## Hard work • Excellence • Integrity

2023-2024

## Year 10 | Cycle 3 100\% Book

## Name:

Tutor group:

 finished the cycle or the year). You must keep your 100\% books (even after you have part of your equipment
You must have this $100 \%$ book for every lesson - it is themselves after learning.
Students remember 50\% more when they test
this knowledge for the long-term.
what you have learnt in lessons in order to remember must know. This will help you recap, revisit and revise Knowledge organisers contain critical knowledge you Your 100\% book and knowledge organisers

## Correcting spelling, punctuation and grammar

Your work will be marked across all subjects to help you improve your literacy. This is the code that will be used.

| Correcting your spelling, punctuation and grammar |  |
| :--- | :--- |
| $S p+$ underlined word | The underlined word is spelt incorrectly. <br> Look, cover, write then check. Do this at least three times so you spell it <br> correctly. |
| A circle around part of <br> a word or a space | Your punctuation is incorrect, or something is missing (including capital letters). |
| ? + wobbly line | You haven't explained your ideas clearly enough. |
| $/$ | You need to start a new sentence here. <br> Remember: full stop, capital letter. |
| $/ /$ | You need to start a new paragraph here. |
| Remember: new paragraphs for time, place, topic, person (TiPToP). |  |
| $\wedge$ | A word is missing where the arrow is pointing. |

Year 10 - Cycle 3 - Art - Project 'Fragment'

| 1 | Acrylic | A water-based, plastic paint that is thicker than watercolour paint |
| :--- | :--- | :--- |
| 2 | Canvas | Fabrics that are prepared for painting |
| 3 | Collage | The combination of pieces of cloth, magazines and other found objects to create artwork |
| 4 | Primary colours | Red, yellow and blue |
| 5 | Secondary colours | Orange, violet, green. Each colour is midway between the primary colours from which it can be mixed |
| 6 | Tertiary colours | Obtained by mixing adjoining primary and secondary colours |
| 7 | Contrast | Character |
| 8 | Highlights by using opposites near each other, such as a light object next to a dark object |  |
| 10 | Intensity | Small areas on a painting or drawing on which reflected light is the brightest |
| 11 | Balance | The brightness or the dullness of a colour |
| 12 | Dominance | The arrangement of elements in a work of art so that they appear symmetrical or asymmetrical |
| 13 | Hue | An object or colour that stands out |
| 15 | Value makes up a typeface, for example a letter, number or a punctuation mark |  |

Year 10 - Cycle 3 - GCSE Citizenship: Politics and Participation

| 1 | Democracy | Citizens can use their voice through voting in fair elections |
| :---: | :--- | :--- |
| 2 | Representative democracy | A type of government where citizens elect others to represent them |
| 3 | Equality | Equal treatment for all |
| 4 | Rule of law | The principle that the law applies equally to everyone |
| 5 | Councillor | A citizen who is elected and works in a local council |
| 6 | Referendum | A vote on one particular issue |
| 7 | House of Commons | Members who are elected and responsible for making laws |
| 8 | Judiciary | Made up of judges responsible for the legal system |
| 9 | Legislature | A group that decides the law |
| 10 | Executive | Those who make the key day-to-day decisions in the country |
| 11 | Prime Minister | Leader of the government |
| 12 | Parliament | Where MPs meet and pass new laws |
| 13 | Cabinet | Senior and important members of the government |
| 14 | Devolution | The transfer of power from national to local government |
| 15 | Voter apathy | Citizens having a lack of interest in voting |
| 16 | Constituency | An area which elects an MP to represent them |
| 17 | Individual liberty | People have the freedom to make their own choices and decisions parties |

## Year 10 - Cycle 3 - Drama

## A: Written terms

\(\left.$$
\begin{array}{|l|l|l|}\hline 1 & \text { Describe } & \begin{array}{l}\text { To give details of what you saw, heard or } \\
\text { experienced }\end{array} \\
\hline 2 & \text { Explain } & \text { To give the purpose and reason } \\
\hline 3 & \text { Analyse } & \begin{array}{l}\text { To examine something, looking at different } \\
\text { perceptions of it for/as an audience }\end{array} \\
\hline 5 & \text { Point } & \text { To judge or form an opinion } \\
\hline 6 & \text { Example } & \begin{array}{l}\text { What the main theatre element you will focus } \\
\text { on in the paragraph is, with terminology used }\end{array}
$$ <br>

\hline The description of how the theatre element\end{array}\right\}\)| Style in the scene |
| :--- |

## B: Vocal descriptions

| 1 | Bellow | To shout in a deep, angry voice |
| :--- | :--- | :--- |
| 2 | Hiss | Sharp sound with prolonged vowels used to show <br> disapproval or contempt |
| 3 | Moan | A prolonged, low sound used to complain or show <br> boredom |
| 4 | Whimper | A high-pitched quiet tone used to show pain |
| 5 | Murmur | A low quiet and prolonged tone used to gossip |

## C: Physical descriptions

| 1 | Rigid | A firm and inflexible posture used to show anger or <br> fear |
| :--- | :--- | :--- |
| 2 | Balanced | A neutral posture that shows character is ready to go |
| 3 | Hunched | Back curled over, often used to show older person |
| 4 | Slouched | A relaxed posture used to show confidence, informal |
| 5 | Drooped | Loose body tension, head down posture used to show <br> sadness or lack of energy |

Year 10 - Cycle 2 - Design \& Technology

| 1 | Synthetic Polymers | Man-made polymers created from crude oil |
| :--- | :--- | :--- |
| 2 | Biopolymers | Polymers made from natural resources such as plants |
| 3 | Carbon fibre reinforced polymer <br> (CFRP) | A thermoforming polymer reinforced with carbon fibre |
| 4 | Glass-reinforced plastic <br> (GRP) | A thermoforming polymer reinforced with glass fibres |
| 5 | Plasticisers | An additive that gives flexibility to polymers |
| 6 | Stabilisers | An additive in polymers that reduces UV degradation and brittleness |
| 7 | Extrusion | A length of material with a consistent cross-section |
| 8 | Filament | The extruded material that is used in a 3D printer |
| 9 | One-off production | One product is made |
| 10 | Batch production | Several identical products are made |
| 11 | Jigs | A mechanical device to aid production |
| 12 | High-volume production | Many products are made, making extensive use of machinery and manufacturing aids |
| 13 | Blow moulding | A method of shaping thermoforming polymer by heating it and blowing it into shape |
| 14 | Vacuum forming | A method of shaping thermoforming polymer by heating it and sucking it around a mould |
| 15 | Screen printing | A printing process for adding detail or text to polymer products |
| 16 | Vinyl | A self-adhesive polymer, available in a range of colours, suitable for CNC knife cutting |
| 17 | Anthropometrics | The practice of taking measurements of the human body and provides data that can be used by designers |
| 18 | Ergonomics | The relationship between people and the products they use |

Year 10 - Cycle 3 - Design \& Technology

| 1 | Persona | A character used to represent a user that might use your product to help understand users' needs, experiences, <br> behaviors and goals |
| :--- | :--- | :--- |
| 2 | User journey | The experiences a person has when interacting with something to understand pain points |
| 3 | Product analysis | The process of examining existing products on the market for their function, cost, size, safety, aesthetics and more |
| 4 | Primary data | Data gathered by yourself' first-hand' |
| 5 | Secondary data | Data collected by others'second-hand' |
| 6 | Client | The person the designer is working for |
| 7 | End user | The person or group of people a product is designed for |
| 8 | Customer | The people who would purchase the product |
| 9 | Empathy mapping | A process that helps you to identify the thoughts and feelings of a particular user group |
| 10 | Design fixation | When a designer limits their creativity by only exploring one avenue of design or relying heavily on existing designs |
| 11 | Iterative design | A repeated cycle of quickly implementing designs or prototypes, gathering feedback and refining the design |
| 12 | Obsolescence | When a product becomes unusable or out of date |
| 13 | User-centred design | Looking at and checking the needs, wants and requirements of the user at every stage of the design process |
| 14 | Focus group | A group of people used to track if a product design is on track |
| 15 | Schematic drawing | A visual representation of a circuit or system |
| 16 | Render | Adding colour or texture to make a design look realistic |
| 17 | Low-fidelity prototype | A quick prototype that gives a basic idea of a product's looks or functions |
| 18 | High-fidelity prototype | A detailed and accurate prototype similar to the final product |

Year 10 - English - Anthology Poetry

| A | Poem | Key quotation | B | Term | Definition |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 1 | Ozymandias | 'Wrinkled lip and sneer of cold command' | 1 | Nostalgia | Longing for or thinking fondly of a past time or condition. |
| 2 | London | 'In every face / Marks of weakness, marks of woe' | 2 | Disillusioned | Disappointment after realising that a belief they hold is |
|  | My Last |  |  |  |  |
| 3 | Duchess | 'That's my last duchess painted on the wall' | 3 | Transient | Lasting only for a short time; not permanent |
| 4 | Tissue | 'Smoothed and stroked / thinned to be transparent' | 4 | Narcissistic | Having an excessive admiration for oneself and one's physical appearance |
| 5 | Storm on the Island | 'Spits like a tame cat turned savage' | 5 | Desensitised | Less likely to feel distress when shown scenes of suffering and cruelty because you have seen many |
| 6 | Exposure | Our brains ache in the merciless iced east winds that knives us' | 6 | Oppression | Prolonged cruel or unjust treatment or exercise of authority |
| 7 | The Prelude | 'Grim shape / Towered up between me and the stars' | 7 | Authoritative | Commanding and self-confident; likely to be respected and obeyed. |
| 8 | Charge of the Light Brigade | 'Into the jaws of death / Into the mouth of hell' | 8 | Exile | The state of being kicked out from one's native country |
| 9 | Bayonet Charge | ‘King, honor, human dignity etcetera, dropped like luxuries' | C | Term | Definition |
| 10 | Remains | 'And the drink and the drugs won't flush him out' | 1 | Speaker | The person speaking in the poem (not the poet) |
| 11 | Poppies | 〔 listened, hoping to hear / Your playground voice catching on the wind' | 2 | Stanza | A group of lines separated from another in a poem |
| 12 | War <br> Photographer | 'A hundred agonies in black and white' | 3 | Enjambment | When the sentence runs onto a new line of poetry without punctuation at the end of the line |
| 13 | Kamikaze | 'Till gradually we too learned / to be silent' | 4 | Volta / shift | A turning point in a poem |
| 14 | The Emigree | 'I have no passport, there's no way back at all' | 5 | Dramatic monologue | A poem in which an imagined speaker addresses the reader |
| 15 | Checking out me History | 'But now I checking out me own history / I carving out me identity' | 6 | Caesura | A stop or pause in a line of poetry, usually caused by punctuation |

Year 10 - Cycle 3 - French

| A: Verbs and structures |  |  | 23 | I am healthy | je suis en bonne santé |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 1 | I am going to do work experience | je vais faire un stage | 24 | It is necessary to eat vegetables | il faut manger des légumes |
| 2 | I want to help people | je veux aider les gens | 25 | You must not smoke | on ne doit pas fumer |
| 3 | I would like to do A-levels | je voudrais faire le Bac | 26 | It is necessary to sleep 8 hours | il faut dormir huit heures |
| 4 | I hope to travel | j'espère voyager | 27 | It is necessary to go to the doctor | il faut aller chez le médecin |
| 5 | I am going to do volunteering | je vais faire du bénévolat | 28 | When I was little | quand j'étais petit |
| 6 | I intend to go to university | j'ail l'intention d'aller à l'université | 29 | I used to eat | je mangeais |
| 7 | I want to do a degree | je veux faire un diplôme | 30 | I used to do | je faisais |
| 8 | If I succeed | si je réussis | 31 | I used to drink | je buvais |
| 9 | I will do | je ferai | 32 | She is going to do shopping | elle va faire les magasins |
| 10 | I will go | j'irai | 33 | I am going to have fun | je vais m'amuser |
| 11 | I will have | j'aurai | B: Vocabulary |  |  |
| 12 | I will travel | je voyagerai | 1 | Doctor | médecin |
| 13 | It will be | ça sera | 2 | Lawyer | avocat |
| 14 | I will work as | je travaillerai comme | 3 | Nurse | infirmier |
| 15 | I drink | je bois | 4 | Builder | maçon |
| 16 | I eat | je mange | 5 | Sweets | les sucreries |
| 17 | In order to stay in shape | afin de rester en forme | 6 | Fat | la matière grasse |
| 18 | I have the flu | j'ai la grippe | 7 | Cakes | les gâteaux |
| 19 | I have a cold | j'ai un rhume | 8 | Meat | la viande |
| 20 | My head hurts | j'ai mal à tête | 9 | Fizzy drinks | les boissons gazeuses |
| 21 | My stomach hurts | j'ai mal au ventre | 10 | Healthy food | la nourriture saine |
| 22 | I am healthy | je suis sain | 11 | Diet | le régime 10 |

## A: Weather Hazards \& Climate Change

| 1 | Coriolis effect | Wind being deflected north and south from the equator due to the spinning of the Earth |
| :---: | :---: | :---: |
| 2 | Milankovitch cycles | Natural changes to the Earth's orbit and position |
| 3 | Greenhouse effect | The natural process of the Earth's atmosphere trapping some solar radiation |
| 4 | Enhanced greenhouse effect | Human activity causes more greenhouse gases to be released, causing global warming |
| 5 | Tropical storm | A very intense, low pressure system |
| 6 | Storm surge | A temporary rise in sea level caused by low pressure |
| 7 | Meteorological drought | A lack of precipitation due to high pressure systems |
| 8 | Hydrological drought | When water stores dry up |
| 9 | Monsoon | A rainy season experienced by countries in southeast Asia |

## B: Fieldwork

| 1 | River discharge | The volume of water flowing through a <br> river channel at a given point |
| :--- | :--- | :--- |
| 2 | The four types of <br> erosion | Hydraulic action, abrasion, attrition, <br> solution |
| 3 | Representative | A sample which reflects the whole |$|$| Reliable | If you measure it again you will get the <br> same results |  |
| :--- | :--- | :--- |
| 5 | Stratified sample | The group of people or sites you choose <br> to investigate |
| 6 | Setermined groups |  |

## Impact of World War One on the Weimar Republic

| 1 | Dolchstoss | The theory that the Weimar government had stabbed Germany in the back for signing the armistice and <br> the Treaty of Versailles |
| :---: | :--- | :--- |
| 2 | Constitution | The laws that set out how a country is going to be governed |
| 3 | Coalition government | A government containing two or more political parties |
| 4 | Proportional representation | The voting system used by the Weimar Republic which led to coalition governments |
| 5 | Article 48 | Special powers given to the President to take control away from the Reichstag during a state of <br> emergency |
| 6 | Reichstag | The German parliament |
| 7 | President | The head of state who was in control of the army and could use Article 48 |
| 8 | Chancellor | The head of the coalition government in the reichstag |
| 10 | Trade unions | The German term for bringing all of Germany into line with Nazi values |
| 11 | Führer | A group of workers from a particular trade that is formed to protect or further the rights of the workers |
| 12 | Rearmament | Hitler's title which combined the role of president and chancellor |
| 13 | Aryan race | The process of building up the military |
| 14 | Boycott | The Nazi term for 'pure' Germans |
| 15 | Gestapo | Deliberately not purchasing / using something for political reasons |
| 16 | Lebensraum | Nazi secret police |
| 17 | Anschluss | Living space |
| 18 | Appeasement | The political and economic union of Germany and Austria |
| 1 |  |  |

Year 10 - Cycle 3 - Mathematics (Foundation)

| A: Index laws |  |  |
| :--- | :--- | :--- |
| 1 | $a^{m} \times a^{n}$ | $a^{m+n}$ <br> for example, $2^{5} \times 2^{3}=2^{8}$ |
| 2 | $a^{m} \div a^{n}$ | $a^{m-n}$ <br> for example, $2^{5} \div 2^{3}=2^{2}$ |
| 3 | $\left(a^{m}\right)^{n}$ | $a^{m n}$ <br> for example, $\left(2^{5}\right)^{3}=2^{15}$ |
| 4 | $a^{0}$ | 1 |
| 5 | $a^{-n}$ | $\frac{1}{a^{n}} \quad$ for example, $3^{-2}=\frac{1}{3^{2}}$ |

## B: Averages

| 1 | Mean | Add up all the numbers and divide by how many numbers there are |
| :---: | :---: | :---: |
| 2 | Median | Put the numbers in ascending order then find the middle number |
| 3 | Mode | The most common |
| 4 | Range | Largest number - smallest number |


| D: Scatter graphs |  |  |
| :---: | :---: | :---: |
| 1 |  | Positive correlation |
| 2 |  | Negative correlation |
| 3 | $\because \because \because$ $\therefore \because \because$ $\because \because$ | No correlation |



Year 10 - Cycle 3 - Mathematics (Higher)


Year 10 - Cycle 3 - Music

| 1 | Melody and <br> accompaniment | A tune with accompaniment |
| :--- | :--- | :--- |
| 2 | Unison | All parts play or sing the same music at the <br> same time |
| 3 | Descant | A decorative higher pitched line |
| 4 | Counter melody | A new melody, combined with the theme |
| 5 | Drone | Long held notes |
| 6 | Chorus | A large group - usually the full company cast |
| 8 | Overture | An orchestral introduction to the show, which <br> usually uses tunes from the show. <br> accents of speech |
|  |  |  |


| 9 | Repetition | A musical idea is repeated exactly |
| :--- | :--- | :--- |
| 10 | Imitation | An idea is copied in another part with slight <br> differences |
| 11 | Sonority | A guitar chord using the root and 5th note (no 3rd) |
| 12 | Chromatic | Using many notes from outside the key. |
| 13 | Fill | A short, improvised drum solo |
| 14 | Inversion | Turning a melodic idea or interval upside down |
| 15 | Recitative | A vocal style that imitates the rhythms and accents <br> of spoken language |
| 16 | Syllabic | One note sung per syllable |
| 17 | Transposition | Moving a musical idea to a higher or lower key |
| 18 | An instruction that means everyone |  |

Year 10 - Cycle 3 - Religious Studies - Issues of Relationships

| 1 | Responsibilities [2] | Actions / duties you are expected to carry out, e.g. looking after family members |
| :--- | :--- | :--- |
| 2 | Roles [2] | Position, status or function of a person in society, as well as the characteristics / behaviour <br> expected of them |
| 3 | Cohabitation [2] | To live together in a sexual relationship without being married |
| 4 | Commitment [2] | A sense of dedication and obligation to someone or something |
| 5 | Adultery [2] | Voluntary sexual intercourse between a married person and a person who is not their spouse |
| 6 | Divorce [2] | To legally end a marriage |
| 7 | Gendraception [2] equality [2] | Methods used to prevent a woman from becoming pregnant during or following sexual <br> intercourse |
| 8 | People of all genders enjoying the same rights and opportunities in all aspects of their lives |  |
| 9 | Chastity | Not having a sexual relationship until married |
| 10 | Celibacy | When a person decides to never have a sexual relationship |
| 11 | Natural moral law | An ethical theory by Thomas Aquinas which is based on five primary precepts |
| 12 | Patriarchal | A family or society controlled by men |

Year 10 - Cycle 3 - Science - Biology Topic 4: Bioenergetics (Paper 1)

| 1 | Uses of glucose in plants | Respiration, making cellulose for cell walls, making amino acids and making lipids or <br> starch for energy storage |
| :--- | :--- | :--- |
| 2 | Limiting factor | A factor that affects the rate of photosynthesis when in short supply |
| 3 | Sodium hydrogen carbonate | Used to increase the amount of carbon dioxide dissolved in water when investigating <br> photosynthesis |
| 4 | Uses of energy | Chemical reactions, movement, maintaining constant body temperature |
| 5 | Exercise | More muscle contraction, more energy needed and greater rate of respiration |
| 6 | Metabolism | The amount of oxygen needed to break down the lactic acid that has built up during <br> anaerobic respiration |
| 7 | The rate of all the chemical reactions in a cell or the body |  |

Year 10 - Cycle 3 - Science - Biology Topic 7: Ecology (Paper 2)

| A | Ecosystems and food chains |  |
| :---: | :---: | :---: |
| 1 | Population | All the organisms of one species living in a habitat |
| 2 | Community | The populations of different species living in a habitat |
| 3 | Ecosystem | The interaction of a community of living organisms with the non-living parts of the environment |
| 7 | Interdependence | The dependence of species on other species for things such as food, shelter and seed dispersal |
| 8 | Adaptation | Feature or characteristics that organisms have to allow them to live in specific environmental conditions |
| B | Distribution and human impacts |  |
| 1 | Distribution | Where an organism is found, affected by environmental factors |
| 2 | Quadrat | A square frame with a known area, used to measure number of organisms in a specific location |
| 3 | Percentage cover | An estimate of the percentage area of a quadrat that is covered by a particular species of plant |
| 6 | Biodiversity | The variety of different species of organisms on Earth, or within an ecosystem |
| 7 | Global warming | The gradual increase in the Earth's mean temperature due to increasing levels of greenhouse gases which act like an insulating layer $18$ |

## A: Acids and alkalis

| 1 | Acid | A substance which forms $\mathrm{H}+$ ions when aqueous, pH less than 7 |
| :--- | :--- | :--- |
| 2 | Alkali | A soluble base which forms OH - ions when aqueous, pH more than 7 |
| 3 | Base | An insoluble substance that neutralises an acid to make a salt and water |

## B: Reactions of acids and salts

| 1 | Acids with metal oxides | Acid + metal oxide $\rightarrow$ salt + water |
| :--- | :--- | :--- |
| 2 | Acids with metal hydroxides | Acid + metal hydroxide $\rightarrow$ salt + water |
| 3 | Acids with metal carbonates | Acid + metal carbonate $\rightarrow$ salt + water + carbon dioxide |
| 4 | Acids with metals | Metal + acid $\rightarrow$ salt + hydrogen |

## C: Redox and electrolysis

Year 10 - Cycle 3 - Triple Science - Chemistry Topics 9 \& 10 - Atmosphere \& Resources (Paper 2)

## A: Climate change

| 1 | Greenhouse effect | When greenhouse gases absorb long-wave radiation, keeping it in the Earth's atmosphere |
| :--- | :--- | :--- |
| 2 | Greenhouse gases | Carbon dioxide, methane and water vapour |
| 3 | Carbon footprint | The total amount of greenhouse gases produced over the lifecycle of a product |

## B: Air pollution

1
Global dimming
Clouds of dust and soot reduce the sunlight that can reach the Earth

C: Using resources

| 1 | Life cycle assessment | An assessment of the impact of every stage of a product's life, including raw materials, <br> manufacture, use and disposal |
| :--- | :--- | :--- |
| 2 | Sterilisation | Kills microbes, e.g., using chlorine gas or UV light |
| 3 | Desalination | Removing salt from seawater to make it potable, e.g., using reverse osmosis |
| 4 | Sedimentation tank | Solids sink to produce sludge, leaving liquid effluent floating on top |

Year 10 - Cycle 3 - Science - Physics Topic 2: Electricity (Paper 1)

| 1 | Current (Amps) | The rate of flow of electric charge, measured using an ammeter connected in series |
| :---: | :---: | :---: |
| 2 | Potential difference (Volts) | Energy transferred per coulomb of charge, measured using a voltmeter connected in parallel |
| 3 | Ohm's law | Current through a resistor at a constant temperature is directly proportional to the potential difference across a resistor |
| 4 | LDR | The resistance of a light dependent resistor decreases if light intensity increases |
| 5 | Thermistor | The resistance of a thermistor decreases if temperature increases |
| 6 | Series circuit rules | Potential difference is shared according to resistances, current is the same everywhere in the circuit |
| 7 | Parallel circuit rules | The potential difference across each component is the same, current is shared according to resistance |
| 8 | National Grid | A nationwide network of cables and transformers transferring electricity from power stations to homes |

Year 10 - Cycle 3 - Science - Physics Topic 4: Atomic Structure \& Radioactivity (Paper 1)

| 1 | Random decay | We cannot predict which nuclei will decay and when a specific nucleus will decay |
| :--- | :--- | :--- |
| 2 | Activity | Number of unstable atoms that decay per second (measured in Becquerels) |
| 3 | Half-life | Average time it takes for half of the radioactive atoms in a sample to decay |
| 4 | Alpha particle | Made of two protons and two neutrons, with a charge of +2 |
| 5 | Beta particle | Made of one electron, with a charge of -1 |
| 6 | Penetrating power | How easily the type of radiation can pass through materials - the most penetrating is gamma |
| 7 | Irradiated | When an object is exposed to ionising radiation but does not become radioactive |
| 8 | Contaminated | When unwanted radioactive atoms get onto an object they release radiation and may cause <br> harm |

Year 10 - Cycle 3 - Triple Science - Physics Topic 5 - Forces (Paper 2)

| 1 | Weight equation | Weight = mass x gravitational field strength |
| :--- | :--- | :--- |
| 2 | Work done equation | Work done = force $x$ distance |
| 3 | Hooke's law equation | Force = spring constant $x$ extension |
| 4 | Limit of proportionality | The limit of force you can apply to an object for the extension to increase <br> proportionally |
| 5 | Acceleration equation | Acceleration = Change in velocity |
| 6 | Newton's first law | A resultant force is needed to change the velocity of an object |
| 7 | Newton's second law | The acceleration of an object is proportional to the resultant force on it and inversely <br> proportional to its mass. Resultant force = mass $x$ acceleration |
| 8 | Newton's third law | When two objects interact, the forces they exert on each other are equal and <br> opposite |
| 9 | Momentum equation | Momentum = mass $x$ velocity |
| 10 | Conservation of momentum | In a closed system, the total momentum before an event is the same as after the <br> event |


| A: Relationships - Verb Structures |  |  | 19 | I am going to have children | voy a tener hijos |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 1 | I get on well with | me llevo bien con | 20 | I don't mind being single | me da igual estar soltero |
| 2 | I get angry with | me enfado con | B: Health - Verb Structures |  |  |
| 3 | I fight with | me peleo con | 1 | I am ill | estoy enfermo |
| 4 | I argue with | discuto con | 2 | I am tired | estoy cansado |
| 5 | We have a lot in common | tenemos mucho en común | 3 | I have broken | me he roto la pierna |
| 6 | $\mathrm{He} /$ she gives me advice | me da consejos | 4 | My head hurts | me duele la cabeza |
| 7 | He/she makes me laugh | me hace reír | 5 | I have cereal for breakfast | desayuno cereales |
| 8 | He/she doesn't let me go out | no me deja salir | 6 | I have meat for dinner | ceno carne |
| 9 | $\mathrm{He} /$ she listens to me | me escucha | 7 | I wake up | me despierto |
| 10 | He/she knows me well | me conoce bien | 8 | I go to bed | me acuesto |
| 11 | He/she supports me | me apoya | 9 | I am going to have dinner | voy a cenar |
| 12 | He/she doesn't judge me | no me juzga | 10 | I am going to have | voy a tomar |
| 13 | I am in favour of | estoy a favor de | 11 | I am going to order | voy a pedir |
| 14 | I am against | estoy en contra de | 12 | The food is cold | la comida está fría |
| 15 | I agree with | estoy de acuerdo con | 17 | I usually sleep 8 hours | suelo dormir ocho horas |
| 16 | I want to get married | quiero casarme | 18 | I try not to put on weight | intento no engordar |
| 17 | I have the intention to | tengo la intención de | 19 | I try to avoid stress | trato de evitar el estrés |
| 18 | I hope to find love | espero encontrar amor | 20 | I know that it's important | sé que es importante |


| A: Components of physical fitness |  |  |
| :--- | :--- | :--- |
| 1 | Aerobic <br> endurance | Ability to exercise at moderate intensity for <br> extended periods of time |
| 2 | Muscular <br> endurance | Contracting a muscle over a period of time <br> against a light to moderate resistance |
| 3 | Muscular <br> strength | The maximum force that can be generated <br> by a muscle |
| 4 | Flexibility | The range of motion possible at the joints of <br> the body |
| 5 | Body <br> composition | The relative ratio of fat mass to fat-free mass <br> (vital organs, muscle, bone) |


| B: Components of skill-related fitness |  |  |
| :--- | :--- | :--- |
| 1 | Power | Ability to perform strength-based <br> movements quickly |
| 2 | Agility | Ability to change body direction rapidly |
| 3 | Reaction time | Time taken to respond to an external <br> stimulus |
| 4 | Balance | Ability to control body position and not <br> fall over |
| 5 | Coordination | Ability to move more than one part of <br> the body to create one smooth <br> movement |

## C: Techniques, strategies and fitness required for sports

| 1 | Skills | The experience needed to perform a sport <br> or physical activity |
| :--- | :--- | :--- |
| 2 | Tactics | Smaller specific steps taken to achieve the <br> overall aim |
| 3 | Strategy | Using tactics and decision-making to achieve <br> a long-term or overall aim |
| 4 | Isolated practice | Repeating the routine until it becomes <br> automatic without opponents |

## D: Key officials and roles

| 1 |  |  |
| :--- | :--- | :--- |
| 2 | Officials | National governing <br> bodies (NGBs) <br> and administer the rules |
| 3 | Foul | Organisations that regulate and oversee <br> a sport at a national level |
| 1 | Unfair behaviour by a player, usually due <br> to violation of rules |  |


| A: Methods of training |  |  |
| :---: | :---: | :---: |
| 1 | Continuous training | Training at a steady pace for a minimum of 30 minutes |
| 2 | Circuit training | A combination of six or more exercises performed with short rest periods between them |
| 3 | Plyometrics | Training that develops explosive power and strength |
| 4 | Weight/ resistance training | Machines or free weights provide a load for the muscles to work against |
| B: Principles of training |  |  |
| 1 | F.I.T.T | - Frequency - how often you train <br> - Intensity - how hard you train <br> -Time - how long you train for <br> -Type - what training method you use |
| 2 | Individual needs | Matching the training to the requirements of the individual person |
| 3 | Specificity | Matching the training to the particular requirements of an activity |
| 4 | Thresholds of training | To maximise the chance of fitness adaptations taking place, you should train within your target zone |

## C: Performance enhancing drugs (PEDs)

| 1 | Erythropoietin (EPO) | Helps increase red blood cell production and <br> oxygen delivery to the muscles |
| :---: | :--- | :--- |
| 2 | Human <br> growth hormones <br> (HGH) | Helps increase muscle mass and therefore <br> strength |
| 3 | Blood doping | A process where performers have additional <br> blood added to their bloodstream. |


| D: Injuries |  |  |
| :--- | :--- | :--- |
| 1 | Torn cartilage | An injury at a joint where small tears appear <br> in the cartilage |
| 2 | Sprain | An injury at a joint where some of the fibres <br> of the ligament are torn |
| 3 | Tennis elbow | A joint injury where the tendons are <br> inflamed, with pain felt on the outside <br> elbow |
| 4 | Golfer's elbow | A joint injury where the tendons are <br> inflamed, with pain felt on the inside of the <br> elbow |
| 5 | Strain | A stretch or tear in the muscle, also known as <br> a pulled muscle |

## E: Cool down

| 1 | Light exercises | Exercises performed at a much lower <br> intensity than you have just been working at |
| :---: | :--- | :--- |
| 2 | Stretching | Longer stretches to the muscles you have just <br> been using |

