KEYWORD GLOSSARY

SPRING TERM 3

HLS

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.

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Maths:

Key Word	Definition
Arc	A section of the circumference of a circle
Sector	The area created by 2 radii in a circle (think pizza slice)
Segment	The area created by a chord in a circle (think orange segment)
In terms of Pi	Leaving answers in terms of Pi is more accurate as values haven't been rounded. Eg 5π
Arc length	A calculation needed to find the length of a section of circumference eg: arc length = $\frac{\theta}{360}\ \pi\ d$
Area of sector	A calculation needed to find the area of a sector of a circle eg: Area = $\frac{\theta}{360}\ \pi\ r^2$
Surface area	The sum of the areas of each face of a 3D shapes.
Inequality	Comparisons of two values showing one is less that, greater than or not equal to another value eg < (less than), ≤ (less than or equal to), > (greater than), ≥ (greater than or equal to), ≠ (not equal to)
Solving inequalities	Using the rules of solving equations within inequalities. Finding the possible values that the variable could be eg 2x + 3 > 13 2x > 10 X > 5 x must be greater than 5 for this inequality to be true.

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.

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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.
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.

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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.

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Geography: How sustainable is your life?

Key Word	Definition
Sustainability	Meeting the needs of today, without compromising the ability of future generations to meet theirs.
Solar Energy	Capture of the sun's photon energy using silicon layered solar cells to generate a current by using electron displacement.
Wind Energy	Capturing the energy of wind using a large wind turbine. The blades of the turbine rotate and generate an electrical charge through a dynamo.
Tidal Energy	Capturing the energy of the sea's tides, by creating a lagoon to store water at high tide, before releasing it back to the sea through turbines.
Nuclear Energy	Creating energy by using nuclear material (usually uranium) to heat water and use the resultant steam to drive turbines.
Renewable Energy	Any form of energy that can be continually made without causing harm to the atmosphere
Carbon Footprint	The total amount of carbon we release through our activities.
Recycling	Turning a product back into another new item e.g. waste paper can be used to create new paper
Waste Hierarchy	The order of preference for disposing of our waste.
Reuse	Finding a new purpose for something e.g. using an old jar as a pencil pot.
Reduce	Using less of something.
Nurdle	A tiny microplastic that is formed from the erosion of plastic in the sea. Very harmful to sea animals as they can accumulate
Carbon Neutral	Not having an impact on the atmospheric carbon through careful choices.

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History: The Impact of the First World War

Key Word	Definition
alliance	A formal agreement between two or more groups, like countries or organisations, working together for common goals
recruitment	The process of finding and attracting people to fill job openings or roles in the military
trench	A long, narrow ditch in the ground, often used for defence in military situations
artillery	Large guns like cannons used for long-range military attacks to support ground forces
total war	When a nation uses all its resources, including civilians and industries, to fight a war
Remembrance	The act of honouring people who died in war
Armistice	A formal agreement to temporarily stop fighting, usually to negotiate a more permanent peace
treaty	A formal agreement between countries often to do with peace, trade, or alliances
revolution	A sudden and significant change in a society's political, social, or economic structures
conscription	Making it the law to join the army in times of war

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Religious Education: Whose body is it anyway?

Abortion	The intentional termination (ending) or a pregnancy
Agape	Selfless love (a Christian belief based Jesus' actions)
Altruism	The belief we should act to puts other's needs first
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)
Capital Punishment	The death penalty – the legalised killing of someone as a form of punishment. Not legal in the UK
Conception	The moment the sperm and egg meet to create a pregnancy
Conjoined twins	Twins that are physically joined at birth, sometimes sharing organs
Consequentialism	The belief that you should act based upon the consequences of your actions.
Commandments	Rules, for example the Ten Commandments given to Moses.
Death Penalty	Capital Punishment – the legalised killing of someone as a form of punishment. Not legal in the UK
Double effect	The principle of double effect explains when we are allowed to accept what some consider a morally bad effect (eg an abortion) as a consequence of trying to bring about a morally good outcome (eg saving a life).
Egoism	The theory that says we should act in our own self interest
Euthanasia	The killing of a patient suffering from an incurable and painful disease.
Fertilisation	When sperm and egg have joined (conception) and it embeds in the woman.
Humanism	Humanism doesn't believe in any supernatural power or God- you use reason/ experience to make moral decisions
IVF	In vitro fertilisation. Fertilising an egg with sperm in a glass dish.
PGD	Preimplantation genetic diagnosis – where the fertilised egg is scanned to identify conditions and diseases.
Pro life	The belief that life is important and shouldn't be ended, should be protected
Pro choice	The belief that a person should have the right to choose what happens to their body
Quality of life	The extent to which life is meaningful and pleasurable
Reformation	One of the purposes of punishment – to teach the criminal the error of their action. To make them a better person
Sacred	Holy, connected with God
Sanctity of life	The religious belief that all life is a God given gift – that should be treasured and respected
Situation Ethics	The belief that you should act in a way that is the most loving (agape – selfless love). A relative ethical theory – an action is right if motivated by agape, wrong if not
Stewardship	The job of looking after something (for example your body or the planet)
Terminate	To end
Utilitarianism	The belief you should act in a way that brings about the greatest good for the greatest number.

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Art:

Key Word	Definition
Abstract	A term generally used to describe art that is not representational or based on reality or nature.
Analysis	Looking deeper into a piece of art, beyond the surface, and making judgements about what you find out.
Identity	A person's sense of self, established by their unique characteristics, affiliations, and social roles.
Expression	A look on someone's face that conveys a particular emotion.
Medium	The materials used to create a work of art, and the categorisation of art based on the materials used (for example, painting [or more specifically, watercolour], drawing, sculpture).
Replica	A copy or reproduction.
Cubism	A revolutionary approach to representing reality invented in around 1907–08 by artists Pablo Picasso and Georges Braque. They brought different views of subjects (usually objects or figures) together in the same picture, resulting in paintings that appear fragmented and abstracted.
Figurative Art	Any form of modern art that retains strong references to the real world and particularly to the human figure.
Triptych	A set of three associated artistic, literary, or musical works intended to be appreciated together.
Collage	A piece of art made by sticking various materials such as photographs and pieces of paper or fabric on to a backing.
Iconography	The visual images and symbols used in a work of art or the study or interpretation of these.
Sitter	The person posing in a portrait.
Interpretation	A stylistic representation of a creative work or dramatic role.

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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.

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Design Technology: Textiles

Key Word	Definition
Aesthetics	A set of principles concerned with the nature and appreciation of beauty. The way something looks or appears.
Target Market	A group of potential customers that you identify to sell products or services to
Story Board	Communicates a story through images displayed in a sequence of panels that chronologically maps the story's main events.
Cellulosic	Fibres from a plant source.
Biodegradable	Will decompose (rot) and break down without damaging the environment
Decorative Techniques	Used to improve the aesthetics of a product by adding colour, texture and pattern, for example dyeing, printing and embroidery
Design Context	The wider setting in which a design solution for a product will sit.
Design Fixation	When designers stick to one idea instead of exploring new design avenues.
Durability	Resistance to wear, long lasting.
One-Off Production	Production of a single, unique product.
Seam Allowance	The area between the fabric edge and the stitched line on two (or more) pieces of material being sewn together.
User Profile	An overview of the intended user containing information such as their age, occupation, needs and general interests.
Wadding	Used as a layer of insulation between fabrics – typically used in quilt making.

Design Technology: Food & Nutrition

Al dente	'Firm to the bite', a description of the texture of correctly cooked pasta
Aeration	Incorporating air into a mixture
Biological raising agent	An organic raising agent, e.g. yeast. Using yeast to produce CO_2 gas.
Bran	The fragments of grain husk. The outer layer. If it is removed there is a reduction in nutritional value. It is found in Wheat, rice, barley and corn
Calcium	Main mineral in the body, teeth and bones. It needs vitamin D to help absorption.
Caramelisation	Breaking up of sucrose molecules (sugar) when they are heated. This changes the colour, flavour and texture of the sugar as it turns brown into caramel.
Carbohydrates	Macronutrients required by all animals; made in plants by the process of photosynthesis.
Carbon dioxide	Gas that is produced by yeast and chemical raising agents. Helps food rise such as bread.
Chemical raising agents	Raising agents that are chemicals, e.g. baking powder or bicarbonate of soda to produce CO_2 gas.
Coagulation	The setting or joining together of lots of denatured protein molecules during heating or change in PH. The food sets, hardens or thickens. An irreversible change to the appearance and texture of protein foods.
Conduction	Transfer of heat through a solid object into food.

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Consistency	Thickness or viscosity.
Convection	Transfer of heat through a liquid or air circulation into food.
Creaming	When sugar is combined via beating or whisking with a solid fat, typically butter, margarine or shortening.
Danger zone	Range of temperatures between 5°C to 63°C at which bacteria begin to multiply rapidly.
Denaturation	Chemical bonds in the protein food have broken, causing the protein molecule to unfold and change shape.
Dextrinisation	Breaking up of the starch molecules in flour into smaller groups of glucose molecules when exposed to dry heat causing the surface to brown, eg toast
Dietary fibre	Complex carbohydrate/non-starch polysaccharide, eg whole grain cereals and cereal products.
Durum Wheat	High protein wheat used to make pasta.
Endosperm	The main part of the grain, a starch and protein supply. White bread is made from the endosperm only.
Enzymic browning	The discolouration of a fruit or vegetable due to the reaction/chemical process where oxygen and enzymes in the plant cells of the food to react and cause the surface to become brown. This process cannot be reversed.
Emulsify	To use an ingredient as a mediator in a mixture, enabling 2 ingredients to mix without the separating, e.g. eggs in mayonnaise
Extraction rate	How much of the original wheat grain is in the flour 100% means that it contains all.
Fats	Macronutrient which supplies the body with energy.
Fermentation	The chemical breakdown of sugar to acid, gas or alcohol by bacteria, yeast or other microorganism. When yeast ferments it produces CO2.
Function	What something does, or why it is needed
Gelatinisation	When starch granules swell when cooked with liquid, then burst open and release the starch, causing the liquid to thicken.
Gluten	The protein found in cereals such as wheat. When water is added to the flour, the protein is activated. Kneading makes it stronger -needed in breadmaking
Gluten formation	Gluten is formed from the two core proteins gliadin and glutenin, in presence of water. Needed to make the dough more elastic and helps forms the crusts of bread.
High risk foods	Foods that are high in moisture and nutrients, especially protein (perishable foods: meat, shellfish, cooked rice, eggs, milk, cream). They support the growth of pathogenic microorganisms, such as bacteria.
Knead	To manipulate dough by pushing it across a work surface and pulling it back. This is essential to develop the gluten.
Laminating	Rolling out pasta into thin sheets.
Leavened	Breads with a raising agent, e.g yeast. They are soft and aerated.
Macronutrients	Carbohydrate, Protein and Fat required by the body in larger quantities.
Maillard reaction (non-enzymatic browning)	A chemical reaction between protein and a carbohydrate in the presence of dry heat. Food's colour and flavour become deeper and stronger. (Golden Brown and Delicious)
Marinade	To soak foods such as fish, meat, poultry and vegetables in a liquid to help develop the flavour, tenderise and in some instances colour the food before it

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	is cooked. The liquid can be acidic or a salty solution. Protein is denatured by marinating.
Mechanical raising agent	Whisking, beating, sieving, creaming, rubbing in or folding to trap air into the mixture
Micronutrients	Nutrients required in small quantities to help maintain and repair the body- Vitamins and Minerals.
Minerals	Chemical substances found in a wide variety of foods.
Nutrients	The properties found in food and drinks that give nourishment – vital for growth and the maintenance of life. The main nutrients needed by the human body are carbohydrates, proteins, fats, vitamins and minerals.
Omega 3 and 6`	Types of essential fatty acid the body cannot make itself which are important for a healthy heart.
Organic farming	Farming that produces food using natural methods without the use of chemicals, fertilisers and pesticides.
Raising agents	An ingredient or process that introduces a gas into a mixture so that it rises when cooked.
Plasticity	The ability of fat to be spreadable and also hold its shape.
Physical raising agent	Steam aerates food such as in choux pastry and Yorkshire puddings. Water or liquids added to a mixture turn to steam when heated to high temperatures.
Protein	A macronutrient that is essential to building muscle mass.
Prove	The last rising of the bread dough in its final shape before it is baked.
Provenance	The place of origin of something.
Shortening	The ability for fat to shorten the length of the gluten molecules in pastry or shortbread, for example butter, lard or other fat. The texture is crumbly and 'melts in the mouth' Also the name used for these ingredients that remains solid at room that are used for making pastry or bread.
Simmering	Water that is heated to just below boiling point
Steaming	A method of cooking where food is cooked in the steam coming from boiling water. Conduction-convection.
Starch	A polysaccharide, a complex carbohydrate .Food such as potato, cereals contain it.
Strong flour	Flour with a higher level of gluten, used in bread making. Sometimes called 'Hard' wheat.
Tenderising	The make meat muscle softer and more digestible by marinading, hammering, mincing, cubing or dicing.
Tipo '00' flour	Milled from hard wheats with a slightly lower level of protein, used in pasta making
Unleavened	Refers to breads, cakes and biscuits made without raising agents
Unsaturated fats	Fats that contain a high ratio of fatty acid molecules with at least one double bond. Unsaturated fats are normally liquid oil.
Yeast	A microscopic fungus consisting of single oval cells that reproduce by budding, and capable of converting sugar into alcohol and CO_2 gas. Also ferments in the correct conditions to make bread rise.
Whisking method	Method used to make some cakes such as Swiss rolls. Eggs are whisked to add air and volume and turn into a foam.

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Music: Music for Change

Key Word	Definition
Activism	Trying to bring about social or political change through protests, demonstrations etc
Civil rights	The rights of individuals to receive equal treatment
Activist artists	Musicians who use their music to work towards social and political change / raise awareness for important issues
Folk music	A genre often associated with protest music, that sometimes focuses on conveying social messages
Counter-culture music	Music that that actively works against what is considered "normal" in a society, associated with protest music of the 60s and 70s
Dissent	The opposition to opinions, policies or authority
Protest anthem	A song that is closely associated with a particular movement
Revolution	Fundamental changes in society, which is often referred to heavily in protest music
Empowerment	Giving people confidence / power for a situation, often through music
Solidarity	Unity among people who share common goals
Injustice	Unfair treatment, often sung about in protest songs
Nonviolence	Resistance through peaceful means
Social consciousness	The awareness of problems in society

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Drama: Devising Drama

Key Word	Definition
Ensemble	Group of actors together, no main role
Repetition	Repeating a certain movement
Slow motion	Slowing movement down to a count of 4 or 8
Exaggeration	Over the top movement
Physical theatre	Using movement to tell a story
Music	Can create atmosphere and pace
Prop	Object used in performance

Physical Education

Components of fitness across sports

Key Word	Definition
Agility	The ability to move and change direction quickly whilst maintaining control e.g. reaching a drop shot on the other side of the court in badminton.
Cardio-vascular endurance	The ability of the heart and lungs to supply oxygen to the working muscles. This will help to ensure you can maintain a higher level of skill when competing in a full game of football.
Coordination	The ability to use different (two or more) parts of the body together (smoothly and efficiently) e.g. dribbling in basketball.
Flexibility	The range of movements possible at a joint. The greater the range of movement at the hip joint, the more power that can be generated when kicking a football.
Muscular endurance	The ability of a muscle or muscle group to undergo repeated contractions, avoiding fatigue e.g. jumping for rebounds in basketball.
Reaction Time	The time taken to initiate a response to a stimulus. e.g. the time from the shuttle cock coming over the net in badminton to starting to initiate a response and returning the shot.
Speed	The maximum rate at which an individual is able to perform a movement or cover a distance in a period of time, putting the body parts into action as quickly as possible. Calculated by: distance ÷ time. E.g. sprinting down the pitch in football to close down a tackle or keep the ball in play.