**CURRICULUM PLAN: 2018 – 2019 (Autumn 1) Year 10**

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|  | **Monday 1+2** | **Tuesday 6** | **Wednesday 3+4** |
| **Week 1**  W/C 7th Sept  **Topic/Module:** Biology | INSET | INSET | INSET |
| **Week 2**  W/C 14th Sept  **Topic/Module:** Biology | **B2 lesson 1 photosynthesis**  To know the photosynthesis equation and role of photosynthetic organisms  To understand different factors effect on rate of photosynthesis  To be able to investigate the effect of light intensity on the rate of photosynthesis | Algal balls follow up lesson# | **B2 lesson 2 Transport in plants**  To know how different substances are transported around the plant  To understand how the structure of root hair cells, xylem, phloem and the stomata are adapted for their function  To be able to calculate rate of transpiration and link this to factors that affect water uptake |
| **Week 3**  W/C 21st Sept  **Topic/Module:** Biology | **B2 lesson 4 hormones and the menstrual cycle**  To know what a hormone is and where they are produced  To understand the stages of the menstrual cycle and how these are controlled by hormones  To be able to evaluate different methods of contraception | Sound – comprehension  (Recovery) | **B2 lesson 5 Hormones and blood glucose**  To know how to define homeostasis and how we control glucose levels  To understand and explain the causes and treatment of diabetes To be able to evaluate the correlation between diabetes and body mass |
| **Week 4**  W/C 28th Sept  **Topic/Module:** Biology | **B2 lesson 6 exchange and transport**  To know what substances are transported into and out of organisms  To understand the impact of surface area to volume ratio  To be able to explain how alveoli are adapted for gas exchange | Light – comprehension and 6 marker  Teacher marked  (Recovery) | **B2 lesson 7 why are cells so small (adapt)**  To know the role of diffusion in a cell  To understand why cells are so small   To be able to explain the effect of SA:V on multicellular organisms |
| **Week 5**  W/C 5th Oct  **Topic/Module:** Biology | **B2 lesson 3 investigating (demo) and recap transpiration (adapt)** (three classes rotation with Monday)  To know the transport system in plants  To understand transpiration    To be able to investigate the effect of light on transpiration | Feedback on light | **B2 lesson 8 Blood and the heart**  To know the components of blood and their functions  To understand how the structure of blood vessels and the heart are adapted for their function, including the four major vessels and the valves  To be able to calculate cardiac output, stroke volume and heart rate by rearranging formulae |
| **Week 6**  W/C 12th Oct  **Note:** Monday CPD | **B2 lesson 9 respiration** -  To know the purpose of aerobic respiration and recall the equation  To understand the differences between aerobic and anaerobic respiration  To be able to investigate the rate of respiration in living organisms | Radiation comprehension  (Recovery) | **B2 lesson 10 ecosystems**  To know the different levels of organisation in an ecosystem  To understand and explain the importance of interdependence including parasites and mutualists  To be able to apply knowledge of ecosystems and interdependence to specific examples |
| **Week 7**  W/C 19th Oct  **Topic/Module:** Biology | **B2 lesson 11 Investigating populations**  To know what biotic and abiotic factors are    To understand how and why we determine population size  To be able to apply knowledge to questions | Radioactivity - Comprehension – Application 6 marker – teacher marked  (Recovery) | **B2 lesson 13 Nitrogen cycle**  To know what nitrogen is used for in organisms  To understand the processes involved in the nitrogen cycle To be able to suggest suitable how farmers can ensure nitrates are available for crops |



**CURRICULUM PLAN: 2018 – 2019 (Autumn 2) Year 10**

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|  | **Monday 1+2** | **Tuesday 6** | **Wednesday 3+4** |
| **Week 1**  W/C 2nd Nov  **Topic/Module:** Biology | **B2 lesson 14 Human interactions**  To know what is meant by biodiversity  To understand the impacts that humans have on biodiversity, including fish farming, eutrophication and introduction of new species  To be able to explain the benefits of maintaining local and global biodiversity | Feedback on Radioactivity | **B2 lesson 15 investigation skills**  To know the key terms for investigations  To understand how to identity variables and write a method To be able to process results |
| **Week 2**  W/C 9th Nov  **Topic/Module:** Biology | **Intro to C2 Atomic structure** To know how models of the atom have changed  To understand how to describe the scale and structure of an atom  To be able to explain how isotopes account for the RAM of chlorine and copper | B2 – overview roulette KEY question quiz | **Intro to C2 periodic patterns**  To know how to decode the periodic table  To understand how the periodic table evolved  To be able to deduce electronic configurations |
| **Week 3**  W/C 16th Nov  **Topic/Module:** Biology | **Intro to C2 bonding**  To know the difference between covalent and ionic bonding  To understand the differences between the 5 main types of substances  To be able to explain the properties of compounds based on their structures | Energy transfers – Comprehension – 6 marker application Teacher marked  (Recovery) | **Intro to C2 Chemical calculations**  To know how to calculate formula masses and balance equations  To understand how to investigate the empirical formula of magnesium oxide  To be able to work out molecular formulas from data |
| **Week 4**  W/C 23rd Nov  **Topic/Module:**  Biology | Further bonding lesson (booklet – lots of independent practice) | Energy transfers feedback  (Recovery) | **C1 Acids and Bases (Restart)** |
| **Week 5**  W/C 30th Nov  **Module:** Assessment Week | **C1 Acids and Bases (Restart)** | Further practice on chemical calculations | **C1 lesson 1 Reactivity series**  To know how the reactivity of metals is determined  To understand what happens in displacement reactions  To be able to use the reactivity series to predict the outcome of displacement reactions |
| **Week 6**  W/C 7th Dec  **Topic/Module:** Mastery | Bio revision | Bio revision | PC1 – B2 – Additional sample  On this day because Monday p1+2 is split to P1 +7 |
| **Week 7**  W/C 14th Dec  **Topic/Module:** Chemistry | **C1 lesson 2 extracting metals**  To know how metals are found in the earth  To understand how metals are extracted  To be able to explain when we use electrolysis | End of H/T knowledge test | PC1 Feedback |

**CURRICULUM PLAN: 2018 – 2019 (Spring 1) Year 10**

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|  | **Monday 1+2** | **Tuesday 6** | **Wednesday 3+4** |
| **Week 1**  W/C 4th Jan  **Topic/Module:** Chemistry | INSET | Reactivity Series – Comprehension | **C1 chemistry lesson 3 Electrolysis**  To know what electrolysis is and what it is used for  To understand how to carry out the practical for electrolysis of compounds  To be able to explain the formation of products during electrolysis |
| **Week 2**  W/C 11th Jan  **Topic/Module:** Chemistry | **C1 chemistry lesson 4 reversible reactions**  To know what the Haber process is and what it is used for  To understand what a reversible reaction is and define dynamic equilibrium  To be able to explain why certain conditions are needed for the Haber process | Ionic substances – comprehension – application 6 marker – teacher marked | **C1 chemistry lesson 6 ionic substances and electrolysis (rotate with Friday)**  To know what salt crystals are  To understand (aq) conductivity of ionic substance  To be able to explain different examples of (aq) electrolysis in terms of properties |
| **Week 3**  W/C 18st Jan  **Topic/Module:** Chemistry | **C1 lesson 5 life cycle assessments**  To know the advantages of recycling metals  To understand the purpose of a life-cycle assessment  To be able to evaluate the LCA of a product | Ionic substance feedback | **C1 chemistry lesson 7 investigating reactivity (rotate with lesson 6)**  To know what thermal decomposition is  To understand (aq) compounds with more reactive metals decompose more slowly  To be able to investigate the decomposition of carbonates |
| **Week 4**  W/C 25th Jan  **Topic/Module:**  Chemistry | **C2 lesson 1: Group 1&8 – alkali metal demo**  To know describe the properties of group 1 & 8  To understand how to predict properties and relate to uses To be able to explain why the chemical patterns occur | Acids and bases – comprehension  (Restart) | **C2 lesson 2: Halogens**  To know the properties of the halogens  To understand the reactions of the halogens  To be able to explain their reactivity |
| **Week 5**  W/C 1st Feb  **Topic/Module:** Chemistry | **C2 lesson 3: rates of reaction**  To know what the collision theory is  To understand what activation energy is  To be able to explain how factors can affect the rate of a reaction | Groups of periodic table - comprehension | **C2 lesson 4 rates of reaction practical – numbers of sets issue?**  To know the factors that can affect the rate of a reaction  To understand how to carry out investigation of rates of reaction  To be able to carry out and complete investigation |
| **Week 6**  W/C 8th Feb  **Topic/Module:**  Chemistry | **C2 lesson 5 measuring rates of reaction**  To know the different methods that can be used to investigate the rate of reaction  To understand how to interpret graphs to determine the rate of reaction  To be able to plan an investigation to measure the rate of a reaction | End of H/T Knowledge Test | **C2 lesson 6 exo and endothermic**  To know what exothermic and endothermic reactions are  To understand why a reaction is exothermic or endothermic   To be able to draw and label reaction profiles for exothermic and endothermic reactions |



**CURRICULUM PLAN: 2018 – 2019 (Spring 2) Year 10**

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|  | **Monday 1+2** | **Tuesday 6** | **Wednesday 3+4** |
| **Week 1**  W/C 22nd Feb  **Topic/Module:**  Physics | INSET | Exo and endothermic – comprehension | **C2 lesson 7 fuels**  To know what hydrocarbons contain and the homologous series alkanes  To understand the process of crude oil separation and fractional distillation To be able to explain the process of cracking |
| **Week 2**  W/C 1st Mar  **Topic/Module:** Physics | **C2 lesson 8 combustion**  To know the products of complete and incomplete combustion  To understand and explain why oxides of nitrogen and sulphur dioxide can be produced   To be able to evaluate the advantages and disadvantages of non-renewable energy resources and hydrogen | Fuels – comprehension – application 6 marker – teacher marked | **C2 lesson 9 Earth’s atmosphere** To know the composition of the early atmosphere and what caused this  To understand and explain why the amount of carbon dioxide, oxygen and water vapour has changed since the early atmosphere  To be able to interpret evidence based on the atmosphere |
| **Week 3**  W/C 8th Mar  **Topic/Module:**  Physics | **C2 lesson 10 climate change**  To know how various gases cause the greenhouse effect  To understand and explain the effects that human activity has on climate and how these activities can be mitigated  To be able to evaluate the evidence for human activity causing climate change | Fuels Feedback | C2 revision – Notes pack |
| **Week 4**  W/C 15th Mar  **Topic/Module:**  Physics | **C2 paper in class/hall – data use for OCL – end of year** | Forces recap single / too much to adapt to comprehension type? | **P2 lesson 1 work done and power**  To know the different stores of energy and methods of energy transfers.  To understand how to calculate work done.  To be able to calculate efficiency and power. |
| **Week 5**  W/C 22nd Mar  **Topic/Module:**  Physics | C2 feedback | Feedback continued? | **P2 lesson 2 Power and energy**  To know how to calculate power  To understand the efficiency of mechanical systems  To be able to compare efficiency and power |
| **Week 6**  W/C 29th Mar  **Topic/Module:** Physics | **P2 lesson 3 electrical circuits**  To know how to represent circuits and electrical terms  To understand how current and voltage change in circuits  To be able to show the relationship between current and voltage graphically | End of H/T Knowledge Test | **P2 Lesson 4 Potential Difference and Resistance**  To know charge and potential difference  To understand how to calculate energy transferred  To be able to explain what resistance is |

**CURRICULUM PLAN: 2018 – 2019 (Summer 1) Year 10**

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|  | **Monday 1+2** | **Tuesday 6** | **Wednesday 3+4** |
| **Week 1**  W/C 19th Apr  **Topic/Module:**  Physics | **P2 Lesson 5 – Resistance (cont)**  To know what electrical charge is  To understand how current changes with P.D  To be able to explain graphs of P.D | P2 calculation lesson 2 | **P2 Lesson 6 – Series and Parallel**  To know rules for current in series and parallel circuits  To understand rules for potential difference in series and parallel  To be able to explain how resistance is different in series and parallel |
| **Week 2**  W/C 26th Apr  **Topic/Module:** Physics | **P2 Lesson 7 – Electrical Supply**  To know how electricity reaches our homes  To understand composition of plugs  To be able to explain safety precautions | Resistance – comprehension | **P2 Lesson 8 – Power and Efficiency** |
| **Week 3**  W/C 3rd May  **Topic/Module:** Physics | **P2 Lesson 9 – Magnetism (need to mash online lessons)**  To know forces exist between magnets  To understand how to draw a magnetic field  To be able to explain current can produce a magnetic field | Electrical supply – comprehension – application 6 marker – teacher marked | **P2 Lesson 10 – Forces and Elasticity**  To know springs transfer energy  To understand how to read a graph of elasticity  To be able to describe how elasticity can be investigated |
| **Week 4**  W/C 10th May  **Topic/Module:**  Physics | **P2 Lesson 11 – Density and Particle Model**  To know the three states of matter  To understand heating curves  To be able to calculate density | Electrical supply feedback | **P2 Lesson 12 – Kelvin and Pressure** |
| **Week 5**  W/C 17th May  **Topic/Module:**  Physics | **P2 Lesson 13 – Specific and Latent heat** | Density calculations | **P2 Lesson 14 – Heat and State changes practical (rotate with lesson 15)** |
| **Week 6**  W/C 24th May  **Topic/Module:**  Physics | **P2 Lesson 15 – Springs practical (full investigation**) |  | **P2 Lesson 16 – End of term KT/end of physics** |

**CURRICULUM PLAN: 2018 – 2019 (Summer 2) Year 10**

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|  | **Monday 1+2** | **Tuesday 6** | **Wednesday 3+4** |
| **Week 1**  W/C 7th June  **Topic/Module:** | Work experience | Work experience | Work experience |
| **Week 2**  W/C 14th Jun  **Topic/Module:** | Work experience | Work experience | Work experience |
| **Week 3**  W/C 21st Jun  **Topic/Module:** | Biology Revision for PC2 |  | Biology Revision for PC2 |
| **Week 4**  **W/C 28th June** | **PC2 – B2 – 2019 paper** |  | Physics Revision for PC2 |
| **Week 5**  **W/C 5th July** | Physics Revision for PC2 |  | **PC2 – P2 – 2019 paper** |
| **Week 5**  **W/C 12th July** | PC2 Bio Feedback |  | PC2 Bio Feedback |
| **Week 5**  **W/C 19th July** | PC2 Physics Feedback |  | PC2 Physics Feedback |