

ASPIRATION ~ INTEGRITY ~ RESPECT



KNOWLEDGE ORGANISER

CYCLE 1

YEAR 7





ENGLISH

Cycle 1 -Visions & Voices. In this Learning Cycle, you will use your knowledge of different types of writing to create a portfolio of writing about yourself.

Your portfolio of writing will demonstrate your knowledge of the text types studied and accuracy in spelling and grammar.

KEY WORDS	
Character	
Metaphor	Any person, animal, or imaginary creature that thinks, feels, or acts in a story.
Simile	A technique that compares two different things by directly stating that one thing <i>is</i> another
Genre	a technique that compares two different things by using like or as.
Campaigning	A particular type or style of literature.
Purpose	The 'why' behind the writing. It's what the writer wants to achieve.
Senses	How we learn about the world around us through touch, taste, hearing, smell and sight.
Setting	The time and location a story takes place.
Onomatopoeia	A technique where the word imitates the sound it makes.
Personification	A technique where the writer gives non-human object human qualities.
Advocacy	The act of supporting a person, group or idea.
Heroism	The quality of courage and putting the well-being of others before your own.

Language features to use in your writing	
Hyperbole	Exaggerated statements or claims not meant to be taken literally. Examples of hyperbole: I feel so hungry I could eat a horse.
Symbols	An object, concept, or word does not have to be limited to a single meaning. It could represent something else. Example: a rose can be used as a symbol for romance, courtship, and Valentine's Day. Can you think of any other famous symbols that are commonly used?
First Person Narrative	A storyteller recounts events from their own point of view using the first person such as "I". What is the benefit of doing this?
Anecdotes	Short, often humorous, stories that enliven writing and illustrate a point. Example: This one weekend, we went to Disneyland and I nearly lost my sister.
Verbal Irony	An expression of the opposite of what is expected or the opposite of what is meant. Example: "What nice weather we're having?" he said, watching the rain.
Sarcasm	The use of irony to mock or convey contempt. Example: Yeh, as if I really liked her lasagne.
Figurative Language	The use of words or phrases that deviate from their every day, literal meaning to evoke emotion for the reader. Some examples of figurative language are: Similes, metaphors, hyperbole, personification and onomatopoeia.

Themes to explore:

Me (finding an individual inner connection)

Audience (interacting with and exploring others)

Me and my audience (expressing opinion with others)

Me and my world (world issues and influences)

Writing conventions:

Creative

Writing, typically fiction or poetry which displays imagination or invention

Expressive

The use of writing to express thoughts or feelings relating to experiences

Persuasive

Writing that is used to convince the reader to do or think something

I've got something to say....!

Context:

Individual issues

Collective issues

Global issues

Text types that you will explore:

Non-fiction articles

Accounts of real people, places and events

Poetry

Expression of feelings using style and rhythm

Prose

Written or spoken language in its ordinary form

Lyrics

The words of a song

Opinion writing

Expression of feelings on a specific issue

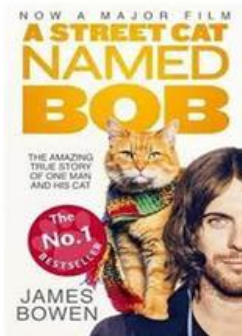
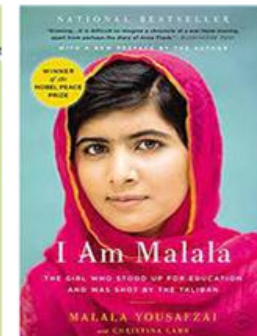
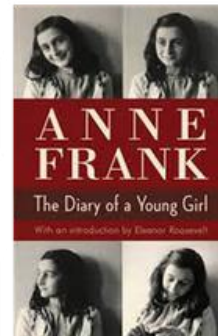


Autobiography

self

life

printed or written



MATHS

KPI 7.01 Numerical Skills

1) Place Value	The value of a digit relating to its position in a number. In 1482 the digits represent 1 thousand, 4 hundreds, 8 tens and 2 ones.	2) Integer	Whole numbers including zero. -2, -1, 0, 1, 2, 3 ...																					
3) Decimal	A number with a decimal point in it. It can be positive or negative. 0.3, 1.26, -3.4 etc.	4) Positive Number	Any number above zero. 1, 2, 3, 4 ...																					
5) Negative Number	Any number below zero. Always written with a negative sign in front of it: -1, -2, -3 ...	6) Zero Place Holder	A zero that is used as a place holder to denote the absence of a power of 10 E.g. 506 has no tens so there is a 0 in the tens column.																					
7) Even Number	Any integer that can be divided by 2 without leaving a remainder. 2, 4, 6, 8, 10 ...	8) Odd Number	Any integer that cannot be divided by 2 without leaving a remainder. 1, 3, 5, 7, 9 ...																					
9) Square Number	The result of multiplying a number by itself. It will always be positive. 1, 4, 9, 16, 25, 36, 49, 64, 81, 100, 121, 144 ...	10) Square Root	The opposite of squaring a number to find the original factor. E.g. $\sqrt{9} = 3$ or -3																					
11) Inequality	When one number, or quantity, is not equal to another. $a < b$ a is less than b $a > b$ a is greater than b $a = b$ a is equal to b $a \neq b$ a is not equal to b	12) Ascending	Smallest to largest.																					
		13) Descending	Largest to smallest.																					
14) Decimal Place Value	The value of each digit after the decimal point. Tenth, hundredth, thousandth etc.	17) Rounding	<table><tr><td>Round to</td><td>Circle, Underline, Decide</td><td>Answer</td></tr><tr><td>Nearest 1000</td><td><u>5</u> 7 8 3 . 1 9 9</td><td>≈ 6000</td></tr><tr><td>Nearest 100</td><td>5 <u>7</u> 8 3 . 1 9 9</td><td>≈ 5800</td></tr><tr><td>Nearest 10</td><td>5 7 <u>8</u> 3 . 1 9 9</td><td>≈ 5780</td></tr><tr><td>Nearest integer</td><td>5 7 8 <u>3</u> . 1 9 9</td><td>≈ 5783</td></tr><tr><td>1 d.p.</td><td>5 7 8 3 . <u>1</u> 9 9</td><td>≈ 5783.2</td></tr><tr><td>2 d.p.</td><td>5 7 8 3 . 1 <u>9</u> 9</td><td>≈ 5783.20</td></tr></table>	Round to	Circle, Underline, Decide	Answer	Nearest 1000	<u>5</u> 7 8 3 . 1 9 9	≈ 6000	Nearest 100	5 <u>7</u> 8 3 . 1 9 9	≈ 5800	Nearest 10	5 7 <u>8</u> 3 . 1 9 9	≈ 5780	Nearest integer	5 7 8 <u>3</u> . 1 9 9	≈ 5783	1 d.p.	5 7 8 3 . <u>1</u> 9 9	≈ 5783.2	2 d.p.	5 7 8 3 . 1 <u>9</u> 9	≈ 5783.20
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15) Decimal Places	The number of digits after the decimal point. E.g. 14.278 has 3 decimal places.																							
16) Estimate	Find a rough or approximate answer by rounding. e.g. $2.3 \times 18.4 \approx 2 \times 20 = 40$ $\approx$ 'approximately equal to'																							

KPI 7.02 Order of Operations

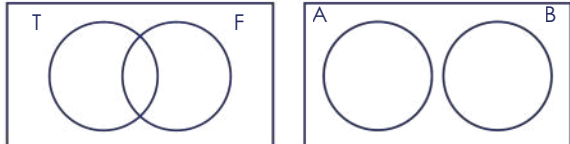
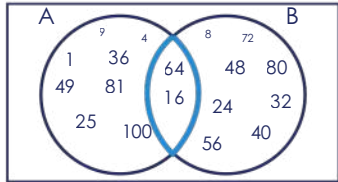
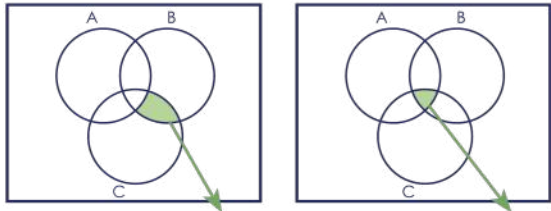
1) Operation	A rule for combining numbers + - × ÷	2) Evaluate	To work out the value of.
3) Index Notation	The index tells us how many times the base is being multiplied by itself. The plural of index is indices.	Power Index Base 	
4) Order of Operations	B = Brackets I = Indices and Roots DM = Division and Multiplication AS = Addition and Subtraction		
	If we have a calculation with addition or subtraction only then we calculate from left to right. 18 - 10 + 2 8 + 2 10	If we have a calculation with multiplication or division only then go from left to right. 8 × 5 ÷ 4 × 10 8 × 5 ÷ 4 × 10 40 ÷ 4 × 10 10 × 10 = 100	

KPI 7.03 Introduction to Algebra

1) $2a$	$2 \times a$	2) ab	$a \times b$
3) a^2	$a \times a$	4) $3a^2$	$3 \times a \times a$
5) a subtracted from b	$b - a$	6) a less than b	$b - a$
7) a subtract b	$a - b$	8) a reduced by b	$a - b$
9) a divided by b	$\frac{a}{b}$	10) b divided by a	$\frac{b}{a}$
11) 4 times smaller than a	$\frac{a}{4}$	12) 4 times larger than a	$4 \times a \rightarrow 4a$
13) 5th power of a	a^5	14) Variable	A letter used to represent any number.
15) Coefficient	The number to the left of the variable. This is the value that we multiply the variable by. $4x \rightarrow$ The coefficient of x is 4. $x \rightarrow$ The coefficient of x is 1.	16) Term	A single number, variable or numbers and variables multiplied together.
17) Expression	A mathematical statement which contains one or more terms combined with addition and/or subtraction signs. E.g. $4x + 3y$.	18) Collecting like terms	Combining the like terms in an expression. $7x + 3y - 2x$ is simplified to $5x + 3y$.
19) Substitute	Replace a variable with a given value. E.g. if $b = 10$, $2b = 2 \times 10 = 20$ $b - 2 = 10 - 2 = 8$	20) Rearrange	Alter the position of variables using the 4 operations. $5 = \frac{t}{a}$ $t = \frac{5}{a}$ $a = 5 \times t$

KPI 7.04 Primes, Factors and Multiples

1) Factor	Any whole number that divides exactly into another number leaving no remainder is a factor. Factors of 20 are: 1, 2, 4, 5, 10, 20	2) Multiple	The result of multiplying a number with a whole number (all times tables!). The multiples of 7: 7, 14, 21, 28, 35, 42, 49, 56, 63, 70 ...
3) Highest Common Factor (HCF)	The HCF of 2 or more numbers is the largest number that is a factor of each of those numbers. E.g. HCF of 18 and 45 = 9 18: 1, 2, 3, 6, 9, 18 45: 1, 3, 5, 9, 15, 45	4) Lowest Common Multiple (LCM)	The LCM of 2 or more numbers is the smallest number that is a multiple of each of those numbers. E.g. LCM of 6 and 8 = 24 6: 6, 12, 18, 24, 30, 36, 42, 48, 54, 60 8: 8, 16, 24, 32, 40, 48, 56, 64, 72, 80
5) 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 are: 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		

6) Venn Diagrams	These were created by an English Mathematician, John Venn (1834 – 1923). They are used to sort groups of data and consist of two or more circles, often overlapping, contained inside a rectangle.	
7) One Intersection	In a Venn diagram with 2 circles, an overlap represents a section where elements (E.g. numbers) lie in both sets (E.g. A and B). The overlap between the sets, is called the intersection. E.g. A = First ten square numbers B = First ten multiples of 8	16 and 64 are in the intersection as they are in both sets. 
8) Multiple Intersections	If a Venn diagram is representing three sets, it will have three circles. Each circle will often overlap with another data set twice, with all three circles overlapping at the centre.	

KPI 7.05 Expanding and Factorising 1

1) Expand	Multiply out the bracket(s) in the expression. E.g. $3(5x + 7) = 15x + 21$	2) Factorise	Identify the HCF and rewrite the expression with brackets. E.g. $6x^2 + 9x = 3x(2x + 3)$
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KPI 7.06 Addition and Subtraction

1) Addition Plus, add, sum, more than.	To find the total of two or more numbers. The inverse operation is subtraction.	$\begin{array}{r} 1.38 \\ 4.90 + \\ \hline 6.28 \end{array}$	2) Subtraction Subtract, minus, take away, less than.	To find the difference between two numbers. The inverse operation is addition.	$\begin{array}{r} 4.90 \\ 1.38 - \\ \hline 3.52 \end{array}$																
3) Commutative	Addition is commutative – the order of addition does not change the result. Subtraction is not commutative.		4) Associative	When you add you can do so regardless of how the numbers are grouped. Subtraction is not associative.																	
5) Two-way Table	A visual representation of the possible relationships between two sets of categorical data. You can add and subtract values horizontally and vertically to find totals or missing values.		<table><tr><td></td><td>Child</td><td>Adult</td><td>Total</td></tr><tr><td>Male</td><td>7</td><td>9</td><td>16</td></tr><tr><td>Female</td><td>8</td><td>6</td><td>14</td></tr><tr><td>Total</td><td>15</td><td>15</td><td>30</td></tr></table> The values in a row have a total at the right-hand side of the row. The values in a column have a total at the bottom of the column.				Child	Adult	Total	Male	7	9	16	Female	8	6	14	Total	15	15	30
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KPI 7.07 Perimeter

1) Perimeter	The total distance around the outside of a closed shape.	 Perimeter = $5 + 8 + 5 + 8 = 26$ cm	2) Polygon	A 2D shape which has 3 or more straight sides.
			3) Regular Polygon	A polygon where all sides are equal length, and all angles are of equal size.
			4) Irregular Polygon	A polygon where all sides are not equal and/or all angles are not equal.
			5) Units of Length	1 cm = 10mm; 1 m = 100 cm; 1 km = 1000 m

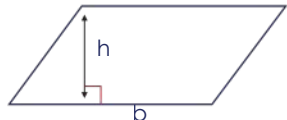
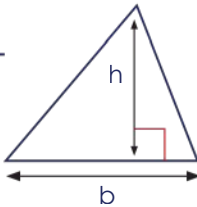
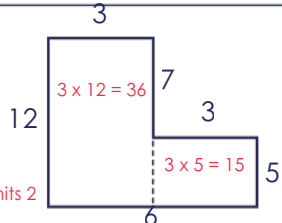
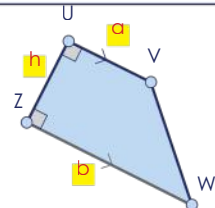
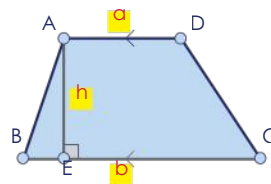
KPI 7.08 Mean

1) Average	A number expressing the central or typical value in a set of data.	2) Mean	The sum of the numbers divided by how many numbers are being averaged. E.g. Calculate the mean of 14, 6, 18, 2, 3. 1) Add the values: $14 + 6 + 18 + 2 + 3 = 43$ 2) Divide by 5 3) Mean is $\frac{43}{5} = 8.6$
3) 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 7.09 Multiplication and Division

1) Multiplication lots of, times, product, of	Multiplication is the operation of scaling one number by another. Multiplication is the inverse operation of division. Multiplication is commutative – the order of multiplication does not change the result. E.g. $2 \times 3 = 3 \times 2$. Multiplication is associative – when you multiply you can do so regardless of how the numbers are grouped. E.g. $1 \times (2 \times 3) = (1 \times 2) \times 3$		
2) Multiplying Integers	29×3 $\begin{array}{r} 29 \\ \times 3 \\ \hline 87 \\ \hline \end{array}$	3) Multiplying Decimals	Remove the decimal points Multiply Insert the same number of decimal points in the answer as in the question 0.5×0.3 $5 \times 3 = 15$ $0.5 \times 0.3 = 0.15$
4) Division	Division can be thought of as sharing. The number being divided is shared equally into the stated number of parts. Division is the inverse operation of multiplication. $D \div \square = \square \quad D = \frac{D}{\square}$ E.g. $8 \div 9 = 9 \overline{)8} = \frac{8}{9}$ $4524 \div 3$ $\begin{array}{r} 1508 \\ 3 \overline{)4524} \\ \underline{45} \\ 0 \\ \underline{0} \\ 24 \\ \underline{24} \\ 0 \end{array}$ $3 \div 8$ $\begin{array}{r} 0.375 \\ 8 \overline{)3.000} \\ \underline{24} \\ 60 \\ \underline{56} \\ 40 \\ \underline{40} \\ 0 \end{array}$		
5) Dividend	The number being divided. $15 \div 3 \rightarrow 15$ is the dividend.		6) Divisor
	The number by which another is divided. $15 \div 3 \rightarrow 3$ is the divisor.		

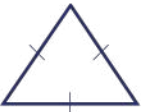
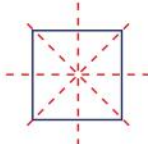
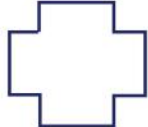
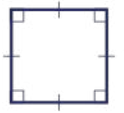
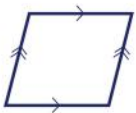
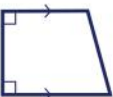
KPI 7.10 Area

1) Area	A measure of the space inside a 2D shape. Area is measured in square units. E.g. square centimetres (cm ²), square metres (m ²).		
2) Area of a Rectangle	Area = length x width 	3) Area of Parallelogram	Area = base x height 
4) Area of Triangle	Area = $\frac{\text{base} \times \text{height}}{2}$ 	5) Compound Area	Split into regular shapes Find the area of each Sum the areas  Area = $36 + 15 = 51$ units ²
6) Units of Area	1 cm ² = 100 mm ² ; 1 m ² = 10,000 cm ²		
7) Area of Trapezium	Sum of the parallel sides. Divide by 2. Multiply by the vertical height. $A = \frac{a + b}{2} \times h$  		

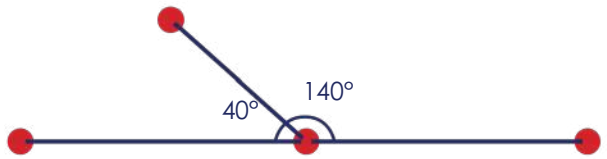
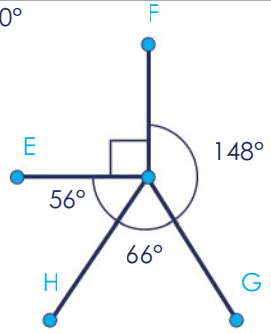
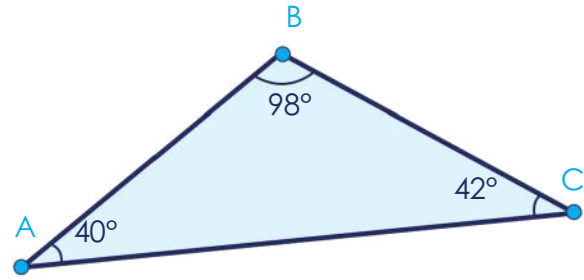
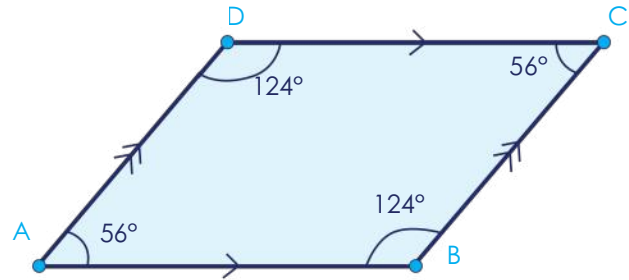
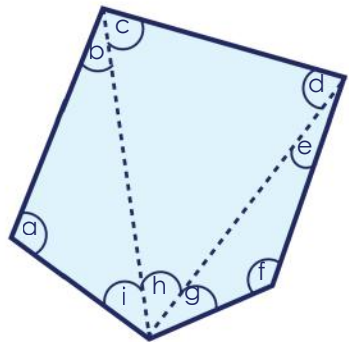
KPI 7.11-7.14 Fractions

1) Fraction	Part of a whole. The result of dividing one integer by a second (non-zero) integer.	3 4 Numerator How many equal parts do you have? Denominator How many equal parts is the whole divided into?	
2) Proper Fraction	The numerator is smaller than the denominator e.g. $\frac{5}{6}$	3) Improper fraction	The numerator is greater than or equal to the denominator e.g. $\frac{11}{8}$
4) Mixed number	A whole number combined with a fraction. e.g. $2\frac{1}{3}$	5) Simplify a fraction	Divide both the numerator and the denominator of the fraction by their HCF. 6 14 3 7 ÷ 2 ÷ 2
6) Writing one number as a fraction of another	Write £15 as a fraction of £25. $\frac{15}{25} = \frac{3}{5}$		
7) Equivalent Fractions	Fractions which have the same value. The numerator and the denominator can be multiplied or divided by the same number.	E.g. Fractions equivalent to $\frac{3}{5}$: $\frac{3}{5} \times \frac{2}{2} = \frac{6}{10}$ $\frac{3}{5} \times \frac{3}{3} = \frac{9}{15}$ $\frac{3}{5} \times \frac{4}{4} = \frac{12}{20}$ $\frac{3}{5} \times \frac{10}{10} = \frac{30}{50}$	
8) Convert an integer to a fraction	Whole numbers are an integer with a denominator of 1.	3 1 3 15 x 5 x 5	
9) Converting an improper fraction to a mixed number	Divide the numerator by the denominator. Write down the whole number of the answer and the remainder as the numerator of the fraction. The denominator of the mixed number is the same as the denominator of the improper fraction.	$\frac{15}{7} = 2\frac{1}{7}$	
10) Converting a mixed number to an improper fraction	Change the whole number into a fraction (same denominator) and add on the fraction part.	$2\frac{3}{4} = \frac{8}{4} + \frac{3}{4} = \frac{11}{4}$	
11) Add/Subtract Fractions	Make the denominators the same (find the LCM). Use equivalent fractions to change each fraction to the common denominator. Add/subtract the numerators only.	$\frac{2}{7} + \frac{2}{5} = \frac{10}{35} + \frac{14}{35} = \frac{24}{35}$	
12) Order Fractions	Find the lowest common denominator. Write equivalent fractions with the LCD. Order from the smallest to largest numerator. Rewrite original fractions in the new order.	$\frac{2}{3}$ $\frac{5}{6}$ $\frac{4}{5}$ 20 25 24 30 30 30 2 4 5 3 5 6	
13) Convert fractions to decimals	Use short division. E.g. to convert $\frac{3}{8}$ to a decimal: 0.375 3 364 3.000	14) Fractions of an amount	We divide the amount by the denominator and then multiply the result by the numerator. E.g. $\frac{2}{7}$ of 35 $\frac{35 \div 7 = 5}{2 \times 5 = 10}$

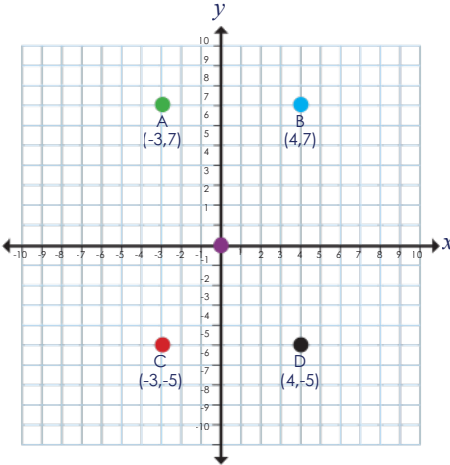
KPI 7.15 Polygons

1) 3 sides	Triangle	2) 4 sides	Quadrilateral	23) Line symmetry	24) Rotational symmetry
3) 5 sides	Pentagon	4) 6 sides 6)	Hexagon	The mirror lines of a shape. If a polygon is regular, the number of sides is equal to the number of lines of symmetry.	The number of positions in which the rotated object appears unchanged. The number of positions is called the order of the symmetry. For example, Order 3 tells us that a shape can be rotated into three positions where the shape appears unchanged.
5) 7 sides	Heptagon	8 sides 8)	Octagon		
7) 9 sides	Nonagon	10 sides 10)	Decagon		
9) 11 sides	Hendecagon	12 sides	Dodecagon		
11) Equilateral Triangle	• 3 equal angles • 3 equal sides 	12) Isosceles Triangle	• 2 equal angles • 2 equal sides 	Four lines of symmetry	 Order 2  No rotational symmetry  Order 3  Order 4  Order 5
13) Scalene Triangle	• All angles are different • All sides are different 	14) Right-angled Triangle	• One angle of 90° • Can be isosceles or scalene 	Three lines of symmetry	
15) Square	• 4 right angles • 4 equal sides • 2 pairs of parallel sides 	16) Rectangle	• 4 right angles • 2 pairs of parallel sides • 2 pairs of equal sides 	Equilateral Triangle	
17) Parallelogram	• 2 pairs of equal sized angles • 2 pairs of parallel sides • 2 pairs of equal sides 	18) Rhombus	• 4 equal sides • 2 pairs of equal sized angles • 2 pairs of parallel sides 	Six lines of symmetry	
19) Trapezium	• 1 pair of parallel sides 	20) Right-angled Trapezium	• 2 right angles • 1 pair of parallel sides 	Regular Hexagon	
21) Isosceles Trapezium	• 1 pair of parallel sides • 2 pairs of equal sides • 2 pairs of equal sized angles 	22) Kite	• 1 pair of equal sized angles • 2 pairs of equal sides 	Five lines of symmetry	
				Regular Pentagon	

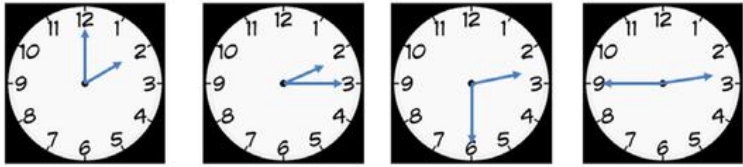
KPI 7.16 Angles

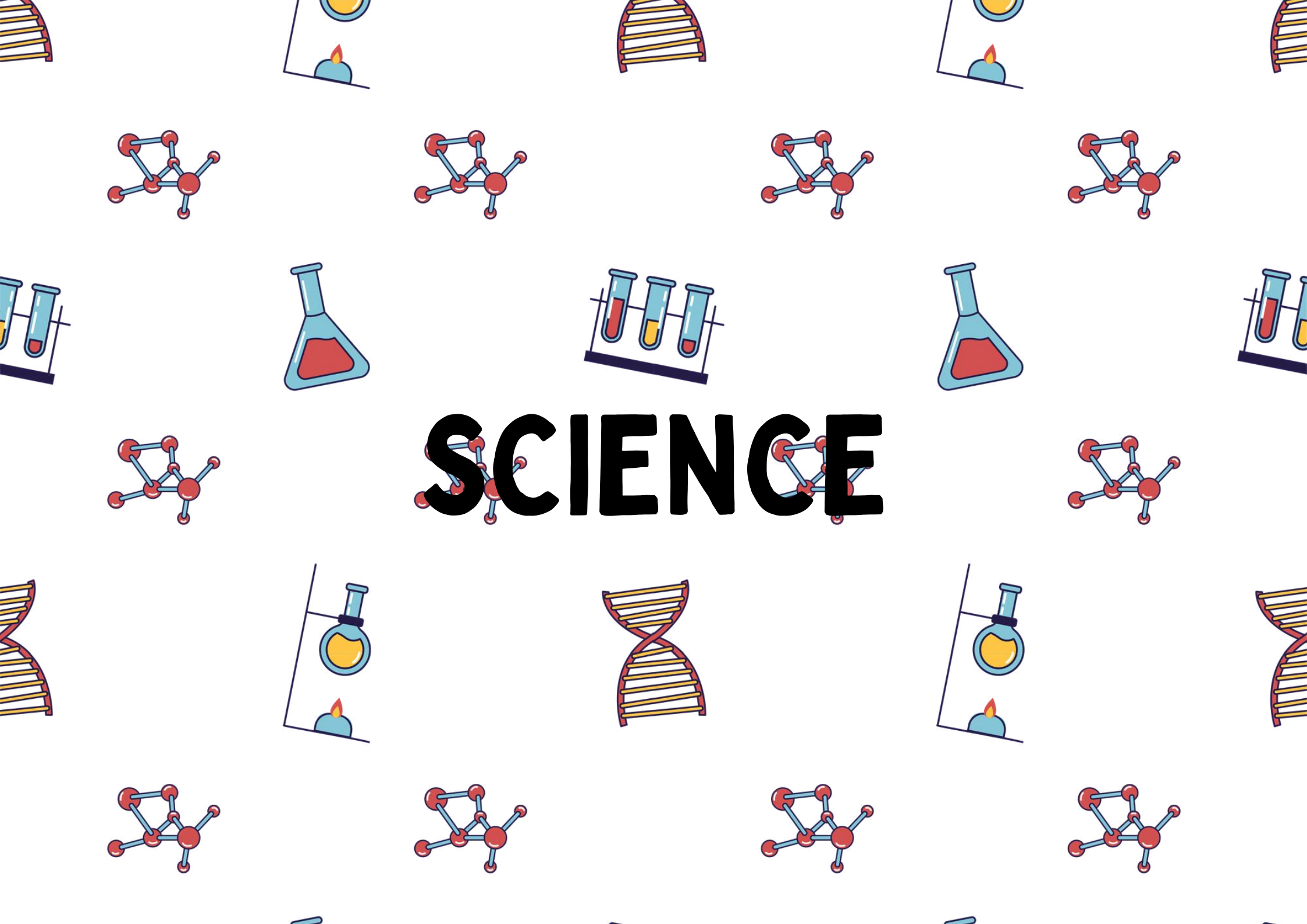
1) Angle	An angle is a measure of turn from one line segment to another. One whole turn is equal to 360 degrees.	2) Degree	The most common unit of measurement for angles.
3) Acute Angle	Less than 90°	4) Right Angle	Exactly 90°
5) Obtuse Angle	Greater than 90° but less than 180°	6) Reflex Angle	Greater than 180°
7) Angles on a straight line	Angles on a straight line sum to 180° 	8) Angles around a point	Angles around a point sum to 360° 
9) Angles in a triangle	Angles in a triangle sum to 180° 	11) Angles in any polygon	Any polygon can be split into several triangles to find the sum of the total interior angles. $a + b + i = 180^\circ$ $c + d + h = 180^\circ$ $e + f + g = 180^\circ$ So, total sum of interior angles = 540° This information allows us to find a missing angle.
10) Angles in a quadrilateral	Angles in a quadrilateral sum to 360° 		

KPI 7.17 Co ordinates

1) Coordinates	Written in pairs and inside a bracket. The first number is the x coordinate (horizontal position). The second number is the y coordinate (vertical position).	 Point A is in the SECOND quadrant Point B is in the FIRST quadrant Point C is in the THIRD quadrant Point D is in the FOURTH quadrant The coordinate (0,0) is also known as the ORIGIN
2) Origin	The coordinate (0,0) is where the x axis and y axis intersect.	6) Midpoint of two coordinates 1. Add the x coordinates, divide by 2. 2. Add the y coordinates, divide by 2. 3. Write as a coordinate (x, y). E.g. The midpoint of (2, 2) and (8, 4) = (5, 3) midpoint of x coordinates: $\frac{2+8}{2} = \frac{10}{2} = 5$ midpoint of y coordinates: $\frac{2+4}{2} = \frac{6}{2} = 3$
3) Axis Plural-Axes	x axis is horizontal (y = 0). y axis is vertical (x = 0).	
4) Vertical lines	Always in the form x = a.	
5) Horizontal lines	Always in the form y = a.	

KPI 7.18 Time

1) Analogue	 2 o'clock Quarter past 2 Half past 2 Quarter to 3				
2) Digital	Times will appear differently on digital clocks depending on whether they are in 12-hour clock or 24-hour clock mode. 2:00 am → 02:00 2:15 am → 02:15 2:30 am → 02:30 2:45 am → 02:45 2:00 pm → 14:00 2:15 pm → 14:15 2:30 pm → 14:30 2:45 pm → 14:45				
3) Days	There are 24 hours in one day.	4) Hours	1 hour = 60 minutes	5) Minutes	1 minute = 60 seconds

The background features a repeating pattern of various scientific icons. These include DNA double helix structures, molecular models with red spheres and blue rods, Erlenmeyer flasks containing red liquid, test tubes in a rack with red and yellow liquids, and laboratory setups with round-bottom flasks on stands over Bunsen burners.

SCIENCE

Year 7 Cycle 1 - Science

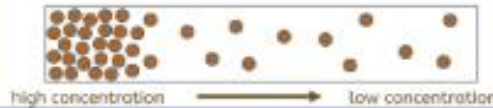
7.01 Particles, substances and mixtures

The particle model of matter

	Solid	Liquid	Gas
Diagram			
Arrangement	ordered and all touching	random and all touching	random and not touching
Movement	vibrate in fixed positions	move and slide over each other	move around quickly in random directions
Attraction between particles	strong	weak	very weak

Diffusion

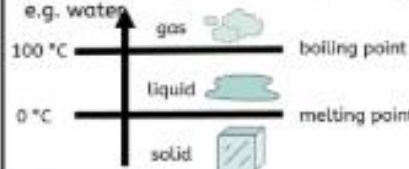
Diffusion is the random movement of particles from an area of high concentration to an area of low concentration. Particles of substances in the liquid and gas states can diffuse because their particles can move freely.



Melting and boiling points

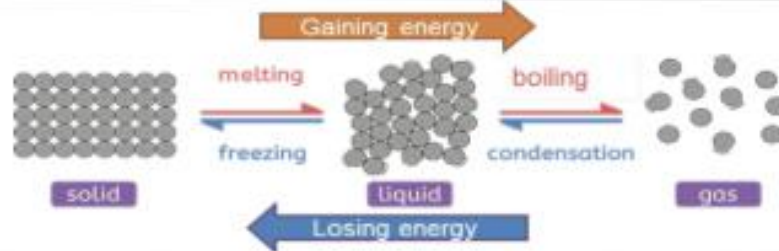
melting point: the temperature at which a substance changes from a solid to a liquid

boiling point: the temperature at which a substance changes from a liquid to a gas, e.g. water



Change of state

A change of state is a physical change because no new substances are made, and the change is reversible. Only the amount of energy the particles have changes, which affects the arrangement and movement of the particles. Temperature stays constant during a change of state.



Explaining the properties of solids

Property	Reason
Fixed shape and cannot flow	Strong forces of attraction between the particles keep them in fixed positions.
Cannot be compressed (squashed)	Particles are all touching and have no space to move into.

Explaining the properties of liquids

Property	Reason
Takes shape of container and can flow	Weak forces of attraction between the particles, so they can move around each other.
Cannot be compressed (squashed)	Particles are all touching and have no space to move into.

Explaining the properties of gases

Property	Reason
Takes shape of container and can flow	Very weak forces of attraction between the particles, allowing them to move and spread out.
Can be compressed (squashed)	Particles are not touching and have space to move into.

Gas pressure

When gas particles collide with the walls of their container, this creates a constant force on the walls of the container.

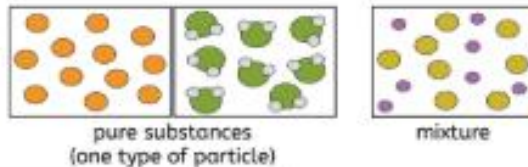
This causes pressure. The faster the particles move, the higher the gas pressure. The gas pressure inside containers can be increased by adding more particles or increasing the temperature. The more frequent the collisions, the higher the gas pressure.



7.01 Particles, substances and mixtures

Pure substances and mixtures

A **pure substance** is one that contains only one substance, e.g. pure iron contains only iron particles. A **mixture** contains two or more substances that are not joined together and can be physically separated.



Solutions and solubility

A **solute** can be dissolved in a **solvent**. The mixture created is called a **solution**. When no more solute can dissolve in the solution, it is a **saturated** solution. If a solid dissolves in a solvent, it is **soluble**. If it does not dissolve in a solvent, it is **insoluble**. **Solubility** is a measure of how much solute can dissolve in a solvent. The higher the temperature of the solvent, the greater the mass of the solute that can be dissolved.

Solubility is different for different solutes. The solubility of a solute will change depending on the solvent used.

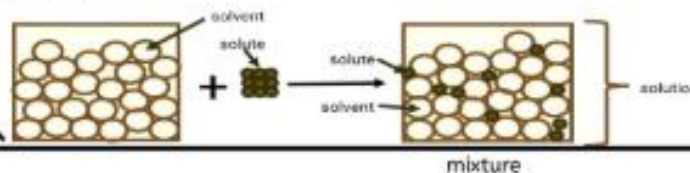
During **dissolving**, the solute particles are separated and fit between the solvent particles to make a solution.



Conservation of mass

When a solution is formed, **the mass of the solvent + the mass of the solute = the mass of the solution**.

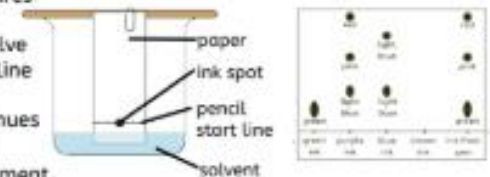
Mass remains constant because the number of particles is the same before dissolving as it is after.



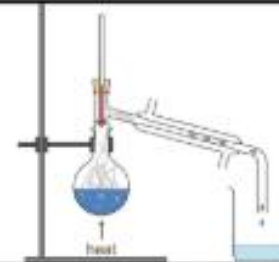
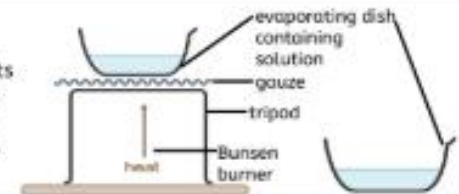
Separating mixtures

We can separate mixtures in different ways depending on their properties:

Chromatography is a separation technique that separates mixtures containing more than one solute based on their solubilities in a solvent. It works because some of the coloured substances dissolve better than others, so they travel further up the paper. A pencil line is drawn, and spots of ink or dye are placed on it. There is a container of solvent (e.g. water or ethanol). As the solvent continues to travel up the paper, the different coloured substances spread apart. A **chromatogram**, the results of chromatography experiment.



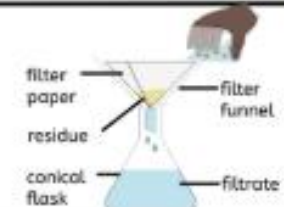
Evaporation and **crystallisation** can be used to separate a soluble solid from a solution. For example, copper sulphate is soluble in water – its crystals dissolve in water to form a copper sulphate solution. During evaporation, the water evaporates away, leaving solid copper sulphate crystals behind. Crystallisation produces larger solid crystals.



Distillation is a separation technique used to separate a mixture of liquids. The basis for separation in distillation is the difference in the boiling points of the components. For example, water can be separated from an ink and water solution because water has a much lower boiling point than ink. When the solution is heated, water evaporates. It is then cooled and condensed into a separate container. The ink does not evaporate, so it stays behind.

Filtration can be used to separate a liquid from an insoluble solid. The filter paper used in filtration is 'selectively permeable', meaning that it has holes in it that allow the movement of only some substances through whilst preventing the movement of others. The insoluble solid is unable to pass through the small holes of the filter paper. When a mixture of sand and water is filtered:

- The sand stays behind in the filter paper (it becomes the **residue**).
- The water passes through the filter paper (it becomes the **filtrate**).

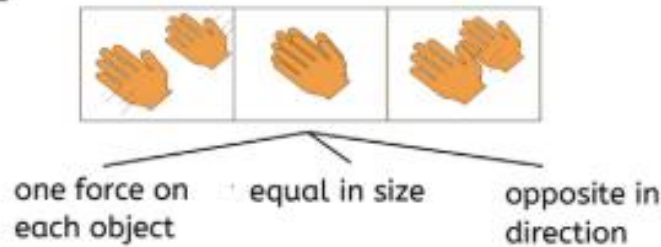


7.02 Fundamentals in physics

Forces and their interactions

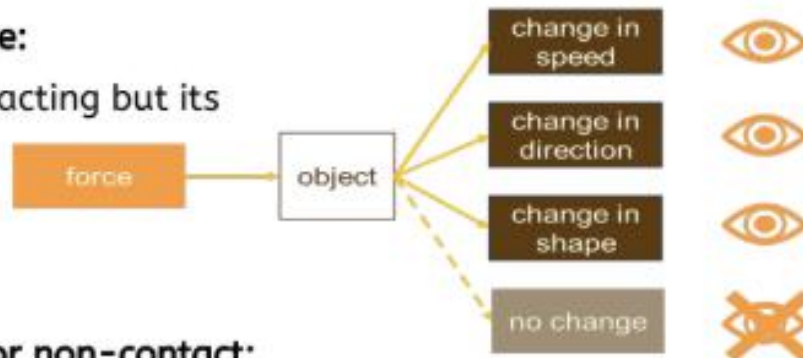
Interaction :

When two objects influence each other and cause a pair of forces to arise.



Forces can cause change:

A force cannot be seen acting but its effects often can.



Forces can be contact or non-contact:

Contact forces arise between two touching objects.

Non-contact forces can act between two objects at a distance.

contact	thrust, friction, air resistance, water resistance, normal contact, upthrust
non-contact	gravity force, magnetic force

Free-body force diagrams



upthrust force on boat by water



gravity force on boat by Earth

One object

Arrows to show size and direction of forces

Labelled forces:

- What kind of force is acting?
- What is the force acting on?
- What exerts the force?

Deforming forces



Two pushing forces cause compression: the object contracts.



Two pulling forces cause tension: the object extends.

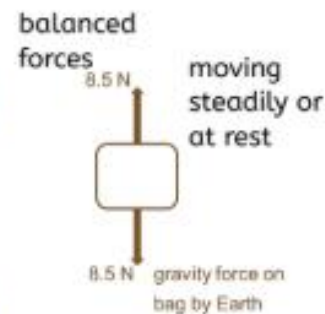


7.02 Fundamentals in physics

Combining forces

More than one force acting:

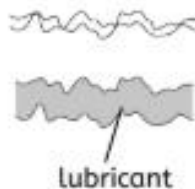
- Their effects are combined
- As if a single force is acting: the resultant force



Friction force

- **What?** One of three frictional forces. They act to resist motion.
- **Where?** Acts between solid surfaces, along the surfaces.
- **When?** An object is sliding or trying to. When starting to slide, the applied force must be larger than the limiting friction: so, an unbalanced force acts.
- **How?** Opposite direction to the motion, or the applied force.
- **Why?** Surfaces are uneven, so the 'catching' between them must be overcome.

	Useful	Nuisance
Walking	✓	
Machines		✓
Driving	✓	
Wear and tear		✓

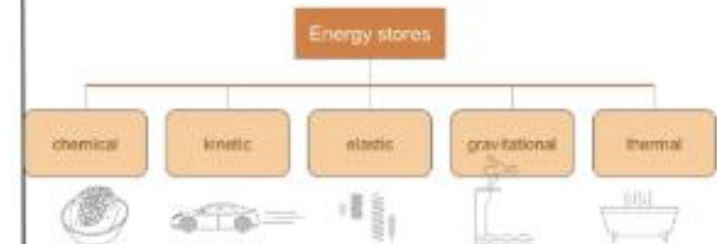


Energy stores and pathways

What energy does:

- Flows between objects in a system
- Stays the same when it transfers
- Cannot be used up

Energy is transferred between stores:



Energy is transferred because of processes, by pathways:



7.02 Fundamentals in physics

Modelling forces

Forces are modelled because:

- forces cannot be seen acting
- there are many forces acting at a time
- their size and direction have important effects on situations, so need to be shown.

Arrows (length represents size, direction of forces)

upthrust force on boat by water



Dot or rectangle shows simplified object

Labels describe type of force, object acted on and objects exerting force on it.

Investigating forces

Scientific methods:

- With or without hypothesis
- Manipulating variables or not

Statement to answer an enquiry question.

comparative term

Smoother surfaces cause less friction to act on objects sliding over them.

present tense

the effect which can be tested

'group' being tested (IV)

Planning to collect high-quality data:

- Measuring with skill
- Preparing the data table
- Repeatable data



Check force-meter is on zero with no force.

headings describe variable

IV

Surface	Force to start sliding (N)		
	1	2	3
Glass	1.4	1.5	1.7
Metal	1.5	1.6	1.7
Polished wood	2.0	2.3	2.2
Plastic	2.9	3.0	2.9
Paper	4.5	3.8	4.0

DV in columns

repeated

Peer review:

Peers (people of a similar level of knowledge) test the results for quality.

Repeatability:

Same group, same results

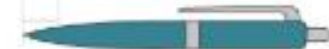
Reproducibility:

Different group, same results

Observing by measurement

Using a scale

- set of lines at equal increments
- Labelled with numbers and units



Measuring instruments

- Include rulers, balances, clocks and thermometers.
- Force is measured using a force-meter.



Quantities: and their units

Base quantities: length (m), mass (kg), time (s) and temperature (K).

Derived quantities include force (N).



Year 7 Cycle 1 - Science

7.03 Cells and organisation

The seven common processes of living organisms

Process	Definition
movement	moving itself or its parts to change position or location
reproduction	producing offspring of the same kind
sensitivity	sensing and responding to changes in their surroundings
growth	increasing in size and repairing parts that are damaged
respiration	using oxygen and glucose (a sugar) to provide energy
excretion	removal of waste substances that are no longer needed
nutrition	using food or other nutrients like water to stay alive

Levels of organisation

cell

→

tissue

→

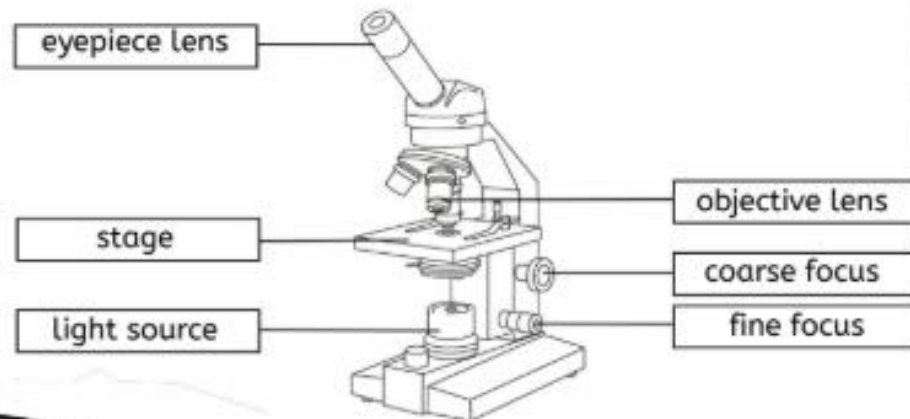
organ

→

organ system

cell	the smallest living building block of organisms
tissue	a group of similar cells that work together to perform a specific function
organ	a structure made up of different types of tissues that work together to carry out a specific function
organ system	a group of organs that work together to perform a common function

The parts of the microscope

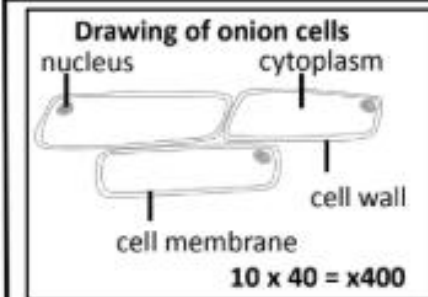


total magnification = eyepiece x objective

Using a microscope

1. Turn the **objective lens** to the **lowest magnification**.
2. Secure the slide on the **stage** using the clips.
3. Move the **stage** up to the **objective lens** by turning the **coarse focus**.
4. Look down the **eyepiece lens**, and move the stage away by turning the **coarse focus**.
5. To make the image sharper and clearer, turn the **fine focus**.
6. Rotate the **objective lens** to get a higher magnification.

Rules for scientific drawings of cells

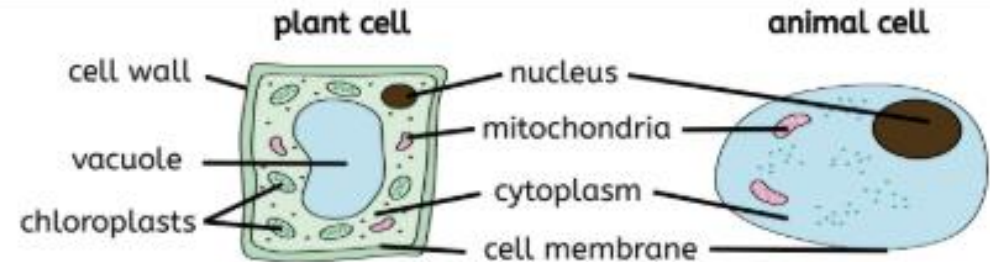


- smooth continuous lines
- large, with the same proportions
- stippling
- a few cells
- title and label
- total magnification

7.03 Cells and organisation

Cell organelles and their functions

nucleus	contains the genome that controls the cell's activities
cytoplasm	where the chemical reactions of the cell take place
mitochondria	where energy is released in respiration
cell membrane	controls which substances enter or leave the cell
vacuole	stores a watery sap
cell wall	strengthen and support the cell
chloroplasts	where light is trapped for photosynthesis to happen



Cells are three dimensional (3D).

The rate of diffusion

The rate of diffusion means how fast diffusion happens. Three factors that can affect the rate of diffusion are **temperature**, the **concentration** of particles and **surface area**.

- The higher the temperature, the faster the rate of diffusion.
- The bigger the difference in the concentration of particles, the faster the rate of diffusion.
- The larger the surface area, the faster the rate of diffusion.

Needs of plants and animals for survival

- Plants need, oxygen, water, light, carbon dioxide, minerals, a suitable temperature and space to grow.
- Animals, including humans, need water, oxygen, nutrients and the right temperature to survive.
- Plants and animals need these to keep all the cells that make them up alive and functioning properly.

Oxygen and **glucose** (a sugar) are needed for **respiration** to take place in cells, to provide energy to keep cells alive. These useful substances enter the cell by **diffusion**. Waste products of respiration are carbon dioxide and water. Waste products leave the cell by diffusion and need to be removed from cells to keep them alive.

Specialised cells are adapted to carry out a specific function



A **palisade cell** has lots of **chloroplasts** that absorb light for photosynthesis and a **column shape** to pack more in the leaf.



A **muscle cell** has lots of **mitochondria** to release energy for contraction.



A **root hair cell** has a **long cell membrane** that provides a large surface area to absorb more water and minerals.



A **red blood cell** has **no nucleus** for extra space to carry more oxygen.



7.04 Chemical changes

Atom

The smallest particle of matter, which all things are made of.



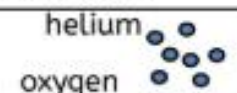
a single atom

Element

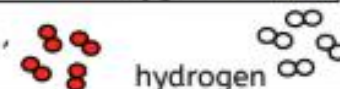
A pure substance that is made of only one type of atom. All atoms of an element are identical, e.g. Gold is an element made up of gold atoms only. The 118 known elements are listed on the periodic table of elements.



The atoms of some elements do not join together, but instead they stay as separate atoms, e.g. helium.



The atoms of other elements join together to make **molecules**, e.g. oxygen and hydrogen.



Properties of elements

Individual atoms do not have the properties of the element. The properties of an element are because of the arrangement and behaviour of the atoms as a group.

Metals

most are shiny
most are hard
most are strong
most are sonorous (makes a ringing sound when hit)
malleable (easy to reshape without breaking)
most are ductile (can be drawn out into a long wire without breaking)
most have very high melting and boiling points
some but not all are magnetic
conduct electricity
good at conducting heat

Non-metals

most are dull
solid non-metals are soft and easy to cut, **except carbon as diamond**
most are not strong
most are not sonorous
not malleable
not ductile
most have very low melting and boiling points
not magnetic
non-metals do not conduct electricity, **except carbon as graphite**
poor at conducting heat

Writing element symbols

The first letter is always written as a capital letter and if there is a second letter, it is always written as a lowercase letter. Element symbols make writing elements easier and allow scientists all over the world to communicate and write about them.

Na

O

sodium oxygen



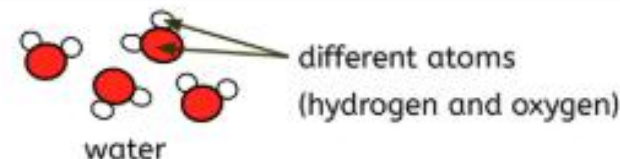
Year 7 Cycle 1 - Science

7.04 Chemical changes

Compound

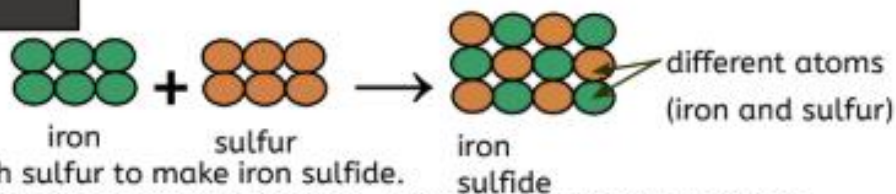
A substance made of two or more different elements chemically joined (bonded) together. A chemical bond is a strong force that holds atoms together in a compound. Lots of energy is needed to break a chemical bond. A compound cannot be easily separated.

A compound may have very different properties to those of the elements from which it is made. Water is a compound of hydrogen and oxygen. Each of its molecules contains two hydrogen atoms and one oxygen atom.



Chemical reactions

When chemicals react, the atoms are rearranged. For example, iron reacts with sulfur to make iron sulfide. Iron sulfide, the compound formed in this reaction, has different properties to the elements it is made from.



	iron	sulfur	iron sulfide
Type of substance	element	element	compound
Colour	silvery grey	yellow	black
Is it attracted to a magnet?	yes	no	no

Conservation of mass

Atoms are not destroyed nor created during chemical reactions, so in any reaction:

Total mass of reactants = total mass of products

Naming metal and non-metal compounds

The metal element (furthest left on the periodic table) comes first in the name of the compound. The ending for the non-metal is shortened and changed to '-ide'. E.g. iron + sulfur → iron sulfide



Chemical formulae

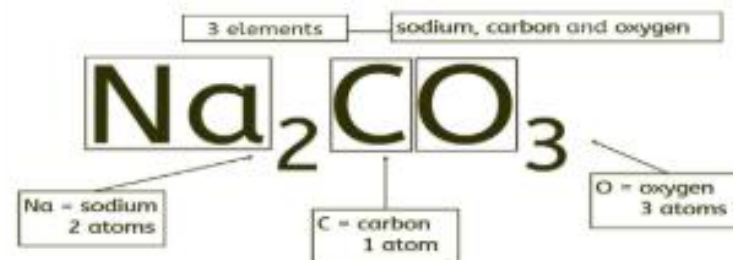
A chemical formula uses chemical symbols and numbers to show how many of each atom is present in a compound.

The small numbers (subscript) go at the bottom.

For example:

CO₂ is correct;

CO₂ and CO² are wrong.



Naming three element compounds containing oxygen

The metal element (furthest left on the periodic table) comes first in the name of the compound. If there are three elements in the compound, and one of them is oxygen, the ending of the non-metal is shortened and changed to '-ate'. E.g. lithium + nitrogen + oxygen → lithium nitrate

Year 7 Cycle 1 - Science

7.04 Chemical changes

State symbols in chemical formulae provide information about the physical state of the reactants and products.

(s) – solid, (l) – liquid, (g) – gas, and (aq) – aqueous

Chemical equations

We summarise chemical reactions using equations:

reactants → products

- **Reactants** are shown on the **left** of the arrow;
- **Products** are shown on the **right** of the arrow.

Do not write an '=' sign instead of an arrow.

If there is more than one reactant or product, they are separated by a '+' sign. For example:

copper + oxygen → copper oxide

Reactants : copper and oxygen

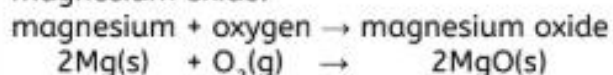
Products : copper oxide

A **word equation** shows the names of each substance involved in a reaction and **must not include any chemical symbols or formulae**.

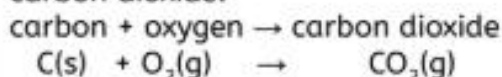
Oxidation reactions

In oxidation reactions, a substance gains oxygen. Metals and non-metals can take part in oxidation reactions (be oxidised).

Magnesium reacts with oxygen to form magnesium oxide:



Carbon reacts with oxygen to form carbon dioxide:



Another example is a combustion reaction, where we burn fuels in oxygen:

Fuel + oxygen → carbon dioxide + water

methane + oxygen → water + carbon dioxide

- Combustion is another name for burning fuels.
- It is an exothermic reaction.
- The fire triangle shows three components which, when combined, provide the right conditions for combustion to happen.



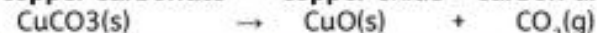
Thermal decomposition reactions

This is the breaking down of a substance, using heat, to form two or more products. It is an endothermic reaction.

Many metal carbonates take part in thermal decomposition reactions. For example, copper carbonate:

copper carbonate is green; copper oxide is black.

copper carbonate → copper oxide + carbon dioxide



Exothermic and Endothermic reactions

- **Exothermic** reaction - **transfers** energy to the thermal store of the surroundings. This causes a **rise** in temperature (**positive** temperature change).
- Hand warmers transfer energy to the thermal store of the surroundings by an exothermic oxidation reaction.
- **Endothermic** reaction - **transfers** energy in from the thermal store of the surroundings. This causes a **drop** in temperature (**negative** temperature change).
- Sports injury packs transfer energy from the thermal store of the surroundings by an endothermic reaction.

Temperature data collected from exothermic and endothermic reactions can be improved by:

- Using a **polystyrene c** up as an insulator, as it reduces energy transfers to or from the surroundings.
- Using a **lid** to reduce energy transferred from the surface.
- Using a **digital thermometer**, which is easier to read than a regular thermometer and, if it measures in decimal places, also has better resolution.





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.**

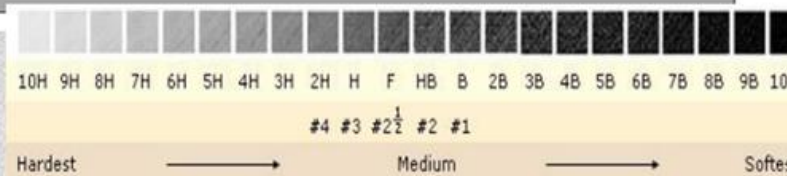
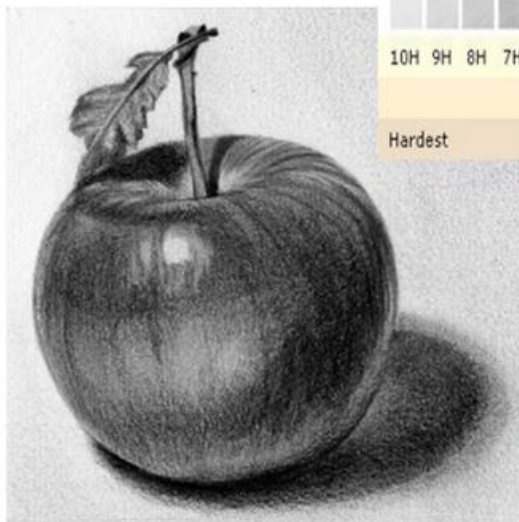
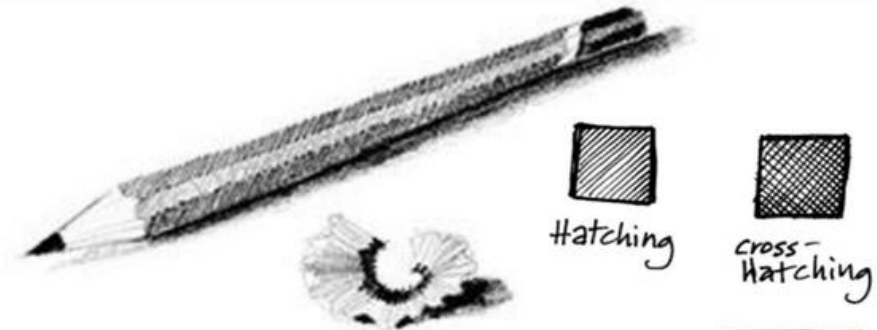
We are doing this because we want you to become more **creative and confident artists.**

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>

Cycle 1 in Drama will focus on: key performance skills.
These are the skills you need to know to be able to create a successful piece of drama.

KEYWORD LOG - Drama is serious fun

Drama Skill	Definition
Audience	The group of people who will watch a performance – the area they sit in is called the auditorium.
Blocking	The process of putting together your piece. Blocking is deciding where the actors should stand, sit or move to and then setting and rehearsing it.
Body language	An acting skill. The way you use your body to express your characters feelings and attitudes.
Ensemble	A group of musicians, actors or dancers who perform together. Working as a group.
Evaluate	The ability to recognise what was successful within a performance and what needs to be done to improve the work. Evaluation should always say how it impacted you personally.
Facial expressions	An acting skill. The way you use your face to express your characters feelings and emotions.
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.
Movement	The way in which an actor moves within and around the space to show character and emotion.
Performance	An act of presenting a play, concert or other form of entertainment.
Rehearsal	A practice session or practice performance done prior to a real performance. Going over your work repeatedly.
Sightlines	The line of sight for an audience member. When blocking a piece of drama the actor must consider whether all members of the audience can see the action. This is called considering audience sightlines.
Tableau	A still image or freeze frame. A tableau captures a moment in time and tells the audience a story of what is going on at that moment.
Voice	A powerful tool used in drama to show a characters age, status, mood, thoughts, emotions and ideas.



In Drama we often work as an ensemble.

Working as an ensemble will develop your abilities to work as a team and within a group. The use of ensembles within plays were introduced by the ancient Greeks, who used them as a dramatic devise to give the audience information about the world of a play.



It is really important that you spell the drama words correctly. Take some time to learn the spellings of these words.

Top 10 Rules of the Drama room:

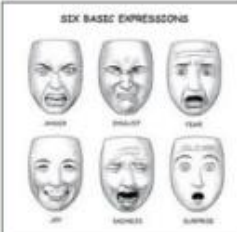
1. Respect the space and the people in it
2. Encourage one another
3. Work as a team
4. Take turns when speaking
5. Value other opinions and ideas
6. Be brave and willing to try your best
7. Ask for help when needed
8. Always be sensible
9. Ask a teacher if you would like to use props or set
10. Be creative and have fun

Dramatic skills – Performance skills:

Body language, voice and facial expressions are some of the most important skills used within drama to communicate your character to the audience. These are skills that you should be aiming to develop in every lesson and every performance

Characterisation

All of the techniques below have to be used together to create successful **characterisation**.

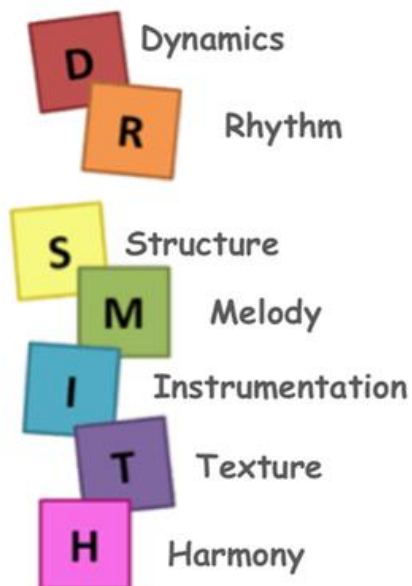
Facial expressions	Posture	Hand gestures	Vocal techniques	Movement
 SIX BASIC EXPRESSIONS				

Stage positions in Drama



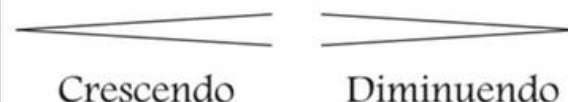
Elements of Music– UNIT 1

These are the **ELEMENTS OF MUSIC** 'Dr Smith' is a great way to help you remember them. Try naming all the elements of music without looking at your Knowledge Organiser.



Dynamics – The volume of the music

<i>pp</i>	<i>pianissimo</i>	Very soft.
<i>p</i>	<i>piano</i>	Soft.
<i>mp</i>	<i>mezzo piano</i>	Moderately soft.
<i>mf</i>	<i>mezzo forte</i>	Moderately loud.
<i>f</i>	<i>forte</i>	Loud.
<i>ff</i>	<i>fortissimo</i>	Very loud.



Structure - The way a piece of music is organised. The sections it is split up into.

An example is the structure of popular song:

Intro - A section of music before the first verse. Usually there are no vocals.

Verse - A section of music with different lyrics but similar musical ideas.

Chorus - A repeated section of music with the same lyrics and music.

Bridge - A section of music after the second chorus with different musical ideas.

Coda - A section of music at the end of the song.

Rhythm - The patterns of beats in a piece of music.

Tempo - The speed of the music

Beat - A unit of rhythm e.g. a crotchet or a quaver.

Pulse - The steady beat that continues throughout a piece of music. It is the rhythm you would normally 'tap your foot' along to.

Melody - The tune.

Pitch - How high or low the notes are.

Ascending - The pitch gets higher.

Descending - The pitch gets lower.

Articulation - How notes are played.

Legato - Notes are played smoothly.

Staccato - Notes are detached (bouncy).

Texture - The different layers of music and how they work together.

Monophonic - 1 person, 1 layer

Homophonic - 2+ people, 1 layer

Polyphonic - 2+ people, 2+ layers

Harmony - The chords used in a piece of music.

Chord - 2 or more notes played at the same time.

Major - A chord or piece of music that sounds 'happy'.

Minor - A chord or piece of music that sounds 'sad'.

Instrumentation: The instruments that are used and how they are played.

Strings: Violin, Viola Cello, Bass, Harp.

Woodwind: Flute, Piccolo, Clarinet, Oboe, Bassoon, Saxophone.

Percussion: Piano, Xylophone, Glockenspiel, Gong, Timpani, Drum Kit.

Brass: Trumpet, Cornet, French Horn, Tuba, Trombone.



HUMANITIES

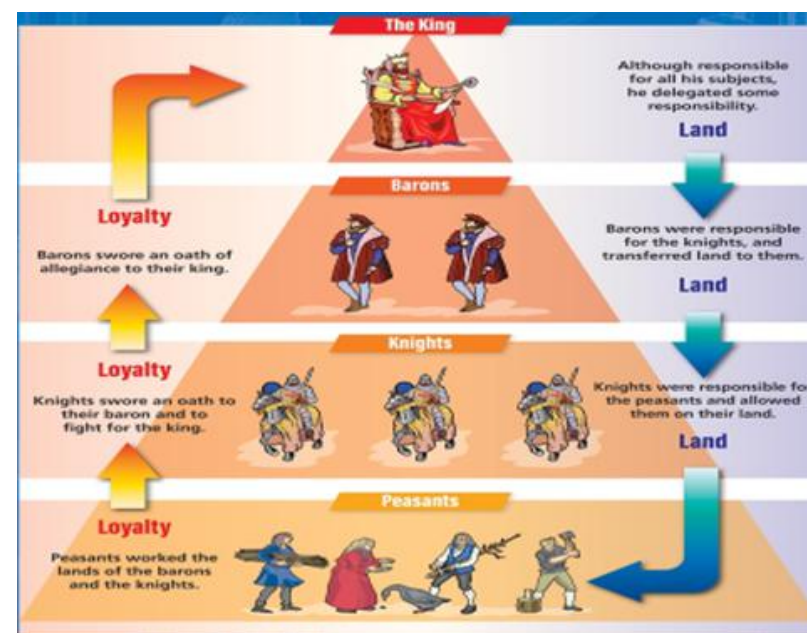
HISTORY | GEOGRAPHY | RE

In this unit you will learn about invasion and conquest, focusing on how William gained control of England. You will also explore what life was like for people living under William's control.

Key words and definitions	
Anglo-Saxons	Settlers who came to Britain from mainland Europe in the 5th century.
Battle of Hastings	A key battle in Oct. 1066 between Harold Godwinson and William of Normandy.
Bayeux Tapestry	70 meters of embroidered cloth which shows the causes and events of the Norman conquest.
Domesday Book	A survey, commissioned by William in 1085, which assessed the wealth of the people in England. This was used to raise taxes.
Edward the Confessor	Edward the Confessor: King of England (1042 - 1066), known for his strong Christian faith.
Famine	Extreme lack/scarcity of food.
Feudal System	A social and political system in which landholders provide land to tenants in exchange for their loyalty and service.
Harald Hardrada	A Viking King and contender to the English throne. He was defeated by Harold Godwinson at the Battle of Stamford Bridge.
Harold Godwinson	Earl of Wessex, made King of England in 1066 by the Witan.
Heir	The next in line to the throne.
Nobility	A social class normally ranked immediately below royalty (King/Queen).
Peasant	An agricultural labourer or a farmer with limited land-ownership.
William of Normandy	A Norman Duke who invades England.
Witan	Literally means "wise men", it was the king's council in Anglo-Saxon England.

Concepts/skills learnt:

Chronology
Cause and consequence
Change and continuity
Significance,
Source Analysis



What is geography and how can we be good geographers?

What is Geography?

People who study geography are called geographers. Geographers are people interested in Earth's physical features such as mountains, deserts, rivers, and oceans. They are also interested in the ways that people affect and are affected by the natural world.

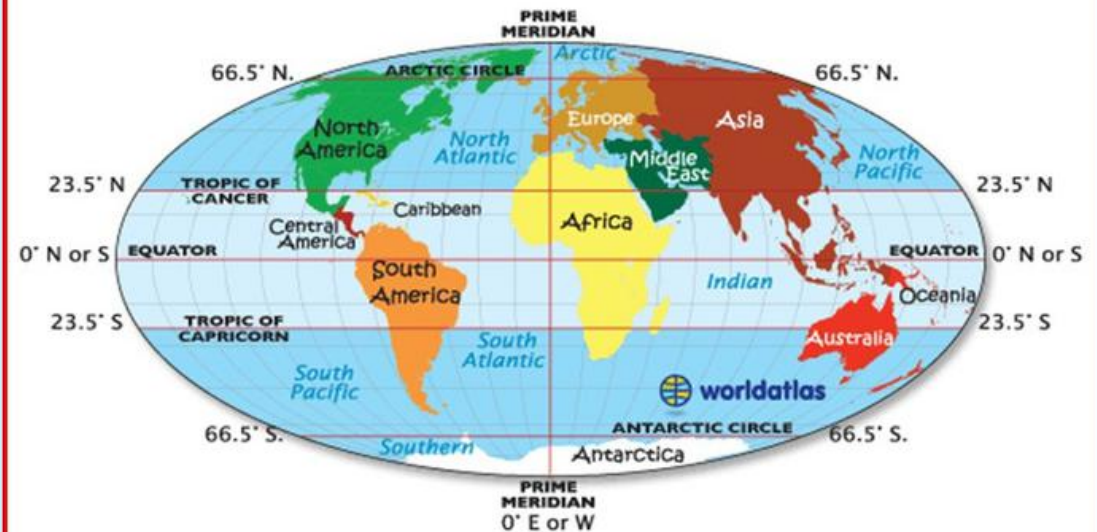
The study of geography is split into:

Physical geography— The natural features of the world such as rivers, coasts, mountains, ecosystems, the weather, volcanoes and earthquakes.

Human geography— The ways humans interact with the environment, its cultural, social and economic aspects.

Environmental geography— The impact humans have on the natural environment.

The continents and oceans of the world



The world has 7 continents and 5 oceans.

Europe is a **continent**. It is a landmass that contains many different **countries** including the UK.

What is fieldwork? - In geography we use fieldwork to collect data (information) which will help us answer a question.

Sources of information - Information can be found in both **primary** and **secondary** sources. Fieldwork involves collecting primary data.

Primary data— Sources of information that were collected at the time e.g. photographs, diaries and videos.

Secondary data— Sources of information usually based on primary sources such as; magazines, textbooks, newspapers.

Latitude and longitude.

These are lines that are used to locate places accurately on the Earth's surface.

Lines of **latitude** run from east to west and are parallel.

The Equator is a key line of latitude and is the closest point on the Earth's surface to the Sun.

The **Tropic of Cancer** and **Tropic of Capricorn** are 23.5 degrees north and south of the Equator. The area between them is known as the tropics.

What is geography and how can we be good geographers?

Map Skills -

Maps can help us find a place, or they provide information about a place.

They show places from above and show things much smaller than in real life.

There are many different types of map. You will need to know how to use an OS map.

Maps and Symbols—

Maps should have a:

Title, scale, north arrow and a key.

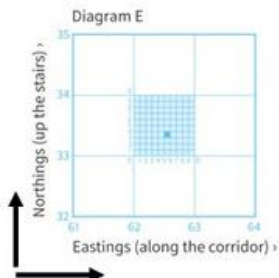
Symbols help us to include lots of detail on a map to show what exactly is there.

Grid references—

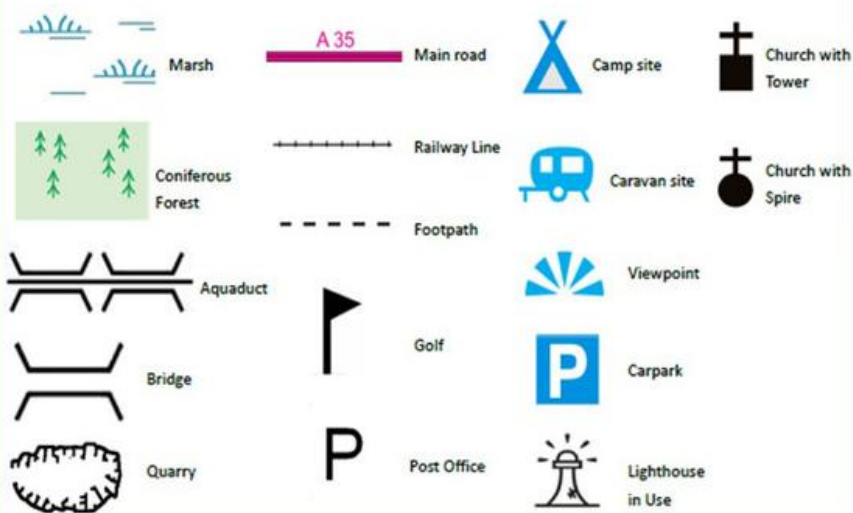
Grid references helps the map reader locate places. On an OS map each square is 1km x 1km

When you give grid references you always go “**along the corridor and up the stairs**”

4 figure grid references can be used to pinpoint a location within a square measuring 1 sq km. To find the number of the square:

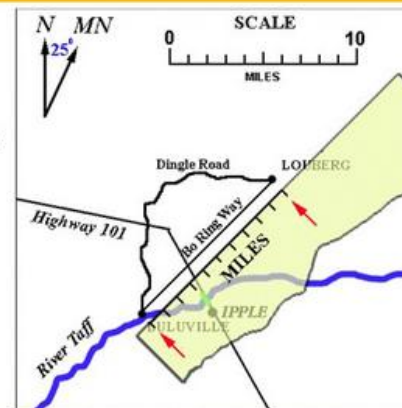


LEGEND



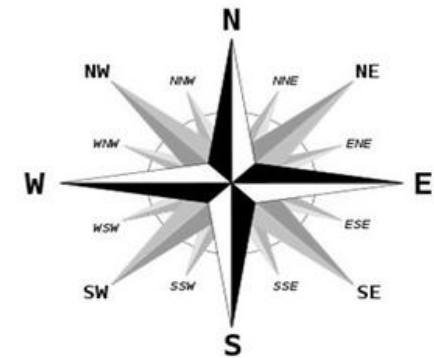
Scale and distance—

Most maps have a **scale**. This helps us work out distances on a map.



Direction -

We use compass directions to help describe where places are.

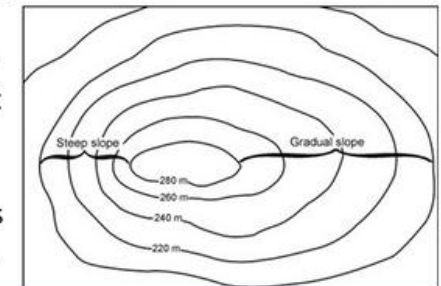


Height on maps—

Height can be shown on a map using a number of ways:

Spot height are black dots with a number next to it. This shows the number of metres above sea level.

Contours are lines on a map that join places of the same height. If the contour lines are close together it shows the land is steep. If they are far apart it shows the slope is gentle.





Religion Locally and Nationally

Key Vocabulary

1	diversity	Differences between a group or setting.
2	Christianity	The religion that Christians follow.
3	Islam	The religion that Muslims follow.
4	Judaism	The religion that Jewish people follow.
5	Hindu Dharma	The religion that Hindus follow.
6	Sikhi	The religion that Sikhs follow.
7	Buddhism	The religion that Buddhists follow.
8	Humanism	A non-religious tradition followed by Humanists .
9	migration	The movement of people from one place to another.
10	persecution	Unfair or cruel treatment over a long period of time because of race, religion or political beliefs.
11	census	An official survey of the people who live in a country.

Religious and Non-Religious Symbols and Buildings

Follower	Symbol	Building
Christian	 Cross	church
Jewish	 Star of David	synagogue
Muslim	 Crescent Moon	mosque
Hindu	 Aum	mandir
Sikh	 Khanda	gurdwara
Buddhist	 Dharma Wheel	temple
Humanist (non-religious)	 Happy Human	(various)

The Census Data and Key Changes

In 2021,	Between 2001 and 2021,
- More people described themselves as religious than non-religious. - The largest religious group was Christianity, followed by Islam and Hindu Dharma.	- The number of people choosing to answer the question increased. - The number of people reporting 'no religion' increased. - The number of people reporting Muslim, Hindu, Sikh and Buddhist increased. - The number of people reporting Christian decreased.

Tools for Studying Religion

Social sciences are a group of subjects that are interested in how people live together in a society. Social scientists study how people change society and how society changes them.

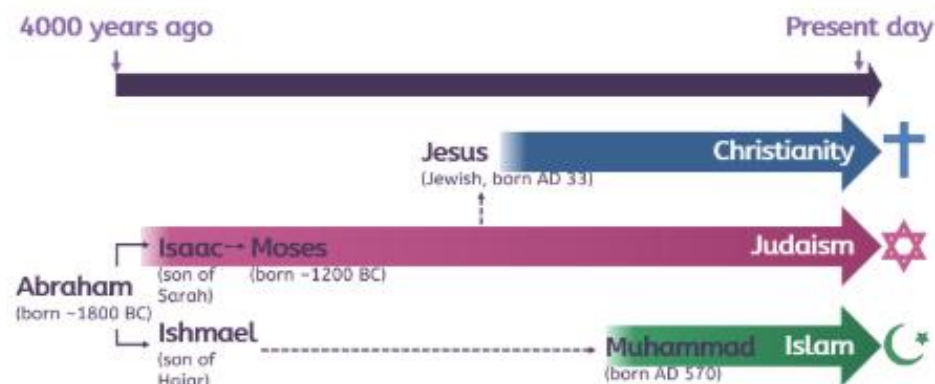
Social scientists collect data in a range of ways, including surveys like the census, as well as looking at evidence of religion in a community's buildings.



The Origins of Abrahamic Faiths

Key Vocabulary

1	Abrahamic faith	one of three faiths that are all linked by Abraham: Judaism, Christianity and Islam.
2	monotheism	the belief that there is only one God
3	polytheism	the worship of or belief in more than one god
4	covenant	an agreement between two sides (between humans and God)
5	sin	an action that is believed to go against the laws of God
6	idol	objects or images that represent gods
7	atonement	making up for something that someone has done wrong
8	sacrifice	to give up something valuable in order to gain something else
9	sermon	a talk about a religious or moral subject given by a leader in the religion
10	prophet	someone chosen by God to say the things God wants them to tell people
11	resurrection	coming back to life after someone has died
12	theology	the study of God and ideas about God.
13	theologian	someone who studies theology, who might look at how holy texts and ideas about God influence people's beliefs and actions.



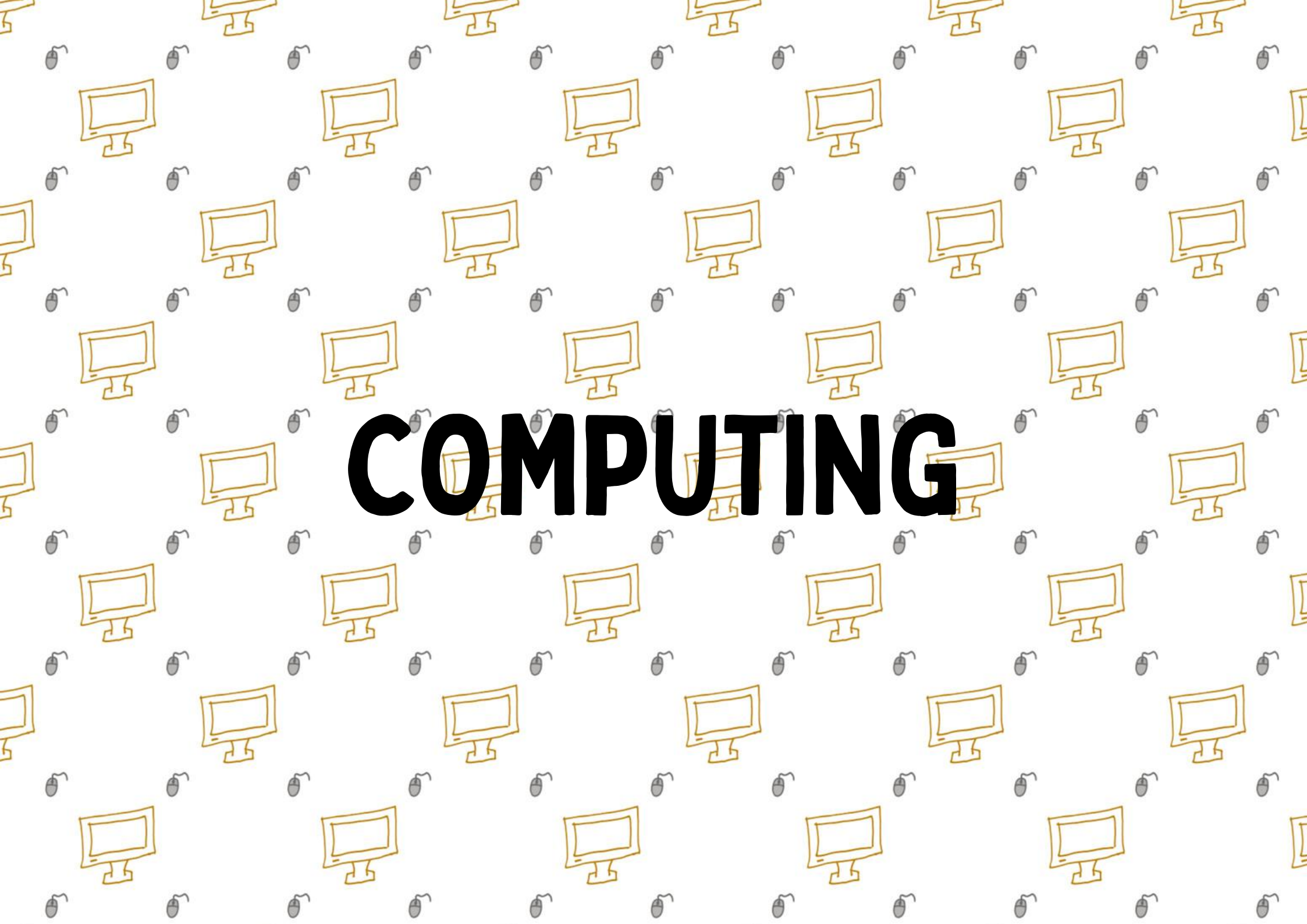
Holy Books introduced

The Torah	Holiest scripture for Judaism. The word means "law" in Hebrew. It was written by Moses. It is also important in Christianity and Islam.
The Qur'an	Holiest scripture for Islam. The word means "recite" in Arabic. It was revealed to the Prophet Mohammed.

The Covenant and the Abrahamic Faiths

Abraham is a monotheist and worships only one God. God promises to look after Abraham and his descendants because of this, and that his descendants will be a blessing to the world. Abraham has two sons, Isaac (who Moses and Jesus are descended from) and Ishmael (who Muhammad is descended from). Moses is given the Ten Commandments as part of the covenant. Christians believe Jesus is part of the covenant being fulfilled. Muslims believe prophecy is a part of the covenant.





COMPUTING

Cycle 1 in Computing will focus on being safe online, using the internet for research and learning to use Google applications to help support your studies.

Key words and definitions

Username	The name you use to log into the school network and Google, usually the year you started, your last name and first letter of your first name, e.g. 2019SmithB for Bob Smith who started in September 2019.
Network Password	Used with your username to log into the network. Make sure your password is a strong one.
Strong Password	Use a combination of lowercase and upper case letters and symbols to make it hard to guess (e.g. Pa55WorD! rather than password)
Network login	A secure way to access your files and folders and to access the internet. Uses your username and password.
E-Mail Address	Your school email address is: <your user name>@tkasa.org.uk (e.g. 2019SmithB@tkasa.org.uk)
Google Sign-in	Use your school E-Mail address and your network password to sign-in to Google
Acceptable Use Policy	When you log into the School network, you agree to a set of rules on how you use the computer and how you use the Internet.

It is important that you use strong passwords wherever you have to log into a network or website. Check how long it would take to guess your password using this website: <https://howsecureismypassword.net/>

Topic 1 Google Apps

Learning Objectives: To understand how to use Google Apps including, Sheets, Slides, Google Classroom, and Gmail.

To be able to work collaboratively using the share function on Google software.

Google Apps:

	Google Chrome – preferred web browser for accessing the Internet and Google Apps.
	Waffle Icon – appears in the top right hand corner of the web browser once you have signed into Google. Used to access Google Apps
	Google Docs – a word processor which auto-saves your work to Google Drive. Used for writing letters, reports, assignments
	Google Sheets – an application for creating spreadsheets. Used for calculations, producing graphs and modelling data
	Google Slides – an application for creating presentations. Used for presenting information to an audience.
	Google Classroom – an application used in class to organise activities, provide resources and to set assignments and assessments
	Gmail – an application for sending and receiving email. Used for communicating with other people, such as your teachers and friends.
	Google Drive – Used to save and organise your Google files and folders

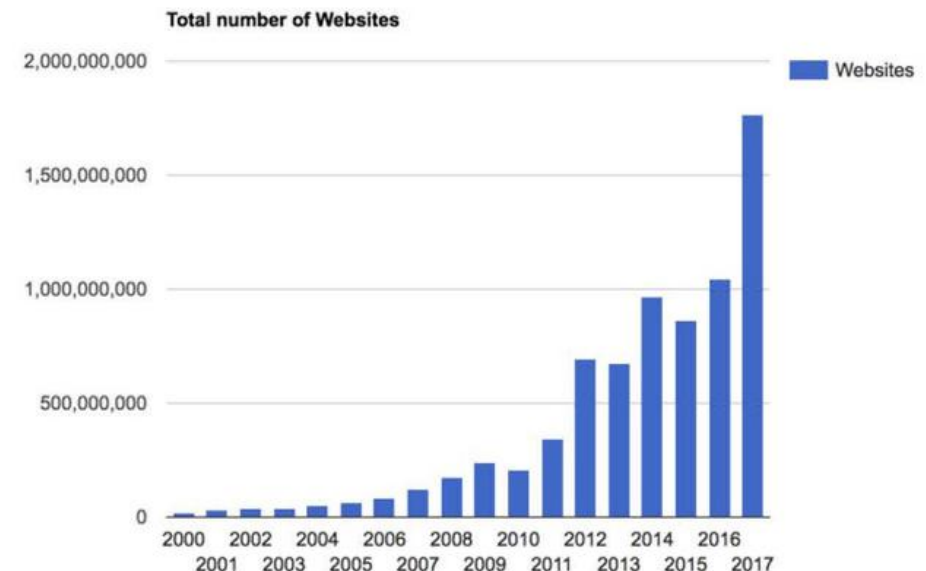
Topic 2

E-Safety

Learning Objectives: To understand how to use the Internet for research, how to stay safe online, and be able to identify good and bad practices when using social media.

Key words and definitions

Web browser	An application for viewing and interacting with webpages from the World Wide Web, which is part of the Internet
URL	Uniform Resource Locator – this is the unique address of the website you type into the browser (e.g. www.bbc.co.uk)
Search Engine	A database on the World Wide Web that enables you to use search terms or key words to find relevant web pages or websites. E.g. Google, Bing, Yahoo
Keywords	The terms used in a webpage that would be used to match the search term a user enters into a search engine.
http and https	These are the protocols (set of rules) used to send and receive web pages over the Internet. The 's' in https means that the connection is secure (e.g. used with online banking sites).
Advanced search	Using Google's advanced search to have greater control over your search terms. https://www.google.co.uk/advanced_search
Cyber bullying	The use of electronic communication to bully a person by sending messages of an intimidating or threatening nature.
Sexting	The sending or receiving of inappropriate images, videos or texts.



Social Media Applications:



Rules for using social media:

1. Don't upload pictures that you wouldn't want anyone else to see.
2. Make sure your user settings are kept private.
3. Make sure you know who is on your friends list.
4. Report abuse – tell a trusted adult, or use the CEOP website: <https://www.ceop.police.uk>





DESIGN & TECHNOLOGY

DT | FOOD & NUTRITION

Wooden Box Knowledge Organiser

Materials, properties and essential facts

1/2



PROJECT EXAMPLE



MATERIAL RECOGNITION

Project focus

A small pine box with an MDF or plywood base and a hinged lid. The project builds accuracy in marking out, wasting, joining and finishing timber.

Material families and project material

Hardwood: timber from broad-leaved trees such as oak and beech. Hardwoods often grow slowly and many are dense and durable.

Softwood: timber from coniferous trees such as pine and spruce. Softwoods usually grow faster and are often easier to work. Pine is used for the box.

Manufactured board: sheet material made by bonding wood fibres, particles or veneers. MDF is smooth and uniform. Plywood has crossed veneer layers, making it strong and stable.

Properties that explain material choice

Strength: ability to withstand a force without failing.

Hardness: resistance to scratching, wear and indentation.

Toughness: ability to absorb impact without breaking.

Stability: resistance to warping or changing shape.

Aesthetic property: how a material looks and feels, including colour

Essential facts

1. Natural timber is converted from logs into usable stock such as boards and strips.
2. Seasoning removes moisture. Properly seasoned timber is more stable and less likely to warp.
3. A face side and face edge provide reliable datums for all marking out.

Wooden Box Knowledge Organiser

Tools, processes, vocabulary, safety and quality



Try square - 90 degree marking



Coping saw - curves and fine waste



Disc sander - shaping edges



Pillar drill - accurate holes

ALSO RECOGNISE: Steel rule • marking gauge • tenon saw • bench hook • file • glass paper • clamp

Generic manufacturing processes

Marking out: use a steel rule for size, a try square for 90 degree lines and a marking gauge for parallel lines.

Wasting: remove unwanted timber by sawing, drilling, filing or sanding. Cut on the waste side of the line.

Joining: a butt joint meets end to face. A finger joint uses interlocking pins and sockets to increase the glued area.

Finishing: remove high spots first, then use abrasives from coarse to fine and work with the grain.

Keywords and definitions

Grain: direction and pattern of wood fibres

Datum: reference point, face or edge used for measurement

Tolerance: acceptable variation from the stated size

Kerf: slot made by a saw blade

Waste side: material that will be removed

Quality control: checking accuracy during manufacture

Checks before you finish

Accuracy: Use one datum. Cut on the waste side. Test joints before gluing and check the box is square.

Safety: Goggles at machines. Clamp before drilling. Remove the chuck key. Use the downward side of the sanding disc.

Quality: Square corners, tight joints, flat base, smooth finish and a lid that opens freely.

Safety signs to know



Wear goggles
(mandatory sign)



Danger
(warning sign)



Fire exit
(emergency escape route)



Do not run
(prohibition sign)

General workshop safety



Keep bags and coats away to prevent trip hazards.



Walk, do not run.



Tie hair back and remove loose jewellery.



Listen to instructions from your teacher.



Wear goggles when told.



Keep benches tidy.



Report any damage or accidents immediately.

Safe use of tools and equipment



Use a bench hook or clamp to secure work.



Cut away from your fingers.



Keep hands behind blades and cutting edges.



Use a vice or clamp before drilling.



Carry tools safely with the blade down.



Check tools are in good condition before use.

Machinery safety



Pillar drill

- Get teacher permission and supervision.
- Wear goggles.
- Keep fingers clear.
- Remove the chuck key after use.
- Know where the emergency stop button is.



Disc sander

- Get teacher permission and supervision.
- Wear goggles.
- Keep fingers clear.
- Use the downward side of the disc for sanding.
- Know where the emergency stop button is.

Before you finish



Accuracy

- Use one datum.
- Cut on the waste side.
- Check sizes and test joints.



Safety

- Make sure the area is safe and tools are put away.
- No sharp edges are left.
- Report any problems.



Quality

- Check square corners and tight joints.
- Make sure the surface is smooth.
- Open and close the lid to check it works.

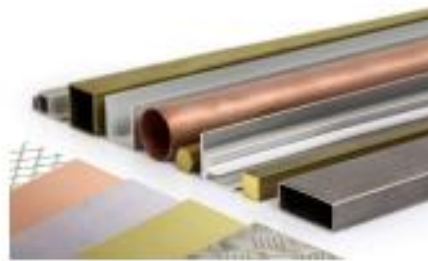
Aluminium Key Hook Knowledge Organiser

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

2/2



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 scriber, 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 hocks 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 hocks 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 hocks and a tidy final product.

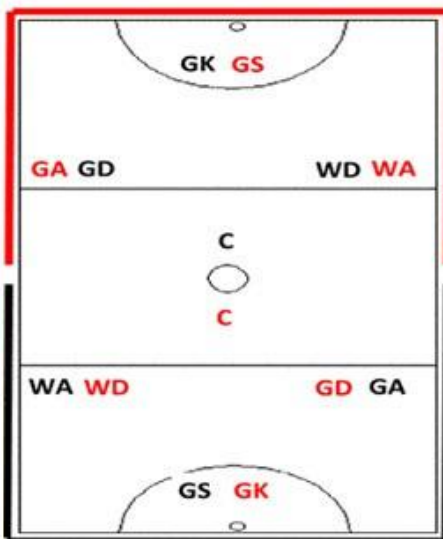


PE

<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

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

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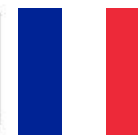
TBAT understand rules of netball and identify major sporting events and how to warm up effectively



LANGUAGES

FRENCH | SPANISH

Learning Cycle 1 is an introductory module to studying French. You will learn some of the basics of the language to set you up nicely for Learning Cycle 2.



Key words	Definitions
Subject Pronouns	je (I) / tu (you) / il/elle (he/she), nous (we) / vous (you (pl)) / ils/elles (they (m)/they (f))
Nouns	used to identify any of a class of people, places, or things. French nouns have a different gender. They are either masculine or feminine.
Adjectives	used to describe a noun. Comes after the noun it describes and agrees in gender and number.
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

A ah	B bay	C say	D day	E ough!
F eff	G zhey	H ash	I ee	J zhee
K ka	L el	M em	N en	O oh
P pay	Q koo	R err	S ess	T tay
U oo	V vay	W doo bl vay	X iks	Y ee-grec
Z zed				

LES COULEURS:

blanc=white	rose=pink	gris=grey
jaune=yellow	noir= black	orange= orange
marron=brown	bleu = blue	mauve/violet=purple
rouge = red	vert = green	

1 un	2 deux	3 trois
4 quatre	5 cinq	6 six
7 sept	8 huit	9 neuf

First = premier
Second = deuxième
Third = troisième
Fourth = quatrième
Fifth = cinquième
Sixth = sixième
.....

10 dix	11 onze	12 douze	13 treize
14 quatorze	15 quinze	16 seize	17 dix-sept
18 dix-huit	19 dix-neuf	20 vingt	21 vingt-et-un

Le printemps= Spring	L'été = summer	L'automne= autumn	L'hiver = winter
Mars = march	Juin = june	Septembre = September	Décembre = december
Avril= april	Juillet = july	Octobre=october	Janvier=january
Mai = may	Août = august	Novembre = November	Février=February

Le premier janvier c'est le jour de l'an = the first of January is New Year's day
Mon anniversaire c'est le = my birthday is on the
Le vingt-cinq décembre c'est le jour de Noël = the 25th December is Christmas day.

Quel temps fait-il?

- Il fait chaud
- Il fait froid
- Il y a du soleil
- Il y a du vent
- Il y a du brouillard
- Il y a des nuages
- Il y a de l'orage
- Il pleut
- Il neige
- Il gèle

What is the weather like ?

- it is hot
- it is cold
- it is sunny
- it is windy
- it is foggy
- it is cloudy
- it is stormy
- it is raining
- it is snowing
- it is freezing



Articles

The **definite article** is the word 'the'. There are three words for 'the' in French:

- le** (masculine) le stylo (the pen)
la (feminine) la trousse (the pencil case)
les (plural) les crayons (the pencils)

Watch out! **Le** and **la** become **l'** before a vowel or *h* e.g. l'ordinateur (the computer). You use the definite article before nouns when talking about likes and dislikes e.g. J'aime **la** musique.

The **indefinite article** is the word *a* (or *some* in the plural). There are two words for *a* in French:

- un** (masculine) un stylo (a pen)
une (feminine) une trousse (a pencil case)
des (plural) des crayons (some pencils)

2 Translate these words using the dictionary page below.

- the dessert
- a turkey
- the showers
- the drawings
- a dice
- some dictionaries
- the tooth
- the dance

D	danse (nf)	dance
	dé (nm)	dice
	dent (nf)	tooth
	dessert (nm)	dessert
	dessin (nm)	drawing
	dictionnaire (nm)	dictionary
	dinde (nf)	turkey
	douche (nf)	shower



Adjectives

Most adjectives come **after the noun** that they are describing.

un chien **noir** a black dog

Some short common adjectives come before the noun, e.g. **grand** and **petit**.

un **petit** chien a small dog

3 Unscramble these phrases and translate them into English.

- | | |
|--------------------------|-------------------------|
| 1 petit / le / chien | 4 village / petit / le |
| 2 maison / uns / grande | 5 crayons / bleus / les |
| 3 souris / une / blanche | 6 la / trousse / petite |

Adjectives change according to whether the noun being described is masculine, feminine, singular or plural (some are irregular, but the following rule applies to most adjectives).

For feminine, add **-e** une souris **verte** (a green mouse)

For masculine plural, add **-s** deux chiens **bleus** (two blue dogs)

For feminine plural, add **-es** des trousse **noires** (some black pencil cases)

4 Choose the correct form of the adjective.

- | | |
|--|--|
| 1 un chien <u>noire</u> / noirs / noir | 4 le stylo <u>bleues</u> / bleue / bleu |
| 2 deux serpents <u>vert</u> / verts / vertes | 5 trois <u>grands</u> / grand / grande chats |
| 3 des crayons <u>grise</u> / gris / grises | 6 une souris <u>blanc</u> / blanches / blanche |

Gender and singular/plural

A **noun** is a word which names a thing or a person. In French, all nouns are **masculine** or **feminine**. You have to learn the gender when you learn a new word. In a dictionary, you will see (m) or (f) after the noun (n).

masculine nouns	feminine nouns
le chien (the dog)	la souris (the mouse)
un livre (a book)	une règle (a ruler)

A noun is singular when it refers to only one person or thing, and plural if it refers to more.

- Most nouns in French, as in English, form their plural by adding **-s**.
le crayon (singular: the pen) → les crayons (plural: the pens)
- Words ending in **-eau** add **-x**.
un bureau (singular: one/a desk) → deux bureaux (plural: two desks)
- Words ending in **-al** change and end in **-aux**.
un animal (singular: one/an animal) → deux animaux (plural: two animals)

1 Make these plural

- | | |
|-----------------------------|----------------------------|
| 1 crayon → deux _____ | 5 château → les _____ |
| 2 cheval → trois _____ | 6 trousse → deux _____ |
| 3 professeur → quatre _____ | 7 anniversaire → les _____ |
| 4 règle → cinq _____ | 8 gâteau → dix _____ |

Mon, ma, mes

The word for **my** changes according to whether the noun possessed is **masculine, feminine, or plural**.

- (masculine) **mon** crayon my pencil
(feminine) **ma** trousse my pencil case
(plural) **mes** règles my rulers

5 Use your answers to exercise 2 and choose the correct word for 'my' for each of the dictionary entries.

Verbs in the present tense

The present tense is used to describe **what is happening now** or **what usually happens**. The endings change depending upon who is doing the action: **je** (I), **tu** (you), **il** (he) or **elle** (she). The **tu** form always ends in **-s**.

être (to be)	avoir (to have)	s'appeler (to be called)	habiter (to live)	aimer (to like)	détester (to hate)
je suis	j'ai	je m'appelle	j'habite	j'aime	je déteste
tu es	tu as	tu t'appelles	tu habites	tu aimes	tu détestes
il est	il a	il s'appelle	il habite	il aime	il déteste
elle est	elle a	elle s'appelle	elle habite	elle aime	elle déteste

6 How do you say the following in French?

- | | | |
|------------|----------------|-------------|
| 1 he is | 3 I live | 5 she likes |
| 2 you have | 4 he is called | 6 you hate |

Learning Cycle 1 is an introductory module to studying Spanish. You will learn some of the basics of the language to set you up nicely for Learning Cycle 2.

Key words	Definitions
Subject Pronouns (although you won't use them much in Spanish)	yo (I) / tu (you) / el / ella (he/she), nosotros (we) / vosotros (you (pl)) / ellas / ellos (they (m)/they (f))
Nouns	used to identify any of a class of people, places, or things. Spanish nouns have a different gender. They are either masculine or feminine.
Adjectives	used to describe a noun. Comes after the noun it describes and agrees in gender and number.
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

¿Qué tiempo hace?

What is the weather like ?

- | | |
|------------------|---------------|
| 1. Hace calor | it is hot |
| 2. Hace frio | it is cold |
| 3. Hace sol | it is sunny |
| 4. Hace viento | it is windy |
| 5. Hay niebla | it is foggy |
| 6. Está nublado | it is cloudy |
| 7. Hay tormentas | it is stormy |
| 8. Llueve | it is raining |
| 9. Nieva | it is snowing |



El primero de enero es el día de Año Nuevo = the 1st of Jan is New Year's day

Mi cumpleaños es el... = my birthday is on the

El veinticinco de diciembre es Navidad = the 25th December is Christmas

LOS COLORES:

blanco=white
rosa=pink
gris=grey
amarillo=yellow
negro= black
naranja= orange
marrón=brown
azul= blue
morado=purple
rojo = red
verde = green
Tengo un boli azul =
 I have a blue pen

La primavera= Spring	El verano= summer	El otoño= autumn	El invierno = winter
marzo = march	junio = june	septiembre = September	diciembre = december
abril= april	julio = july	octubre=october	enero=january
mayo = may	agosto = august	noviembre = November	febrero=February

Los Números

0 cero	11 once
1 uno	12 doce
2 dos	13 trece
3 tres	14 catorce
4 cuatro	15 quince
5 cinco	16 dieciséis
6 seis	17 diecisiete
7 siete	18 dieciocho
8 ocho	19 diecinueve
9 neuve	20 veinte
10 diez	

First = primero
 Second = segundo
 Third = tercero
 Fourth = cuarto
 Fifth = quinto...

El Alfabeto

a	b	c	ch	d	e	f	g	h	i
ah	beh	ch eh	seh	deh	eh	ef-eh	heh	ach-eh	ee
j	k	l	ll	m	n	ñ	o	p	
hota	kah	el-eh	eh-jeh	em-eh	en-eh	en-yeh	oh	peh	
q	r	rr	s	t	u	v	w		
cuh	er-e	e-rre	es-eh	teh	uuh	veh	dob-leh-uuh		
x	y	z							
eh-kis	ee-gri-eh-gah	se-ta							

In Spanish, the word 'a' changes, depending on whether a noun is masculine or feminine. The words for 'a' in Spanish are:

masculine	feminine
un hermano	una hermana
a brother	a sister

The Spanish word for 'the' also changes according to the gender of the noun and whether it is singular or plural.

	singular	plural
masculine	el conejo (the rabbit)	los conejos (the rabbits)
feminine	la cobaya (the guinea pig)	las cobayas (the guinea pigs)

The words for 'my' and 'your' are different depending on whether the noun is singular or plural.

	singular	plural
my	mi	mis
your	tu	tus
his/her	su	sus

mi padre my father
mis hermanas my sisters

Gramática

Adjectives have masculine and feminine forms, and singular and plural forms.

If an adjective ends in -o in the masculine form, it changes to -a in the feminine form. If it ends with any other letter than -o, it stays the same.

singular		plural	
masculine	feminine	masculine	feminine
amarillo	amarilla	amarillos	amarillas
blanco	blanca	blancos	blancas
verde	verde	verdes	verdes
azul	azul	azules	azules

Spanish verb endings change to show the person the verb refers to. Regular verbs work like this:

¿Cómo te llamas? What are you called?
Me llamo... I am called...

Irregular verbs

Some verbs are irregular. They don't follow a pattern. Here are two that you will meet a lot.

ser to be
soy I am
eres you are
es he/she is

tener to have
tengo I have
 tienes you have
tiene he/she has

When you give your age in English, you say: 'I am twelve.' In Spanish, you say: **Tengo doce años**. What does this mean, literally?

