KEYWORD GLOSSARY

AUTUMN TERM 2

YEAR 9

Topic Glossaries – Year 9

English:

Key Word	Definition
Non-fiction	A piece of writing that is based on facts and real life rather than a fictional story.
Describing	Give a detailed account in words.
Informing	Give someone facts or information; to tell.
Persuading	Convince someone to do something through reasoning or argument.
Persuasive techniques	Techniques used to convince the reader to agree with your point of view.
19th century	The period of time from 1801-1900.
Perspective	A perspective is a particular way of thinking about something, especially one that is influenced by your beliefs or experiences.
Inference	An inference is a conclusion that you draw about something by using information that you already have about it.

Topic Glossaries – Year 9

Maths:

Key Word	Definition
Direct proportion	The linear relationship between 2 variables. As one increases so does the other. $Y \propto X$ (Y is proportional to X) one value is multiplied by the constant of proportionality to get the other value.
Inverse proportion	When one value is proportional to the inverse of the other, as one value increases the other value decreases. $Y \propto 1/X$ (Y is proportional to the inverse of X)
Density	A compound unit that measures the mass per unit volume. Density = mass ÷ volume
Speed	A compound unit that measures the rate of movement of an object. Speed = distance ÷ time
Fibonacci sequence	A sequence that is generated by finding the sum of the two previous terms
Quadratic sequences	A sequence that has a common second difference, the n^{th} term of a quadratic sequence is in this form: $ax^2 + bx + c$
Time series	A line graph that shows data such as measurements, scales or frequencies over a given time period. Used to identify trends over time and make predictions.
Frequency polygons	A graph that shows the frequencies of grouped data
Scatter diagrams	A graph whereby points are plotted to represent 2 measurements, they are used to identify relationships between 2 sets of data.
Correlation	A way of describing the relationship between the two measures used in a scatter graph. The variables can have a positive correlation, negative correlation or no correlation.
Line of best fit	A straight line added to a scatter graph that minimises the distance between it and the data points. It can be used to express a relationship algebraically and make predictions.

Topic Glossaries – Year 9

Science: 9B1 Biology Topic 1 - Cell Structure, Cell Division and Transport in Cells

Topic Keywords SHORTLIST: Full list of keywords on the VLE Science Resources 9B1 Topic Page.

Key Word	Definition
CELL	The basic unit (building block) of life.
NUCLEUS	Organelle that contains DNA, controls the reactions inside the cell and involved in cell reproduction.
CELL MEMBRANE	Surrounds and controls what moves into and out of the cell.
CYTOPLASM	Jelly-like material where the chemical reactions of the cell happen.
RIBOSOME	This is where proteins (long chains of amino acids) are built in the cell.
CELL WALL	Gives the cell shape and strength.
VACUOLE	A bubble full of liquid that stores water, sugars, nutrients and salts.
EUKARYOTIC	Cells that have a nucleus.
PLASMID	Small rings of DNA that can be exchanged between bacteria.
MAGNIFICATION	How many times bigger the image is compared to the actual object.
ELECTRON MICROSCOPE	Use electrons to see smaller structures inside cells with a higher magnification and resolution.
MICROMETRE (μm)	A unit of measurement one thousand times smaller than a millimetre (mm).
CELL DIFFERENTIATION	When a cell acquires different sub-cellular structures to enable it to carry out a certain function.
STEM CELLS	Undifferentiated cells in animals that can divide to produce more undifferentiated cells or differentiate into different types of cells.
EMBRYONIC STEM CELLS	Stem cells found in the embryo, umbilical cord and amniotic fluid. Differentiate into most types of animal cell at an early stage of pregnancy.
THERAPEUTIC CLONING	When an embryo is produced with the same genes as the patient. Stem cells from the embryo are not rejected by the patient's body so they may be used for medical treatment.
GENE	A section of DNA that codes for a particular characteristic or protein.
CHROMOSOME	A coiled structure of DNA containing many genes.
CELL CYCLE	When the genetic material in a cell is replicated and sub-cellular structures increase in number. The nucleus, cytoplasm and cell membrane divide to form two identical cells which are used by the organism to grow and replace damaged cells.
SURFACE AREA TO VOLUME RATIO	Indicates how much surface area is available compared to the size of an organism. A larger ratio means there is enough surface area for diffusion to supply the entire organism with the substances it requires.
EXCHANGE SURFACE	Organs adapted to maximise the exchange of substances by having a large surface area, a thin membrane, and maintaining a steep concentration gradient.

Topic Glossaries – Year 9

OSMOSIS	The diffusion of water from a dilute solution to a concentrated solution through a partially permeable membrane.
ACTIVE TRANSPORT	The net movement of particles from an area of lower concentration to an area of higher concentration requiring energy from respiration.

Science: 9C1 Chemistry Topic 1 – Atomic Structure and the Periodic Table

Topic Keywords SHORTLIST: Full list of keywords on the VLE Science Resources 9C1 Topic Page.

COMPOUND	A **substance** made of **two or more elements** chemically **bonded** together.
ELECTRON	A **subatomic particle** that orbits the **nucleus**, with a **negative** charge and **negligible mass** (almost no mass).
ELEMENT	A **substance** made of only **one type of atom**.
GROUP	A **column** (going down) on the periodic table.
ISOTOPES	Atoms with the **same** number of **protons** but **different** numbers of **neutrons**.
IONS	Atoms of an element that have the **same** number of **protons** with a **different** number of **electrons**. The particle will be charged!
CATION	A **positively** charged ion (ca+ion).
ANION	A **negatively** charged ion (A Negative ION).
NEUTRON	A **subatomic particle**, found in the **nucleus**, with no charge (**neutral**) charge and a **mass of 1**.
NUCLEUS	A space at the **centre of an atom** where the neutrons and protons are found.
PROTON	A **subatomic particle**, found in the **nucleus**, with a **positive** charge and a **mass of 1**.
PURE	Describes a substance that contains **only one element or compound**.
REACTIVITY	**How easily and how violently** a substance **reacts** with other substances.
RELATIVE ATOMIC MASS	The **average mass** of all atoms of an element, taking account of the **abundance** of the **isotopes** of the element.
MIXTURE	Describes a substance that has a mixture of atoms, elements or compounds **NOT** chemically joined together.
SOLUTION	The **mixture** produced when a **solute** dissolves in a **solvent**.
SUBATOMIC PARTICLES	The particles found inside of the atom: **protons**, **neutrons**, and **electrons**.
SEPARATION TECHNIQUE	A method of separating a mixture into its components.

Topic Glossaries – Year 9

Science: 9P1 Physics Topic 1 – Particles, Internal Energy and Energy Transfers

Topic Keywords SHORTLIST: Full list of keywords on the VLE Science Resources 9P1 Topic Page.

MASS (m)	The amount of matter an object contains. The unit for mass is kilograms (kg) or grams (g).
VOLUME (v)	A measure of the amount of space an object occupies. The unit for volume is m^3 or cm^3.
DENSITY (p)	A measure of how much mass there is in a certain volume (how closely packed the particles are). The unit for density is kg/m^3 or g/cm^3.
PARTICLE THEORY	The scientific theory used to explain the properties of solids, liquids and gases.
ENERGY	The capacity for doing work.
INTERNAL ENERGY	The total kinetic energy and potential energy of the particles in an object.
KINETIC ENERGY	Energy which an object possesses by being in motion.
CHEMICAL POTENTIAL ENERGY	A type of energy store. It is taken in when chemical bonds break, and given out when chemical bonds are made.
TEMPERATURE	A measure of the average kinetic energy of particles in a substance.
CONSERVATION OF ENERGY	The principle that the total energy of a system stays the same, that energy cannot be created or destroyed (only stored or transferred).
SYSTEM	An object or group of objects.
SPECIFIC HEAT CAPACITY	The amount of energy needed to raise the temperature of 1 kg of substance by 1°C.
THERMAL ENERGY	Energy stored in moving particles. A more formal term for heat energy.
SPECIFIC LATENT HEAT	The amount of energy needed to melt or vaporise 1 kg at its melting or boiling point.
GAS PRESSURE	When gas particles randomly collide with the walls of a container.

Topic Glossaries – Year 9

Geography: Are there too many people on the planet?

Key Word	Definition
Natural Change	The difference between births and deaths, if positive – the population will increase, if negative – the population will decrease.
Birth-Rate	The number of babies born/1000/year.
Death-Rate	The number of deaths /1000/year.
Life Expectancy	How long, on average, someone is expected to live. This is calculated for their birth year and has been steadily rising in most HICs.
Population Density	The number of people living within a given area of land.
Sparsely populated	An area of land that has few people living in it e.g. Scottish Highlands.
Densely populated	An area of land that has lots of people living in it. Dharavi, Mumbai is the most densely populated place on Earth, with 1 million people living in 1km2.
Informal Settlement	Otherwise known by the following terms (slum/shanty-town/squatter settlement/favela/barrio). These are illegal housing areas, occupied typically by some of the poorest people in society.
Resources	The things that people need to survive e.g. Food, Water, Energy, Accommodation.
Demography	The study of populations
Demographic Transition Model	A model which shows how all populations have changed over time. Can be applied to any country, showing population growth as a result of declining death-rates.
Population Pyramid	A two-axis bar chart, used to show the different numbers of people who are both female and male in a population, organised by age.
Baby-boom	When there is a sudden increase in the number of babies born, e.g. in the years following a war (as happened in the UK after 1945)
One-Child Policy	A system used in China between 1979 and 2015 to suppress population growth.

Topic Glossaries – Year 9

History: The First World War

Key Word	Definition
alliance	a group of countries who agree to support each other during times of conflict
trench	a long ditch dug by soldiers for protection and as a position from which to fight
recruitment	the process of getting people to join a military force
conscription	forcing people to join the military, to increase the number of soldiers
propaganda	information and posters used to influence public opinion or support for a cause
patriotism	strong loyalty to one's own country
armistice	an agreement to stop fighting, usually leading to peace talks
treaty	a formal agreement between nations, often at the end of a conflict, to establish peace
revolution	major, sudden changes in society, government or culture
superpower	a very influential and powerful country with significant impact on global affairs

Topic Glossaries – Year 9

Religious Education: Good, Bad, Right, Wrong; How do I decide?

Agape	Selfless love (a Christian belief based on the actions of Jesus)
Absolute morality	The idea that there are rules which are always right or always wrong in ALL situations.
Altruism	The belief that you should act in a way that benefits others before yourself.
Aquinas	A Christian who argued that we have an absolute duty to always do good and avoid evil - follow the 5 primary precepts. (Natural Law)
Conscience	Inner voice which acts as a guide to right or wrong behaviour
Consequentialism	The belief that you should act based upon the consequences of your actions.
Commandments	Rules, for example the 10 Commandments given to Moses.
Deontological	Deontology = duty. The idea that we have an absolute duty to act in a certain way.
Ethics	Rules on what is the right thing to do in a situation
Egoism	The belief that you should act in a way that benefits yourself
Hedone	Pleasure
Humanism	Humanism doesn't believe in any supernatural power or God. They believe you use reason and experience to make moral decisions
Morality	Deciding between right/ wrong or good/bad.
Precepts	Rules to regular behaviour
Parable	A simple story used to illustrate a moral or spiritual lesson
Relative morality	The belief that an action can be right/wrong depending on the situation – an action is not wrong always.
Right	Something that is good/correct
Righteousness	Fairness/ justice
Sermon	A talk on a religious or moral subject, especially one given during a church service and based on a passage from the Bible.
Situation Ethics	The belief that you should act in a way that is the most loving. A relative ethical theory – an action is right if motivated by love, wrong if not. Christian theory based on agape.
Utilitarianism	The belief you should act in a way that brings about the greatest good for the greatest number. A relative ethical theory – an action is right if it brings this about, wrong if it doesn't.
Wrong	Something that is bad/not correct or suitable

Topic Glossaries – Year 9

Design Technology:

Key Word	Definition
Aesthetics	A set of principles concerned with the nature and appreciation of beauty. The way something looks or appears.
Consumer	A person who buys or uses products and services.
Cost	How much does the product cost to buy and to make?
Environment	What impact does a product have on the environment? The world we live in. Where will the product be used.
Safety	Is the product safe to use?
Size	How big is the product? What sizes does it need to be?
Function	Who well does the product function? Does the product work how it was meant too?
Material	What material is the product made from?
CAM	Computer Aided Manufacture
CAD	Computer Aided Design
Specification	A design specification is a list of criteria your product needs to address
Manufactured boards	Man-made material comprises of a range of sheet materials produced by pressing and bonding together wood particles, fibres or veneers to achieve a particular characteristic
Softwood	Softwoods come from coniferous trees. These often have pines or needles, and they stay evergreen all year round - they do not lose leaves in the autumn. They are faster growing than hardwoods, making them cheaper to buy, and are considered a sustainable material.
Hardwood	Hardwood comes from deciduous trees with broad leaves. Hardwood trees take a long time to grow, around 60 years (sometimes up to 100). This means that they are rarely planted and can be very expensive.
Dowel	A wooden peg used for holding together components of a structure or joint.

Topic Glossaries – Year 9

Music: Christmas Number One

Key Word	Definition
Chart	The most popular songs across a period of time (usually 1 week). Nowadays this takes streaming into account, but previously it was just CD / record sales.
Single	An individual track released separately to an album. A single used to be a CD or record that would contain more than one track, but usually only a couple.
Riff	A repeated pattern, usually in a rock or pop song.
Supergroup	A collection of famous musicians that don't typically usually sing or play together (Band Aid, for example)
Melody	The "tune" of a song
Verse / chorus	Sections of a pop song. Lyrics change in a verse but usually stay the same across the chorus repetitions.
Middle 8	A section around two-thirds the way through a pop song that introduces new material, often for about 8 bars.
Primary Chords	Chords that are based on the first, fourth or fifth note of a scale.
Triad	A chord that is built from 3 notes
Tonality	Whether a chord is major or minor
Quote	In the musical sense, this is when you play a little bit of a melody in your own song. For example, playing a few notes of Jingle Bells at the start of a song
Motown	A sub-genre of music originating from a record label. This style is a big influence on many Christmas songs.
Extension chord	A chord that expands from the basic major / minor chords by adding further notes

Topic Glossaries – Year 9

Drama: Creating original Drama

Key Word	Definition
Artistic intention	The decisions, made by theatre makers, to communicate deeper meaning through their work
Symbolism	Where something stands for, or represents something else. For example, a rose symbolises love, the colour white symbolises innocence
Multimedia	Using a computer to use video, audio, music, images and text as a tool in your performance
Workshop	Opportunity to learn new techniques and incorporate them into a piece
Breaking the fourth wall	Removing the imaginary 'wall' between the actors and audience and engaging the audience in the performance through direct address or thought tracking

Topic Glossaries – Year 9

Physical Education

Gymnastics

Key Word	Definition
Control	Continuous small adjustments to the body allowing the smooth performance of set moves.
Body Tension	The tightening of your muscles and keeping the body in a straight line.
Extension	Pointing toes and fingers, keeping the head up and making the limbs long.
Flexion	Bending at a joint e.g. bringing your toes towards the body.
Mirroring	Pupils perform in pairs with the same balance or movement in a ***mirror*** image of each other.
Matching	Pupils perform in pairs with the same balance or movement facing the same way.
Counter tension	when gymnasts perform a balance which involves two or more of them pulling away from each other.
Counter balance	*A partner/group balance using a pushing force against each other to remain still.*
Centre of gravity	The centre of gravity is a point in an object where the distribution of weight is equal in all directions.
Abduction	Movement of a limb away from the midline of the body.
Adduction	Movement of a limb towards the midline of the body.
Flexibility	The range of movements possible at a joint.
Isometric muscle contractions	This involves a muscle producing tension but staying the same length. This occurs when the body is fixed in one position.
Isotonic Eccentric muscle contractions	This involves the muscle lengthening whilst it is under tension.
Isotonic Concentric muscle contractions	This involves the muscle shortening when it is working.