HOLY TRINITY

Secondary Science Vocabulary

	Y7	Y8	Y9		Y10	Y11
Term 1a	cells tissues organs systems organism organelles nucleus cytoplasm mitochondrion ribosome cell membrane cell wall vacuole chloroplast microscope eyepiece lens objective lens stage specimen states of matter solid liquid gas dissolving	Earth orbit satellite phases of the Moon hemispheres asteroid inner planets outer planets solar system galaxy light year Milky Way star Universe gravity mass weight diet nutrients starch water balanced diet carbohydrate	chemical weathering weathered biological weathering erosion freeze–thaw action physical weathering sediment transport limestone sedimentary rock magma metamorphic rocks igneous rock lava mantle rock cycle element metals non-metals properties chemical formula	**Biology** **Topic 1: Cell**	Active transport Agar Jelly Cell differentiation Cell membrane Cell wall Chloroplast Chromosomes Concentration gradient Diffusion Embryonic Stem Cell Eukaryotic stem cell Eukaryotic cell Magnification Meristematic cells Mitochondria Nucleus Organelle Osmosis Plasmid Prokaryotic cell Resolution Specialised cells Surface area Vacuole	Adult stem cell Mitosis Stem cell The cell cycle Therapeutic cloning

	filtering insoluble mixture soluble solute solution solvent condensing distillation chromatogram chromatogram solubility	fat kilojoule (kJ) mineral protein sugar vitamin absorbed digestion digestive juices egestion enzyme gullet ingestion insoluble large intestine rectum saliva small intestine stomach amylase villi element metals non-metals Periodic Table atom properties chemical formula compounds molecule symbol equation	compounds molecule symbol equation chemical reaction reactants products reactivity reactivity series	**Biology Topic 2: Organisation**	Amylase Aorta Artery Bile Blood Capillary Cell Communicable disease Coronary heart disease Enzymes Lipase Lock and key hypothesis Malignant tumour Non-communicable disease Organs Organ systems Palisade mesophyll Phloem Protease Pulmonary artery Pulmonary vein Rate of reaction Risk factor Spongy mesophyll Statins Stent Tissue Translocation Transpiration Vein Vena cava Xylem	Meristem tissue
	environment	magnetism	ray			

Term 1b	habitat carnivore decomposer herbivore predator prey consumer food chain food web omnivore producer community population pyramid of numbers primary consumer secondary consumer tertiary consumer air resistance contact force non-contact force drag force newton meter friction gravity upthrust water resistance balanced forces unbalanced forces weight friction	attract magnetic materials magnetism north pole repel south pole bar magnet magnetic field plotting compass electromagnet permanent magnet solenoid respiration blood circulatory system vein aerobic respiration glucose product reactant word equation aerobic breathing rate carbon dioxide air sacs alveolus breathing gas exchange trachea ventilation anaerobic respiration fermentation	opaque reflect translucent transmit transparent angle of incidence angle of reflection image incident ray normal plane mirror ray diagram angle of incidence angle of refraction refraction spectrum pitch amplitude frequency hertz (Hz) loudness wave wavelength ammeter cell circuit component electric current voltage atom electron resistance variable resistor parallel circuit	**Biology Topic 3: Infection and Response**	Antibiotics Clinical drug testing Communicable disease Double bling trial Gonorrhoea Human immunodeficiency virus (HIV) Malaria Measles Monoclonal antibodies Non-communicable disease Non-specific defence Pathogens Placebo Preclinical drug testing Rose black spot Side effects Tobacco Mosaic Virus (TMV) Vaccination White blood cell	
				Biology Topic 4: Bioenergetics		Aerobic respiration Anaerobic respiration Cellular respiration Inverse proportion Inverse square law Limiting factor Metabolism Oxygen debt
				Biology Topic 5: Homeostasis		Abstinence Accommodation Adrenaline Antidiuretic hormone (ADH) Contraception Coordination centres

	speed metres per second (m/s)		series circuit Ohms Law static electricity positive negative charge			Deamination Dialysis Effectors Ethane Follicle stimulating hormone (FSH) Geotropism/gravitropism Gibberellins Glucagon Homeostasis Hyperopia In vitro fertilisation (IVF) Luteinising hormone (LH) Myopia Negative feedback cycle Phototropism Receptors Reflex action Selective reabsorption Stimuli Target organ Testosterone The brain The central nervous system The eye Thermoregulatory centre Thyroxine Type 1 diabetes Type 2 diabetes Vasoconstriction
Term 2a	acid corrosive hydrochloric acid alkali indicator litmus neutral pH scale	properties alloys polymers ceramics composites chemical reaction	abiotic biotic population community ecology sampling quadrat line transect	**Biology Topic 6: Inheritance, Variation and Evolution**	Amino acids MRSA Vector	Adult cell cloning Archaea Asexual reproduction Binomial system Charles Darwin Classification Coding DNA Complementary

	universal indicator neutralisation chemical energy electrical energy fossil fuels heat energy kinetic energy law of conservation of energy light energy nuclear energy sound energy geothermal power hydroelectric power solar power nuclear power tidal power joule (J)	irreversible change product reactants word equation combustion speed distance time velocity distance / time graph velocity / time graph acceleration	random bias ecosystem adaptation extremophile habitat population growth carrying capacity estimate competition inter-species intra-species atoms elements mixtures pure compound chemical formulae formulation			Cuttings Cystic fibrosis DNA Embryo screening Embryo transplants Evolution Evolutionary tree Extinction Family tree Fertilisation Fossil Gametes Gene Genetic engineering Genome GM crops Heterozygous Homozygous Inbreeding Linnaean system Meiosis Mitosis Natural selection Non-coding DNA Nucleotide Phenotype Protein synthesis Recessive Ribosomes Sex chromosome Sexual reproduction Speciation Species Three-domain system Tissue culture Variation

Term 2b	egg cell sperm cell uterus ovary oviduct vagina sperm duct testis umbilical cord fertilisation embryo amniotic fluid menstrual cycle gestation period puberty sex cell variation atom chemical formula compound element molecule mixture pure		organelles nucleus cytoplasm mitochondrion ribosome cell membrane cell wall vacuole chloroplast microscope eyepiece lens objective lens stage specimen magnification field of view graticule energy stores energy transfers magnetic energy kinetic energy thermal energy light energy gravitational potential energy chemical energy sound energy electrical energy elastic potential energy nuclear energy renewable energy wind energy solar energy geothermal energy biomass energy tidal energy	**Biology Topic 7: Ecology**	Abiotic factors Adaptation Anaerobic decay Apex decay Apex predator Biodiversity Biogas Biotic factors Carbon cycle Community Competition Compost Decomposers Decomposition Deforestation Distribution Ecosystem Efficiency of biomass transfer Extremophiles Food chain Food security Global warming GM crops Interdependence Mean Median Microorganisms Mode Pollution Population Predators Prey Primary consumers Producers Pyramid of biomass Quadrat Secondary consumers	

			wave energy hydroelectric energy speed acceleration velocity distance / time graph velocity / time graph gradient vector scalar non-uniform acceleration		Sustainable Sustainable fisheries Tertiary consumers Transect Trophic levels Water cycle	
Term 3a	ammeter cell circuit component electric current voltage atom electron resistance variable resistor parallel circuit series circuit photosynthesis glucose water oxygen carbon dioxide chlorophyll chloroplast	DNA genetic information inherited variation species cross-breeding selective breeding genes alleles adaptation population evolution survival of the fittest mutations	atmosphere evolution nitrogen carbon dioxide nitrogen oxygen volcanoes photosynthesis temperature methane carbon cycle greenhouse effect global warming	**Chemistry Topic 1: Atomic Structure and The Periodic Table**	Alkali metals Atom Atomic nucleus Atomic number Chromatography Compound Crystallisation Displacement Electron Electron shell Element Filtration Fractional distillation Group (periodic table) Halogens Isotope Mass number Metals Mixture Neutron Noble gases	

	palisade mesophyll spongy mesophyll xylem phloem				Non-metals Nuclear model Periodic table Plum pudding model Proton Relative atomic mass Simple distillation Transition metals	
Term 3b			finite renewable sustainable natural artificial synthetic population potable water flocculation sedimentation chlorination filter pH dissolved salts microorganisms distillation sterilisation	**Chemistry Topic 2: Bonding, Structure, and the Properties of Matter**	conductor Empirical formula Gas Ion Liquid Metals Molecular formula Non-metals Particle theory Solid State symbols	Covalent bond Diamond Electrostatic forces Fullerenes Graphene Graphite Ionic bond Ionic compound Intermolecular forces Lattice Metallic bond Nanoparticles Nanoscience Polymers Repeat unit

			desalination reverse osmosis effluent screening aeration anaerobic life cycle assessment raw materials manufacture distribution Use disposal environment habitat carnivore decomposer herbivore predator prey consumer food chain food web omnivore producer community population pyramid of numbers primary consumer secondary consumer tertiary consumer carbon cycle	**Chemistry Topic 3: Quantitative Chemistry**	Actual yield Avogadro constant Avogadro's law Concentration Conservation of mass Limiting reactant Mole Percentage by mass Percentage yield Relative formula mass Theoretical yield Thermal decomposition	Atom economy Uncertainty
				Chemistry Topic 4: Chemical Changes	Displacement Extraction Filtration Reduction with carbon The reactivity series	Acid Alkali Crystallisation Electrolysis Electrolyte Negative electrode (cathode) Neutralisation Oxidation pH scale Positive electrode (anode) Redox reaction Reduction Strong acid Titration Universal indicator Weak acid

			water cycle	**Chemistry Topic 5: Energy Changes**		Activation energy Alkaline batteries Battery Chemical cells Endothermic reaction Exothermic reaction Fuel cells Overall energy change of the reaction Reaction profile Rechargeable cells
				Chemistry Topic 6: The Rate and Extent of Chemical Changes	Activation energy Catalyst Collision theory Effect of changing concentration on equilibrium Effect of changing pressure on equilibrium Effect of changing temperature on equilibrium Effect of concentration on reaction rate Effect of pressure on reaction rate Effect of surface area on reaction rate Effect of temperature on reaction rate Rate of reaction	Equilibrium Le Chatelier's Principle Reversible reaction

				Chemistry Topic 7: Organic Chemistry	Alkanes Alkenes Catalytic cracking Combustion Complete combustion Crude oil Cracking Fermentation Fractional distillation Homologous series Hydrocarbons Steam cracking	Addition polymerisation Alcohols Amino acids Carboxylic acids Condensation polymerisation : A process that involves breaking down larger hydrocarbons to produce smaller more useful molecules. Cracking can be done by catalytic cracking or steam cracking. DNA Esters Nucleotides Polyesters Polymers Polypeptide Repeat unit
				Chemistry Topic 8: Organic Chemical Analysis	Chromatogram Chromatography Formulation Impure substance Mobile phase Pure substance Rf value Stationary phase	Flame emission spectroscopy Flame test Instrumental methods Litmus paper Precipitation

				Chemistry Topic 9: Chemistry of the Atmosphere	Acid rain Carbon footprint Environmental implication Fossil fuels Global climate change Global dimming Greenhouse effect Greenhouse gases Particulates Photosynthesis Pollutants	
				Chemistry Topic 10: Using Resources	Alloy Bioleaching Composite Corrosion Desalination Electrolysis Finite resources Ground Water Life cycle assessment (LCA) NPK fertilisers Ore Phytomining Potable water Raw materials Renewable resources Sterilisation Sustainable development	Electroplating Galvanise Sacrificial protection The Haber process Thermosetting polymers: Thermosoftening polymers

				Physics Topic 1: Energy	Closed System Conservation of Energy Efficiency Elastic Potential Energy Fossil Fuels: Coal, oil and gas. Gravitational Potential Energy Joule Kinetic Energy Power Renewable Energy Resource Spring Constant System: A single, or group, of objects. Thermal Conductivity Waste Energy Watt Work Done	Specific Heat Capacity

				Physics Topic 2: Electricity		Alternating Potential Difference Amperes (Amps) Attraction Coulomb Diode Direct Potential Difference Earth Wire Electric Field Lines Electric Field Electrical Current Electrical Work Filament Lamp Insulation Light Dependent Resistor (LDR) Live Wire Mains Electricity Neutral Wire Non-Contact Force Ohmic Conductor Ohms Parallel Potential Difference Repulsion Resistors in Parallel Resistors in Series Series Static Charge Step-Down Transformers Step-Up Transformers The National Grid Thermistor Volt

				Physics Topic 3: Particle Model of Matter	Change in Thermal Energy Chemical Changes Condensation Density Evaporation Freezing Gas Temperature Internal Energy Latent Heat Pascals Physical Changes Pressure Capacity Specific Latent Heat of Fusion Specific Latent Heat of Vaporisation Specific Latent Heat Sublimation	

				Physics **Topic 4: Atomic Structure**	Activity Alpha Particle Atomic Number Background Radiation Becquerel Beta Particle Bohr Model Chain Reaction Count-Rate Energy Levels Fission Products Gamma Ray Half-Life Ions Isotopes Mass Number Negative Ions Neutrons Nuclear Explosions Nuclear Fission Nuclear Fusion Nucleus Plum Pudding Model Positive Ions Protons Radioactive Contamination Radioactive Decay Sieverts Spontaneous Fission	

				Physics **Topic 5: Forces**	Acceleration Centre of Mass Contact Forces Distance Elastic Deformation Elastic Limit Elastic Potential Energy Equilibrium Floating Fluid Forces Limit of Proportionality Moment Newton's First Law Non-Contact Forces Plastic Deformation Resultant Force Resultant Moment Scalar Quantities Sinking Speed Spring Constant Upthrust Vector Quantities Velocity Weight Work Done	Braking Distance Changes of Momentum Conservation of Momentum Inertia Inertial Mass Momentum Newton's Second Law Newton's Third Law Pressure in a Column Resolution of Forces Stopping Distance Thinking Distance

				Physics **Topic 6: Waves**	Amplitude Angle of Incidence Black body Constant Temperature Diffuse Reflection Echo Sounding Electromagnetic Waves Frequency Hertz Lens Magnification P-Waves Perfect Black Body Period Radiation Dose Radio Waves Reflection S-Waves Sound Waves Specular Reflection Waves Ultrasound Scanning Ultrasound Waves Ultraviolet Visible Light Wave Speed Wavelength White	Colour Filters Colour Convex Lens Focal Length Infrared Radiation Ionising Radiation Microwaves

				Physics **Topic 7: Magnetism and Electromagnetism**		Alternator Attraction Current-Carrying Wires: Dynamo Electric Motor Electromagnet Left-Hand Rule Generator Effect Induced Magnet Magnetic Compass Magnetic Field Lines Magnetic Field Magnetic Materials Microphone Motor Effect Permanent Magnet Repulsion Solenoid Step-Down Transformer Step-Up Transformer Tesla Transformer
				Physics **Topic 8: Space Physics**		Artificial Satellites Big Bang Theory Circular Orbits Dark Energy Dark Mass Main Sequence Star Milky Way Galaxy Natural Satellites Nebula Protostar Red Giant Star Red-Shift Star Life Cycle Sun

						Supernova White Dwarf