une robe) Noire
Gris	Grise

Colours that don't change:

Masculin	Féminin
Rouge	Rouge
Rose	Rose
(un jean) Jaune	(une chemise) Jaune
Orange	Orange
Marron	Marron

Colours that change in a particular way:

Masculin	Féminin
(un pantalon) Blanc	(une jupe) Blanche
Violet	Violette



In **Learning Cycle 1** you will talk about how you use modern technology and online activities. You will also increase your knowledge of the present tense. Additionally, you will learn about different types of music and TV programmes.

PRESENT TENSE: talk about what you do

You use the present tense to talk about what usually happens.

There are three groups of regular verbs:

-ar verbs

hablar	to talk
hablo	I talk
hablas	you talk
habla	he/she talks
hablamos	we talk
habláis	you (pl.) talk
hablan	they talk

-er verbs

leer	to read
leo	I read
lees	you read
lee	he/she reads
leemos	we read
leéis	you (pl.) read
leen	they read

-ir verbs

compartir	to share
comparto	I share
compartes	you share
comparte	he/she shares
compartimos	we share
compartís	you (pl.) share
comparten	they share

Some verbs are stem-changing:
jugar → to play juego → I play

Adverbs of frequency

✓✓✓✓	todos los días	every day
✓✓✓✓	dos o tres veces a la semana	three or four times a week
✓✓	a veces	sometimes
✓	de vez en cuando	from time to time
✗	nunca	never

Giving opinions

- Use a range of opinion-giving phrases to make your sentences more interesting:
 Me encanta...
 No me gusta nada...
- Give a reason: porque es guay/triste/horrible...
 porque me gusta el ritmo...
- Make an exclamation: ¡Qué va! ¿Estás loco/a?

Me gusta...	I like...
Me gusta mucho...	I really like...
No me gusta...	I don't like...
No me gusta nada...	I don't like at all...
porque es...	because it is...
porque no es...	because it is not...
interesante	interesting
guay	cool
divertido/a	amusing, funny, fun
estúpido/a	stupid
aburrido/a	boring



He/his? She/her?

SKILLS

Making everything match up

When you use the he/she/it form, you often need to change other elements of the sentence:

me gusta (I like) →
le gusta (he/she likes)

mi programa favorito
(my favourite programme) →
su programa favorito
(his/her favourite programme)

mis amigos (my friends) →
sus amigos (his/her friends)

Palabras muy frecuentes

High-frequency words

así que	so (that)	o	or
más... que...	more... than...	además	in addition, furthermore
mi/mis	my	porque	because
su/sus	his/her	también	also, too
normalmente	normally	sin embargo	nevertheless
no	no/not	y	and
nunca	never		

Use a range of connectives to extend your sentences:

- **porque** es antiguo **y también**... (because it's old **and** also...)
- voy al parque **donde** juego... (I go to the park **where** I play...)
- un pueblo **que** se llama... (a town **which** is called...)

Use negatives to add variety to your answers:

- **No** voy a la playa. (I don't go to the beach.)
- **Nunca** juego al tenis. (I never play tennis.)
- **No** hay **nada** en mi pueblo. (There's nothing in my town.)

AiMiNG HIGH:

When writing or talking in Spanish, aim to use at least ONE verb in the future tense to give your piece the WOW factor.

The near future tense

The near future is used to talk about what you are going to do. Use the present tense of the verb *ir* followed by a plus the infinitive.

voy a salir con mis amigos	I am going to go out with my friends
vas a comer paella	you are going to eat paella
va a ir a una fiesta	he/she is going to go to a party
vamos a jugar al fútbol	we are going to play football
vais a chatear	you are going to chat online
van a hacer los deberes	they are going to do their homework

SKILLS

Looking for cognates

To help you understand an authentic text, look for:

Cognates – words that are spelled the same in Spanish and English (for example, **invasión**).

Near-cognates – words that are not exactly the same but similar (for example, **oficina**).

