Swanwick Hall School Long Term Planning

Year 9 Science

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| Learning cycle | Week 1 | Week 2 | Week 3 | Week 4 | Week 5 | Week 6 | Week 7 | Week 8  |
| 15/9/22 – 21/10/229LC1Magnets and Static Electricity | **Static Electricity**Generating static charge (VdG generator), uses and dangers of static charge, electric fields | **Magnetic fields**Interaction of fields around permanent magnets, plotting magnetic fields, magnetic field around a current carrying wire | **Magnetic fields and Electromagnet**Earth’s magnetic field, compasses and navigation, Electromagnets, Investigating the factors that affect the strength of an electromagnet | **Motor effect**Force on a wire in a magnetic field, Fleming’s Left Hand Rule, D.C. motors | **Magnets and Static Electricity Review**Revision using 100% sheets | ***checkpoint week***Checkpoint | ***gap week***Address and reteach concepts in response to checkpoint |  |
| 231/10/22- 22/12/229LC2 Chemical formulae and acids and salts | **Formulae and writing equations**Formulae and writing equations | **More writing equations**Balancing equations and state symbols | **Acids, alkalis and bases**What is an acid and alkali?What is a base?pH  | **Indicators. Alkalis and neutralisation**Different types of indicatorNaming saltsMaking a salt by DFEC | **Making salts**Making a salt by TRECSolubility and solubility rules | **Formulae and acids consolidation**Writing equations, making salts | ***checkpoint week***Revision with 100% sheetsCheckpoint | ***gap week***Address and reteach concepts in response to checkpoint |
| 39/1/23 - 3/3/239LC 3Enzymes and Biology Transition  | **Enzymes**Enzyme action Factors affecting EnzymesDigestion  | **Enzymes** Enzymes of digestion Investigating the effect of temperature practical (2 lessons)  | **Biology transition**Plant and Animal CellsBacterial CellsSpecialised cellsMovement in and out of cells  | **Biology Transition** MicroscopesCalculating Magnification | **Biology transition**Skills for microscopesBiological specimens  | ***checkpoint week*** | ***gap week*** |  |
| 46/3/23 – 12/5/239LC4 – Waves and EM Spectrum | **Waves and Sound**Types and properties of waves, Sound and energy transfer (including speed of sound in air), detecting sound | **Investigating waves**Wave speed, investigating waves in solids, investigating waves in liquids | **Waves and Light**Refraction, investigating refraction, reflection, refraction and TIR | **Visible light**Colour and prisms, lenses, pinhole camera | **EM Spectrum** EM Spectrum uses, EM Spectrum dangers, Beyond the visible (IR and UV). | **Waves and EM Spectrum review**Wave speed calculations consolidationRevision using 100% sheets | ***checkpoint week***CheckpointLiteracy activity | ***gap week***Address and reteach concepts in response to checkpoint |
| 515/5/23 – 3/7/239LC5 Separating techniques and structure of the atom | **Mixtures** What is a mixtureChanges of statePure and impureHeating and cool curves | **Separating techniques**Filtration and crystallisationChromatography | **More separating techniques**DistillationFractional distillationMaking potable water | **Structure of the atom**Structure of the atomAtomic number and mass numberIsotopes | **Structure of the atom**Mendeleev’s periodic tableTrends in the periodic tableElectron configuration | ***checkpoint week***Revision with 100% sheetsCheckpoint | ***gap week***Address and reteach concepts in response to checkpoint |  |
| mini unit10/7/23 – 21/7/23 | **Forensics** ChromatographyHair and fibres (microscopes) florescence AND UV  | **Forensics** Urine analysisBlood splatter analysisIdentifying skeletal remains  |  |  |  |  |  |  |