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Y8 Knowledge Organiser

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Contents

Non-Fiction Study

Key Terminology		
1	**Bias**	An inclination or prejudice for or against one person or group.
2	**Tone**	Attitudes toward the subject and toward the audience implied in a literary work, for example: formal, informal, sarcastic, etc.
3	**Empathy**	The ability to understand and share the feelings of another.
4	**View**	A particular attitude towards or way of regarding something.
5	**Imperatives**	Verbs used to give orders, commands, warning or instructions.
6	**Expert opinion**	A belief or judgement about something given by an expert on a subject.
7	**Fact**	Something that is known to happen or to exist, especially for which proof exists.
8	**Objective**	Based on real facts and not influenced by personal beliefs or feelings.
9	**Perspective**	A particular attitude towards or way of regarding something.
10	**Subjective**	Influenced by or based on personal beliefs or feelings, rather than based on facts.

Key Knowledge: Non-fiction forms		
11	**Autobiography**	The account of a person's life written by that person.
12	**Biography**	The account of a person's life written by another person.
13	**Diary**	A book in which one keeps a daily record of events and experiences.
14	**Essay**	A short piece of writing on a particular subject.
15	**Letter**	A written or printed message which from one person to another, usually put in an envelope and delivered as mail.
16	**Article**	A piece of writing which reports news and is published in a newspaper or magazine.
17	**Opinion Piece**	An article in which the writer expresses their personal opinion on a particular issue or subject.
18	**Speech**	A formal talk usually given to a large number of people on a special occasion.
19	**Review**	A critical appraisal of a book, play, film, etc, often published in a newspaper or magazine.
20	**Information leaflet**	A leaflet is a little book or a piece of paper containing information about a particular subject.

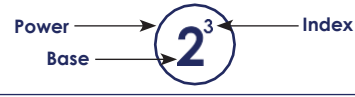
Poetry Study

Key Terminology		
1	Alliteration	The repetition of the same consonant sound, often at the beginning of words.
2	Emotive language	Word choice which is used to evoke emotion in the reader.
3	Imagery	A literary device used to create a particular image to convey the key ideas/messages of themes in a text.
4	Metaphor	A comparison in which one thing is said to be another.
5	Personification	The attribution of human feelings, emotions, or sensations to an inanimate object.
6	Repetition	A literary device which repeats the same word or phrase a few times to make it memorable.
7	Rhyme scheme	The pattern of a poem's rhyme, often identified using letters e.g. ABABCC.
8	Simile	A comparison that uses 'like' or 'as'.
9	Stanza	A group of lines forming a unit in a poem.

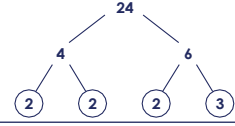
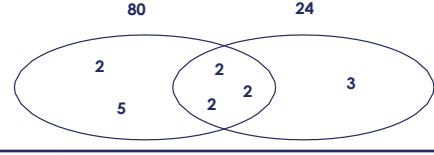
Key Terminology		
10	Structure	The way a poem is organised.
11	Symbolism	The use of symbols to express ideas or qualities.
12	Tone	Feelings or ideas suggested by the language used by the poet.
13	Verse	Another word for poetry; a group of lines forming a unit in a poem, also known as a stanza.
14	Volta	A 'turning point' in a poem.

Form		
15	Form	The way a poem is set out, or a term used to categorise poems which follow particular conventions.
16	Villanelle	A 19-line poem consisting of five units of three lines, rhymed or unrhymed, followed by a quatrain.
17	Petrarchan sonnet	A poem that has 14 lines and a particular pattern of rhyme, for example ABAB CDCD EFGEFG.
18	Ballad	A narrative poem which is typically written in short stanzas.
19	Dramatic monologue	A poem in which an imagined speaker addresses a silent listener.

KPI 8.01 Indices

1) Square number	The result of multiplying a number by itself. It will always be positive. The first 12 square numbers are: 1, 4, 9, 16, 25, 36, 49, 64, 81, 100, 121,144.	**2) Square root**	The opposite of squaring a number to find the original factor. e.g. $\sqrt{64} = 8$ or -8 because $8^2 = 64$ and $(-8)^2 = 64$
3) Cube number	The result of multiplying a number by itself, then itself again. The first 10 cube numbers are: 1, 8, 27, 64, 125, 216, 343, 512, 729, 1000.	**4) Cube root**	The opposite of cubing a number to find the original factor. e.g. $\sqrt[3]{8} = 2$ because $2^3 = 8$ Note: $(-2)^3 = -8$ so $\sqrt[3]{8} \neq -2$
5) Index notation	**Example** $a \times a \times a \times a = a^4$. The number 4 is called the index (plural indices). This tells us how many times the "base" a has been multiplied by itself.		
6) Multiplying powers	$a^m \times a^n = a^{m+n}$ ADD the powers only if the bases are the same. E.g. $a^5 \times a^3 = a^{5+3} = a^8$	**7) Dividing powers**	$a^m \div a^n = a^{m-n}$ SUBTRACT the powers only if the bases are the same. E.g. $a^6 \div a^2 = a^{6-2} = a^4$
8) Indices with brackets	$(a^m)^n = a^{m \times n}$ MULTIPLY the powers. E.g. $(a^3)^5 = a^{3\times5} = a^{15}$	**9) Indices with brackets**	$(ab)^n = a^n \times b^n$ Raise each number or variable to the same power. E.g. $(2p)^4 = 2^4 \times p^4 = 16p^4$
10) Power of 0	$a^0 = 1$. Any number or variable to the power of zero equals 1.	**11) Power of $\frac{1}{2}$**	$a^{\frac{1}{2}} = \sqrt{a}$ E.g. $16^{\frac{1}{2}} = \sqrt{16} = 4$

KPI 8.02 Prime Factorisation

1) Prime numbers	A prime number only has two distinct factors: 1 and itself. 2 is the only even prime number. 1 is not a prime number. Prime numbers between 1 and 100: 2, 3, 5, 7, 11, 13, 17, 19, 23, 29, 31, 37, 41, 43, 47, 53, 59, 61, 67, 71, 73, 79, 83, 89, 97.		
2) Factor	Any whole number that divides exactly into another number leaving no remainder. The factors of 20 are: 1, 2, 4, 5, 10, 20	**3) Prime factor**	A factor that is also a prime number. The prime factors of 20: 2 and 5
4) Prime factor decomposition	The process of expressing a number as a product of its prime factors. $24 = 2 \times 2 \times 2 \times 3 \rightarrow 24 = 2^3 \times 3$	**5) Prime factor trees**	
6) HCF & LCM using Venn diagrams	E.g. Find the HCF & LCM of 80 and 24. $80 = 2 \times 2 \times 2 \times 2 \times 5$ $\quad 24 = 2 \times 2 \times 2 \times 3$ HCF = Venn intersection $\rightarrow 2 \times 2 \times 2 = 8$ LCM = HCF x rest $\rightarrow 8 \times 2 \times 3 \times 5 = 240$		

KPI 8.03 Rounding

1) Significant figures

The total number of digits in a number, not counting zeros at the beginning of a number or at the end of a decimal number.
345 000 has 6 significant figures.
0.3047 has 4 significant figures.
10.500 has 3 significant figures.

2) Rounding to significant figures

Round to...	0.007638 to 3 sf	0.007638 to 2 sf	0.007638 to 1 sf	2.0507 to 3 sf	2.0507 to 2 sf	2.0507 to 1 sf
Answer	0.00764	0.0076	0.008	2.05	2.1	2

3) Estimate

Find a rough or approximate answer by calculating with numbers rounded to one significant figure.
e.g. 2.3 x 18.4 ≈ 2 x 20 = 40
≈ "approximately equal to"

KPI 8.04 Fractions

1) Converting an improper fraction to a mixed number

$$\frac{15}{7} = 2\frac{1}{7}$$

2) Converting a mixed number to an improper fraction

$$3\frac{4}{5} = \frac{(3 \times 5) + 4}{5} = \frac{19}{5}$$

3) Adding and subtracting fractions

Make the denominators the same (find the LCM).
Use equivalent fractions to ensure fractions have a common denominator.
Add/subtract the numerators only.

$$\frac{2}{7} + \frac{2}{5} = \frac{10}{35} + \frac{14}{35} = \frac{24}{35}$$

4) Multiplying fractions

Multiply the numerators.
Multiply the denominators.
Simplify where possible.

$$\frac{4}{5} \times \frac{3}{8} = \frac{12}{40} = \frac{3}{10}$$

5) Dividing fractions

Keep the first fraction the same.
Change the second to its reciprocal.
Multiply the fractions.
Simplify or convert to a mixed number where possible.

$$\frac{4}{5} \div \frac{3}{8} = \frac{4}{5} \times \frac{8}{3} = \frac{32}{15} = 2\frac{2}{15}$$

KPI 8.05 Negative Number Review

1) Double signs

When we subtract a negative, we add.

-5 (−) (−) 1 -15 (−) (−) 1 15 (−) (−) 1

-5 + 1 -15 + 1 15 + 1

2) Double signs

When we add a negative, or subtract a positive, we subtract.

-5 (+) (−) 1 -15 (−) (+) 1 15 (+) (−) 1

-5 – 1 -15 – 1 15 – 1

3) Multiplying negative numbers

Negative x Negative = Positive
Positive x Positive = Positive

Negative x Positive = Negative
Positive x Negative = Negative

4) Dividing negative numbers

Negative ÷ Negative = Positive
Positive ÷ Positive = Positive

Negative ÷ Positive = Negative
Positive ÷ Negative = Negative

KPI 8.06 Linear Equations

1) Inverse operations	Addition and Subtraction are inverse operations. Multiplication and Division are inverse operations. Squaring and taking the square root are inverse operations.	**2) Variable**	A letter used to represent any number.
3) Coefficient	The number to the left of the variable. This is the value that we multiply the variable by. $4x$ ➔ The coefficient of x is 4. x ➔ The coefficient of x is 1.	**4) Term**	A single number, variable or numbers and variables multiplied together.
5) Collecting like terms	Combining the like terms in an expression. $7x + 3y - 2x$ is simplified to $5x + 3y$.	**6) Expression**	A mathematical statement which contains one or more terms combined with addition and/or subtraction signs e.g. $4x + 3y$.
7) Linear equation	Contains an equals sign (=) and has one unknown. E.g. $5x - 2 = 2x + 7$.		

8) Solve

Use inverse operations to find the solution of an equation.

E.g. 1. (One step)

$\frac{x}{4} = 12$

x4 x4

$x = 48$

E.g. 2. (Two step)

$3p - 7 = 8$

+7 +7

$3p = 15$

÷3 ÷3

$p = 5$

E.g. 3. (Unknown on both sides)

$2x + 10 = 19 - 9x$

+9x +9x

$11x + 10 = 19$

-10 -10

$11x = 9$

÷11 ÷11

$x = \frac{9}{11}$

KPI 8.07 Forming and Solving Linear Equations

1) Form and solve a linear equation

E.g. 1

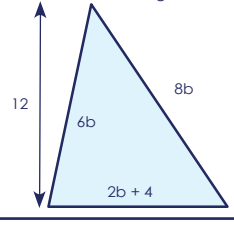
Jake is y years old. Lilly is 15. Kobe is 3 years younger than Jake. They have a total age of 36. Work out their individual ages.

$y + 15 + y - 3 = 36$
$2y + 12 = 36$
$2y = 24$
$y = 12$

Jake: 12, Lilly: 15, Kobe: 9

E.g. 2

The area of the triangle is 120 cm². Find the value of b.



$\frac{12(2b + 4)}{2} = 120$

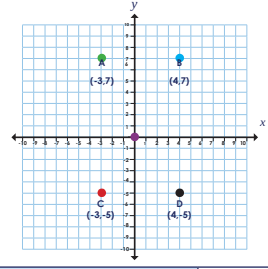
$\frac{24b + 48}{2} = 120$

$12b + 24 = 120$

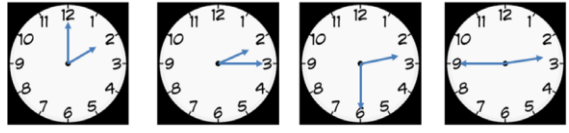
$12b = 96$

$b = 8\text{cm}$

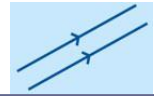
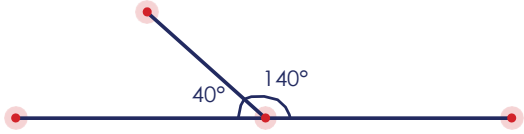
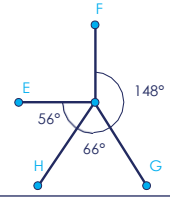
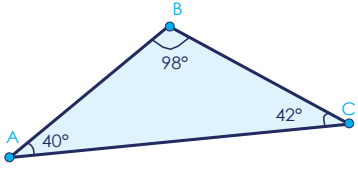
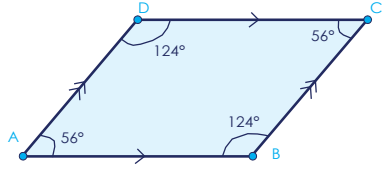
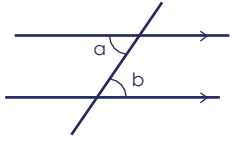
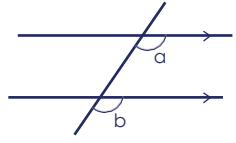
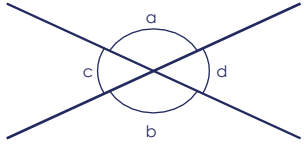
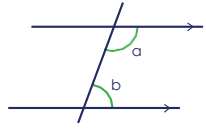
KPI 8.08 Coordinates and Basic Graphs

1) Coordinates	Written in pairs and inside a bracket (x, y). The first variable is the x-coordinate and shows horizontal position. The second variable is the y-coordinate and shows 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.	**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 $y = a$.
6) Mid-point 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 mid-point of (2, 2) and (8, 4) = (5, 3) mid-point of x coordinates: $\frac{2+8}{2} = \frac{10}{2} = 5$ mid-point of y coordinates: $\frac{2+4}{2} = \frac{6}{2} = 3$	

KPI 8.09 Units of Measurement

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 2:00 pm → 14:00	2:15 am → 02:15 2:15 pm → 14:15	2:30 am → 02:30 2:30 pm → 14:30	2:45 am → 02:45 2:45 pm → 14:45
3) Hours	1 hour = 60 minutes	**4) Minutes**	1 minute = 60 seconds		
5) Units of length	1 cm = 10mm; 1 m = 100 cm; 1 km = 1000 m	**6) Units of capacity**	1 L = 1000 ml; 1 L = 1000 cm^3		
7) Units of mass	1 kg = 1000 g; 1 tonne = 1000 kg	**8) Units of area**	1 cm^2 = 100 mm^2; 1 m^2 = 10,000 cm^2		

KPI 8.10 Angles in Parallel Lines

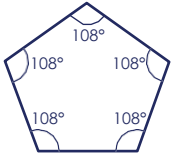
1) Parallel lines	Always equidistant. Parallel lines have the same gradient. They never meet however far they are extended.		
2) Angles on a straight line	Angles on a straight-line sum to 180° 	**3) Angles around a point**	Angles in a quadrilateral sum to 360° 
4) Angles in a triangle	Angles in a triangle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

KPI 8.11 Angles in Polygons

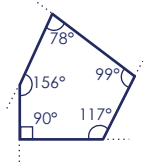
1) Polygon

A polygon is a two-dimensional shape with 3 or more straight sides. A polygon is either regular or irregular:

Regular – side lengths are equal, and all angles are equal.
Irregular – side lengths are unequal, and angles are unequal.



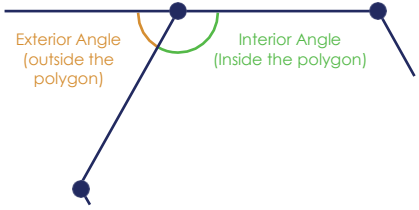
Regular Pentagon



Irregular Pentagon

2) Interior angle

The measure of turn between one side length, a vertex, and the next side length.



3) Exterior angle

The measure of turn between a side length, and the next side length extended.

Exterior Angle = 360° ÷ Number of sides

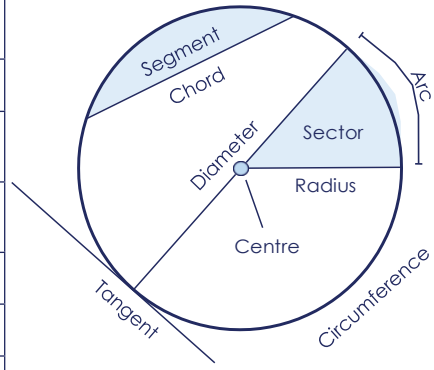
Sum of Ext. Angles for any polygon = 360°

Interior angle + Exterior angle = 180°

E.g. exterior angles = 360 ÷ number of sides.

KPI 8.12 Circumference

1) Diameter	A straight line going straight through the centre of the circle and touching the circumference at each end.
2) Radius **Plural-radii**	A straight line joining the centre to the circumference.
3) Chord	A straight line joining any two parts of the circumference.
4) Tangent	A straight line that touches the circumference at a single point.
5) Arc	A section of the circumference.
6) Sector	The area bound by two radii and an arc.
7) Segment	The area bound by the circumference and a chord.



8) Circumference

The perimeter of the circle.
C = π ×diameter
C = π d

d = 5cm

c = π
c = π x 5
c = 5π cm

c = 15.70796327cm
c = 15.7cm (3*sf*)

9) π (Pi)

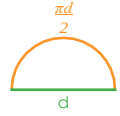
The ratio of a circle's circumference to its diameter.

It has an estimated value of $\frac{22}{7}$ or 3.14 rounded to 3 significant figures.

10) Revolution

A revolution is a full turn of a circle. The distance covered by one revolution is equal to the circumference of the circle.

13) Semi-circle

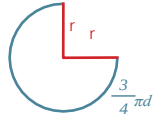


Perimeter $\frac{\pi d}{2}$ + d

12) Quarter-circle

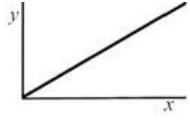
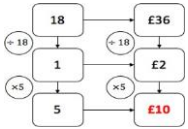
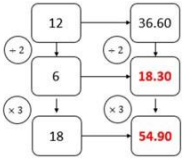
Perimeter $\frac{\pi d}{4}$ + 2r

14) Three-quarter circle



Perimeter $\frac{3}{4}\pi d$ + 2r

KPI 8.12 Proportional Reasoning

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

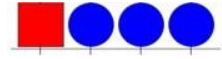
KPI 8.13 Fractions, Decimals and Percentages

1) Common conversions

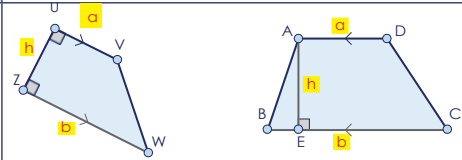
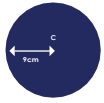
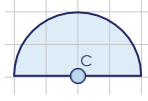
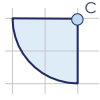
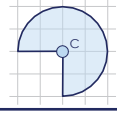
Fraction	Decimal	Percentage
$\frac{1}{10}$	0.1	10%
$\frac{1}{8}$	0.125	12.5%
$\frac{1}{5}$	0.2	20%
$\frac{1}{4}$	0.25	25%
$\frac{1}{3}$	0.33333....	33.3% (1dp)
$\frac{1}{2}$	0.5	50%
$\frac{3}{4}$	0.75	75%
$\frac{1}{1}$	1	100%

2) Fraction to decimal	Divide the numerator by the denominator. $\frac{1}{5} \rightarrow 1 \div 5 \rightarrow 0.2$ $5\overline{)1.^{1}0}$
3) Decimal to percentage	Multiply by 100 and add the percentage symbol. $0.09 \rightarrow 0.09 \times 100 = 9\%$
4) Percentage to fraction	Write the percentage as the numerator and make 100 the denominator. Simplify if possible. $30\% \rightarrow \frac{30}{100} = \frac{3}{10}$
4) Percentage change	Percentage Increase or Decrease = $\frac{\text{Change}}{\text{Original}} \times 100$

KPI 8.15 Ratio

1) Ratio	A part-to-part comparison. The ratio of a to b is written a:b	**2) Ratio as a fraction**	Fraction of shapes which are squares: $\frac{1}{4}$  Fraction of shapes which are circles: $\frac{3}{4}$
3) Equivalent ratios	Found by multiplying or dividing all parts of the ratio by the same number.		
4) Simplifying ratios	Ratios can be simplified by dividing each part of the ratio by the same number. ÷5 ← 25 : 15 → ÷5 5 : 3	**5) Sharing into a given ratio**	Add the parts together. Divide the total by this. Multiply this by each part of the ratio. Share £18 in the ratio of 5:4 Add the part → 4 + 5 = 9 parts £18 ÷ 9 = £2 → 1 part = £2 5 parts: 5 x £2 = £10 4 parts: 4 x £2 = £8 £10: £8
6) Unitary Ratio	Write the ratio 5:3 in the form 1:n ÷5 ← 5 : 3 → ÷5 1: $\frac{3}{5}$		

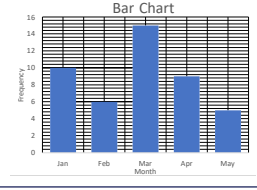
KPI 8.16 Area- Trapezia and Circles

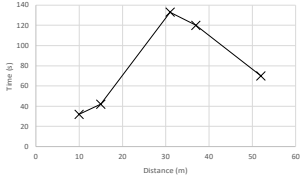
1) Trapezium	Quadrilateral with one pair of parallel sides.	**2) Isosceles trapezium**	Quadrilateral with one pair of parallel side and two right angles.
3) Area of trapezium	Sum of the parallel sides. Divide by 2. Multiply by the vertical height.	$A = \left(\frac{a+b}{2}\right) \times h$	
4) Area of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

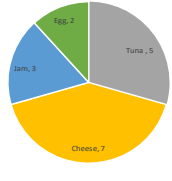
KPI 8.17 Presenting and Interpreting Data

1) Frequency table	A table showing how often (frequent) something occurs. Can include tally charts.	**2) Bar chart**	A way of displaying data, using horizontal or vertical bars which are the same width and have gaps between them.
3) Line graph	Uses lines to join points on a graph to represent a data set.	**4) Pie chart**	Method of displaying proportional information by dividing a circle up into different-sized sectors.

Score	Tally	Frequency (*f*)
1	||||	4
2	~~||||~~ ||||	9
3	~~||||~~ |	6
4	~~||||~~ |||	8
5	|||	3
6	|	1



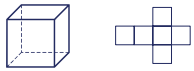
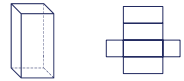
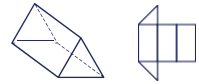
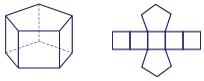
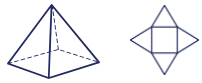
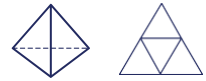
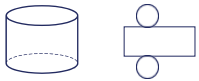




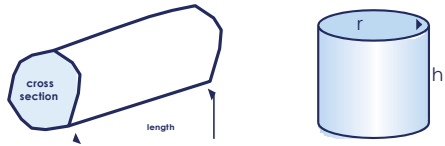
KPI 8.18 Averages

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

KPI 8.20 3D Visualisation

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

KPI 8.21 Volume

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

8BE Ecological Relationships and Classification

1. Food Chains

A **food chain** shows the different **species** of an organism in an **ecosystem**, and what eats what.

- A food chain always starts with a **producer**.
- A food chain ends with a **consumer**.

Here is an example of a simple food chain:

Tertiary consumer
Carnivore

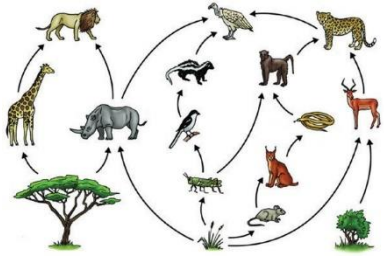
Secondary consumer
Carnivore

Primary consumer
Herbivore

Producer

2. Food Webs

When all the food chains in an ecosystem are joined up



Food webs are just several food chains joined together. Some of the food chains in this food web are:

- Tree > giraffe > lion
- Tree > rhino > lion
- Grass > rhino > eagle
- Grass > grasshopper > small bird > raccoon > eagle

4. Decomposers

Decay - when dead plant and animal materials are broken down by **decomposers**.

Decay releases the nutrients locked up in the dead material, back into the ground, so that it can be used for new plant growth.

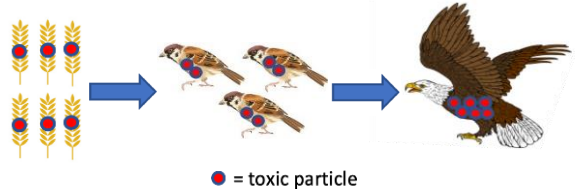
This is important because there is only a finite amount of nutrients on our planet. Decay means that the nutrients can be constantly recycled.

The ideal conditions for decay are:

1. Plenty of oxygen, so that decomposers can respire.
2. Warm temperatures so that decomposers are more active.
3. Some moisture as this allows important chemical reactions to take place.

3. Bioaccumulation

Bioaccumulation - the build-up of toxic material through a food chain.



5. Adaptations

Adaptations - features helping organisms compete and survive in their environment.
For example:

White coat > camouflage
Big feet > spread weight to reduce pressure on snow/ice
Thick layer of fat > insulation & food store
Greasy fur > water runs off easily after swimming

Hump that stores fat > reduce heat loss over rest of the body
Sandy colour > camouflage
Big feet > spread weight to reduce pressure on sand

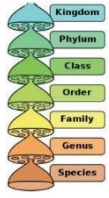
8BE Ecological Relationships and Classification

6. Natural Selection

1. Individuals in a species show a wide range of **genetic variation** due to **mutations**.
2. Individuals who are best adapted to the environment are **more likely to survive and reproduce.**
3. The **genes** that allow these individuals to be successful are **inherited** by their offspring.
4. Over many generations these small differences add up to the new evolution of species.

7. Classification Is the Sorting Out of Organisms Into Groups Based On Their Similarities

- Today's classification system is designed by Carl Linnaeus
- Organisms were divided into kingdoms.
- Each kingdom was then sub-divided into smaller groups (phylum) and these into even smaller groups (e.g. class)
- Species are the smallest group.



Many organisms with few similar characteristics

One type of organism, with many similar characteristics

8. Extinction

Extinction – when an entire species is unable to compete successfully and reproduce it will lead to extinction, because changes in the environment may leave individuals less well adapted to compete for resources (e.g. food, water and mates).

Changes in the environment that can cause a species to become extinct:
- A new disease.
- A new predator.
- A change in the physical environment (e.g. climate change).
- Competition (from another species that is better adapted, including competition from humans).

9. Factors That Can Affect the Population Of Individual Organisms

Temperature (land/water)
Seasonal changes
Rainfall
Increased predation/hunting
Deforestation
pH of soil/water
Use of chemicals in farming
Disease
Pollution
New predators

Might lead to:
- A shortage of food
- Loss of habitat
- Lack of partners to reproduce with
- Less water

10. Estimating Populations

Method:
Count the numbers of a species within a small section of the area being sampled by:

1. Using a quadrat to make multiple random small samples.

2. A mean is then calculated and multiplied up to the whole area.

11. Biodiversity

Biodiversity - variety of living organisms on Earth.

Biodiversity is important because:
- Moral and cultural reasons.
- Some plant species might be identified for medicines.
- Reduces damage to food chains and food web.
- Protects future food supply.

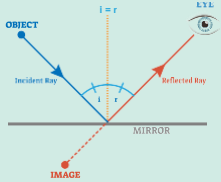
Protecting biodiversity:
- **Seed banks** - a store of seeds so that new plants may be grown in the future.
- Seed banks are an example of a **gene bank**, which preserve genetic animals and plant material for the future.

8PL Light and Space

1. Reflection

A ray diagram shows how light travels, including what happens when it reaches a surface. In a ray diagram, you draw each ray as:
- A straight line.
- With an arrowhead pointing in the direction that the light travels.
- Always use a ruler and a sharp pencil.

2. The law of reflection
When light reaches a mirror, it reflects off the surface of the mirror:
- **Incident ray** is the light going **towards the mirror**.
- **Reflected ray** is the light coming **away from the mirror.**

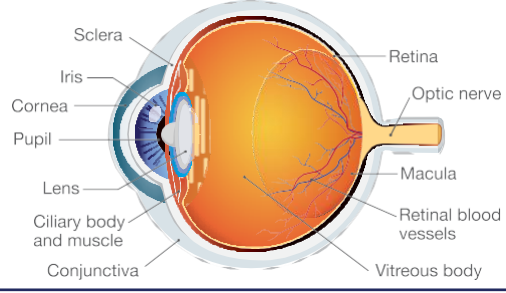


The law of reflection states:
- **The angle of incidence = the angle of reflection, i = r.**

3. Diffuse scattering
- If light meets a rough surface, each ray obeys the law of reflection.
- Different parts of the rough surface point in different directions.
- So the light is not all reflected in the same direction.
- The light is reflected in all directions.
- This is called **diffuse scattering**.

4. Ray diagram of reflection
- The hatched vertical line on the right represents the mirror.
- The dashed line is the **normal**, drawn 90° to the surface of the mirror.
- The **angle of incidence**, i, is the angle between the normal and incident ray.
- The **angle of reflection**, r, is the angle between the normal and reflected ray.
- The reflection of light from a flat surface such as a mirror is called **specular reflection** – light meeting the surface in one direction is all reflected in one direction.

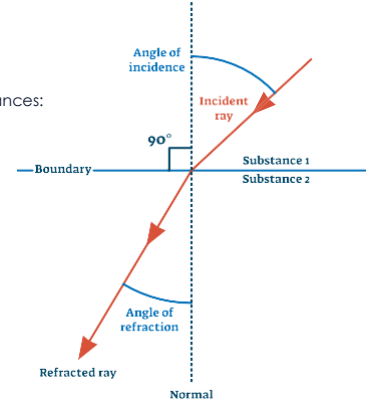
3. The Eye



2. Refraction

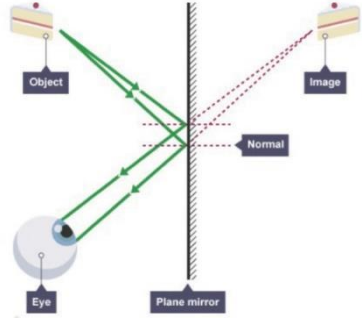
When light waves pass across a boundary between two substances with a different density, e.g. air and glass. They:
- Change speed.
- Causing them to change direction.
- This is called refraction.

At the boundary between two transparent substances:
- The light slows down going into a denser substance, and the ray bends towards the normal.
- The light speeds up going into a less dense substance, and the ray bends away from the normal.



4. Imaging in Mirrors

- A plane mirror is a flat mirror.
- When you look into a plane mirror, you see a reflected image of yourself. This image:
  - Appears to be behind the mirror.
  - Is the right way up.
  - Is 'laterally inverted' (letters and words look as if they have been written backwards).
- 'Real' rays, the ones leaving the object and the mirror, are shown as solid lines.
- 'Virtual' rays, the ones that appear to come from the image behind the mirror, are shown as dashed lines.
- Each incident ray will obey the law of reflection.



8PL Light and Space

5. Colour

- White light is a mixture of many different colours.
- Each colour has a different frequency.
- White light can be split up into a **spectrum** using a prism, a triangular block of glass or Perspex.
- Light is refracted when it enters the prism.
- Each colour is refracted by a different amount.
- Light leaving the prism is spread out into different colours.
- This is called **dispersion**.

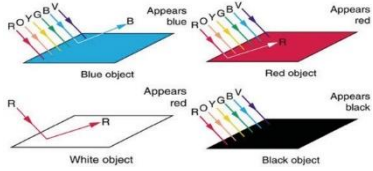
The spectrum

The seven colours of the spectrum listed in order of their frequency, from the lowest frequency (fewest waves per second) to the highest frequency (most waves per second):

- **R**ed **O**range **Y**ellow **G**reen **B**lue **I**ndigo **V**iolet
- 'Richard Of York Gave Battle In Vain'.

Coloured light

- There are three primary colours in light: red, green and blue.
- Light in these colours can be added together to make the secondary colours magenta, cyan and yellow.
- All three primary colours add together make white light.
- When light hits a surface, some of it is absorbed and some of it is reflected.
- The colour of an object is the colour of light it reflects.
- All other colours are absorbed.



9. Detecting Light

Cameras and eyes detect light. They both have:

- A material that is sensitive to light.
- A change that happens when this material absorbs light.

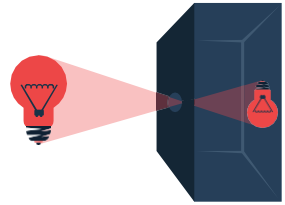
6. Focusing

- Light rays can be focused so that they meet at a single point.
- Focusing is important for getting clear images in our eye.
- Images that are not focused appear blurred.

3. The pinhole camera

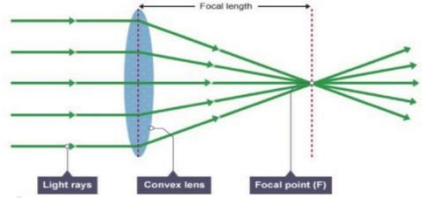
A pinhole camera consists of:

- A box with a **translucent screen** at one end.
- A tiny hole (the pinhole) in the other end.
- Light enters the box through the pinhole.
- It is focused by the pinhole onto the screen.
- The image is inverted (upside down) and smaller than the object.



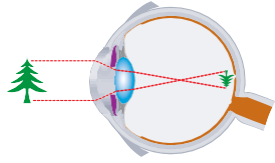
7. The Convex Lens

- A convex lens is made from a transparent material that bulges outwards in the middle on both sides.
- It can focus light so that appears to meet at a single point, called the focal point. Light is refracted as it passes into, then out of, the lens.
- Convex lenses are found in:
  - **Magnifying glasses**.
  - **Spectacles** for people with long-sight (who can see distant objects clearly but not nearby ones).
  - **Telescopes**.



8. The Eye

- The eye is like the camera:
  The eye focuses light from an object.
- Onto the photo-sensitive retina.
- The **retina** contains cells sensitive to light.
- They produce electrical impulses when they absorb light.
- These impulses are passed along the **optic nerve** to the **brain**.
- Which interprets them as vision.



10. The Camera

Cameras focus light onto a photo-sensitive material using a lens.

In old cameras, the photo-sensitive material was camera film.

- The film absorbs light.
- A chemical change produces an image, called the 'negative'.
- This was used to produce a photograph on photo-sensitive paper.

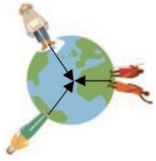
In a modern camera or the camera in a mobile phone:

- The photo-sensitive material produces electrical impulses.
- Which are used to produce an image file.
- This can be viewed on the screen.

8PL Light and Space

11. Gravity

Gravity is a force that attracts objects towards each other.



The greater the mass, the greater its force of gravity:
- Gravity between Earth and Moon keeps Moon in orbit around Earth.
- Gravity between Sun and Earth keeps Earth in orbit around Sun.

Gravity only becomes noticeable when there is a really massive object like a moon, planet or star.
We are pulled down towards the ground because of gravity.
The gravitational force pulls in the direction towards the centre of any object.

12. Mass, Weight and Gravitational Forces

Mass - is the **amount of matter** or 'stuff' it contains.
It is measured in kilograms, **kg**.
An object's mass stays the same wherever it is, E.g. a 5 kg mass on Earth has a 5 kg mass on the Moon.

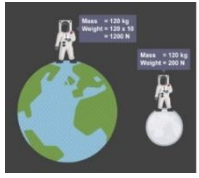
Weight is a force that acts upon a mass.
it is measured in newtons, **N**.
The weight of an object is the gravitational force between the object and the Earth.
The weight of an object depends upon its mass and the **gravitational field strength**.

Gravitational field strength is given the symbol g (Do not confuse this with g for grams).
You can use this equation to calculate the weight of an object:

weight (N) = mass (kg) × gravitational field strength (N/kg)

On Earth, g is about 10 N/kg. This means that a 1 kg object on the Earth's surface has a weight of 10 N (1 kg × 10 N/kg = 10 N).

Mass and weight
- The mass of an object stays the same wherever it is.
- Weight can change if the object goes where the gravitational field strength is different from the gravitational field strength on Earth, e.g. into space or another planet.
- The Moon is smaller and has less mass than the Earth, so its gravitational field strength is only about one-sixth of the Earth's. So, for example, a 120 kg astronaut weighs 1200 N on Earthbut only 200 N on the Moon. Rememberthat their mass would still be 120 kg.



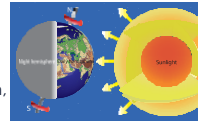
13. The Speed of Light

- Light travels extremely quickly.
- Its maximum speed is 300,000,000 m/s (3×10^8 m/s) when it travels through a vacuum.

The speed of light is much faster than the speed of sound in air (343 m/s). This explains why you:
- See lightning before you hear it.
- See a firework explode before you hear it.

14. Days and Nights

- A planet spins on its axis as it orbits the Sun.
- A day is the time it takes for a planet to turn once on its axis.
- An Earth day is 24 hours long.
- The Sun lights up one half of the Earth, and the other half is in shadow.

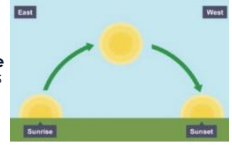


15. Path of the Sun

- During the day, the Sun appears to move through the sky.
- This happens because the Earth is spinning on its axis.
- The Sun appears to move from east to west. This is because the Earth turns from west to east.

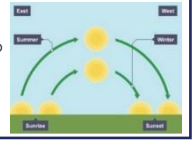
The Sun appears to:
- Rise in the east.
- Set in the west.
- Be due south at midday.

- One way to remember which way the Earth turns is:
  - 'We spin'.... **we** (the Earth) spins from **w**est to **e**ast.



16. Path of the Sun at different times of the year

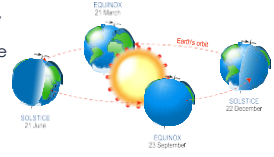
- A planet spins on its axis as it orbits the Sun.
- A day is the time it takes for a planet to turn once on its axis.
- An Earth day is 24 hours long;
- The Sun lights up one half of the Earth, and the other half is in shadow.



17. Years and Seasons

- A year is the time it takes to make one complete orbit around the Sun.
- The Earth goes once round the Sun in one Earth year, which takes 365 Earth days.
- The further a planet is from the sun, the longer its year.

Seasons
The Earth's axis is tilted slightly (23.4° from vertical). We get different seasons because the Earth's axis is tilted:
- It is summer in the UK when the Northern Hemisphere is tilted towards the Sun.
- It is winter in the UK when the northern hemisphere is tilted away from the Sun.



18. Stars and Galaxies

- Our Sun is a star.
- It seems much bigger than other stars in the sky because it is much closer to Earth.
- Stars form immense groups called **galaxies**.
- A galaxy can contain **many millions of stars**, held together by gravity.
- Our Sun is in a spiral galaxy called the **Milky Way**.

The light year is the distance travelled by light in one year.

8BD Digestion and Nutrition

1. The 7 nutrients

Nutrient	Use in the body	Good sources
Carbohydrate	To provide energy	Cereals, bread, pasta, rice and potatoes
Protein	For growth and repair	Fish, meat, eggs, beans, pulses and dairy products
Lipids (fats and oils)	To provide energy. Also to store energy in the body and insulate it against the cold	Butter, oil and nuts
Minerals	Needed in small amounts to maintain health	Salt, milk (for calcium) and liver (for iron)
Vitamins	Needed in small amounts to maintain health	Fruit, vegetables, dairy foods
Fibre	To provide roughage to help to keep the food moving through the gut	Vegetables, bran
Water	Needed for cells and body fluids	Water, fruit juice, milk

2. Chemical Food Tests

Nutrient	Use in the body	Good sources
Starch	Iodine solution	Iodine solution turns from orange/brown → blue black
Sugar	Benedict's solution & heat	Benedict's solution turns from: blue → green /yellow/brick red
Fat	Ethanol & shake, then water & shake	Ethanol turns cloudy white
Protein	Biuret reagent	Biuret reagent changes from blue to purple

3. Respiration

A chemical reaction that takes place in all living cells to release the energy in food:

Sugar + oxygen → carbon dioxide + water

4. Using Energy

Energy released from food is used for things like:
- Muscle contraction
- Keeping warm
- Making new cells

Each person needs a different amount of energy depending on factors such as:

- 'Biological sex' (male or female)
- Age
- Amount of daily activity

Energy in food is measured in **kilojoules**, kJ.

5. Balanced Diet

Balanced diet - contains the right energy intake **and** the correct amounts of necessary nutrients.

Imbalanced diet - contains too much or too little of a particular nutrient and/or energy.

6. Nutrient Deficiency Diseases:

Mineral deficiency diseases -
Caused when your diet is lacking in a particular mineral:
- **Iron** deficiency causes **anaemia**, where there are too few red blood cells.
- **Iodine** deficiency can cause a swelling in the neck called **goitre**.

Vitamin deficiency diseases -
caused when your diet lacks a particular vitamin:
- **Vitamin A** deficiency can cause **blindness**.
- **Vitamin C** deficiency causes **scurvy**, which makes the gums bleed.
- **Vitamin D** deficiency causes **rickets**, which makes the legs bow outwards in growing children.

8BD Digestion and Nutrition

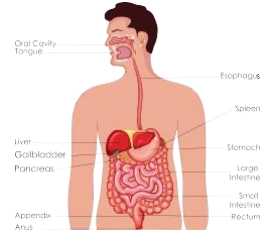
7. Energy Imbalances in Diets

If the amount of energy you get from your food is different from the amount of energy you use, your diet will be imbalanced:
- Too little food/ energy can make you underweight.
- Too much food/ energy can make you overweight

Imbalanced energy intake diseases:
Starvation - if you eat so little food that your body becomes very underweight. This can eventually cause death.
Obesity - when you eat so much food that your body becomes very overweight. Diseases linked with obesity include heart disease, diabetes, arthritis and stroke.

8. Stages of digestion

1. Digestion starts in the **mouth**, where teeth **mechanically digest** food during chewing. **Chemical digestion** begins here when the food mixes with saliva.
2. Food is swallowed as passes down the **oesophagus**.
3. When food reaches the **stomach**, the food continues to be **mechanically digested** when the stomach muscles contract to churn food. **Chemical digestion** also continues when the food mixes with acid and enzymes inside the stomach.
4. Most **digestion** happens inside the **small intestine** when the food mixes with **enzymes** and bile **(chemical digestion)** and is moved along the canal by **muscle contractions (mechanical digestion).**
5. Digested food is **absorbed** into the bloodstream, by diffusion from the small intestine. Water is reabsorbed into the body in the small intestine.
6. Undigested food passes out of the anus as faeces.



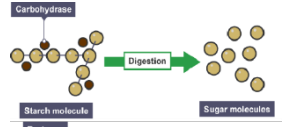
The role of liver and pancreas
- The liver produces **bile**, which helps the digestion of lipids (fats and oil).
- The pancreas produces biological **catalysts** called digestive **enzymes** which speed up the digestive reactions.

9. Digestion

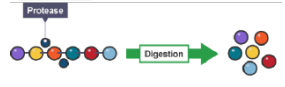
Digestion - when large **insoluble** food particles are broken down into small **soluble** particles so that they can be absorbed into our bloodstream.
This is carried out by **enzymes** - special proteins that can break large molecules into small molecules.

Different enzymes can break down different nutrients:

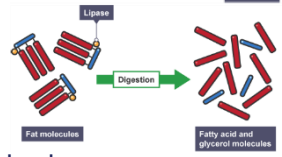
- **Carbohydrates** (e.g. starch) are broken down into **sugar** - by **carbohydrase** enzymes.



- **Proteins** are broken down into **amino acids** - by **protease** enzymes.



- **Lipids** (i.e. fats and oils) are broken down into **fatty acids** and **glycerol** - by **lipase** enzymes.



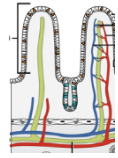
At very high temperatures, these enzymes will be **denatured**.

Digestive enzymes cannot break down dietary fibre, which is why the body cannot absorb it. Minerals, vitamins and water are not digested, as they are already small enough to be absorbed.

10. Villi

Absorption by diffusion across a surface happens efficiently if:
- The surface is thin.
- Its area is large.

The inner wall of the small intestine is adapted. It has:
- A thin wall, just one cell thick.
- Many tiny **villi** to give a really big **surface area**.



The villi contain blood **capillaries** to carry away the absorbed food molecules.

11. Role of Bacteria

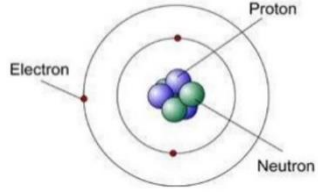
Bacteria in the digestive system are important because they:
- Can digest certain substances humans cannot digest.
- Reduce chance of harmful bacteria multiplying, causing disease.
- Produce vitamins that humans need e.g. vitamins B & K.

8CP Periodic Table

1. Atoms

Atoms are tiny particles that everything is made of. They are made of smaller particles called:

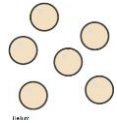
- **Protons** (+ positive)
- **Neutrons** (neutral)
- **Electrons** (- negative)



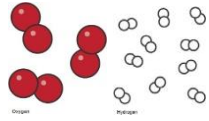
2. Elements

There are over a hundred different elements. Atoms have the same number of protons as each other.

Atoms of differing elements have a different number of protons. 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.

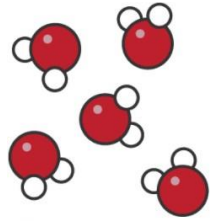


3. Compounds

A compound contains atoms of **two or more different elements**, and these atoms are **chemically joined together**.

For example, water is a compound of hydrogen and oxygen.

Each of its molecules contains two hydrogen atoms and one oxygen atom.



4. Chemical Formulae

Remember that we use chemical symbols to stand for the elements. For example, **C stands for carbon, O stands for oxygen, S stands for sulfur and Na stands for sodium**.

For a molecule, we use the chemical symbols of the atoms it contains to write down its formula. For example, the formula for **carbon monoxide is CO**.

It tells you that each molecule of carbon monoxide is made of one carbon atom joined to one oxygen atom.

Be careful about when to use capital letters. For example, CO means a molecule of carbon monoxide, but **Co is the symbol for cobalt** (an element).

5. Chemical Symbols

Each element is given its own chemical symbol, like **H for hydrogen** or **O for oxygen**.

Chemical symbols are usually one or two letters long.

Every chemical symbol **starts with a capital letter, with the second letter written in lower case**. For example, Mg is the correct symbol for magnesium, but mg, mG and MG are wrong.

Mg	mg	mG	MG
✓	✗	✗	✗

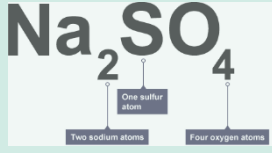
6. Numbers in Formulae

We use numbers to show when a molecule contains more than one atom of an element. The numbers are written **below** the element symbol. For example, CO_2 is the formula for carbon dioxide.

It tells you that each molecule has **one carbon atom** and **two oxygen atoms**.

The **small numbers go at the bottom**.

For example:
CO_2 is correct;
CO^2 and CO2 are wrong.



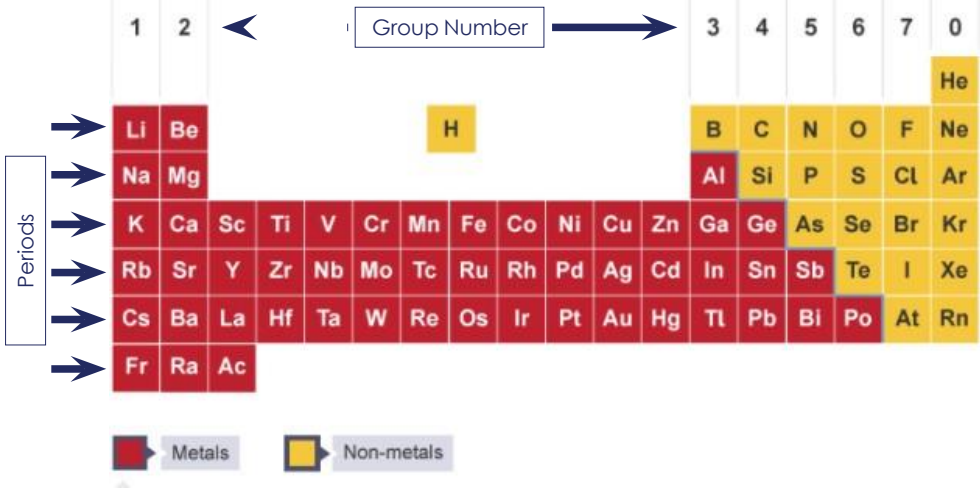
Some formulae are more complicated. For example, the formula for sodium sulfate is Na_2SO_4. It tells you that sodium sulfate contains two sodium atoms (Na x 2), one sulfur atom (S) and four oxygen atoms (O x 4).

8CP Periodic Table

7. Properties of elements in the same group (1 and 7)

Group 7	Melting point	Density	Reactivity
Fluorine	Increases down the group ↓	Increases down the group ↓	Decreases down the group ↓
Chlorine			
Bromine			
Iodine			

Group 1	Melting point	Density	Reactivity
Lithium	Decreases down the group ↓	Increases down the group ↓	Increases down the group ↓
Sodium			
Potassium			
Rubidium			



8. Metals

Metals have properties in common. They are:
- **Shiny**, especially when they are freshly cut.
- **Good conductors** of heat and electricity.
- **Malleable** (they can be bent and shaped without breaking).

9. Properties of metals

Most metals also have other properties in common. They are:
- **Solid** at room temperature, except mercury.
- **Hard** and **strong.**
- They have a **high density.**

10. Periodic Table

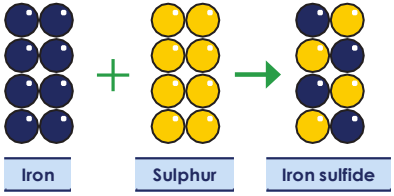
The elements are arranged in a chart called the periodic table. A Russian scientist, Mendeleev, produced the first periodic table in the 19th century.

The modern periodic table is based closely on the ideas he used:
- The elements are arranged in order of increasing atomic number (number of protons).
- The **horizontal** rows are called **periods.**
- The **vertical** columns are called **groups.**
- Elements in the same group have the same number of electrons in their outside shell.

8CP Periodic Table

11. 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 from which it is made.

	Iron	Sulfur	Iron sulfide
Type of substance	Element	Element	Compound
Colour	Silvery grey	Yellow	Black
Is it attracted to a magnet?	Yes	No	No
Reaction with hydrochloric acid	Hydrogen formed	No reaction	Hydrogen sulfide formed, which smells of rotten eggs

- The atoms in a compound are joined together by forces called **bonds.**
- The properties of a compound are different from the elements it contains.
- You can only separate its elements using another chemical reaction.
- Separation methods like filtration and distillation will not do this.

12. 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 equals 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**.

14. Conservation of Mass

When atoms are rearranged in a chemical reaction, they are not destroyed or created.

- **Reactants** - the substances that react together
- **Products** - the substances that are formed in the reaction
- **Mass is conserved** in a chemical reaction, this means…
- Total mass of the reactants = total mass of the products

13. Symbol equations

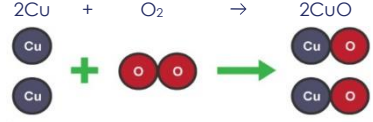
A balanced **symbol** equation includes the **symbols** and **formulae** of the substances involved.For example:

Word equation:
Copper + Oxygen → Copper Oxide

Symbol equation (unbalanced):
$Cu + O_2 \rightarrow CuO$

There is one copper atom on each side of the arrow, but two oxygen atoms on the left and only one on the right. This is **unbalanced**.

A **balanced** equation has the **same number of each type of atom on each side of the arrow**. Here is the balanced symbol equation:



Some more examples of balanced symbol equations

- $C + O_2 \rightarrow CO_2$
- $2H_2 + O_2 \rightarrow 2H_2O$
- $2Mg + O_2 \rightarrow 2MgO$
- $CuCO_3 \rightarrow CuO + CO_2$
- $Mg + 2HCl \rightarrow MgCl_2 + H_2$

Take care when writing formula –
e.g. for carbon dioxide:
CO_2 NOT CO^2 or Co_2

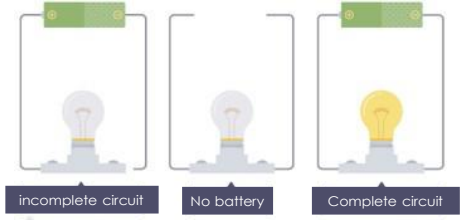
8PE Electricity and Magnetism

1. Electric charge

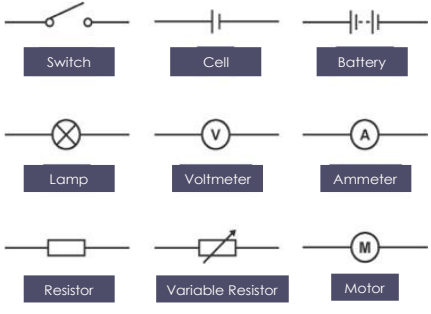
Some particles carry an electric **charge.**
In electric wires these particles are **electrons.**

Electric current
An electric current is a flow of charge, and in a wire this will be a flow of electrons.

We need two things for an electric current to flow:
- Something to transfer energy to the electrons, such as a battery or power pack.
- A complete circuit for the electrons to flow through.



2. Circuit Symbols



3. Conductors and Insulators of Electricity

Different materials have different resistances:
- An electrical **conductor** has a **low resistance**.
- An electrical **insulator** has a **high resistance**.

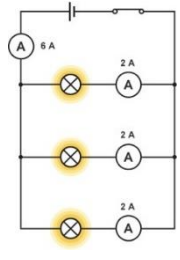
Conductors	Insulators
Metal elements	Most non-metal elements, e.g. sulfur, oxygen
Graphite (a form of carbon, a non-metal element)	Diamond (a form of carbon, a non-metal element)
Mixtures or metals, e.g. brass, solder	Plastic
Salt solution	Wood
Liquid calcium chloride	Rock

4. Parallel circuits

In a parallel circuit, the components are connected on different branches of the wire.

When components are connected in parallel, the current is **shared** between the components.

If a bulb breaks in a parallel circuit, the other bulb will remain lit.



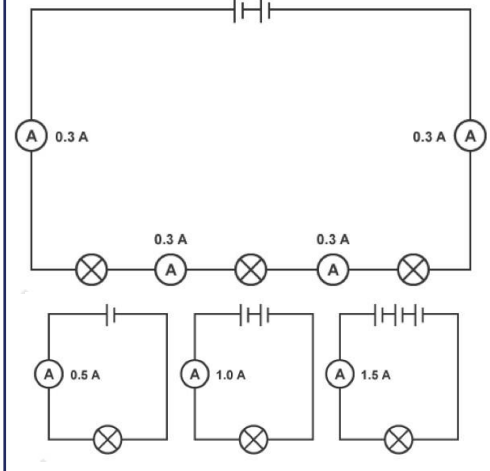
5. Series circuits

In a series circuit, the components are connected in series (one after the other) on a single loop of wires.

The current is **the same** everywhere in the circuit.

Current is **not** used up by the components.

Adding cells, increases the current.

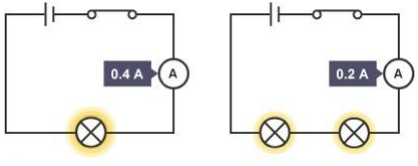


8PE Electricity and Magnetism

6. Resistance

Wires and the components in a circuit reduce the flow of charge. This is called **resistance.**
The unit of resistance is the ohm (Ω).

Adding components
The resistance increases when you add more components in series.



7. Calculating Resistance

To find the resistance of a component, you need to measure:
- The potential difference across it.
- The current flowing through it.

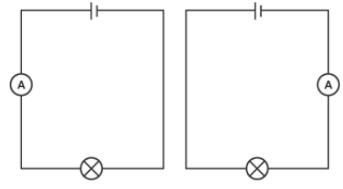
The resistance is the ratio of potential difference to current. We use this equation to calculate resistance:

Resistance = potential difference ÷ current

8. Current

The more charge that flows, the bigger the current.
Current is measured in **amperes (A).**
This can be shortened to **amps.**

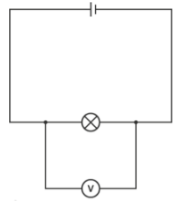
Measuring current
We measure current using an **ammeter.**
It is connected in **series.**

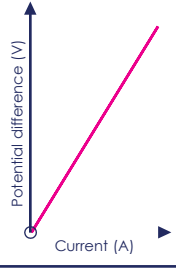


9. Potential Difference

Potential difference is a measure of the difference in energy between two parts of a circuit. The bigger the difference in energy, the bigger the potential difference.
Potential difference is measured in **volts (V).**
It is sometimes called **voltage.**

Measuring potential difference
Potential difference is measured using a device called a voltmeter. It is connected in **parallel.**





	Current	Potential difference
Unit	ampere. A	volt. V
Measuring device	Ammeter in series	Voltmeter in parallel
Circuit symbol of measuring device		

8PE Electricity and Magnetism

10. Bar Magnets

Most materials are not magnetic.
A magnetic material can be **magnetised** or will be attracted to a magnet.
Not all metals are magnetic.
These metals are magnetic:
- Iron
- Cobalt
- Nickel
- Steel (because it contains iron).

A bar magnet is a **permanent magnet** - its magnetism cannot be turned on or off.

A bar magnet has two magnetic poles:
- North pole (or north-seeking pole)
- South pole (or south-seeking pole)

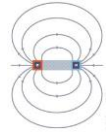
Attract and repel
Opposite poles will attract, and like poles will repel.

Testing for magnets
You can only show that an object is a magnet if it repels a known magnet.

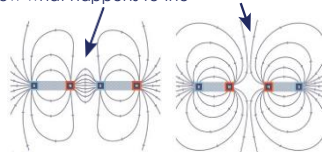
11. Magnetic Fields

A magnet creates a magnetic field around it (you cannot see a magnetic field)
A **non-contact force** is exerted on a magnetic material brought into a magnetic field. It is **non-contact force** because the magnet and the material do not have to touch each other.

We represent magnetic fields using diagrams:
- Each field line has an arrow from **north to south.**
- The field lines are more concentrated at the poles.
- The magnetic field is strongest at the poles.

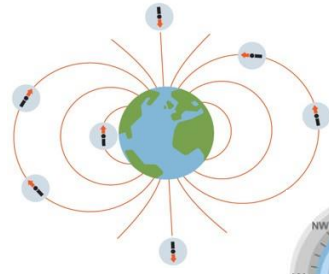


Field lines also show what happens to the magnetic fields of two magnets during attraction or repulsion.



12. The Earth's Magnetism

The Earth behaves as if it contains a giant bar magnet.
Its magnetic field lines are most concentrated at the poles.
This magnetic field can be detected using magnetic materials or magnets.



The compass
A compass comprises:
- A magnetic needle mounted on a pivot (so it can turn freely).
- A dial to show the direction.

If the needle points to the N on the dial, you know that the compass is pointing north.

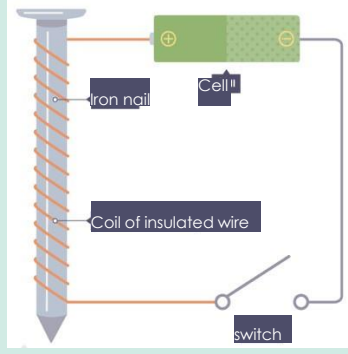
13. Electromagnets

When an electric current flows in a wire, it creates a magnetic field around the wire.
The magnetic field around an electromagnet is the same as around a bar magnet.

We can make the electromagnet stronger by:
- Wrapping the coil around a piece of iron (such as an iron nail).
- Adding more turns to the coil.
- Increasing the current flowing through the coil.

Too much current can cause heating.

Advantages of electromagnets:
- They can be turned on and off.
- The strength of the magnetic field can be varied.
- Reversing the current (turning the battery around), reverses the direction of the field (swaps the poles).



14. Uses of Electromagnets

Electric bells and DC motors contain electromagnets.

DC motors
Passing an electric current through a wire in a field will make the wire move.
This is called the **motor effect**.

The diagram shows a simple electric motor:
- There is an electric current in the coil of wire.
- This generates a magnetic field.
- Which interacts with the fixed magnets.
- This makes the coil rotate.

The speed of the motor can be increased by:
- Increasing the **strength of the magnetic field.**
- **Increasing the current** flowing through the coil.

Electricity and Magnetism

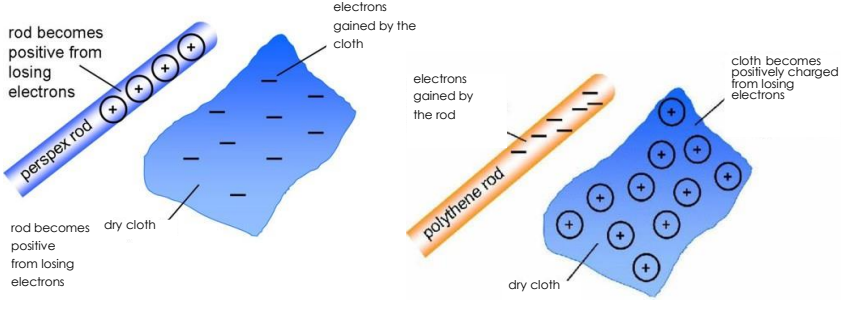
15. Atoms and Electrons

All substances are made of **atoms.**
These are often called **particles.**
An atom has no overall electrical charge **(electrically neutral)**;
Each atom contains even smaller particles called **electrons.**
Each electron has a negative charge.
- Atom **gains** an electron, it becomes **negatively charged.**
- Atom **loses** an electron, it becomes **positively charged.**

Electrons can move from one substance to another when objects are rubbed together.

16. Moving Charges

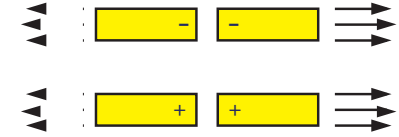
When you rub two different materials against each other, they become electrically charged. This only works for electrically insulated objects and not with materials like metals, which conduct and the duster becomes positively charged.



17. Atoms and Electrons

A charged object creates an **electric field** (you cannot see an electric field).
If another charged object is moved into the electric field, a force acts on it.
The force is a non-contact force because the charged objects do not have to touch for the force to be exerted.

opposite charges attract



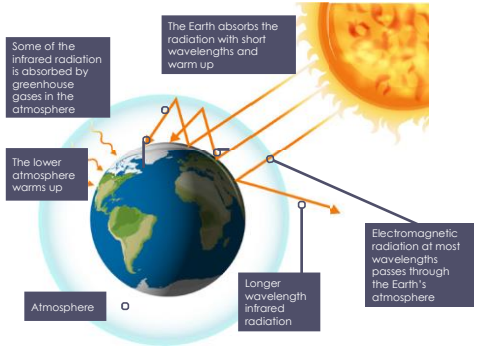
like charges repel

Electric fields
We represent electric fields using diagrams (just like with magnetic fields):
- Each field line has an arrow from **positive to negative.**
- The field lines are more concentrated where the field is strongest.

Materials And the Earth

1. The Greenhouse Effect

- Thermal energy from the Earth's surface escapes into space.
- If too much thermal energy escaped, the planet would be very cold.
- Greenhouse gases in the atmosphere trap escaping thermal energy.
- This causes some of the thermal energy to pass back to the surface.
- This is called the greenhouse effect, and it keeps our planet warm.
- Carbon dioxide is an important greenhouse gas.

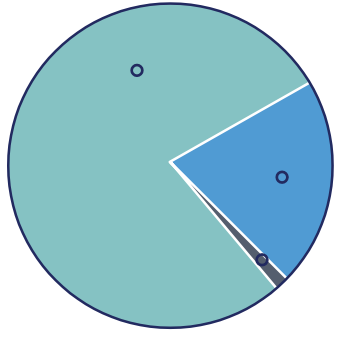


- Humans burn fossil fuels which releases carbon dioxide, increasing the greenhouse effect.
- More thermal energy is trapped by the atmosphere, causing the planet to become warmer than it would be naturally. This increase in the Earth's temperature is called **global warming**.

Climate change and its effects as a result of global warming includes:

- Ice melting faster than it can be replaced in the Arctic and Antarctic.
- The oceans warming up – their water is expanding and causing sea levels to rise.
- Changes in where different species of plants and animals can live.

2. The Earth's Atmosphere



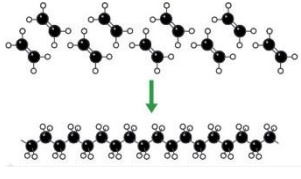
78%	Nitrogen
21%	Oxygen
Other including:	
1%	Argon

3. Ceramic Materials

- Solids made by baking a starting material in a very hot oven or kiln.
- Are hard and tough.
- Have very many different uses.
- Examples: brick and pottery.

4. Polymers

Polymers are made by joining lots of small molecules together to make long molecules.



Properties of polymers:

- Chemically unreactive
- Solids at room temperature
- Plastic – they can be moulded into shape
- Electrical insulators
- Strong and hard-wearing
- usually chemically unreactive

Advantage: plastic bottles will not react with their contents.
Disadvantage: they do not rot quickly and they can cause litter problems.

5. Composites

Composite materials are made from two or more different types of material.
E.g. MDF is made from wood fibres and glue; fibreglass is made from glass fibres and a tough polymer.

Reinforced concrete is a composite material made from steel and concrete. When the concrete sets, the material is:

- Strong when stretched (because of the steel)
- Strong when squashed (because of the concrete)

8CM Materials and the Earth

6. Sedimentary Rocks

Sedimentary rocks are formed from the broken remains of other rocks that become joined together.

Transport → deposition → sedimentation → compaction → cementation

- **Transport:** A river carries pieces of broken rock as it flows along.
- **Deposit:** When the river reaches a lake/sea, it settles at the bottom.
- **Sedimentation:** The deposited rocks build up in layers, called sediments.
- **Compaction:** Weight of sediments on top squashes sediments at bottom.
- **Cementation:** Water is squeezed out from between pieces of rock and crystals of different salts form. The crystals stick the pieces of rock together.

7. Igneous Rocks

Igneous rocks are formed molten rock that has cooled and solidified.
Molten (liquid) rock is called magma. If it:

- Cools **slowly**, it will form rock with **large** crystals.
- Cools **quickly**, it will form rock with **small** crystals.

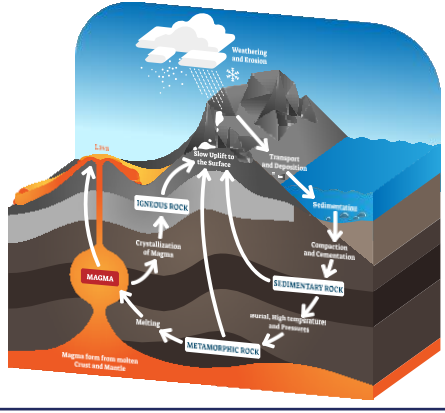
	Extrusive	Intrusive
Where the magma cooled	On the surface	Underground
How fast the magma cooled	Quickly	Slowly
Size of crystals	Small	Large
Examples	Obsidian and basalt	Granite and gabbro

8. Metamorphic Rocks

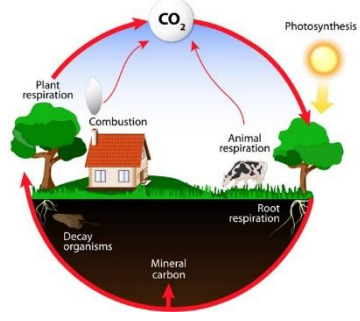
Metamorphic rocks are formed from other rocks that are changed because of heat or pressure.

- Earth movements can cause rocks to be deeply buried or squeezed.
- These rocks are heated and put under great pressure.
- They do not melt, but the minerals they contain are changed chemically, forming metamorphic rocks.
- Metamorphic rocks rarely contain fossils. Any that were present in the original sedimentary rock will not normally survive the heat and pressure.

9. The Rock Cycle



10. The Carbon Cycle



11. Recycling

The Earth's resources are limited. We can recycle many resources, including:

- **Glass:** It can be melted and remoulded to make new objects.
- **Metal:** It takes less energy to melt and remould metals than it does to extract new metals from their ores.
- **Paper:** It is broken up into small pieces and reformed to make new sheets of paper.
- **Plastic:** Recycling means that we use less crude oil, the raw material needed for making plastics.

Unit 1: The Reformation

A. Key People

1. **Martin Luther:** A German monk who triggered the Reformation with his 95 Point Thesis.
2. **Henry VIII:** King 1509-47 who begun the English Reformation with his divorce.
3. **Thomas Wolsey:** Henry VIII's Lord Chancellor from 1515 to 1529 and the Pope's representative in England.
4. **Catherine of Aragon:** Henry VIII's first wife who provided him with one daughter (Mary) and who was the daughter of the king and queen of Spain. She promoted education for women and led the English army to a victory in Scotland when her Henry VIII was fighting in France.
5. **Anne Boleyn:** Henry VIII's second wife, who was executed in 1536 for adultery after birthing him a daughter (Elizabeth).
6. **Thomas Cromwell:** Henry VIII's chief minister from 1532, a lawyer and a strong Protestant.
7. **John Blanke:** African trumpet player, successful in Henry VIII's court, there were thought to have been around 200 Africans living in England during Henry's reign.
8. **Walter William:** Merchant selling cloth and wool to foreign countries.
9. **Humphrey Middlemore:** A monk devoted to God lived in a monastery.
10. **Herry Beryes:** A farmer living off the land, his crops would mainly go to his lord.

B. Catholic Church v Protestantism

Keywords:

1. **Absolutism:** The forgiving of a person's sins.
2. **Corruption:** The dishonest behaviour by those in power.
3. **Transubstantiation:** A Catholic belief that the bread and wine taken during Mass actually transform into the physical body and blood of Christ.
4. **Vestments:** Garments worn by priests.
5. **Heretic:** Someone with religious views that disagree with official church teaching.
6. **Printing Press:** A revolutionary invention created by Gutenberg in 1455.
7. **Reformation:** A movement in the 16th century which led to a break with the Catholic church and the beginning of the Protestant church.
8. **Protestant:** A new form of Christianity emerging in the 16th century in protest against Catholicism.
9. **Salvation:** To be delivered from sins and its consequences.

C. What Type Of King Was Henry VIII?

Keywords:

1. **Heir:** A person who inherits the throne.
2. **Usurper:** A person who has taken a position of power illegally or by force.
3. **Machiavellian:** To be cunning and scheming, especially in politics.
4. **Renaissance Man:** To be well-read, cultured, artistic and thoughtful.

D. Why Did Henry Break With Rome?

Keywords:

1. **Annulment:** To declare that a marriage never actually existed.
2. **Dissolution of the monasteries:** Henry VIII's actions to strip English monasteries of their wealth and treasures.
3. **Revenue:** The annual amount earned by the King and country to pay for wars and other expenses.
4. **Faction:** Political groups who fought for power and influence over Henry.
5. **Royal Supremacy:** The king replaced the Pope as supreme religious power in England.
6. **Superstition:** Believing in ideas that seem magical and supernatural.
7. **Litany:** A long prayer, usually led by a priest, involving responses from the worshippers.

Key dates:

1509 - Henry VIII comes to the throne.
1517 - Martin Luther nails his 95 Thesis to the Church door in Gutenberg, Germany.
1525 - Henry loses interest in Catherine of Aragon and meets Anne Boleyn.
1528-29 - Henry attempts to divorce Catherine of Aragon for failure to produce an heir.
1529 - Wolsey is stripped of his title.
1533 - Henry and Anne Boleyn marry in secret.
1534 - The Act of Supremacy is passed.
1536 - Henry dissolves the monasteries for the funds; Anne Boleyn is executed.
1539 - Parliament passed the Six Articles.

Unit 2: Elizabethan Religion

A. Changes To The Church

Key people:
1. **Edward VI:** Henry VIII's only son and heir. King 1547-53. He was a stricter Protestant than his father.
2. **Mary I:** Henry's daughter by Catherine of Aragon. Queen 1553-58. She was a devout Catholic.
3. **King Philip II of Spain:** A devout Catholic, married Mary I.

Keywords:
1. **Book of Common Prayer:** A book of prayers written for Church of England services in English.
2. **Counter-Reformation:** The Catholic fight back against the spread of Protestantism.
3. **Martyr:** A person who is killed for their beliefs.
4. **Propaganda:** A piece of biased art or information used to promote a particular point of view.

Key dates:
1547 - Edward VI crowned king.
1553 - Lady Jane Grey queen for nine days before Mary I crowned.
1554 - Mary I marries Phillip I and begins Catholic counter-reformation.

B. The Religious Settlement

Key people:
Elizabeth I: Henry's daughter by Anne Boleyn. Queen 1558-1603. A Protestant and more tolerant than her brother and sister.

Keywords:
1. **Act of Supremacy:** Made Elizabeth supreme governor of the Church of England.
2. **Act of Uniformity:** Established the appearance of churches and the form of services held.
3. **Royal Injunctions:** Set of instructions enforcing the Acts of Supremacy and Uniformity.
4. **Papal Bull:** A formal announcement made by the Pope.
5. **Puritans:** A group of radical Protestants who wore simple clothing and tried to live without sin.
6. **Recusants:** Catholics who were unwilling to attend church services laid down by the religious settlement.

Key dates:
1559 - The Acts of Uniformity and Supremacy are passed.

C. The Catholic Threat

Key people:
1. **Mary Queen of Scots:** Great-granddaughter of Henry VIII and devout Catholic.
2. **William Cecil:** Elizabeth's chief advisor, a Protestant, who uncovered a plot.
3. **Francis Walsingham:** Elizabeth's spymaster who uncovered several plots.
4. **Roberto Ridolfi:** Arranged a plot to murder Elizabeth, launch a Spanish invasion and put Mary Queen of Scots on the throne.

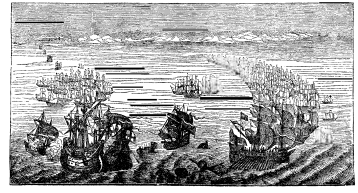
Keywords:
1. **Priest hole:** Secret hiding places in the homes of Catholics sheltering Catholic priests.
2. **Turning point:** A moment at which a decisive change in a situation occurs.

Key dates:
1570 The Pope issues a Papal Bull against Elizabeth declaring her a heretic.
1571 - The Ridolfi Plot.
1583 - The Throckmorton Plot.
1586 - The Babington Plot.

D. The Armada

Key people:
King Philip II of Spain: A former king of England and the most powerful monarch in Europe who was determined to bring England under Catholic control.

Keywords:
1. **Armada:** Fleet of Spanish warships sent to invade England in 1588.
2. **Anglicanism:** The religion of the Church of England.



Key dates:
1588 - The Spanish Armada sets sail for England.

Unit 3: The English Civil War

A. Gunpowder Plot

Key people:

1. **James I:** Protestant King of Scotland becomes King of England in 1603.
2. **Robert Catesby:** Led the group of conspirators to blow up parliament.
3. **Guy Fawkes:** An explosive expert caught red-handed lighting the barrels of gunpowder under Parliament.

Keywords:

1. **Conspiracy:** A secret plan to do something unlawful or harmful.
2. **Parliament:** A collection of people representing all parts of England, who approve or reject laws.

B. Long-Term Causes

Key people:

1. **Charles I:** King of England from 1625, suspected to be secretly Catholic (pictured).
2. **Henrietta Maria:** Charles I's French Catholic wife.
3. **Archbishop Laud:** Appointed by Charles I, tried to end Puritan practices.

Keywords:

1. **Absolutist:** A ruler who has supreme authority and power.
2. **Eleven-Years Tyranny:** From 1629 until 1640 Charles I ruled without calling Parliament once.
3. **Ship money:** A tax imposed on coastal towns to pay for their defence from naval attack during a war.

C. Short-Term Causes

Key people:

John Pym: The leader of a group of five MPs who were particularly critical of Charles.

Keywords:

1. **Bishops' War:** An uprising against Charles I's religious reforms which began in Scotland.
2. **Grand Remonstrance:** A summary of the criticisms that parliament had of the king.
3. **Eleven-Years Tyranny:** From 1629 until 1640 Charles I ruled without calling Parliament once.
4. **Long Parliament:** A parliament, which met, on and off, from 1640-1660.

D. What Happened After The War?

Key people:

Oliver Cromwell: Former leader of the New Model Army, becomes Lord Protector in 1653 (pictured).

Keywords:

1. **Commonwealth:** The period when England ceased to be a monarchy, and was at first ruled by Parliament.
2. **Godly Providence:** A belief that events are governed by the direct intervention of God in the world.
3. **Newcastle Propositions:** A series of Parliament's demands in 1646, rejected by Charles.
4. **Rump Parliament:** The remaining members of Parliament after it was purged.

E. Why Was The Monarchy Restored?

Key people:

1. **Charles II:** Charles I's son appointed king, restoring the monarchy.
2. **General Monck:** Took it upon himself to close down parliament and order elections for the first time in almost 20 years.

Keywords:

1. **Declaration of Breda:** A set of promises made by Charles II prior to his restoration to the monarchy.
2. **Regicide:** The deliberate killing of a monarch, or the person responsible for doing so.
3. **Eleven-Years Tyranny:** From 1629 until 1640 Charles I ruled without calling Parliament once.
4. **Restoration:** The return of the monarch to England with Charles II's coronation in May 1660.

Timeline

1603 James I becomes king.	**1605** The Gunpowder Plot.	**1625** Charles I becomes King of England.	**1629** The start of the 'eleven-years tyranny'.	**1637** Archbishop Laud introduces his prayer book to Scotland.	**1640** Charles I recalls Parliament to pay for the Bishops' War.	**1642** The **English Civil War** breaks out. Lasted until 1651.	**1648** Parliament wins the Second Civil War; Trial and execution of Charles I; England declared a Commonwealth.	**1653** Oliver Cromwell becomes 'Lord Protector'.	**1658** Death of Oliver Cromwell.	**1660** Charles II is crowned King, beginning the **Restoration.**	**1688** The Glorious Revolution. Mary and her Dutch husband overthrow of Catholic James II.

Unit 4: The Transatlantic Slave Trade

A. Key People

1. **John Newton:** Worked on slave ships as a young man. After a Christian conversion he renounced the slave trade and became a prominent abolitionist.
2. **Thomas Clarkson:** A key campaigner for abolition. He formed the **Society for the abolition of the Slave Trade** in 1787.
3. **Toussaint L'Ouverture:** Led the St Domingue, or Haitian, rebellion which defeated the French and British.
4. **William Wilberforce:** An MP for Yorkshire between 1784-1812. In 1787 he was persuaded to lead the political movement for abolition. He proposed multiple bills.
5. **Olaudah Equiano:** An ex-slave who had fought repeatedly for his freedom. He wrote an autobiography in 1789 called 'The interesting narrative of the life of Olaudah Equiano'.
6. **Adam Smith:** A leader of The Enlightenment movement; he was an economist and a philosopher from Scotland.

B. Africa and the British Empire

Keywords:

1. **Transatlantic slave trade:** The forced movement of around 12-15 million Africans across the Atlantic Ocean to the Americas, where they were used as slaves, between the 16th-19th centuries.
2. **Empire:** A group of countries ruled over by a single monarch, ruler, or sovereign state.
3. **Colony:** An area of land settled by and under the control of people from another country.
4. **The Americas:** Refers to anywhere Slaves were shipped to in the region.

Key dates:

1607-1732 - British colonies were established in North America.

C. The Transatlantic Slave Trade

Keywords:

1. **Trade Triangle:** The trade routes for the slave trade.
2. **Middle Passage:** The second section of the Trade Triangle which transported slaves between West Africa across the Atlantic to the Americas.
3. **Slave auction:** A place where slaves were sold by the traders and bought by the plantation owners.
4. **Plantation:** Farms or estates in The Americas where crops were grown, usually, cotton, sugar, coffee and tobacco.

Key dates:

November 1781 - 133 sick slaves thrown off the slave ship Zong.

D. Abolition

Keywords:

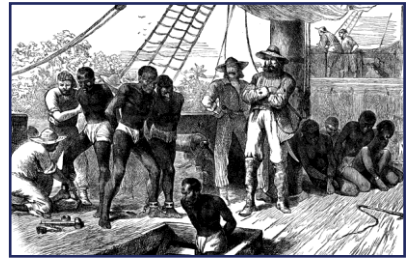
1. **Abolition:** Banning or getting rid of something.
2. **Campaign:** An organised course of action to achieve a goal.
3. **The Enlightenment:** New ways of thinking that emerged in the 18th century which emphasised reason and logic over tradition and superstition.
4. **Slave rebellions:** An armed uprising by slaves.
5. **Resistance:** Refusing to cooperate.
6. **Free market:** An economic system based on supply and demand.
7. **Petitions:** A list of requests or demands signed by many people.
8. **Boycott:** When people refuse to buy something as a protest.

Key dates:

1791 - Haitian/St Domingue rebellion led by Toussaint L'Ouverture.

1804 - The independent state of Haiti declared.

1807 - The slave trade was abolished by parliament.



E. Harriet Tubman

Keywords:

1. **Manumission:** Released from Slavery.
2. **Underground Railroad:** A secret network for helping slaves escape from South to North, in the years leading up to the American Civil War.
3. **Emancipation:** The process of being set free.

Key dates:

1849 - Harriet Tubman escapes from slavery, twice.

1850 - Harriet Tubman became a conductor on the **underground railroad**.

1863 - Harriet Tubman helps Northern Union Soldiers during the American Civil War.

1913 - Harriet Tubman dies.

Coasts

Background

1. Coastlines are dynamic changing landscapes, which are affected by the action of the waves.
2. Waves can have differing features; these features can influence the processes and landforms which may develop. **(A)**
3. Destructive waves can erode the coastline. **(B)**
4. Through erosion a number of distinctive coastal features can form. **(D, E, F)**
5. Further processes act on the coastline, leading to material being transported along the coastline. **(C)**
6. This material will eventually be deposited leading to the formation of landforms such as spits. **(G)**
7. Coastal erosion can impact the landscape and people.
8. Different strategies are used to reduce erosion. **(H)**
9. Often these strategies can be controversial. **(I)**

A - The Three Types Of Rock (5)

Swash	Movement of a wave up the beach. The direction is dependent upon the prevailing (common) wind direction.
Backwash	Movement of a wave back down the beach, this happens at 90^0 due to gravity.
Constructive Wave	Have a strong swash and weak backwash; they cause deposition.
Destructive Wave	Have a weak swash and strong backwash; they cause erosion.
Fetch	The distance a wave has travelled.

B - Types Of Erosion – Wearing Away Of Rock (4)

Hydraulic Action	Waves compress pockets of air in cracks in a cliff, causing the crack to widen, breaking off rock.
Abrasion	Eroded material is hurled or scraped against the cliff, breaking off rock.
Attrition	Eroded material in the sea hits into each other, breaking down into smaller pieces.
Solution	The water dissolves certain types of rocks e.g. limestone.

C - Other Coastal Processes (4)

Transportation	The movement of sediment e.g. traction, saltation, suspension and solution.
Deposition	When waves drop the sediment they are transporting, either due to a loss of energy or change in direction of coastline.
Longshore Drift	The movement of sediment along the coastline in a zig-zag motion, due to the wind.
Weathering	Breaking down of rocks by physical and chemical processes.

D - Headlands And Bays (3)

Geology	Different rock types e.g. resistant rock (granite) and less resistant rock (clay).
Headland	Resistant hard rock which is slowly eroded so sticks out to sea.
Bay	Less resistant soft rock which is quickly eroded, retreating to form a bay.

E - Wave Cut Platforms (2)

Wave Cut Notch	These form at the foot of a cliff due to erosion. This undercuts the cliff above leaving it unsupported.
Wave Cut Platform	When the unsupported cliff collapses, the process repeats and the cliff retreats leaving a sloping wave cut platform.

F - Cave Stacks And Arches (3)

Crack	A weakness in the headland is eroded by hydraulic pressure, forming a cave.
Cave	This is eroded further, until the cave erodes all the way through the headland forming an arch.
Arch	The roof of the arch has no support, so collapses to form a stack.

G - Spits (3)

Change In Coastline	Leads to material transported by longshore drift being deposited into the sea, forming a spit.
Hooked Ends	A hooked end forms on a spit due to a change in the prevailing wind direction.
Salt Marsh	An area of salty marshland found behind a spit, which has dried out as the sea can no longer reach this area.

H - Coastal Management (2)

Hard Engineering	Human-made structures that help to deal with coastal erosion, such as: 1. **Sea walls**, which reflect the waves' energy back out to sea 2. **Groynes**, which trap longshore drift.
Soft Engineering	Adaptations which work with nature, such as **managed retreat**, where the coastline is allowed to erode, and people are moved away.

I - Case study example: Holderness coast, Mappleton

Where?	The fastest eroding coastline in Europe, in East Yorkshire.

Reasons to protect (2)	Management strategies (2)	Success (2)
1. Rocks are made of soft rock (till), eroding at 2m per year. 2. The B1242 runs through Mappleton and would be expensive to re-route.	1. Rock groyne put in place to trap sediment being transported by longshore drift, creating a wider beach to absorb the power of the waves. 2. Rip-rap has been placed in front of the cliffs to absorb the wave energy.	1. Good – erosion in front of Mappleton has reduced, so the road has been saved. 2. Bad – beaches further south have been starved of sediment so erosion has increased e.g. at Great Cowden.

Population

Background

1. The world's population is not spread evenly. **(A)**
2. There are many factors that influence where we live. These factors have caused some places to be densely populated, whilst others are sparsely populated. **(B)**
3. Total population is constantly changing, both within countries and world-wide. **(C)**
4. We can look at changes in population by comparing past and predicted population structures. **(D)**
5. The level of development within a country will influence its population structure. However, as countries develop economically, these structures will change. **(E)**
6. In many developed countries the population is ageing. This process brings many impacts. **(F)**
7. Migration is also an important population process world-wide and is one of the biggest drivers of population change. **(G, H)**

A - Population Distribution (4)

Population Density	The number of people who live within 1km^2.
Population Distribution	How people are spread out over an area.
Densely Populated	Places which contain many people per km^2.
Sparsely Populated	Places which contain few people per km^2.

B - Factors Influencing Population

Physical (4)	1. The relief of the land (flat or steep). 2. Natural resource availability. 3. Climate. 4. Fertility of the soil.
Human (3)	1. Transport links. 2. The availability of jobs. 3. The availability of local services e.g. hospitals, education.

C - Population Change (5)

Birth Rate	The number of births per 1000.
Death Rate	The number of deaths per 1000.
Natural Increase	The difference between birth and death rates.
Population Explosion	A sudden rapid rise in the number of people.
Demographic Transition Model	A model which shows the changes a population is likely to go through over time.

E - Population Structure Differences

Developing Countries (2)	1. High birth rates, so a large young dependent population. 2. A lower life expectancy, so a small elderly dependent population.
Developed Countries (2)	1. A declining birth rate, so a small young dependent population. 2. A rising life expectancy, so a large elderly dependent population.

F - An Ageing Population (4)

Life Expectancy	The average age you are expected to live to in a country.
Possible Problems (3)	1. Pressure on the NHS, waiting times could increase. 2. The government may have to support the funding of pensions. 3. Government investment into more care homes and carers might be costly.
Possible Benefits (2)	1. Grandparents can help look after their grandchildren, reducing the cost of childcare for parents. 2. Some elderly have more disposable income so spend more in shops.
Solutions (3)	1. Increase the retirement age. 2. Raise taxes. 3. Offer incentives for couples to have children e.g. longer maternity pay.

D - Population Structure (4)

Population Structure	The number/proportion of people in each age range, for each gender.
Population Pyramid	A graph showing population structure, by age and sex.
Economically Active	Those people who work, receive a wage and pay tax.
Dependent Population	Those who rely on the economically active for support e.g. the young and elderly.

G - Migration (5)

Economic Migrant	A person who leaves one area or country to go to another, to seek better job opportunities.
Push Factor	Things that make people want to leave an area.
Pull Factor	Things that attract people to live in an area.
Host Country	The destination country for a migrant.
Source Country	The home country of a migrant.

H - Impacts Of Migration

Positives For The Source (2)	1. Money sent home (remittances) can support families. 2. Potential for increased trade between host country and source country.
Negatives For The Source (2)	1. Fewer economically active citizens. 2. Less tax, as fewer working people in the country.
Positives For The Host (2)	1. Migrants can work in jobs that are difficult to fill, therefore contribute tax. 2. New shops and restaurants open, which is positive for the economy.
Negatives For Host (1)	1. Potential pressure on public services e.g. health care.

Tectonics

Background

1. The Earth's structure is made up of layers. **(A)**
2. The characteristics of these layers fuel tectonic plate theory. **(B)**
3. There are four different plate boundaries, each with their own characteristic and resulting hazards. **(C)**
4. Volcanoes can be found along constructive and destructive boundaries, although the volcanoes found at these boundaries are different. **(D)**
5. Earthquakes take place along all of the boundaries, but are often most significant at conservative boundaries. Earthquakes have key features and are measured using the Richter scale. **(E)**
6. People continue to live in tectonic areas for a number of reasons. **(F)**
7. Some of these reasons relate to how we monitor, protect and plan for such hazards. **(G)**
8. However, the impacts of these hazards can still be significant; although they can vary based upon a country's level of development. **(H, I)**

A - The layers of the Earth (3)

Crust	The thin outer layer of the Earth which is divided into plates called tectonic plates.
Mantle	Middle layer of the earth, between the crust and the core, approx. 2900km thick.
Core	The centre, hottest layer of the Earth, broken into the inner (solid) and outer core (liquid).

B - Theory (4)

Plate Boundaries	The place where plates meet.
Convection Currents	Currents in the Earth's mantle which rise from the Earth's core and are strong enough to move tectonic plates.
Oceanic Crust	The part of the Earth's crust under the oceans, usually 6-8km thick.
Continental Crust	The part of the Earth's crust which contains land and is 30-50km thick.

C - Different Plate Boundaries (4)

Plate Boundaries	Where two tectonic plates move apart and new crust is created.
Destructive	Where two tectonic plates come together. The denser oceanic plate is subducted, leading to violent volcanic eruptions.
Conservative	Where tectonic plates move alongside, or past each other.
Collision	Where two continental plates collide, forcing the land upwards and forming mountains.

D - Volcanoes (3)

Shield Volcano	A gently sloping volcano formed by runny lava (low viscosity), usually at constructive boundaries.
Composite Volcano	A steep volcano formed by alternating layers of lava and ash, on destructive boundaries.
Pyroclastic Flow	Torrent of hot ash, rock, gas and steam from a volcano.

E - Earthquakes (4)

Epicentre	The point on the Earth's surface directly above the focus of an earthquake.
Focus	The source of an earthquake beneath the Earth's surface.
Seismic waves	Fast waves of energy generated from the focus.
Richter scale	A scale that measures the energy released by an earthquake.

F - Why People Live In Tectonic Danger Zones

Volcanoes (4)	1. Jobs in tourism. 2. Geothermal energy created. 3. Ash makes the ground fertile, which is good for farming. 4. Diamonds and gold from previous eruptions can be mined.
Earthquakes (3)	1. Friends and family live in the area. 2. It has not happened in such a long time, so people take the risk. 3. Employment in the area.

G

G	Volcanoes	Earthquakes
Monitoring (2)	1. The shape may change. 2. Increase in gases given off e.g. sulphur dioxide.	1. Irregular tremors measured. 2. Radon gas levels increase as rocks crack.
Protect	Lava diversion channels.	Earthquake proof buildings.
Planning (2)	1. Evacuation. 2. Emergency services trained.	1. Earthquake drills. 2. Emergency services on-call.

H - Effects Of Tectonic Hazards (2)

Primary Effects	Direct impacts of an event e.g. people killed, injured, or buildings collapse.
Secondary Effects	The indirect impacts of an event, usually occurring in the weeks, hours, months after the event e.g. the outbreak of disease from contaminated water.

I - Examples

Developing Haiti Port Au Prince	1. 318,000 dead. 2. 1.5 million homeless. 3. Cholera outbreak killed 8,000.
Developed New Zealand Christchurch	1. 181 dead. 2. 80% of the city without electricity. 3. The Rugby World Cup was cancelled. 4. Schools closed for 2 weeks.

Holidays

In der Stadt	*In town*
Es gibt …	*There is .../There are ...*
Es gibt ein/eine/einen …	*There is/are a ...*
Es gibt kein/keine/keinen …	*There isn't/aren't ...*
in der Nähe von …	*near to*
in der Nähe …	*nearby*
der Bahnhof(-¨e)	*railway station(s)*
der Imbiss(-e)/die Imbissstube(-n)	*snack stand(s)*
die Kegelbahn(-en)	*bowling alley(s)*
das Kino(-s)	*cinema(s)*
die Kirche(-n)	*church(es)*
der Marktplatz(-¨e)	*market square(s)*
der Park(-s)	*park(s)*
das Schloss(-¨er)	*castle(s)*
das Schwimmbad(-¨er)	*swimming pool(s)*
die Eisbahn(-en)	*ice rink(s)*
der Fischmarkt(-¨e)	*fish market(s)*
das Kindertheater(-)	*children's theatre(s)*
der Radweg(-e)	*cycle path(s)*
das Sportzentrum (die Sportzentren)	*sports centre (sports centres)*
der Stadtpark(-s)	*city/town park(s)*
der Wasserpark(-s)	*water park(s)*

Souvenirs	*Souvenirs*
der Aufkleber	*sticker*
das Freundschaftsband	*friendship bracelet*
die Kappe	*(baseball) cap*
der Kuli	*biro*
das Kuscheltier	*cuddly toy*
die Postkarte	*postcard*
der Schlüsselanhänger	*key ring*
die Tasse	*mug/cup*
das Trikot	*(football) shirt*
Wie viel kostet …?	*How much does ... cost?*
Wie viel kostet das?	*How much does it cost?*
Es kostet €16.	*It costs 16 Euros.*

Verkaufsgespräch	*Sales conversation*
Ich gehe einkaufen.	*I am going shopping.*
Ich möchte …	*I would like …*
Ich möchte … kaufen.	*I would like to buy …*
Haben Sie …?	*Do you have …?*
Kann ich dir helfen?	*Can I help you?*
Sonst noch etwas?	*Anything else?*
alles zusammen	*all together*

Holidays

Snacks und Getränke kaufen	*Buying snacks and drinks*
die Bratwurst	*fried sausage*
der Hamburger	*hamburger*
die Pizza	*pizza*
die Pommes	*chips*
der Salat	*salad*
das Eis	*ice cream*
die Cola	*cola*
das Mineralwasser	*mineral water*
der Tee	*tea*
das Fleisch	*meat*
der Ketchup	*ketchup*
die Mayo(nnaise)/Majonäse	*mayo(nnaise)*
der Senf	*mustard*
Ich möchte einmal/zweimal/dreimal …	*I would like one/two/three …*
Ich hätte gern …	*I would like …*
Das macht €8.	*That's €8.*
Ich esse … gern.	*I like eating …*
Ich trinke … gern.	*I like drinking …*

In den Sommerferien	*During the summer holidays*
Was wirst du machen?	*What will you do?*
Ich werde …	*I will …*
Wir werden …	*We will*
klettern	*climb*
im Meer schwimmen	*swim in the sea*
rodeln	*toboggan*
im See baden	*bathe in the lake*
segeln	*sail*
an den Strand gehen	*go to the beach*
tauchen	*dive*
wandern	*hike*
windsurfen	*windsurf*
Was kann man dort machen?	*What can you do there?*
Man kann … besuchen.	*One/people/you can visit …*
Die Stadt ist bekannt für …	*The town is well known for …*
Ich werde (eine Woche) bleiben.	*I will stay (for a week).*

Holidays

Früher und heute	*Then and today*
Die Stadt ist/war …	*The town is/was …*
alt/modern	*old/modern*
klein/groß	*small/big*
schön/industriell	*beautiful/industrial*
historisch/touristisch	*historic/touristy*
laut/ruhig	*noisy/quiet*
Die Stadt hat/hatte …	*The town has/had …*
Es gibt/gab …	*There is/was …*
einen Strand	*a beach*
einen Marktplatz	*a town square*
einen Olympiapark	*an Olympic park*
einen Hafen	*a harbour*
eine Arena	*an arena*
eine Skatehalle	*a skate hall*
ein Einkaufszentrum	*a shopping centre*
ein Stadion	*a stadium*

Wo hast du gewohnt?	*Where did you stay?*
Ich habe … gewohnt.	*I stayed …*
in einem Hotel	*in a hotel*
in einem Ferienhaus	*in a holiday house*
in einem Wohnwagen	*in a caravan*
in einer Jugendherberge	*in a youth hostel*
auf einem Campingplatz	*on a campsite*
bei Freunden	*with friends*

Was hast du gemacht?	*What did you do?*
Ich habe viele Sachen gemacht.	*I did a lot of things.*
Ich habe/Wir haben …	*I/We …*
Musik gehört.	*listened to music.*
Volleyball gespielt.	*played volleyball.*
einen Bootsausflug gemacht.	*did a boat trip.*
viele Souvenirs gekauft.	*bought lots of souvenirs.*
viel Fisch gegessen.	*ate lots of fish.*
die Kirche gesehen.	*saw the church.*
ein Buch gelesen.	*read a book.*
Ich bin zu Hause geblieben.	*I stayed at home.*

Holidays

Wohin bist du gefahren?	*Where did you travel to?*
Ich bin … gefahren.	*I travelled …*
nach Deutschland	*to Germany*
nach Wien	*to Vienna*
Wie bist du gefahren?	***How did you travel?***
Ich bin … gefahren.	*I travelled …*
mit dem Auto	*by car*
mit dem Reisebus	*by coach*
mit dem Schiff	*by boat*
Ich bin geflogen.	*I flew.*
Ich bin zu Fuß gegangen.	*I walked.*
Mit wem bist du gefahren?	***Who did you travel with?***
Ich bin … gefahren.	*I travelled …*
mit meiner Familie	*with my family*
mit Freunden	*with friends*

Was hast du gemacht?	*What did you do?*
Ich habe viele Sachen gemacht.	*I did a lot of things.*
Ich habe/Wir haben …	*I/We …*
Musik gehört.	*listened to music.*
Volleyball gespielt.	*played volleyball.*
einen Bootsausflug gemacht.	*did a boat trip.*
viele Souvenirs gekauft.	*bought lots of souvenirs.*
viel Fisch gegessen.	*ate lots of fish.*
die Kirche gesehen.	*saw the church.*
ein Buch gelesen.	*read a book.*
Ich bin zu Hause geblieben.	*I stayed at home.*

Was hast du noch gemacht?	*What else did you do?*
Ich bin … gegangen.	*I went …*
an den Strand	*to the beach*
in die Stadt	*into town*
windsurfen	*windsurfing*
kitesurfen	*kite surfing*
schwimmen	*swimming*
Ich bin … gefahren.	*I went …*
Wakeboard	*wakeboarding*
Snowboard	*snowboarding*
Ski	*skiing*
Banane	*banana boating*
Ich habe Snowtubing gemacht.	*I went snowtubing.*
Ich habe Eistennis gespielt.	*I played ice tennis.*

Media

Im Kino	*At the cinema*
der Actionfilm(e)	*action film*
das Drama (Dramen)	*drama*
der Fantasyfilm(e)	*fantasy film*
der Horrorfilm(e)	*horror film*
die Komödie(n)	*comedy*
die Liebeskomödie(n)	*romantic comedy, rom-com*
der Science-Fiction-Film(e)	*science fiction film*
der Zeichentrickfilm(e)	*cartoon*
Ich bin ins Kino gegangen.	*I went to the cinema.*
Ich habe zu Hause eine DVD	*I watched a DVD at home.*
gesehen.	

Wie hast du den Film gefunden?	*What did you think of the film?*
Ich habe den Film (furchtbar) gefunde	*I thought the film was (awful).*
der Schauspieler(–)	*actor*
die Schauspielerin(nen)	*actress*
blöd	*stupid*
gruselig	*creepy*
interessant	*interesting*
kindisch	*childish*
langweilig	*boring*
lustig	*funny*
romantisch	*romantic*
schrecklich	*terrible*
spannend	*exciting*
unterhaltsam	*entertaining*

Im Fernsehen	*On TV*
Was siehst du gern?	*What do you like watching?*
Ich sehe (sehr/nicht) gern …	*I (really/don't) like watching …*
ich hasse	*I hate*
gucken/sehen	*to watch*
die Dokumentation(en)	*documentary*
die Gameshow(s)	*game show*
das Musikvideo(s)	*music video*
die Nachrichten (pl)	*news*
die Realityshow(s)	*reality show*
die Seifenoper(n)	*soap opera*
die Sitcom(s)	*sitcom*
die Serie(n)	*series*
die Sportsendung(en)	*sports programme*

Was liest du gern?	*What do you like reading?*
Ich lese gern …	*I like reading …*
Ich lese nicht gern …	*I don't like reading …*
Ich lese lieber …	*I prefer reading …*
Ich lese am liebsten …	*I like reading … most of all*
der Comic(s)	*comic*
der Roman(e)	*novel*
die Zeitschrift(en)	*magazine*
die Zeitung(en)	*newspaper*
die Website(s)	*website*
das Fantasybuch(-¨er)	*fantasy book*
das Sachbuch(-¨er)	*factual/non-fiction book*
die Biografie(n)	*biography*
das Blog(s)	*blog*

Media

Wo liest du?	*Where do you read?*
im Bus	*on the bus*
im Zug	*on the train*
im Garten	*in the garden*
im Park	*in the park*
im Bett	*in bed*
im Schlafzimmer	*in the bedroom*
in der Pause	*in the break, at breaktime*
in der Schule	*in school*
in der Badewanne	*in the bath*
auf dem Sofa	*on the settee*
auf dem Klo	*on the loo*
auf dem Hof	*on/in the school yard*
auf dem Handy	*on the mobile phone*
am Computer	*on the computer*

Meinungen	*Opinions*
das finde ich (un)fair	*I think that's (un)fair*
das geht mir auf die Nerven	*that gets on my nerves*
das ist (un)gesund	*that's (un)healthy*
das ist aktiv	*that's active*
das ist passiv	*that's passive*
das macht (un)fit	*that makes you (un)fit*
das macht Spaß	*that's fun*
das stimmt (nicht)	*that's (not) true*
du hast recht	*you're right*
ich bin (nicht) süchtig	*I'm (not) addicted*
meiner Meinung nach …	*in my opinion …*
Unsinn!/Quatsch!	*Nonsense!*

Bist du süchtig?	*Are you addicted?*
eine Stunde pro Tag	*an hour a day*
zwei bis drei Stunden pro Tag	*two to three hours a day*
nicht mehr als drei Stunden pro Tag	*no more than three hours a day*
mehr als 20 Stunden pro Woche	*more than 20 hours a week*
nur am Wochenende	*only at the weekend*
nach den Hausaufgaben	*after homework*
von 20 bis 22 Uhr	*from 8.00 to 10.00 pm*

Healthy Living

Das Frühstück	*Breakfast*
der/das Joghurt	*yoghurt*
der Käse	*cheese*
der Schinken	*ham*
der Speck	*bacon*
der Toast	*toast*
der Kaffee	*coffee*
der Tee	*tea*
der Orangensaft	*orange juice*
die Butter	*butter*
die Marmelade	*jam*
die Orangenmarmelade	*marmalade*
die Milch	*milk*
die heiße Schokolade	*hot chocolate*
das Brötchen	*roll*
das Obst	*fruit*
das Ei	*egg*
die Eier (pl)	*eggs*
die Frühstücksflocken (pl)	*cereal*

Was isst du zum Frühstück?	*What do you eat for breakfast?*
Ich esse einen Joghurt.	*I eat a yoghurt.*
ein Brötchen mit Butter	*a roll with butter and jam*
und Marmelade	
Ich esse kein Frühstück.	*I don't eat any breakfast.*
Max isst Toast mit Butter.	*Max eats toast with butter.*
Ellie und Sarah essen Eier.	*Ellie and Sarah eat eggs.*
Ich trinke einen Kaffee.	*I drink a coffee.*
eine Tasse Tee	*a cup of tea*
Das ist (un)gesund.	*That's (un)healthy.*
Das ist lecker/furchtbar.	*That's delicious/awful.*

Die Speisekarte	*Menu*
(der) Fisch mit Reis und Erbsen	*fish with rice and peas*
(die) Bratwurst mit Eiern	*fried sausage with eggs*
(die) Gemüsesuppe mit Brötche	*vegetable soup with a roll*
(das) Hähnchen	*chicken*
mit Pommes frites und Karotten	*with chips and carrots*
(das) Schnitzel mit Kartoffeln	*pork fillet in breadcrumbs with potatoes*
(das) Steak mit Rösti	*steak with rösti potatoes/ hash browns*
(die) Käsespätzle mit Salat	*speciality cheesy pasta with salad*

Wie ist das?	*What is it like?*
süß	*sweet*
sauer	*sour*
salzig	*salty*
scharf	*spicy*
vegetarisch	*vegetarian*
lecker	*delicious*

Im Restaurant	*In the restaurant*
Was nimmst du?	*What are you having?*
Ich nehme ...	*I'll take/I'm having ...*
den Fisch	*the fish*
die Gemüsesuppe	*the vegetable soup*
das Hähnchen	*the chicken*

Healthy Living

Gesund bleiben	*Staying healthy*
Man muss …	*One/You/People must …*
acht Stunden schlafen	*sleep for eight hours*
wenig Fett und Zucker esse	*eat little fat and sugar*
viel Obst und Gemüse esse	*eat lots of fruit and vegetables*
mehr Wasser trinken	*drink more water*
früh ins Bett gehen	*go to bed early*
drei Stunden trainieren	*exercise for three hours*
zweimal pro Woche jogge	*jog twice a week*

Die Mahlzeiten	*Mealtimes*
die Vorspeise	*the starter*
die Hauptspeise	*the main course*
die Nachspeise	*the dessert*

Islam

Knowledge Organiser | Islam

1	**Islam**	The religion of the Muslims, a monotheistic faith regarded as revealed through Muhammad as the Prophet of Allah.
2	**Allah**	"The God" in Arabic.
3	**Tawhid**	The belief in the oneness of God.
4	**Revelation**	A message from God to human beings.
5	**Prophet Muhammad**	An Arab religious, social, and political leader and the founder of Islam.
6	**Qur'an**	The central religious text of Islam, believed by Muslims to be the final revelation from God.
7	**Mecca**	Holy city for Muslims established by Ibrahim and Ishmael.
8	**Hijrah**	The migration of Muhammad from Mecca to Medina.
9	**Ummah**	The worldwide Muslim community.
10	**Hadith**	The sayings of the Prophet Muhammad.
11	**Sunnah**	The traditions and practices of the Prophet Muhammad.
12	**Sunni**	The branch of Islam with the majority of followers, Sunni meaning followers of the Sunnah.
13	**Shia**	The branch of Islam with the minority of followers, Shi'a meaning 'House of Ali'.
14	**Sunni/Shia Split**	A division in Islam which occurred after the death of the Prophet Muhammad on who should lead the Ummah.
15	**Caliphate**	An area ruled by a Muslim leader.
16	**The Five Pillars**	The basic acts in Islam, considered mandatory by believers, and are the foundation of Muslim life.
17	**Hajj**	The Hajj is an annual Islamic pilgrimage to Mecca, Saudi Arabia, the holiest city for Muslims.
18	**Greater Jihad**	The spiritual struggle within oneself against sin.
19	**Lesser Jihad**	Defending Islam from threat but must meet a range of strict conditions to be declared.
20	**Islamophobia**	Dislike of or prejudice against Islam or Muslims.

Hinduism

Knowledge Organiser | Hinduism					
1	**Indus Valley**	An area in modern day Pakistan and Northwest India.	11	**Avatar**	The incarnation or earthly manifestation of a deity.
2	**Sanatana dharma**	Eternal teaching.	12	**Bhagavad-Gita**	'Song of the Lord'; regarded as the crowning achievement of Hindu sacred literature.
3	**Veda**	Any of the four collections forming the earliest body of Indian scripture.	13	**Bhakti**	Devotional service to a personal god.
4	**The Caste System**	A method of dividing up society into a hierarchy according to professions and trades.	14	**Brahman (God)**	The spiritual oneness of all reality.
5	**Brahman (people)**	A member of the highest Hindu caste, originally that of the priesthood.	15	**Guru**	A spiritual teacher.
6	**Kshatriyas**	The second highest of the Hindu caste; warriors and rulers.	16	**Krishna**	Incarnation of the Hindu god Vishnu, who appears as a main character in the Bhagava-Gita.
7	**Vaishyas**	Third highest of the Hindu caste; farmers, traders and merchants.	17	**Maya**	False or illusory reality.
8	**Shudras**	Fourth highest of the Hindu caste, known as labourers.	18	**Meditation**	Focused, disciplined concentration intended to help people experience the sacred.
9	**Dalits**	The lowest in the Hindu caste; street/toilet cleaners.	19	**Vishnu**	Hindu god of preservation and love.
10	**Atman**	Eternal soul.	20	**Shiva**	Hindu god of destruction and rejuvenation.

Atheism

Knowledge Organiser | Atheism					
1	Atheism	Disbelief or lack of belief in the existence of God or gods.	11	Theory of Evolution by Natural Selection	Organisms produce more offspring than are able to survive in their environment. Those that are better physically equipped to survive, grow to maturity, and reproduce.
2	Philosophy	The study of the fundamental nature of knowledge, reality, and existence.	12	Morality	Principles concerning the distinction between right and wrong or good and bad behaviour.
3	Scepticism	Doubting the truth of something.	13	Friedrich Nietzshce	German philosopher who argued that we need to create meaning for ourselves in life without religion.
4	Plato	An ancient Greek philosopher.	14	Ubermench (Superman)	The ideal superior person of the future who could rise above conventional Christian morality to create and impose their own values.
5	Plato's Cave	A story which explores the true nature of reality.	15	Militant Atheism	A movement of atheists who campaign against religion due to its irrational beliefs.
6	Empirical Evidence	Evidence for something based on observation or experience.	16	Richard Dawkins	Militant atheist and scientist who campaigns against religion due to its irrational beliefs.
7	Biblical Criticism	The use of critical analysis to understand and explain the Bible.	17	Christopher Hitchens	Militant atheist, author and journalist who campaigned against religion due to its irrational beliefs.
8	The Enlightenment	A period of time in the 17th and 18th centuries which emphasised reason and individualism rather than tradition.	18	Humanism	A rationalist outlook or system of thought attaching prime importance to human rather than divine or supernatural matters.
9	Science	The systematic study of the structure and behaviour of the physical and natural world through observation and experiment.	19	Trans-humanism	The belief that the human race can evolve through science and technology.
10	Rationalism	The practice or principle of basing opinions and actions on reason and knowledge rather than on religious belief or emotional response.	20	Artificial Intelligence	The theory and development of computer systems able to perform tasks normally requiring human intelligence.

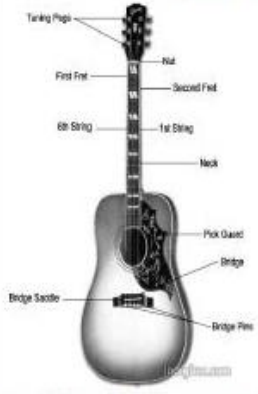
Philosophy of Religion

Knowledge Organiser | Philosophy of Religion

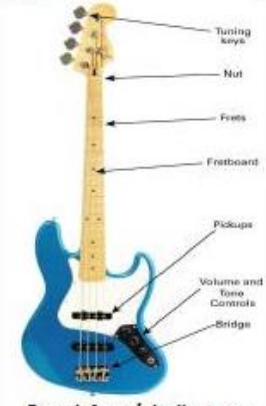
1	**Omnipotent**	The belief that God is all-powerful.
2	**Omniscient**	The belief that God is all-knowing.
3	**Omnibenevolent**	The belief that God is all-loving.
4	**Omnipresent**	The belief that God is present everywhere at once.
5	**Transcendent**	The belief that God is outside of the universe.
6	**Theism**	The belief in God.
7	**Atheism**	Disbelief or lack of belief in the existence of God or gods.
8	**Agnosticism**	The belief that nothing can be known about the nature or existence of God.
9	**Design Argument**	The argument for the existence of God based on evidence of design in the world.
10	**William Paley**	Thinker who argued for the design argument.
11	**Analogy**	A comparison between things that have similar features, often used to help explain a principle or idea.
12	**Fallacy**	A mistaken belief, especially one based on unsound arguments.
13	**Cosmological Argument**	The argument for the existence of God which argues that God is the cause of the universe.
14	**Thomas Aquinas**	Thinker argued for the cosmological argument.
15	**Causation**	The relationship between cause and effect.
16	**Problem of Evil**	The argument that the existence of evil undermines belief in an omnipotent and omnibenevolent God.
17	**Epicurus**	Thinker who came up with the problem of evil argument.
18	**Theodicy**	An argument which defends God against the problem of evil.
19	**Religious Experience**	An experience which has a religious meaning for the person who experienced it.
20	**Empirical Evidence**	Evidence for something based on observation or experience.

School of Rock (Term 1)

Make sure you can name the strings and main parts of the guitar and bass guitar

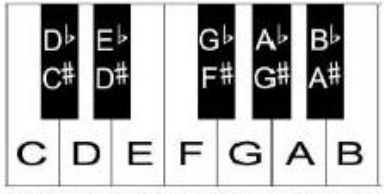


From left to right ('nose to toes'), strings on a guitar = EADGBE



From left to right ('nose to toes'), strings on a bass = EADG

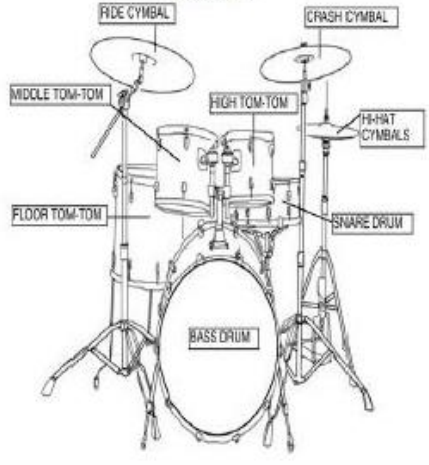
Make sure you know the notes of the piano / keyboard, including the sharps # and flats b



Make sure you can name these musical notes and you know their value

Symbol	American (British) Note Names	Beats
𝅝	Whole note (Semibreve)	4 beats
𝅗𝅥	Half note (minim)	2 beats
♩	Quarter note (crotchet)	1 beat
♪	Eighth note (quaver)	1/2 beat
𝅘𝅥𝅯	Sixteenth note (semiquaver)	1/4 beat

Make sure you can name the different parts of the drum kit



Meet DR SMITH

		Revise these words related to DR SMITH and the Elements of Music
D	Dynamics	Piano = quiet / Forte = loud
R	Rhythm & Tempo	Rhythm = Regular pattern of long & short notes to a pulse Time Signature = How many beats in the bar, Pulse = Regular Beat Syncopation = When the music goes against the beat. Off Beats / Back beats = Music played on the weak beats Moderato = moderate tempo (speed)
S	Structure	Verse+ Chorus = Sections of a song. Riff = A short repeated pattern (popular music)
M	Melody	Melody = the tune in the music
I	Instruments	Do you know the different parts of the ukulele, guitar, bass and drum kit? Intonation = Making sure notes are in tune together. Balance = Making sure all instrumental parts and vocals can be heard.
T	Texture	Texture = How many instruments or voices are playing at one time and how they relate to each other Melody & Accompaniment = where the tune is the focus and other parts accompany
H	Harmony & Tonality	Major Chords = happy sounding chords. Minor Chords = sad sounding chords. Chords = Two or more notes played at the same time. Tonality= Key of the music. Modulation = Change in key, hear a pitch change

Keyboard Theory – Unit 1 (Term 2A)

Homework 1

Visit www.musictechteacher.com Quizes, middle column

You will be expected to know the notes of the keyboard...

..and the notes on a music stave

C Charlie D Does E Eat F Fries G Greedily A At B Burger-King C

Knowing Note Values

	Semibreve= a musical note worth 4 beats
	Minim= a musical note worth 2 beats
	Crotchet = a musical note worth 1 beat
	Dotted Crotchet = a musical note worth 1 and ½ beats
	Quaver= each one worth ½ of a beat
	Semi Quaver= each one worth ¼ of a beat

Rhythm

1. **Time Signature** = How many beats in the bar
2. **Musical Tie** = Play two notes together as one longer note

Harmony + Tonality

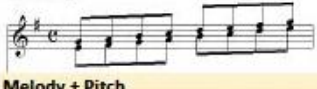
3. **Chord** = Two or more notes played at the same time, producing harmony
4. **Inversion** =When the notes of a chord are rearranged

Don't Forget DR SMITH!
Dynamics
Rhythm + Tempo
Structure
Melody + Pitch
Instruments + Timbre
Texture
Harmony + Tonality

Homework 2

Harmony + Tonality

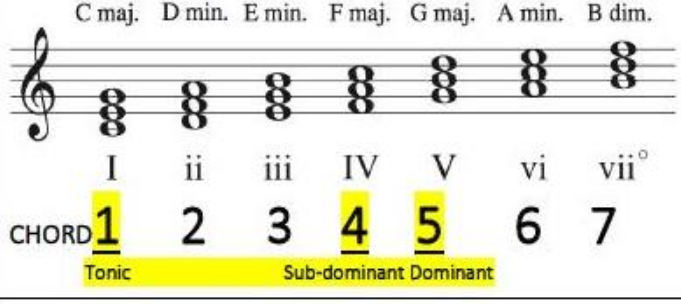
1. **Primary Chords** = Major / bright sounding chords. Chord I = **Tonic** / Chord IV = **Sub dominant** / Chord V = **Dominant**
2. **Cadence** = A musical full stop using two chords at the end of a phrase. **Perfect Cadence** = Chord V-I, finished / **Imperfect Cadence** = Chord I-V, unfinished
3. **Harmony in 3rds** = When notes played together are a 3rd apart producing a harmony.



Melody + Pitch

4. **Articulation** = Way notes are played. **Staccato** = dethatched and short / **Legato** = smooth.

CHORDS IN C MAJOR



Rhythm Through Samba (Term 2)

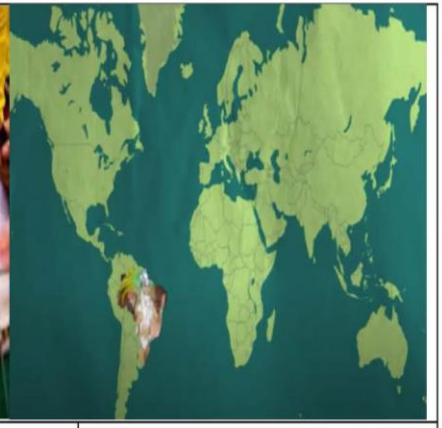
Samba music originates from Brazil

In approximately **1917, working class** people that lived in the **Favela** districts, came together in **carnival, playing Samba**

In approximately **1928 Samba schools** formed and **Samba music** became the most **popular event** at **carnivals**

Carnival takes place every year just **before Lent** and is **celebrated** by **millions of people**

Samba de Morro means **Samba from the hills**. Its original title when you consider Samba came from the Favelas in the mountains



Surdo

Repinique

Agogo Bells

Guiro

Tambourim

Shaker / Ganza

Key Terminology

Rhythm
Pulse= A regular beat
Rhythm= Regular pattern of long and short notes to a pulse
Syncopation= When the rhythm goes against the beat
Polyrhythm= Many rhythms played at once

Tempo= Speed of the music

Structure
Call & Response= Copying the leader

Melody
Those with the **tune** in the music / singers or trumpets are common in samba

Instruments and Timbre
Timbre= Tone of sound of an instrument or voice

Tonality
Major Key= Bright and energetic sounding

The Power of Music in Advertising (Term 3)

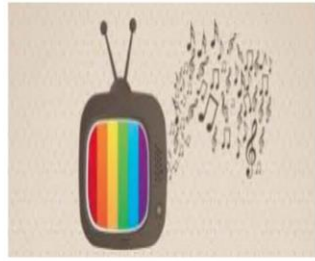
The best way to remember the **Elements of Music** is to remember this man:

DR SMITH

His name helps spell out the elements of music. See the table to the right.

The **Elements of music** are the **key ingredients** that go into **making a piece** of **music**. A bit like when you mix ingredients together to make a dish / meal.

D	**Dynamics**	= How loud or quiet the music is
R	**Rhythm & Tempo**	Rhythm = Regular pattern of long and short notes to a pulse Tempo = How fast or slow the music is
S	**Structure**	= the layout of a piece of music
M	**Melody & Pitch**	Melody = the tune in the music Pitch = How high or low the notes are
I	**Instruments & Timbre**	Timbre = The sound quality / tone of a voice or instrument
T	**Texture**	= How many instruments are playing at one given time and how they relate to each other
H	**Harmony & Tonality**	Harmony = The organisation of notes and chords Tonality = The key of the music (major ☺ minor ☹)



Dynamics

1. The volume of the music (Called **automation** in Garage band)

Rhythm

2. Syncopation = When the rhythm goes against the natural beats.

3. Time Signature = Indicates how many beats are in the bar. (Usually 3 or 4)

Tempo

4. BPM = Beats Per Minute (Metronome, Click)

5. Adagio = Slow speed

6. Moderato = Moderate speed

7. Presto = Fast speed

Structure

8. Riff = Repeated pattern, usually heard in pop music.

9. Ostinato = Repeated pattern (usually heard in film & orchestral music)

Instrument's and Timbre

10. Instrument selection (whether it be electronic or acoustic) and tone

11. MIDI (Musical Instrument Digital Interface),

Texture

11. Melody & Accompaniment = The tune is heard over the background / accompaniment music

Harmony + Tonality

12. Major = Bright/ Energetic/ **Minor** = Sombre / Dramatic/ Sinister

Music Technology Features and Devices

Panning = When the sound pans / moves from the left to the right speaker / head phones and vice versa

Stereo Field= When you can hear a virtual 360 degrees spectrum of sound across headphones / speakers

Echo= Where the original sound is heard over and over

Delay= Blended sounds which repeat

Reverb= Reflected / altered sound, (sounds like your singing in a church)

Distortion= Increasing gain in an audio signal, the result being a fuzzy or gritty tone

EQ= Where you can refine / adjust high (treble), middle and low (bass) frequencies

Compression= Squeezing / taking the 'bumps' out of the sound

Digital Effects= Adding effects such as filters to voices and instruments

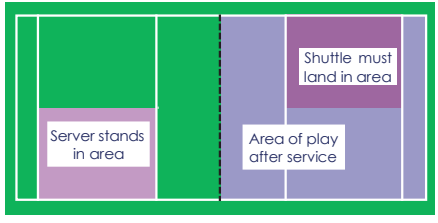
Badminton

Singles Serving And Area Of Play

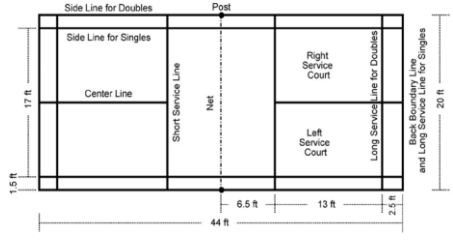
Singles

Doubles Serving and Area of Play

Doubles



Badminton Court Lines



Key Skills

	Key Skills	What is it?	Why is it used?
Serving	Short	Shuttle to be hit towards the front of the court, past the 'service line'.	To bring the opponent closer to the front of the court, therefore hitting your return shot to the back of the court.
	Long	Shuttle to be hit towards the back of the court.	To move the opponent to the back of the court, therefore your return shot should be hit towards the front of the court.
	Flick	A serve that is disguised to look like a short serve.	To trick your opponent to think you are going to serve short, but you hit it long towards the back of the court.
Forehand C	Overhead	Use the overhead clear to move your opponent to the backcourt.	A defensive shot that will create space for you to move up the court and give you time to regain centre position on the court.
	Underarm	To clear the shuttle to the back of the court when it is low down.	A defensive shot to put pressure back on your opponent and give you time to regain court position.
Doubles Positions	Side to Side	Partners play next to each other and take responsibility for their side of the court.	Both players are positioned by the net, side to side. You are offensive and can cover most of the court. Most effective positioning in doubles.
	Front and Back	One player plays at the net whilst their partner covers the back of the court.	Communication must be strong between you and your team-mate as there is a big open target between the front and back player, giving your opponents an opportunity to land the shuttle in that area.
Shot	Drop	The forehand overhead drop shot is like the action of throwing a ball.	To disguise your shot to make it look like a back court shot and then play it to the front of the court, putting pressure on your opponent.
	Smash	The smash is a shot hit with power and speed downward to your opponent's court.	The angle and the steepness of the shuttle's trajectory will make it hard for your opponent to retrieve.

Key Rules

Service Fault	• Server puts foot on or over the service line. • The shuttle does not cross the service line on opponents' side. • Racket contacts shuttle above the wrist.
Net Fault	• Player reaches over the net to play the shuttle. • When a player contacts the net. • Player steps over the centre line under the net.

- Games are played, first to 21.
- Whoever wins the rally wins the point.
- You keep serving until you lose the point. After the point is won, the players will move to the opposite serving area.
- No second serves.
- You are not allowed to touch the net.
- No double hits allowed.
- You must serve from behind the service line and diagonally across the net.

Football

Warm Up

Phases of Warm up	What it is?	Specific Examples	Benefits of Warm up
Pulse Raiser	Slowly increasing HR	Jogging around the football pitch	• Warming up muscles • Increase body temperature - Improve flexibility of muscles and joints. • Reduce chance of injury.
Stretching	Static – stationary Dynamic - moving stretches	Hamstring stretch or lunges	
Dynamic movements	Show a change in speed and direction	Sprint shuttles, fast feet and bounding	
Skill rehearsal	Practising movement patterns and skills that will be used in the activity	Pass and moving – rondo	

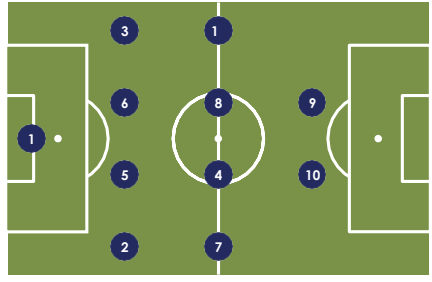
Key Skills

	Teaching points	Why is it used?
Dribbling	Moving the ball into space quickly and efficiently, keeping close control of the ball.	An attacking skill to cover as much space as possible towards your attacking goal. Change of speed to challenge the opposition.
Short Passing	Using the inside of your foot to move the ball to a teammate who is in space over a short distance.	To retain the ball within your teammates.
Long Passing	Using accuracy and power to move the ball over a long distance to a teammate.	To create attacking opportunities for your team or to prevent losing possession in defensive areas.
Defending	A role within the team all players must fulfil. Keeping a low body position to put pressure on the opposition.	To prevent opposition from scoring the defender must decide whether to press the attacker with the ball or block the pass to intercept.
Shooting	Using accuracy and power to create opportunities to score in front of the goal.	To create a scoring opportunity for your team.

Rules

How long is a football match?	- 45-minute halves - 90 minutes overall
When and where is a free kick given?	- A free kick is given for a foul OUTSIDE the 18-yard box.
What happens if the ball is kicked out?	- Corner – if it is kicked out the goal line by a defensive player. - Goal kick - if it is kicked out the goal line by an attacking player. - Throw in – If it is kicked out the touch line.
How many players on a football team?	- Each team can have a maximum of 11 players on the pitch with 3 substitutions.

Formations = 4-4-2



Football

Key Skills

	Teaching Points	What Does It Look Like?	Why Is It Used?
Dribbling	Keep your head up and think where you are moving towards next. Use inside and outside of BOTH feet. Change of speed to deceive defenders.		An attacking skill to cover as much space as possible towards your attacking goal. Change of speed to challenge the opposition.
Short Passing	Place dominant foot at a right angle in line with the ball. Non-dominant foot next to the ball. Use inside of the foot to pass the ball. Receive with an open body on back foot.		To retain the ball within your teammates. The fastest way to move the ball towards the other end of the pitch.
Long Passing	Use the top/laces of boots to pass the ball over the longer distance. Follow through with your kicking leg to create more power. Accuracy is important.		To create attacking opportunities for your team or to prevent losing possession in defensive areas.
Defending	Side on, low to the ground body position. Put pressure on the attacker but do not dive in. Keep your eye on the ball.		To prevent opposition from scoring the defender must decide whether to press the attacker with the ball or block the pass to intercept.
Shooting	Power and accuracy aiming for the corners. Non-dominant foot next to the ball. Strike the ball with your dominant foot using the inside for accuracy or laces of your boot for greater power.		To create a scoring opportunity for your team. Inside or outside of the opponent's penalty box.

Gymnastics – Sports Acro

Key Skills

Key Skill	What is it?	Why is it used?
Balance	Holding a position/shape for a minimum of 3 seconds without falling or wobbling, with or without another person.	• To demonstrate different shapes. • To demonstrate body tension. • To create partner/group work.
Counter Tension	Balances that involve being in contact with another person and leaning away to create a balance.	• To add difficulty to an individual balance/skill. • To create different levels. • To create new shapes.
Counter Balance	Balances that involve using another person to lean on to, lift, hold or balance on top of.	• To create different levels. • To add difficulty to an individual balance/skill. • To create new shapes.
Linking	Moving from one skill to another without stopping.	• Increase difficulty of skills • Create sequences and routines.
Entry	The movement INTO a pair/group balance.	Allows you to link a variety of skills together easily.
Exit	The movement OUT of a pair/ group balance.	Allows you to link a variety of skills together easily.
Sequence	A series of skills and balances linked together.	To demonstrate ability to link skills together.
Change Direction	Performing different skills to take you to different parts of the floor area.	To help you to travel around the floor area.

Key Terminology

Term	Definition
Extension	Straightening/extending the arms and legs to show clarity of shape. E.g. point the toes, keeping legs straight.
Balance	The ability to hold a centre of mass over a base of support E.g. an arabesque requires you to be able to balance on one foot.
Control of movement	How the movement is held at the start, during (balance, speed), and at the end – there should be no wobbling or falling over!
Aesthetics	How a skill looks to the audience.
Fluency	Moving from one skill to another easily and smoothly.
Body tension	Tensing & stretching the muscles in order to keep the body in line & held in a shape during a skill.
Shape	The position the body holds during a skill.
Points of contact or support (POC/S)	The different parts of the body you can use to balance on and the number of them you use when creating a balance. E.g. a headstand uses the head and both hands to maintain the balance (3 POC/S).
Strength	Maximum force that can be generated by a group of muscles E.g. being able to hold another person's body weight in a pair balance.

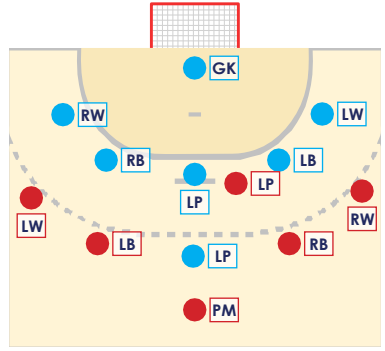
Handball

Positions

LW	Left Wing	Defends and attacks down the left-hand side of the court.
LB	Left Back	Defends and attacks in the centre of the court to the left of the Play Maker.
PM	Play Maker	To play in the centre of the court and control the ball when attacking.
LP	Line Player	To play on the line when attacking and be available for scoring opportunities on the line.
RB	Right Back	Defends and attacks in the centre of the court to the right of the Play Maker.
RW	Right Wing	Defends and attacks down the right-hand side of the court.
GK	Goalkeeper	To play in goal and stop the ball going in.

Defensive

Attacking



Tactics

Passing	• Using the correct passes at the correct time. • Avoid missing players out when passing. • Always pass to the person next to you.
Receiving	• When receiving the pass in attack, move away from defender to stop intercept the pass. • Do not run straight to the line, stand off the line to receive the pass.
Shooting	• Look to beat defenders using a feint and dodge. • Use the jump shot to get a better angle of shot and to get closer to the goal.
Defending	• Always stand together and make yourself as tall as possible to make it difficult for the opposition to score. • Always defend on the 6 metre line and do not leave any space for attackers to move into.
Attacking	• Using feints to beat defenders or be fouled. Keep moving, never standing still. • Using the 3 steps to get around the defender and shoot.
Decision Making	Make the correct choices during game situations: • Who to pass to? Which pass to make – bounce, shoulder, side? • Do I pass, or do I shoot? When to use the dribble.

Key Rules

Remember the 3 C's: 3 Seconds (to pass/shoot) 3 Metres and 3 Steps (you can move 3 steps)

Rule	Definition
Offside	Going into the lined area around the goal. No player except the GK can enter this area, except when shooting and the ball must be released whilst still in the air.
Footwork	Can take three steps before either passing, shooting or dribbling the ball. Can take as many steps as they like whilst dribbling. After dribbling, the three steps are reset.
Free Throw	A free throw is awarded to any team breaking the rules, every opposition player must be at least three meters away.
Centre Passes	Attacking players must start in their own half. You do not have to wait for the defending team to be back.
Held Ball	3 seconds to pass/ dribble or shoot with the ball. If no movement from the ball has been made, the ball will be turned over.

Health Related Fitness

Health Related Components of Fitness		
Component	**Definition**	**Fitness Test**
Cardiovascular Fitness	Work the body for long periods of time without tiring.	Multi-stage fitness test. Cooper Run.
Muscular Endurance	Work muscles long periods of time without the timing.	1 minute sit up test/press up test.
Flexibility	Having an adequate range of motion in all joints of the body; the ability to move a joint fluidly through its complete range of movement.	Sit and reach test.
Body Composition	The relative ratio of fat mass to fat-free mass (vital organs, muscle, bone) in the body.	Body Mass Index.
Muscular Strength	The maximum force that can be exerted by a muscle.	Hand grip dynamometer.
Speed	How quickly you cover a distance.	20m Sprint Test.

Skill Related Components of Fitness		
Component	**Definition**	**Fitness Test**
Agility	The ability to change direction without losing balance quickly.	Illinois agility test.
Balance	The ability to maintain centre of mass.	Stork balance test.
Power	Strength x speed = power.	Vertical/board jump.
Reaction Time	The time taken to respond to a stimulus.	Ruler drop test.
Co-ordination	Moving more than 1 body part at once.	Wall toss.

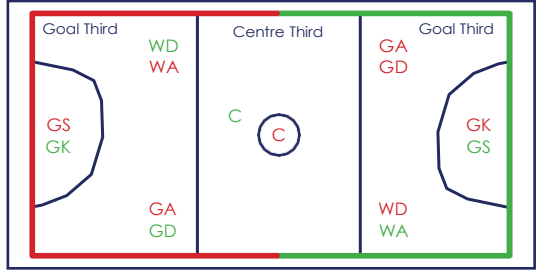
Key Terms Around Heart Rate, Training Intensities and Testing			
Aerobic	With oxygen (60-80%).	**Aerobic threshold**	60-80% of Maximum heart rate (HR).
Anaerobic	Without oxygen (80-90%).	**Reliability**	Result should be consistent even when repeated.
Maximum HR	Maximum heart rate = 220 - AGE.	**Validity**	The accuracy of the test results.
RHR	Resting Heart Rate.	**Practicality**	How easily is the test carried out.

Netball

Positions

Positions	Roles
GS	GS – GA – Main role is to shoot goals, by working closely together to achieve positions in the shooting circle where one can receive passes from the feeding midcourt players.
GA	
WA	Main role is to move the ball from centre court to an attacking end.
C	Involved in defensive and attacking plays, and responsible for restarting play after a goal is scored.
WD	WD - Normally involved in blocking attacking plays from the opposing team.
GD	GD – GK – To turn over ball and get rebounds when GS/GA miss the shot.
GK	

Court Layout



Key Skills

	Key Skills	What is it?	Why is it used?
Passing	Chest	Fast and powerful – short distance.	Used during centre passes and getting the ball quickly in and out of circle.
	Bounce	Go under a defender – short distance.	Used in and around the circle to go under a defender.
	Overhead And Shoulder	Loop a player – distance. Feeding into the circle over a defender.	Power and distance – BUT not over a third used for side-line or back line to clear a defender.
Ball Handling	On The Move	Picking up the ball during movement – the ball may be slightly in front, behind or low.	Turn over play or be able to attack with speed.
	In The Air	Can turn over ball when jumping or feet off ground.	To regain procession – normally when intercepting the ball.
Shooting	Stationary	Shooter being balanced in the circle taking a shot.	Correct technique – Using: BEEF - Balance, Elbow, Eye & Follow Through/Flick getting the ball high above head. Bend and push. Harder for defenders to defend.
	On The Move	Shooter either stepping or performing a split leap.	
Defend	Rebounds	Quick reactions to jump higher to retrieve the ball.	When the shooter misses a shot. Turn over ball and regain possession.
	Intercepting	Turn over the ball. This can be a tip or a full two-handed interception.	To take advantage of a slow or misplaced pass.
	Marking	1M away – feet first then reach with hands. This is known as man to man.	To limit passing options and block view.
Attack	Dodging	Sprint dodge – at speed drive out to receive ball.	Used effectively during centre passes, back or side-line passes.
		Feint dodge – you fake going one way and signal and move the other to receive the ball.	To get free to receive the ball.

Key Rules

Rule	Definition	Sanction
Replayed Ball	The player cannot catch the ball with both hands, drop it and pick it up again.	Free Pass
Penalty Pass	When a rule is broken that does not directly affect another player. This is when a penalty pass is awarded. **No players are out of play**.	
Penalty Pass	When a rule is broken that directly affects another player. The player who committed the foul must stand next to the player taking the penalty and remain out of play until the penalty has been taken.	
Short Pass	When a defender cannot put in a hand as the ball is passed too close.	Free Pass
Over a Third	The ball cannot be thrown over a complete third of the court without being touched or caught by a player.	Free Pass
Repossession (shooting)	After releasing the ball, the GS or GA may not replay the ball until it has been touched by another player or it rebounds from the goalpost.	Free Pass
Advantage	Called by the umpire (when an infringement is seen) if the non-offending team would be disadvantaged.	

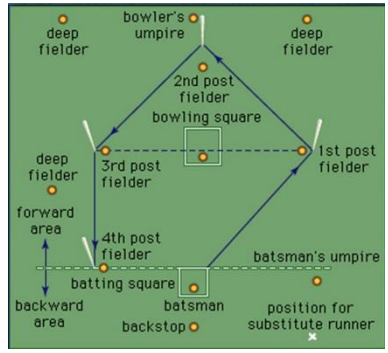
Rounders

Info	Roles
Teams	A team consisting of a maximum of 15 players and a minimum of 6. 9 may be on the field at one time.
Fielders	3 deep fielders, 4 post fielders, bowler and backstop.
Batters	9 batters who go in order – best to worst and must stay in that order.
Umpires	Batting umpire – call for balls, no bowls – short or height and ins/outs at 1st and 4th base. Bowling umpire – calls for wide no balls and 2nd base and obstructions.

Key Skills

	Key Skills	What is it?	Why is it used?
Fielding	Overarm Throw	Fast and powerful throw over a distance.	To get the ball back into bowler or post fielders from deep field to try and stump a batter out.
Fielding	Underarm Throw	Short but quick throw.	During a bowl. When the ball hasn't travelled far, and fielders passes into a base.
Fielding	Catching	Retrieving the ball from the air.	A fielder throwing the ball into a base for you to catch and stump post.
Fielding	Long Barriers On The Move	To stop a ball which is going along the ground. Position yourself ready for pickup.	More accurate and fielders are less likely to miss the ball - prevents the ball from passing.
Batting	Distance	To hit the ball consistently into deep field.	The further the ball goes the more likely a batter is to get back to 4th base.
Bowling	Fast	To add speed to the bowl to outwit opponent.	With speed added to a ball it will make it more challenging for the batter.

Pitch Layout



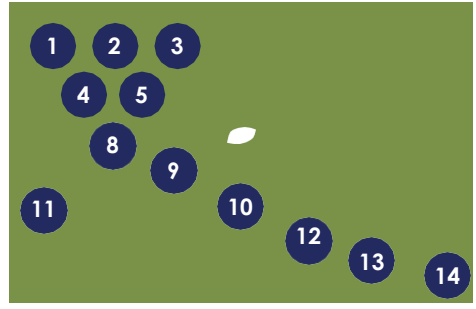
Key Rules

Rule	Definition
Scoring	- ½ rounder if hitting the ball and making it to 2nd base. - ½ rounder of 2 no balls from bowler. - If batter misses ball but makes to 4th base ½ rounder is scored. - A fielder obstructs a batter running to a post, a half-rounder is scored. - Hitting a ball and getting all the way round on a no ball 1 rounder. - 1 rounder if you hit the ball and make it round to 4th base.
1st Base Only	- If a batter hits the ball behind. - Batter can only go to 1st base until a fielder throws the ball crosses the front of batting box.
Obstruction	- Post/Base Fielder must stand on the inside of their posts. - Must not get in the way of a batter running around the pitch. - If they do ½ a rounder is awarded to batting team.
Getting A Player Out	- The batter loses contact with a post when the bowler has the ball inside the bowler's square. - Batter overtakes another batter when running around posts. - The batter's foot is outside the batter's square when the ball is bowled.

Rugby

Positions

Positions	Roles	Numbers
Props	Props are in the front row of the scrum, aim to drive the scrum forward.	1 + 3 Forward
Hooker	Hooker in the middle of the front row. The hooker's job is to hook the ball back towards his team in the scrum.	2 Forward
Second Row	Second Row are locked in behind and in between the prop and hooker. Their job is pushing the front row forward.	4 + 5 Forward
Number 8	Number 8 is at the back of the scrum, between the two second rows. Aim to control ball at the back of the scrum.	8 Forward
Scrum Half	Scrum Half is the key passer of the team. They will pass the ball to the fly half from most rucks.	9 Back
Fly Half	Fly Half job is to distribute the ball and bring other players into the game.	10 Back
Centres	Centres are in commonly found in the middle of the pitch and must be able to perform all the main skills (passing, tackling & rucking).	12+13 Back
Wingers	Wingers are usually on the outsides of the pitches and their job is to run and score tries.	11+14 Back



Key Skills

	Key Skills	What is it?	Why is it used?
Passing/ Decision making	Drawing the player	The ball carrier must "draw" the defender, by getting into a position where the defender has no choice but to tackle.	To give your teammate more time and space.
	Attack in pods 3 vs 2	Attacking in packs of three to isolate parts of the defensive line i.e., 2 forwards (Props) as they are less agile players and cover distance slower.	Expose gaps in defence and create a mismatch in the defensive line.
Ball Handling	Switch	A switch is where two players cross over, and the ball carrier pops the ball to the other. The running lines of each player should make an X.	To change the point of the attack.
	Loop	A loop is where the ball carrier passes to the player outside of them and follows their pass. The original passer then continues to run around the outside of the ball carrier, to receive the ball back from them.	To create more space for the attack.
Rucking	Rucking (Golden Meter)	This means the first player going past the ball (1 meter), in the ruck, clearing out any opposing team members.	To retain possession after a tackle.
	Counter Rucking (Jackal)	If the attacking team are slow to the ruck, the initial player from the defending team should look to 'Jackal' the tackled player.	To steal possession off the attacking team after a tackle.
Attack	Sidestep	The ball carrier looks steps one way and then quickly changes in their line of running in the opposite direction.	To outwit a defender and avoid a tackle.

Key Rules

Rule	Definition
Fly Hack	Players are allowed the kick the ball when it is in the floor. This is called a fly hack.
Strike and Push	1. When scrummaging players are now allowed to strike (hookers, competing for the ball). 2. The forwards in the scrum are also allowed to push against one another.
Offside	A player is in an offside position if that player is further forward (nearer to the opponents' goal line) than the teammate who is carrying the ball or the teammate who last played the ball.
Ruck	1. Players must enter the ruck through the gate and not from the side. 2. Players must always remain on their feet and not use their hands in the ruck.
Tackle	1. The tackler must release the ball carrier once the tackle has been made. 2. The tackler must then roll away or get back to their feet, before re-joining play. 3. The ball carrier must also release the ball once they have been tackled to the floor.

Tennis

Key Terms

Singles side-line	The two lines that run the full length of the court and mark the boundary on the width of the court.
Net	The additional area on the sides of the court used in doubles play.
Doubles tramlines	Used to break a tie for a game. This is where both players have a score of 40. The player who wins the point following the deuce is said to have the "advantage". If the player holding the advantage loses the following point, the score returns to deuce. The first player to win a point while holding the advantage wins the game.

Number of points won	Corresponding Call
0	"LOVE"
1	"15"
2	"30"
3	"40"
4	"Game"

Points Score Example	Corresponding Call
3 - 4	"Advantage out"
4 - 3	"Advantage in"
4 - 4, 5 - 5, 6 - 6, etc.	"Deuce"
4 - 6, 3 - 5	"Game"

Key Skills

	Key Skills	What is it?	Why is it used?
Ground strokes	**The ready position**	A front on stance, feet shoulder width apart with the racket in the middle of the body.	Allows the player to push off in either direction to return the serve.
Ground strokes	**Backhand**	A ground stroke hit on a player's non-dominant side; can be hit with a one- or two-handed grip.	Allows a player can hit the ball on both sides of their body saving time.
Ground strokes	**Smash/ overhead**	A shot that is hit powerfully above the hitter's head with a serve-like motion.	Usually following a poorly hit lob close to the net to win the point easily.
Volley	**Volley**	A ball that is hit in mid-air, before it bounces on the hitter's side of the court.	Normally hit when the players are near the net to return the ball quickly or if the returning player.
Volley	**Half volley**	A ball hit immediately after it bounces on the court.	When there isn't enough time to get to the ball and execute a traditional volley or get back and hit a ground stroke.

Key Rules

Rules	Definition
Service Fault	A serve that does not land in the service box, a server is allowed 2 attempts to serve.
Double Fault	A serve in tennis is a shot to start a point. If the ball is served out or hit the net the server is allowed another attempt. If there have been two faults on this point, the point is awarded to the receiver.
Let	When a player serves and the ball, the ball hits the net but lands in the service box, this is known as a let and the server must reserve the ball. This does not count as a service fault.
Double Strike	If the player must not strike the ball twice in a row. If this happens the opponent will win the point.
Tie-Break Game	When a game score of 6-6 is reached and tie-break set rules are used, players must play a tie-break game in order to decide who wins the set. Players need to reach 7 points with a two-point advantage to win.

Cricket

Positions

Positions	Roles
Teams	Cricket is played between 2 teams made up of 11 players each.
Aim of Game	Games compromise of at least 1 innings where each team will take turns in batting and bowling/fielding.
Batting team	The batsmen will try to score as many runs as possible before getting out.
Fielding Team	The fielding team try to get the batsmen out.
Bowling	Bowl the ball in certain areas according to fielding positions.

Cricket batting shots

Drive shot

Defensive shot

Pull shot

Key Rules

Rules	Definition
4 Runs	Scored if the ball goes over the boundary with bouncing at least once.
6 Runs	Scored if the ball goes over the boundary without touching the ground.
Wide Ball	The bowler bowls a ball deemed to wide to hit by the umpire.
No Ball	The bowler balls a ball that bounces twice or more, or bounces dangerously over the batsman's head.
Bye	The batsmen run between the wickets despite the ball not being hit and score runs. The wicketkeeper may have mis fielded.
Leg Bye	The batsmen run between the wickets with the ball hitting the batting pads and not the bat. The umpire will give not out for LBW.
Dead Ball	The bowler stops his run up and the umpire allows him to try again.

Key Skills

	Key Skills	What is it?	Why is it used?
Batting	**Drive shot**	Straight batted shot played along the floor, either on the on or offside.	Attacking shot designed to score runs in front of square.
	Defensive shot	Straight batted shot normally scoring no runs.	Defensive shot played to not get out, block the ball from hitting the stumps.
	Pull shot	Attacking, cross batted shot played towards square leg.	To score runs on the leg side to a ball that has pitched (landed) halfway down the wicket on or around the leg stump.
Fielding	**Orthodox and unorthodox catching**	Orthodox – catching with fingers pointing down. Unorthodox – catching with fingers pointing up.	Orthodox – designed to catch the ball from approx. your chest or below. Unorthodox – designed to catch the ball from approx. chest or above.
Bowling	**Run up**	Running up to bowl from the crease.	To bowl quicker and designed to make the batsman play a false shot in the hope of getting him out.

Unit 5: Holidays

5.1.1: Où es-tu allé(e) en vacances l'année dernière? - Where did you go on holiday last year?	
Je suis allé(e)/on est allé(e)	I went/we went
Je suis resté(e)	I stayed
Au bord de la mer	By the sea
À la campagne	To/in the countryside
À la montagne	To/in the mountains
En /Au/Aux + country	To/in + country
Dans un hôtel/appartement	In a hotel
Dans un camping	On a campsite
Dans une caravane	In a caravan
Près de	Near to

5.1.2: Comment as-tu voyagé? - How did you travel?	
Comment as-tu voyagé ?	How did you travel?
J'ai voyagé/on a voyagé	I travelled/we travelled
En avion	By plane
En voiture	By car
En train	By train
En bateau/ferry	By boat/ferry
À vélo	By bike

5.2: Qu'est-ce que tu as fait? - What did you do?	
J'ai nagé/On a nagé dans la mer	I /we swam in the sea
Elle/il a nagé dans la piscine	S/he swam in the pool
J'ai/On a visité les monuments	I/we visited the monuments
Elle/il a visité les sites touristiques	S/he visited the tourist sites
J'ai bronzé/On a bronzé	I/we sunbathed
J'ai/on a pris des photos	I/we took photos
J'ai/on a fait de la plongée	I/we went diving
J'ai/on a mangé	I/we ate
Je me suis/on est détendu(e)	I/we/relaxed
J'ai/on a fait du shopping	I/we went shopping
J'ai/on a acheté des souvenirs	I/we bought souvenirs
Je suis/on est allé(e) à un parc aquatique	I/we went to a water park
J'ai/on a vu les sites historiques	I/we saw the historic sites

5.3: C'était comment? - How was it?	
C'était...	It was...
décevant	Disappointing
Je me suis/on s'est bien amusé(e)	I/we had a good time

Unit 5: Holidays

5.4: Parle-moi de tes meilleures/dernières vacances - Tell me about your best/last holiday(s)	
Mes meilleures/dernières vacances étaient…(+adjective)	My best/last holiday was/holidays were…
Pendant les grandes vacances	During the summer holidays
Pendant les vacances de Noël	During the Christmas holidays
L'année dernière	Last year
Le premier jour/le deuxième jour	On the first/second day

5.5.1: Où passes-tu tes vacances? - Where do you go on your holidays?	
Qu'est-ce que tu fais normalement en vacances?	What do you normally do on holiday?
Où passes-tu tes vacances ?	Where do you go on holiday?
Je vais/on va	I go/we go
Je/on voyage	I/we travel
Je me détends/On se détend	I relax/we relax

5.5.2: Quelle sorte de vacances préfères-tu? - What sort of holidays do you prefer?	
Les vacances actives/culturelles	Active/cultural holidays
Les vacances relaxantes/reposantes	Relaxing holidays
Rester en Angleterre	To stay/staying in England
Explorer	To explore/exploring
Me détendre	To relax/relaxing
Le temps (le soleil)	The weather (the sun)
La nourriture	The food

5.6.1: Quels sont tes projets pour les vacances? - What are your plans for the holidays?	
Cet été	This summer
Cette année	This year
Je vais/On va (+infinitive)	I'm/We're going
Je veux/on veut (+infinitive)	I want/we want
Je voudrais/On voudrait (+infinitive)	I/we would like
Aller (+ en/au/aux/à/à la/au)	To go (to)
Passer une semaine/un week-end	To spend a week/weekend
Rester	To stay
Se détendre	To relax

5.6.2: Qu'est-ce que tu voudrais faire pendant les vacances? - What would you like to do during the holidays?	
Je voudrais/j'aimerais	I would like
Passer un mois (+à/au/en/aux/à la)	To spend a month (in)
C'est mon rêve de	It's my dream
Ce serait…	It would be…

Unit 6: Going Out and Staying In

6.1.2: Qu'est-ce que tu aimes faire? - What do you like doing?	
Pendant mon temps libre	In my free time
J'ai une passion pour (le sport/le cinéma /les animaux/ la lecture)	I have a passion for (sport/cinema/animals/ reading)
Le meilleur sport est...(+le/la)	The best sport is...
Le pire sport est...(+le/la)	The worst sport is...
Depuis (un an/deux ans)	For (one year/two years)

6.2.1: Qu'est-ce que tu vas faire ce weekend? - What are you going to do at the weekend?	
Ce weekend	This weekend
Je vais (+ infinitive)	I'm going (to...)

6.2.2: Tu veux aller au cinéma ce soir/samedi soir? - Do you want to go to the cinema this evening/on Saturday evening?	
Samedi après-midi	Saturday afternoon
À quelle heure ?	At what time?
À huit heures/À huit heures et demie	At eight o'clock/at half past eight
Oui, bonne idée	Yes, good idea
Je veux bien	I want to/ I'd like to
D'accord	OK
Peut-être	Maybe
Je n'en ai pas envie	I don't want to
Non, je ne peux pas	No, I can't
Non, je suis désolé(e)	No, I'm sorry

6.3.1: Qu'est-ce que tu regardes à la télé? - What do you watch on television?	
Je regarde	I watch
J'aime regarder	I like watching
Les infos	The news
Un documentaire	A documentary
Un feuilleton	A soap opera
Un jeu télévisé	A gameshow
Une série (américaine)	An (American) series
Une émission de téléréalité	A TV reality programme
Une émission de sport	A sports programme
Un film historique	A historical film
Un film d'action	An action film
Un film de science-fiction	A science fiction film
Un film fantastique	A fantasy film
Une comédie	A comedy
Est-ce que tu aimes... ?	Do you like...?
Elles/ils sont...	They are...

Unit 6: Going Out and Staying In

6.3.2: Quelle musique écoutes-tu? - What music do you listen to?	
J'écoute (+du/de la)	I listen to
J'aime écouter (+du/de la)	I like listening to
Le rap/rock/métal/reggae	Rap/rock/Metal/Reggae
La pop	Pop
La musique électronique/classique	Electronic music/classical music
Mon chanteur préféré est	My favourite singer (male) is
Ma chanteuse préférée est	My favourite singer (female) is
Mon groupe préféré est	My favourite band/group is
Les paroles (sont…)	The lyrics (are…)
La mélodie (est…)	The tune (is…)

6.5: On fête! - Let's party!	
Qu'est-ce que tu vas acheter ?	What are you going to buy?
Qu'est-ce que tu vas apporter à la fête ?	What are you going to bring to the party?
Je vais acheter	I'm going to buy
Je vais porter	I'm going to wear
Nouveau/nouvel/nouvelle	New
Chic	Stylish
À la mode	Fashionable
Un pantalon	Trousers
Un jean	Jeans
Un costume	A suit
Une robe	A dress
Une jupe	A skirt
Une veste	A jacket
Une chemise	A shirt
Des baskets	Trainers
Je vais apporter	I'm going to bring
La nourriture	Food
Un gâteau	A cake
Des chips	Crisps
Des pâtes	Pasta
Du chocolat	Chocolate
Des boissons (gazeuses)	(Fizzy) drinks

6.6: Role-plays	
(Est-ce que) je peux vous aider ?	Can I help you?
Dans le magasin	In the shop
Vous avez… ?	Do you have…?
Une autre taille	Another size
Quelle taille voulez-vous ?	Which size do you want?
Une taille plus grande/petite	A bigger size/ smaller size
Une autre couleur	Another colour
Où est… ?/Où sont… ?	Where is…/where are…?
Ça coûte combien ?	How much does that cost?
Ça coûte…	It costs…
Combien de personnes ?	How many people?
Une table pour deux/trois personnes	A table for two/three people
Avez-vous une carte ?	Do you have a menu?
Je n'ai pas de (fourchette/couteau)	I don't have (a fork/knife)
Il y a un problème	There is a problem

Unit 7: Daily Routine, Health and Fitness

7.1: Comment est ta routine? - What's your daily routine like?	
Je me lève	I get up
Je me lave	I have a wash
Je me brosse les dents	I brush my teeth
Je me douche	I shower
Je prends le petit-déjeuner	I have breakfast
Je vais au collège (à/en + transport)	I go to school (by + transport)
Je quitte le collège	I leave school
Je rentre chez moi	I return home
Je me repose	I relax
Je me couche	I go to bed
À … heures (et demie/quart)	At … o'clock (half past/quarter past)
À … heures moins le quart	At quarter to …

7.1.2: Que changerais-tu au sujet de ta routine? - What would you change about your routine?	
Je changerais beaucoup/peu	I would change a lot/little
Je voudrais pouvoir (+infinitive)	I would like to be able (to…)
Me lever	To get up
Me coucher	To go to bed
Rentrer chez moi	To return home
Avoir plus de temps au lit/chez moi	To have more time in bed/at home
Tôt	Early
Tard	Late
Plus tôt	Earlier
(Une heure) plus tard	(An hour) later

7.1.3: Qu'est-ce que tu as fait hier? - What did you do yesterday?	
Je me suis levé(e) à	I got up at…
Je me suis douché(e)	I showered

7.2.1: Es-tu en forme? - Are you fit?	
Je (ne) suis (pas) en bonne forme	I'm (not) fit/healthy
Je (ne) suis (pas) sain(e)/en bonne santé	I am (not) healthy
Je bois de l'eau	I drink water
Je bois des boissons gazeuses	I drink fizzy drinks
Je (ne) mange (pas) sainement	I (don't) eat healthily
Je mange des sucreries	I eat sweets
Je mange du chocolat	I eat chocolate
Je mange des légumes	I eat vegetables
Je mange des fruits	I eat fruit
J'adore manger du fast-food	I love eating fast food
Ne…jamais	Never
Je fais de l'exercice	I exercise
Je (ne) suis (pas) actif/active	I am (not) active
Je dors huit heures par nuit	I sleep eight hours per night

Unit 7: Daily Routine, Health and Fitness

7.2.2: Qu'est-ce que tu vas faire pour rester en forme? - What are you going to do to stay fit?	
Je vais (+infinitive)	I'm going
Je dois (+infinitive)	I have to/must
Je peux (+infinitive)	I can
Je veux (+infinitive)	I want
Manger sainement	To eat healthily
Manger moins de	To eat less/fewer
Boire plus de	To drink more
Dormir plus	To sleep more
Éviter de	To avoid

7.3.2: Chez le médecin At the Doctor's	
Depuis quand ?	Since when?
Depuis (un jour/deux jours)	For (a day/two days)
Il faut (+infinitive)	You must
Rester au lit/au chaud	Stay in bed/warm
Prendre du sirop	Have/take some cough syrup
Prendre des pastilles pour la gorge	Have/take throat sweets
Prendre ce médicament	Take this medication
Aller chez le dentiste	Go to the dentist
Aller à la pharmacie	Go to the pharmacy

7.3.1: Qu'est-ce qui ne va pas? - What's the matter?	
Où as-tu mal ?	Where does it hurt?
J'ai mal (+au/à la/aux) …	My … hurts
à la tête	Head
à la gorge	Throat
à la jambe	Leg
au bras	Arm
au cou	Neck
au dos	Back
au pied	Foot
au ventre	Stomach
aux oreilles	Ears
aux yeux	Eyes
aux dents	Teeth
J'ai vomi	I've been sick
J'ai un coup de soleil	I have a sunburn
J'ai un rhume	I have a cold
J'ai la grippe	I have flu
J'ai de la fièvre	I have a fever
J'ai une toux/je tousse	I have a cough

Unit 8: School and future plans

8.1.1: C'est comment ton collège? - What's your school like?	
C'est un collège mixte	It's a mixed school
Un collège de filles/garçons	It's a girls'/boys' school
Est situé à…	Is situated in…
Il y a … bâtiments	There are … buildings
On porte un uniforme scolaire	We wear a school uniform
Un pull	A jumper
Un blazer	A blazer
Un chemisier	A blouse
Un pantalon	Trousers
Une chemise	A shirt
Une cravate	A tie
Une jupe	A skirt
Des chaussures	Shoes
Des chaussettes	Socks

8.1.2: Parle-moi de la vie extra-scolaire - Tell me about extra-curricular opportunities	
On a … cours par jour	We have … lessons a day
La journée commence à…	The day starts at…
La journée finit à…	The day finishes at…
Il y a beaucoup de clubs	There are lots of clubs
Une activité extra-scolaire	Extra-curricular activity
On peut (+infinitive)	You can
Participer à la chorale/au concours de talents	Participate in the choir/talent competition
Aller à l'étranger	Go abroad

8.1.3: Que penses-tu des règles de ton collège? - What do you think of the rules in your school?	
Il y a trop de règles	There are too many rules
Il faut/On doit (+infinitive)	You have to
Il est interdit de/on ne peut pas	You're not allowed to
Mâcher le chewing-gum	Chew chewing gum
Fumer	Smoke
Être à l'heure/en retard	Be on time/late
Écouter le prof	Listen to the teacher
Harceler les autres	Bully others
Utiliser un portable	Use a mobile phone
Avoir un piercing	Have a piercing
Porter du maquillage	Wear make up
C'est juste/injuste	It's fair/unfair

8.1.4: Que changerais-tu? - What would you change?	
Je (ne) changerais (pas) beaucoup	I would (not) change a lot
Les règles sont…	The rules are…
Je voudrais (+infinitive)	I would like
Arriver plus tard	To arrive later
Finir les cours plus tôt	To finish lessons earlier

Unit 8: School and future plans

8.2.1: Que font-ils/elles comme travail? - What do they do for a living?	
Ma mère/mon père est…	My mum/dad is…
Cuisinier/cuisinière	A cook
Infirmier/infirmière	A nurse
Pompier/pompière	A firefighter
Vendeur/vendeuse	A salesperson/shop assistant
Serveur/serveuse	Waiter/waitress
Chauffer/chauffeuse (de taxi/de bus)	(Taxi/bus) driver
Chômeur/chômeuse	Unemployed
Chanteur/chanteuse	A singer
Programmeur/programmeuse	A programmer
Danseur/danseuse	A dancer
Médecin	Doctor
Maçon	Builder
Électricien/électricienne	Electrician
Mécanicien/mécanicienne	Mechanic
Footballeur professionnel/professionnelle	A professional footballer
Avocat/avocate	Lawyer
Professeur	Teacher
Pilote	A pilot
Ingénieur	An engineer
Elle/il travaille dans un bureau	S/he works in an office

8.3: Qu'est-ce que tu voudrais faire à l'avenir? - What would you like to do in the future? **Que serait ton métier idéal? -** What would your ideal job be?	
Je voudrais être	I would like to be
J'espère être	I hope to be
Je voudrais avoir	I would like to have
Ma propre entreprise	My own business
Ça serait…	That would be…
Mon rêve	My dream
Bien payé(e)	Well paid

8.2.2: Est-ce qu'il/elle aime son boulot/métier? - Does he/she like his/her job?	
Elle/il aime son boulot/métier	S/he likes his/her job
Elle/il n'aime pas son boulot/métier	S/he does not like his/her job
Elle/il travaille avec des autres	S/he works with others
Elle/il travaille avec des enfants	S/he works with children
Elle/il travaille seul(e)	S/he works alone
C'est…	It's ….
Elle/il doit (+infinitive)	S/he has to/must
Nettoyer	To clean
Cuisiner	To cook
Parler avec les clients	To speak with customers
Travailler dehors/à l'extérieur	To work outside
Travailler sur un ordinateur	To work on a computer
Aider les autres	To help others
Elle/il a beaucoup de responsabilités	S/he has lots of responsibilities

8.4: Que vas-tu faire à l'avenir/dans cinq-dix-vingt ans? - What are you going to do in the future/in 5-10-20 years?	
Je vais/veux/voudrais (+infinitive)	I'm going/want/would like
J'espère (+infinitive)	I hope
Me marier	To get married
Avoir des enfants/une maison/voiture	To have a children/house/car
Avoir ma propre entreprise	To have my own business
Habiter à l'étranger	To live abroad
Étudier à l'université	To study at university
Voyager	To travel
Être content (e)	To be happy

Unit 5: Holidays

5.1.1¿Adónde fuiste de vacaciones el año pasado? - Where did you go on holidays last year?	
Fui a	I went to
Fuimos a	We went to
Me alojé	I stayed
En la costa / En el campo / En la montaña	By the sea/in the countryside/in the mountains
En un hotel/apartamento	In a hotel/appartment
En un camping	On a campsite
En una caravana/roulotte	In a caravan
Cerca de	Near to
Lejos de	Far from

5.1.2 ¿Cómo fuiste? - How did you travel?	
Viajé / viajamos	I travelled/we travelled
En avión	By plane
En coche	By car
En tren	By train
En barco/ferry	By boat
En bici(cleta)	By bike

5.2 ¿Qué hiciste? - What did you do?	
Nadé en el mar/en la piscina	I swam in the sea/pool
Nadamos / nadó	We swam/ s/he swam
Visité los monumentos/los sitios turísticos	I visited the monuments/tourist sites
Visitamos / visitó	We visited/ s/he visited
Tomé / tomamos / tomó el sol	I/we/s/he sunbathed
Tomé / tomamos / tomó muchas fotos	I/we/s/he took photos
Hice / hicimos / hizo submarinismo/ buceo	I / we/s/he went scuba diving
Comí / comimos / comió	I/ we/s/he ate
Me relajé / nos relajamos / se relajó	I/ we/ s/he relaxed
Fui / fuimos / fue de compras	I/we/s/he went shopping
Compré / compramos / compró recuerdos	I/we/s/he bought souvenirs
Fui / fuimos / fue a un parque acuático	I/we/s/he went to a water park
Vi / vimos / vio sitios históricos	I/we/s/he saw the historic sites

5.3 ¿Cómo lo pasaste? - How was it?	
Fue/era…	It was…
Una desilusión	Disappointing
Lo pasé/pasamos genial/bomba/fenomenal **Lo pasé/pasamos fatal/muy mal/regular**	I/we had a good time I/we had a terrible time

Unit 5: Holidays

5.4 Háblame de tus mejores/últimas vacaciones - Tell me about your best/last holiday	
Mis mejores/últimas vacaciones fueron…	My best/last holidays were…
Durante las vacaciones de verano	During the summer holidays
Durante las vacaciones de Navidad	During the Christmas holidays
El año pasado	Last year
El primer/segundo día	On the first/second day

5.5.1 ¿Qué haces normalmente en vacaciones? - What do you normally do on holidays?	
¿Dónde vas de vacaciones ?	Where do you go on holiday?
Normalmente	Normally
En general	In general
Voy / Vamos a	I / we go to
Viajo / viajamos	I / we travel
Me relajo / nos relajamos	I relax / we relax

5.5.2 ¿Qué tipo de vacaciones prefieres? - What type of holidays do you prefer?	
Prefiero/me encanta(n)/me gusta(n)	I prefer / I love/ I like
Las vacaciones activas	Active holidays
Las vacaciones relajadas	Relaxing holidays
Las vacaciones culturales	Cultural holidays
Quedarme en Inglaterra	To stay/staying in England
Explorar	To explore/exploring
El tiempo (el sol)	The weather (the sun)
La comida	The food

5.6.1 ¿Qué planes tienes para las próximas vacaciones - What are your plans for the next holidays?	
Este verano	This summer
Este año	This year
Voy/Vamos a + infinitive	I'm/We're going
Quiero + infinitive	I want
Me gustaría / quisiera (+infinitive)	I /We would like
Pasar una semana/ un fin de semana	To spend a week/weekend
Relajarme	To relax
Alojarme	To stay (accommodation)

5.6.2 ¿Cómo serían tus vacaciones ideales? - What would your ideal holiday be?	
Me gustaría/ quisiera	I would like
Ir a	To go (to)
Pasar un mes en	To spend a month (in)
(Este) es mi sueño	This is/It's my dream
Sería…	It would be…

Unit 6: Going Out And Staying In

6.1.2 ¿Qué te gusta hacer en tu tiempo libre? - What do you enjoy doing in your free time?	
En mi tiempo libre	In my free time
Me apasiona (+ noun or infinitive) Me apasiona el esquí acuático / Me apasiona practicar el esquí	I have a passion for I am passionate about water skiing / I am passionate about practising water skiing
Desde hace… años	For … years

6.2.1 ¿Qué planes tienes para el fin de semana? - ¿Qué vas a hacer este fin de semana? - What are you going to do at the weekend?	
Este fin de semana	This weekend
Voy a (+ infinitive)	I'm going to (+ verb/activity)

6.2.2 ¿Quieres salir el sábado por la tarde? - Do you want to go out Saturday afternoon?	
¿Quieres + infinitive?	Do you want (to)…?
Salir conmigo	To go out with me
El sábado por la tarde/noche	Saturday afternoon/evening
¿A qué hora?	At what time?
A las ocho / a las ocho y media	At eight o'clock / at half past eight
Sí, buena idea	Yes, good idea
De acuerdo, vale	OK
Quizá(s)	Maybe
No me apetece	I don't fancy it
Lo siento, no puedo	Sorry, I can't

6.3.1 ¿Qué prefieres ver en la tele? - What do you prefer watching on tv?	
Prefiero / me gusta ver	I prefer to watch
Las noticias	The news
Los documentales	Documentaries
Las telenovelas	Soap operas
Los concursos	Gameshows
Las series americanas	(American) series
Los realities	TV reality programmes
Las emisiones deportivas	Sports programmes
¿Qué tipo de película te gusta ?	What genre of films do you like?
Las películas históricas	Historic films
Las películas de acción	Action films
Las películas de ciencia ficción	Science fiction films
Las películas de fantasía	Fantasy films
Las comedias	Comedies
Las películas de terror	Horror films
¿Te gusta… ?	Do you like…?
¿Cuál es tu programa de televisión favorito?	What is your favourite TV programme?
Son…	They are…

Unit 6: Going Out And Staying In

6.3.2 ¿Qué tipo de música prefieres? - What type of music do you prefer?	
Escucho/prefiero	I listen to/I prefer
Me gusta/prefiero escuchar	I like listening to/I prefer listening to
El rap / rock / heavy metal / reguetón	Rap / rock / metal / regeton
El pop / la música pop	Pop
La música electronica / clasica	Electronic music / Classical music
Mi cantante / artista / grupo favorito/a	My favourite singer / artist / band
La letra	The lyrics
La melodía	The tune

6.5 Vamos de fiesta - Let's party	
¿Qué vas a comprar ?	What are you going to buy?
¿Qué vas a llevar a la fiesta?	What are you going to wear to the party?
Voy / va / vamos a comprar	I'm/S/he/We are going to buy
Voy / va / vamos a llevar	I'm/S/he/We are going to wear
Bisutería, joyas	Jewellery
Un pantalón	Trousers
Unos vaqueros	Jeans
Un traje	A suit
Un vestido	A dress
Una falda	A skirt
Una chaqueta	A jacket
Una camisa	A shirt
Zapatillas de deporte / deportivas	Trainers
La comida	Food
Una tarta	A cake
Patatas fritas	Crisps
Bocadillos	Sandwiches
Chocolate	Chocolate
Bebidas (gaseosas)	(Fizzy) drinks

6.6 Role Plays	
¿(en qué) Puedo ayudarle?	Can I help you?
En la tienda	In the shop
¿Tiene… ?	Do you have…?
Un espejo	A mirror
Otra talla	Another size
¿Qué talla necesita?	Which size do you want?
Quisiera	I would like
Una talla más grande / pequeña	A bigger size/ smaller size
¿Dónde está(n)?	Where is…/where are…?
¿Cuánto es?	How much does that cost?
Es/son… euros	It costs…
En el restaurante	At the restaurant
¿Cuántas personas?	How many people?
Una mesa para dos/tres personas	A table for two/three people
La cuenta, por favor	The bill please
¿Tiene menú ?	Do you have a menu?
No tengo (tenedor, cuchillo, cuchara)	I don't have (a fork/knife/spoon)
Hay un problema	There is a problem

Unit 7 : Daily Routine, Health & Fitness

7.1.1 ¿Cómo es tu rutina diaria? - What's your daily routine like?	
Me levanto	I get up
Me lavo	I have a wash
Me lavo los dientes	I brush my teeth
Me ducho	I shower
Desayuno	I have breakfast
Voy al instituto	I go to school
Termino el instituto	I leave school
Vuelvo a casa	I return home
Meriendo	I have a snack
Ceno	I eat dinner
Me relajo	I relax
Me acuesto	I go to bed
A las…	At … o'clock
A las … y cuarto / y media	At quarter / half past …
A las … menos cuarto	At quarter to …

7.1.2 ¿Qué cambiarías de tu rutina? What would you change about your routine?	
Cambiaría mucho/poco	I would change a lot/little
Me gustaría (+infinitive)	I would like
Me gustaría poder (+infinitive)	I would like to be able
Levantarme	To get up
Acostarme	To go to bed
Volver a casa	To return home
Tener más tiempo	To have more time
Pronto	Early
Tarde	Late
Antes/ más pronto	Earlier
(Una hora) más tarde	(An hour) later

7.1.3 ¿Qué hiciste ayer? What did you do yesterday?	
Me levanté a las…	I got up at…
Me duché	I showered
Fue…	It was…

7.2.1 ¿Llevas una vida sana? Do you lead a healthy life?	
¿Estás en forma?	Are you fit?
(No) Estoy en (buena) forma / estoy sano/a	I'm (not) fit/healthy
(No) Llevo una vida sana	I am (not) healthy/I (do not) lead a healthy life
Bebo suficiente/poca agua	I drink enough/little water
Bebo muchas bebidas gaseosas	I drink a lot of fizzy drinks
(No) como sano	I (don't) eat healthily
Como demasiados caramelos	I eat too many sweets
Como pescado (muy) a menudo	I eat fish (very) often
(No) como suficiente verdura	I (don't) eat enough vegetables
Como fruta dos veces al día	I eat fruit twice a day
Me encanta la comida rápida	I love fast food
(No) soy activo/a	I am (not) active
Duermo ocho horas (al día)	I sleep eight hours per night

Unit 7 : Daily Routine, Health & Fitness

7.2.2 Qué debemos hacer para llevar una vida sana? & ¿Qué vas a hacer para mantenerte en forma? What should we do/are you going to do to keep healthy?	
Para llevar una vida sana	To have a healthy life
Para mantenerse en forma	To stay fit
Voy a (+infinitive)	I'm going to
Debemos (+infinitive)	We should
Se debe (+infinitive)	One/you should
Hay que (+infinitive)	We must
Comer equilibradamente	To eat a balanced diet
Comer más/menos	To eat more/less (fewer)
Beber más	To drink more
Dormir más	To sleep more
Evitar	To avoid

7.3.2 En el médico - At the doctor's	
¿Qué le pasa ?	What's the matter?
¿Dónde le duele ?	Where does it hurt?
¿En qué puedo ayudarle ?	How can I help?
¿Desde hace cuánto tiempo ?	Since when?
Desde hace (un día/dos días)	For (a day/two days)
Debe	You must
Tomar un jarabe	Have/take some cough syrup
Tomar pastillas	Have/take pills
Tomar este medicamento/medicina	Take this medication
Ir al dentista	Go to the dentist
Ir a la farmacia	Go to the pharmacy
Dormir	Sleep
¿Qué me recomienda ?	What do you recommend?

7.3.1 ¿Qué te pasa? What's wrong?	
¿Dónde te duele ?	Where does it hurt?
Tengo dolor de/en (+article)... Tengo dolor de cabeza Me duele(n) la cabeza (los brazos)	My ... hurts
Cabeza (la)	Head
Garganta (la)	Throat
Pierna (la)	Leg
Brazo (el)	Arm
Cuello (el)	Neck
Espalda (la)	Back
Pie (el)	Foot
Vientre (el)	Stomach
Oído(s) (el/los)	Ears
Ojo(s) (el/los)	Eyes
Diente(s) / muela(s) (el/los; la/las)	Teeth
He vomitado	I've been sick
Me he quemado con el sol	I have a sunburn
Tengo un resfriado	I have a cold
Tengo la gripe	I have flu
Tengo la fiebre	I have a fever
Tengo tos	I have a cough

Unit 8: School and Future plans

8.1.1 ¿Cómo es tu instituto? - What is your school like?	
Es un colegio/instituto mixto	It's mixed school
Es un colegio de chicas/chicos	It's an all-girls/boys school
Está en/cerca de…	It is situated in/close to…
Hay… edificios	There are … buildings
Llevamos uniforme	We wear a school uniform

8.1.2 ¿Qué actividades extraescolares haces? & ¿Cómo es un día típico en tu instituto? What extra curricular activities do you do? & What is a typical day at school like?	
Tenemos… clases al día	We have … lessons a day
El día empieza a las …	The day starts at…
El día termina a las…	The day finishes at…
Después del instituto	After school
Hay muchas actividades y clubs	There are lots of activities and clubs
Una actividad extracurricular	An extra-curricular activity
Se puede	You can
Participar en el coro	Participate in the choir

8.1.3 ¿Qué opinas de las reglas de tu instituto? - What do you think about the school rules?	
Hay demasiadas reglas/normas	There are too many rules
Hay que (+infinitive)	You have to…
No se puede (+infinitive)	You're not allowed to…
Masticar chicle	Chew chewing gum
Fumar	Smoke
Ser puntual	Be on time
Llegar tarde	Be late
Escuchar al/a la profe	Listen to the teacher
Acosar a los demás	Bully others
Utilizar el móvil	Use a mobile phone
Tener un piercing	Have a piercing
Llevar maquillaje	Wear make up

8.1.4 ¿Qué cambiarías? - What would you change?	
(No) cambiaría muchas cosas	I would (not) change a lot
Las reglas/normas son	The rules are
Me gustaría (+infinitive)	I would like
Llevar vaqueros	To wear jeans
Llevar zapatillas de deporte	To wear trainers
Llevar maquillaje	To wear make up
Llegar más tarde	To arrive later
Terminar las clases antes	To finish lessons earlier
Utilizar mi móvil	To use my mobile phone

Unit 8: School and Future plans

8.2.1 ¿En qué trabaja(n)? ¿Qué hacen tus padres? - What do your parents do?	
Mi madre/padre es...	My mum/dad is...
Cocinera/o	A cook
Enfermera/o	A nurse
Bombera/o	A firefighter
Dependiente	A salesperson/shop assistant
Camarera/o	Waiter/waitress
Médica/o	Doctor
Obrera/o	Builder
Electrista/o	Electrician
Conductora/conductor (de taxi/de bus)	(Taxi/bus) driver
Abogada/o	Lawyer
Mecánica/o	Mechanic
Profesora/profesor	Teacher
Madre/padre a tiempo completo	Stay-at-home mum/dad
Trabaja en	He/she works
Una oficina / una fábrica / al aire libre	In an office/a factory/outside
Está en paro	S/he is unemployed
Está jubilada/o	S/he is retired

8.2.2 ¿Qué les gusta de su trabajo? What do they like about their job?	
Le encanta su trabajo	He/she likes his/her job
No le gusta su trabajo	He/she does not like his/her job
Trabaja con otros	He/she works with others
Trabaja con niños	He/she works with children
Trabaja sola/o	He/she works alone
No le gusta (+infinitive)	He/she likes/doesn't like
Tiene que (+infinitive)	He/she has to/must
Limpiar	To clean
Cocinar	To cook
Hablar con los clientes	To speak with customers
Trabajar al aire libre	To work outside
Trabajar con el ordenador	To work on a computer
Ayudar a los demás	To help others
Tiene muchas responsibilidades	He/she has lots of responsibilities
Un buen sueldo	A good salary

Unit 8: School and Future plans

8.2.2 ¿Qué les gusta de su trabajo?	
Me gustaría/quiero ser	I would like/want to be
Espero ser	I hope to be
Piloto	A pilot
Ingeniera/o	An engineer
Cantante	A singer
Bailarina/bailarín	A dancer
Programadora/programador	A programmer
Deportista profesional	A professional sportsperson
Tener mi propio negocio	Have my own business
Viajar por todo el mundo	Travel the world
Sería	That would be…
Mi sueño	My dream

8.4 ¿Qué harás en el futuro / dentro de 5-10-20 años? - What will you do in the future / in 5-10-20 years from now?	
Dentro de 5-10-20 años	In five/ten/twenty years
Voy a (+infinitive)	I'm going to…
Quiero (+infinitive)	I want to…
Espero (+infinitive)	I hope to …
Me gustaría/quisiera (+infinitive)	I would like to…
Casarme	To get married
Tener hijos	To have children
Tener una casa/un coche	To have a house/car
Tener mi propio negocio	To have my own business
Vivir en el extranjero	To live abroad
Estudiar en la universidad	To study at university
Viajar por todo el mundo	To travel
Ser feliz	To be happy/rich
Ser rica/o y famosa/o	To be rich and famous
Tendré	I will have
Podré (+ infinitive)	I will be able to

Notes

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