**KS3 Overview - Science**

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| **Timeline** | **Intent:*****What are you trying to achieve through your curriculum?*** | **Implementation:** **Deeper Applied Learning*****How are you delivering your curriculum?*** | **Impact:*****What difference is your curriculum making?*** | **CPD Requirements** |
| **Term** | **Year** | **Topic & SOW Ref:** | **Topic Objective:** | **Hours** | **RGS Pledge Opportunity****(Highlight as appropriate in red)** | **Relevant****Engaging** **Active****Learning** | **Coherent Industry Experience & Lead Teacher****Careers Insight** | **Sequencing (KS4) link****(Spec Ref)****End Points** | **Marking Task****Outcomes** | **Independent Learning Project (Lifelong) & Lead Teacher****Skill & Knowledge Beyond Exams** | **Pedagogy** | **Subject Knowledge** |
| 1SepDec | 7 | Cells, tissues and organs Mixtures and Solutions Energy Transfer | To describe, explain and link the functions and structures of cells, tissues and organs.To contrast the features and behaviours of particles in mixtures, compounds and solutions.To describe, explain and calculate transfers between energy stores. | 11 hours9 Hours12 Hours | P1: After School Activity P2: Represent RGSP3: Residential P4:National EventP5: RGS ProductionP6: Formal PresentationP7: International ExperienceP8: Community ExperienceP9: Fund Raising P10: Sustainability of RGS | Identify the structure and function of an onion and a cheek cell.Dissection of lungs.Separation of common liquidsIdentify mystery compounds bases on their behaviours in tests.Design a coat or house with the best insulation. | See shared plan | 4.1.1 Cell structure4.1.1.1 Atoms, elements and compounds4.1.1.2 Mixtures4.1.2.1 Energy transfers in a system | 2 x 30 mark assessments2 x 30 mark assessments2 x 30 mark assessmentsFocus of assessment is calculations, comparisons and evaluation of data sets and description of practical skills. |  |  |  |
| 2JanApril | 7 | InterdependenceParticles, Elements and compoundsEnergy is conserved. | To relate characteristics and adaptation and link to environment and development.To define, explain and contrast particles, elements and compounds.To know that energy is conserved and explore the physical implications. | 12 hours14 hours11 hours | P1: After School Activity P2: Represent RGSP3: Residential P4:National EventP5: RGS ProductionP6: Formal PresentationP7: International ExperienceP8: Community ExperienceP9: Fund Raising P10: Sustainability of RGS | Analysis of animals, where do we come from?Dissolving vs melting temperature required.Heating and cooling.  | See shared plan | 4.7.1 Adaptations, interdependence and competition4.1.1.1 Atoms, elements and compounds4.1.2 Conservation and dissipation of energy | 2 x 30 mark assessments2 x 30 mark assessments2 x 30 mark assessmentsFocus of assessment is extended explanations, evaluation of data and graphs and description of practical skills. |  |  |  |
| 3AprilJuly | 7 | ReproductionChemical and physical change, acids and alkalis, neutralisation and Earth Science.Forces | To describe and explain how reproduction occurs in living things.To contract chemical and physical changes and explain what is happening at a particle level.To apply understanding of force and acceleration to explain changes in motion. | 11 hours14 hours9 hours | P1: After School Activity P2: Represent RGSP3: Residential P4:National EventP5: RGS ProductionP6: Formal PresentationP7: International ExperienceP8: Community ExperienceP9: Fund Raising P10: Sustainability of RGS | Dissection of flowersUses and applications of neutralisation, stomach acid.Office chair race. Floating and sinking coke can. | See shared plan | 4.6.1 Reproduction4.4 Chemical changes4.5.1 Forces and their interactions | 2 x 30 mark assessments2 x 30 mark assessments2 x 30 mark assessmentsFocus of assessment is extended explanations forming links, evaluation of data and graphs and description of practical skills. |  |  |  |
| 4 SeptDec | 8 | EvolutionReatants and ProductsRadiation transfer | Describe and evaluate data and explain how scientific understanding has changed over time.To explain the conservations and changes during chemical and physical reactions.To describe human interactions with radiation and the structures which allow this. | 10 hours9 Hours8 Hours | P1: After School Activity P2: Represent RGSP3: Residential P4:National EventP5: RGS ProductionP6: Formal PresentationP7: International ExperienceP8: Community ExperienceP9: Fund Raising P10: Sustainability of RGS | To explain why giraffes exist. Explain why humans are different to fish despite shared DNA.Describe why a candle disappears when it is burnt.Explain how snap hand warmers and snap ice packs work.Dissect an eyeBuild 3D glassesDefine the contents of stars using spectral analysis. | See shared plan | 4.6.2 Variation and evolution4.3.1 Chemical measurements, conservation of mass and the quantitativeinterpretation of chemical equations4.4.2 Atoms and nuclear radiation4.6.2.3 Properties of electromagnetic waves | 2 x 30 mark assessments2 x 30 mark assessments2 x 30 mark assessmentsFocus of assessment is calculations, comparisons and evaluation of data sets and description of practical skills. | Write a presentation arguing for the most important use of radiation, judged by PhD student.Read Sapiens – book club. |  |  |
| 5 JanApril | 8 | Growth and differentiation, Organ systems.Periodic table, Acid reactions.Sound, Magnetism | To describe how cells develop and link this to function as cells and as part of systems.To explore the history of the periodic table and explain the trends of the elements.To describe and explain the structure and behaviour of sound.To apply understanding of magnetism to applications and uses. | 18 hours20 hours21 hours | P1: After School Activity P2: Represent RGSP3: Residential P4:National EventP5: RGS ProductionP6: Formal PresentationP7: International ExperienceP8: Community ExperienceP9: Fund Raising P10: Sustainability of RGS | Models of human body and making the digestive system.Investigating properties of elements and comparing results.Comparing house hold acids in reactions.Measuring the speed of sound. Investigation with sound under water. Investigating magnetism with magnetic objects. Uses of electromagnets. | See shared plan | 4.1.1.4 Cell differentiation4.2.2 Animal tissues, organs and organ systems4.1.2.2 Development of the periodic table4.1.2.4 Group 04.1.2.5 Group 14.1.2.6 Group 74.6.1.1 Transverse and longitudinal waves4.6.1.4 Sound waves4.7.1 Permanent and induced magnetism, magnetic forces and fields | 2 x 30 mark assessments2 x 30 mark assessments2 x 30 mark assessmentsFocus of assessment is extended explanations, evaluation of data and graphs and description of practical skills. |  |  |  |
| 6AprilJuly | 8 | BioenergeticsEarth Systems ad using resources.Space | To describe how cells transform energy including explanations of respiration and photosynthesis.To evaluate how society is using resources using knowledge of earth systems.To relate knowledge of astronomical bodies with size and scale to observations from earth. | 9 hours10 hours7 hours | P1: After School Activity P2: Represent RGSP3: Residential P4:National EventP5: RGS ProductionP6: Formal PresentationP7: International ExperienceP8: Community ExperienceP9: Fund Raising P10: Sustainability of RGS | Investigating requirement of light for photosynthesis.Comparison of rock samples.Scale model of the solar system. | See shared plan | 4.4 Bioenergetics4.4.1.3 Extraction of metals and reduction4.9.2.2 Human activities which contribute to an increase in greenhouse gases in theAtmosphere4.8 Space physics | 2 x 30 mark assessments2 x 30 mark assessments2 x 30 mark assessmentsFocus of assessment is extended explanations forming links, evaluation of data and graphs and description of practical skills. |  |  |  |