**Triple Science**

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| **Biology** | **Chemistry** | **Physics** |
| **SB1- Key Concepts in Biology**  SB1a Microscopes  SB1b Plant and Animal Cells/*Using Microscopes*  SB1c Specialised Cells  SB1d Inside Bacteria  SB1e Enzymes and Nutrition  SB1f *Testing Foods*  SB1g Enzyme Action  SB1h Enzyme Activity/*pH and Enzymes*  SB1i Transporting Substances *Osmosis in Potato*  **SB2- Cells and Control**  SB2a Mitosis  SB2b Growth in Animals  SB2c Growth in Plants  SB2d Stem Cells  SB2e The Brain  SB2f Brain and Spinal Cord Problems  SB2g The Nervous System  SB2h The Eye  SB2i Neurotransmissions Speeds  **SB3- Genetics**  SB3a Sexual and Asexual Reproduction  SB3b Meiosis  SB3ci DNA  SB3cii DNA Extraction  SB3d Protein Synthesis  SB3e Genetic Variants and Phenotypes  SB3f Mendel  SB3g Alleles  SB3h Inheritance  SB3i Multiple and Missing Alleles  SB3j Gene Mutation  SB3k Variation  **SB4- Natural Selection and Genetic Modification**  SB4a Evidence for Human Evolution  SB4b Darwin’s Theory  SB4c Development of Darwin’s Theory  SB4d Classification  SB4e Breeds and Varieties  SB4f Tissue Culture  SB4g Genes in Agriculture and Medicine  SB4h GM and Medicine  SB4i Fertilizers and Biological Control  **SB5- Health, Disease and the Development of Medicines**  SB5a Health and Disease  SB5b Non-Communicable Diseases  SB5c Cardiovascular Disease  SB5d Pathogens  SB5e Spreading Pathogens  SB5f Virus Life Cycles  SB5g Plant Defences  SB5h Plant Diseases  SB5i Physical and Chemical Barriers  SB5j The Immune System  SB5k *Antibiotics*  SB5l Monoclonal Antibodies  **SB6- Plant Structures and Their Functions**  SB6a Photosynthesis  SB6b Factors that Affect Photosynthesis  *Light Intensity and Photosynthesis*  SB6c Absorbing Water and Mineral Ions  SB6d Transpiration and Translocation  SB6e Plant Adaptations  SB6f Plant Hormones  SB6g Uses of Plant Hormones  **SB7- Animal Coordination, Control and Homeostasis**  SB7a Hormones  SB7b Hormonal Control of Metabolic Rate  SB7c The Menstrual Cycle  SB7d Hormones and the Menstrual Cycle  SB7e Control of Blood Glucose  SB7f Type 2 Diabetes  SB7g Thermoregulation  SB7h Osmoregulation  SB7i The Kidneys  **SB8- Exchange and Transport in Animals**  SB8a Efficient Transport and Exchange  SB8b Factors Affecting Diffusion  SB8c The Circulatory System  SB8d The Heart  SB8e Cellular Respiration/*Respiration Rates*  **SB9- Ecosystems and Material Cycles**  SB9a Ecosystems  SB9b Energy Transfer  SB9c Abiotic Factors and Communities  *Quadrats/Transects*  SB9d Biotic Factors and Communities  SB9e Assessing Pollution  SB9f Parasitism and Mutualism  SB9g Biodiversity and Humans  SB9h Preserving Biodiversity  SB9i Food Security  SB9j The Water Cycle  SB9k The Carbon Cycle  SB9l The Nitrogen Cycle  SB9m Rates of Decomposition | **SC1- States of Matter**  SC1a States of Matter  **SC2- Methods of Separating and Purifying Substances**  SC2a Mixtures  SC2b Filtration and Crystallisation  SC2c Paper Chromatography  SC2d Distillation/*Investigating Inks*  SC2e Drinking Water  **SC3- Atomic Structure**  SC3a Structure of an Atom  SC3b Atomic Number and Mass Number  SC3c Isotopes  **SC4- The Periodic Table**  SC4a Elements and the Periodic Table  SC4b Atomic Number and the Periodic Table  SC4c Electronic Configurations and the Periodic Table  **SC5- Ionic Bonding**  SC5a Ionic Bonds  SC5b Ionic Lattices  SC5c Properties of Ionic Compounds  **SC6- Covalent Bonding**  SC6a Covalent Bonding  **SC7- Types of Substances**  SC7a Molecular Compounds  SC7b Allotropes of Carbon  SC7c Properties of Metals  SC7d Bonding Models  **SC8- Acids and Alkalis**  SC8a Acids, Alkalis and Indicators  SC8b Looking at Acids  SC8c Bases and Salts/*Preparing Copper Sulfate*  SC8d Alkalis and Balancing Equations  SC8e Alkalis and Neutralisation  SC8f Reactions of Acids with Metals & Carbonates  SC8g Solubility  **SC9- Calculations Involving Masses**  SC9a Masses and Empirical Formula  SC9b Conservation of Mass  SC9c Moles  **SC10- Electrolytic Processes**  SC10a Electrolysis *of Copper Sulfate Solution*  SC10b Products of Electrolysis  **SC11- Obtaining and Using Metals**  SC11a Reactivity  SC11b Ores  SC11c Oxidation and Reduction  SC11d Life Cycle Assessment and Recycling  **SC12- Reversible Reactions and Equilibria**  SC12a Dynamic Equilibrium  **SC13- Transition Metals, Alloys and Corrosion**  SC13a Transition Metals  SC13b Corrosion  SC13c Electroplating  SC13d Alloying  SC13e Uses of Metals and their Alloys  **SC14- Quantitative Analysis**  SC14a Yields  SC14b Atom Economy  SC14c Concentrations  SC14d *Titrations* and Calculations  SC14e Molar Volume of Gases  **SC15- Dynamic Equilibria, Calculations Involving Volume**  SC15a Fertilisers and the Haber Process  SC15b Factors Affecting Equilibrium  **SC16- Chemical Cells and Fuel Cells**  SC16a Chemical Cells and Fuel Cells  **SC17- Groups in the Periodic Table**  SC17a Group 1  SC17b Group 7  SC17c Halogen Reactivity  SC17d Group 0  **SC18- Rates of Reaction**  SC18a Rates of Reaction  SC18b Factors Affecting Reaction Rates *Investigating RR’s*  SC18c Catalysts and Activation Energy  **SC19- Heat Energy Changes in Chemical Reactions**  SC19a Exothermic and Endothermic Reactions  SC19b Energy Changes in Reactions  **SC20- Fuels**  SC20a Hydrocarbons in Crude Oil and Natural Gas  SC20b Fraction Distillation of Crude Oil  SC20c The Alkane Homologous Series  SC20d Complete and Incomplete Combustion  SC20e Combustible Fuels and Pollution  SC20f Breaking Down Hydrocarbons  **SC21- Earth and Atmospheric Science**  SC21a The Early Atmosphere  SC21b The Changing Atmosphere  SC21c The Atmosphere Today  SC21d Climate Change  **SC22- Hydrocarbons**  SC22a Alkanes and Alkenes  SC22b Reactions of Alkanes and Alkenes  **SC23- Alcohols and Carboxylic Acids**  SC23a Ethanol Production  SC23b Alcohols/*The Combustion of Alcohols*  SC23c Carboxylic Acids  **SC24- Polymers**  SC24a Addition Polymerisation  SC24b Polymer Properties and Uses  SC24c Condensation Polymerisation  SC24d Problems with Polymers  **SC25- Qualitative Analysis – Tests for Ions**  SC25a Flame Tests and Photometry  SC25b Tests for Positive Ions  SC25c Tests for Negative Ions/*Identifying Ions*  **SC26- Bulk and Surface Properties of Matter**  SC26a Choosing Materials  SC26b Composite Materials  SC26c Nanoparticles | **SP1- Motion**  SP1a Vectors and Scalars  SP1b Distance/Time Graphs  SP1c Acceleration  SP1d Velocity/Time Graphs  **SP2- Forces and Motion**  SP2a Resultant Forces  SP2b Newton’s First Law  SP2c Mass and Weight  SP2d Newton’s Second Law/*Investigating Acceleration*  SP2e Newton’s Third Law  SP2f Momentum  SP2g Stopping Distances  SP2h Braking Distances and Energy  SP2i Crash Hazards  **SP3- Conservation of Energy**  SP3a Energy Stores and Transfers  SP3b Energy Efficiency  SP3c Keeping Warm  SP3d Stored Energies  SP3e Non-Renewable Resources  SP3f Renewable Resources  **SP4- Waves**  SP4a Describing Waves  SP4b Wave Speeds/*Investigating Waves*  SP4c Refraction  SP4d Waves Crossing Boundaries  SP4e Ears and Hearing  SP4f Ultrasound  SP4g Infrasound  **SP5- Light and the Electromagnetic Spectrum**  SP5a Ray Diagrams/*Investigating Refraction*  SP5b Colour  SP5c Lenses  SP5d Electromagnetic Waves  SP5e The Electromagnetic Spectrum  SP5f Using the Long Wavelengths  SP5g Radiation and Temperature  SP5h Using the Short Wavelengths  SP5i EM Radiation Dangers  **SP6- Radioactivity**  SP6a Atomic Models  SP6b Inside Atoms  SP6c Electrons and Orbits  SP6d Background Radiation  SP6e Types of Radiation  SP6f Radioactive Decay  SP6g Half-Life  SP6h Using Radioactivity  SP6i Dangers of Radioactivity  SP6j Radioactivity in Medicine  SP6k Nuclear Fission  SP6l Nuclear Fusion  **SP7- Astronomy**  SP7a The Solar System  SP7b Gravity and Orbits  SP7c Life-cycles of Stars  SP7d Red-Shift  SP7e Origin of the Universe  **SP8- Energy-Forces Doing Work**  SP8a Work and Power  **SP9- Forces and Their Effects**  SP9a Objects Affecting Each Other  SP9b Vector Diagrams  SP9c Rotational Forces  **SP10- Electricity and Circuits**  SP10a Electric Circuits  SP10b Current and Potential Difference  SP10c Current, Charge and Energy  SP10d Resistance  SP10e More Resistance/*Investigating Resistance*  SP10f Transferring Energy  SP10g Power  SP10h Transferring Energy by Electricity  SP10i Electrical Safety  **SP11- Static Electricity**  SP11a Charges and Static Electricity  SP11b Dangers and Uses of Static Electricity  SP11c Electric Fields  **SP12- Magnetism and the Motor Effect**  SP12a Magnets and Magnetic Fields  SP12b Electromagnetism  SP12c Magnetic Forces  **SP13- Electromagnetic Induction**  SP13a Electromagnetic Induction  SP13b The National Grid  SP13c Transformers and Energy  **SP14- Particle Model**  SP14a Particles and Density/*Investigating Densities*  SP14b Energy and Changes of State  SP14c Energy Calculations/*Investigating Water*  SP14d Gas Temperature and Pressure  SP14e Gas Pressure and Volume  **SP15- Forces and Matter**  SP15a Bending & Stretching/*Investigating Springs*  SP15b Extension and Energy Transfers  SP15c Pressure in Fluids  SP15d Pressure and Upthrust |