**Subject: \_\_\_\_\_\_\_\_\_\_SCIENCE\_\_\_Mr. Alan Parfitt\_\_\_\_\_\_ Annual Year Planning 2020-21**

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| **Group** | **Autumn Term** | **Spring Term** | **Summer Term** |
| **Term 1** | **Term 2** | **Term 3** | **Term 4** | **Term 5** | **Term 6** |
| **Year 7** | *Big Idea 1 Biology Cellular basis of Life***Topic 1 cells****kc 1 CELLS LIVING/DEAD/NEVER ALIVE****kC2 CELLS AND CELL STRUCTURES****kc 3 CELL SIZE AND SHAPE****KC 4 DIFFUSION AND CELL MEMBRANE***BI1 Chemistry substances and properties***Topic 1 properties and materials****kc1 composite materials****kc2 classifying materials** | *BI 1 Chemistry**Substances and properties***Topic 2 substances and mixtures.****KC 1 Substance****KC 2 solutions****Kc 3 separating solutions.***Physics BI 1 Matter***Topic 1 heating and cooling****KC 1 temperature****KC 2 heating/ cooling****KC 3 Thermal conduction****KC 4 thermal store of energy** | *Physics BI 1 Matter***Topic 2 Floating and sinking****KC 1 floating/ sinking****KC 2 Floating/ sinking and density****KC 3 convection***Chemistry BI 1 Substances and properties***Topic 3 solubility****KC 1 comparing solubility** | *Biology BI 1 CELLULAR BASIS OF LIFE* **Topic 2 cells to organ systems****KC 1 working together- cells****KC 2 supplying cells- circulatory system, digestive and gas exchange systems.****KC 3 human skeleton and muscles***Physics BI 2 forces and motion***Topic 1 Forces****KC 1 what forces do****KC 2 describing forces****KC 3 balanced and unbalanced forces** | *Chemistry BI 1 Substances and properties***Topic 3 acids and alkalis****KC 1 Ph scale** **Topic 4 periodic table****KC 1 trends in the periodic table**Biology BI 1 cellular basis of life**Topic 3 Biochemistry****KC 1 plant nutrients and photosynthesis****Biology BI 2 heredity and life cycles****Topic 1 inheritance and the Genome****KC 1 heredity and genetic info****KC 2 structure and functions of genome** | *Biology BI 2 heredity and life cycles***Topic 2 Changes within an organism’s lifetime****KC 1 growth****Kc 2 Life cycles***BI 2 forces and motion***Topic 1 forces** **KC 4 Friction****KC 5 Energy stores and transfers** |
| **Year 8** | *Biology BI 3 Organisms and their environment***Topic 1 Organisms and their environment****KC 1 Food chains** **and food webs****KC 2 interdependence within ecosystems***Physics BI 1 Forces and motion***Topic 2 Moving by Force****KC1 describing speed****KC 2 motion graphs****Kc 3 changing motion****Kc 4 drag** | *Chemistry BI 2 particles and structure***Topic 1 substances and mixtures****KC 1 particle model for S/L/G****KC 2 particles in solutions****Topic 2 elements and compounds****KC 1 atoms and molecules****KC 2 symbols and formulae***Biology BI 3 Organisms and their environment***Topic 3 Biodiversity and human impacts****KC 1 Biodiversity, conservation and sustainability.** | *Chemistry BI 2 particles and structure***Topic 3****chemical change****kc 1 rearrangement of atoms****Topic 4** **understanding chemical reactions****KC 1 representing reactions****KC 2 conservation of mass****Topic 5 Evaporation****KC 1 explaining evaporation****Topic 6 periodic table****KC 1 atomic model** | *Biology BI 4 variation/ adaptability/ evolution***Topic 1 variation****KC 1 differences within species****KC 2 changes in species over time- fossil evidence****Topic 2 classification****KC1 identifying and classifying organisms****Topic 3 Adaptation and evolution.***Big Idea 3 Physics**Sound and light waves***Topic 1 sound and light****KC 1 production and transmission of sound****KC 2 characteristics of light** | *Chemistry BI 3 chemical reactions***Topic 1 chemical change****KC 1 chemical change****KC 2 formation of new substances****Topic 2 Understanding chemical reactions****KC 1 Reactions in solution****KC 2 combustion****Topic 3 energy and reactions****KC 1 exothermic and endothermic reactions****Topic 4 acids and alkalis****KC 1 neutralisation** | *Physics* *Big idea 3 Sound and light waves***Topic 2 how we see****KC 1 passive model of vision****KC 2 seeing in colour****Topic 3 Making images****KC 1 ray model of light to explain images****KC 2 refraction and lenses****Topic 4 waves****KC 1 waves on water and ropes****KC 2 wave model of sound.** |
| **Year 9** | *Biology Big idea 5 Health and disease***Topic 1 what are health and diseases****KC 1 good and ill health****KC 2 disease****Topic 2 Human lifestyles and health****KC 1 diet and exercise****Topic 3 Health and infectious disease****KC 1 Pathogens****KC 2 Preventing infection.***Physics Big Idea 4 Electricity and Magnetism***Topic 1 simple electric circuits****KC 1 electric circuits****KC 2 electric current** | *Physics Big Idea 4 electricity and Magnetism***Topic 1 making simple electric circuits****KC 3 Voltage****KC 4 static electricity****Topic 2 More electrical circuits****KC 1 resistance****KC 2 Parallel circuits****Topic 3 Magnets and electromagnets****KC 1 magnetic fields****KC 2 Electromagnets** | *Chemistry Big idea 4 Earth Chemistry***Topic 1 Air pollution****KC 1 Air quality****Topic 2 water cycle****KC 1 water cycle processes****Topic 3 acids/ alkalis****KC 1 Acid rain****Topic 4 weathering and erosion****KC 1 chemical weathering** | *Physics big idea 5 Earth in Space***Topic 1 Solar system and beyond****KC 1 Planets****KC 2 Gravity****KC 3 Night sky, stars and galaxies****Topic 2 Earth and Sun.****KC 1 Days and seasons****Review of Physics and biology Topics and assessment** | *Chemistry Big Idea 5 Dynamic earth***Topic 1 Earth’s resources****Kc 1 what’s in a rock?****KC 2 Inside the earth****KC 3 Making rocks by heating.****Topic 2 Physical weathering and erosion****Topic 3 Rock changes****KC 1 making rock by pressure and cementing****KC 2 making fossil fuels.****Topic 5 Periodic table****KC1 periodic trends and patterns** | **Review of all Chemistry topics and final KS 3 assessment.** |
| **Year 10** | **Atomic structure and the Periodic table** | **Bonding, structure and the properties of matter** | **Quantitative chemistry** | **Chemical changes** | **Energy Changes** | **Rate and extent of chemical change** |
| **Year 11** | **Chemistry of the Atmosphere** | **Energy Changes** | **Chemical analysis** | **Rate and extent of Chemical change** | **Review of syllabus and revision for GCSE papers.** |  |





