Science Curriculum Map 2022 - 2023 Francis Barber

Group	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Year 11 (WD)	**C4** Material choices **C3** Chemicals and the Natural Environment **P6** Matter - models and explanations	**C5** Chemical Analysis **-Practicals** **C6** Making useful chemicals	**P2** Sustainable Energy **P3** Explaining Motion **B5** Human body- staying alive	**C2** Chemical Patterns **C3** Chemicals and the natural environment **P5** Radioactive materials	**Consolidation of topics/lessons** Past papers, Revision of all	Study Leave/Exams starts
Year 11 (T)	**C4** Material choices **C3** Chemicals and the Natural Environment **P6** Matter - models and explanations	**C5** Chemical Analysis *** Practicals** **C6** Making useful chemicals	**P2** Sustainable Energy **P4** Explaining Motion	**C2** Chemical Patterns **C3** Chemicals and the natural environment	**Consolidation of topics/lessons** Past papers, Revision of all	Study Leave/Exams starts
Year 11 S	**Michaela to cover topics given by PWi – same units, continuation of units PWi is teaching)** B5 – Human Body Staying Alive B2 – Review Keeping Healthy - Practicals	**Michaela to cover topics given by PWi – same units, continuation of units PWi is teaching)** B6 – Life on Earth – Past, Present and Future B3 - Review Living together – Food and Ecosystem	**B7 – Ideas about Science, including Data Analysis** **B1 – You and Your genes. Genetic Engineering**	**Recapping :-** **B4** – using Food and controlling growth **B2** Keeping Healthy **B5 – Human Body Staying Alive**	**Consolidation of topics/lessons** Past papers, Revision of all	Study Leave/Exams starts
Year 10 (WD) (PW)	**B1** You and your genes **B2** Keeping Healthy **C1** Air and Water (pt 1)	**C1** Air and Water **C2** Chemical Patterns **C3** Chemicals and the Natural Environment **Exam practice**	**C3** Chemicals and the Natural Environment **Exam practice** **P1** Radiation and Waves **P2** Sustainable energy **Exam practice**	**B6** Life on Earth, past present and future **B3** Living together – Food and Ecosystem	**B5** Human body- staying alive **B6** Life on Earth, past present and future	**P6** Matter – Particles and explanations **P7** Ideas about Science **Exam practice Questions** **End of Year exams**
Year 10 (T)	**B1** You and Your Genes **B2** Keeping	**C1** Air and Water **C2** Chemical	**C3** Chemicals and the Natural Environment	**B3** Living together – Food and Ecosystem	**P3** Electric Circuits	**P6** Matter – Particles and explanations

	Healthy	Patterns **C3** Chemicals and the Natural Environment **Exam practice**	**Exam practice** **P1** Radiation and Waves **P5** Radioactive Materials **Practicals and exam style questions**	**B4** – Using Food and controlling growth	**P2** Sustainable energy	**P7** Ideas about Science **Exam practice** **End of Year exams**
KS3 (WD) (PW)	• **Intro to Science** • **Rocks**	• **Unit 9** – Heating and Cooling • **War and Peace unit** – **Improvement in technology**	• **Unit 7** - Metal Reactions • **War and Peace unit – advancement in medicine**	• **Unit 5** – **The Periodic Table** • **Unit 1** – Life Support – Earth and Planets •	• **Unit 3** – People and the Environment	• **Unit 12** – Food and Digestion • **(Forces)**
KS3 (T)	• **Intro to Science (2-3 weeks)** • **Rocks**	• **Unit 9** – Heating and Cooling • **War and Peace unit - Improvement in technology**	• **Unit 5** – **The Periodic Table** • **War and Peace unit - Advancement in medicine**	• **Unit 7** - Metal Reactions • **Unit 1** – Life Support –Earth and Planets	• **Unit 12** –Food and Digestion	• **Unit 3** – People and the Environment • **(Forces)**

Tooting Curriculum Map KS3

Group	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2

KS3 (WD) (PW)	• **Intro to Science** • **Rocks**	• **Unit 1** – Life Support – Earth and Planets • **War and Peace unit**	• **Unit 7** - Metal Reactions • **War and Peace unit**	• **Unit 5** – **The Periodic Table** • **Unit 9** – Heating and Cooling	• **Unit 3** – People and the Environment	• **Unit 12** – Food and Digestion • **(Forces)**
KS3 (T)	• **Intro to Science** • **Rocks**	• **Unit 9** – Heating and Cooling • **War and Peace unit**	• **Unit 5** – **The Periodic Table** • **War and Peace unit**	• **Unit 7** - Metal Reactions • **Unit 1** – Life Support –Earth and Planets	• **Unit 12** –Food and Digestion	• **Unit 3** – People and the Environment • **(Forces)**

OCR Combined Science Course Content (New Specification 2017-onwards)
NC levels 9 - 1

Biology (New Specification 2018-2020 and onwards)

Subject section code	Topic covered	Subtopics codes	
B1	**You and your genes**	**B1.1** - What is a genome and what does it do? **B1.2** - How is genetic information inherited **B1.3** – How can and should gene technology be used?	
B2	**Keeping Healthy**	**B2.1** – What are the causes of diseases? **B2.2** – How do organisms protect themselves against pathogens? **B2.3** – How can we prevent the spread of infections **B2.4** - How can lifestyle, genes and the environment affect health? **B2.5** – How can we treat disease?	

B3	**Living together – food and ecosystems**	**B3.1** – What happens during photosynthesis? **B3.2** – How do producers get the substances they need? **B3.3** – How are organisms in an ecosystem interdependent? **B3.4** – how are populations affected by conditions in an ecosystem?	
B4	**Using food and controlling growth**	**B4.1** – What happens during cellular respiration **B4.2** – How do we know about mitochondria and other cell structures? **B4.3** – How do organisms grow and develop? **B4.4** – Should we use stem cells to treat damage and disease?	
B5	**The Human body – staying alive**	**B5.1-** How do substances get into, out of, and around our bodies? **B5.2** – How does the nervous system help us respond to changes? **B5.3** – How do hormones control responses in the human bodies? **B5.4** – How do we maintain a constant internal environment? **B5.5** – What role do hormones play in human reproduction? **B5.6** – What can happen when organs and control systems stop working?	
B6	**Life on earth – past , present and future**	**B6.1** – How was the theory of evolution developed? **B6.2** – How does DNA help us classify organisms?	

		B6.3 – How is biodiversity threatened and how can we protect it?	
B7	**Ideas about Science**	**B7.1** - Is there more to a playing field than grass and trees **B7.2** – Can science stop the spread of deadly disease?	
B8	**Practical techniques**	(see practical activities for skills been used/developed) – integrated throughout the year.	

Chemistry (New specification 2018-2020)

Subject section code	Topic covered	Subtopics codes	Student/teacher comments
C1	**Air and Water**	**C1.1** – How the Earth's atmosphere changed over time and why? **C1.2** – Why are there temperature changes in chemical reactions? **C1.3** – What is the evidence for Climate Change and why is it occurring? **C1.4** How can scientist help to improve the supply of potable water	
C2	**Chemical patterns**	**C2.1**- How have our ideas about atoms develop over time **C2.2** – What does the periodic table tells us about elements	

		C2.3 – How do metals and non-metals combine to form compounds? **C2.4** – How are equations used to represent chemical reactions	
C3	**Chemicals of the natural environment**	**C3.1 -** How can the properties of metals be explained? **C3.2** – How are metals with different reactivity extracted? **C3.3** – What are electrolytes and what happens during Electrolysis? **C3.4 -** Why is crude oil important as a source of raw materials?	
C4	**Material choices**	**C4.1 –** How is data used to choose a material for a particular use? **C4.2** How do bonding and structure affect the properties of materials? **C4.3** – Why are nanoparticles so useful? (Nanotechnology) **C4.4** – What happens to products at the end of their useful life?	
C5	**Chemical analysis**	**C5.1 -** How are chemicals separated and tested for purity? **C5.2 -** How are the amount of substances in reactions calculated? **C5.3** – How are the amounts of chemicals in solution measured?	
C6	**Making Useful Chemicals**	**C6.1** – What useful products can be made from acids? **C6.2** – How do Chemist control the rate of a Chemical Reaction? **C6.3** – What factors affects the yield of a reaction?	

C7	**Ideas about science**	**C7.1 – How could an increase in the Carbon dioxide levels affects ocean life?** **C7.2 – Are all applications of science ethically acceptable?** • **Ideas about Science**	
C8	**Practical techniques**	(see practical activities for skills been used/developed) – integrated throughout the year.	

Physics (New specification 2018-2020)

P1	**Radiation and Waves**	**P1.1** – What are the risks and benefits of using radiations? P1.2 – What is climate change and what are the evidence for it? P1.3 – How do waves behave?	
P2	**Sustainable energy**	**P2.**1 – How much energy do we use? **P2.2** – How can electricity be generated?	
P3	**Electric circuits**	**P3.1 –** What determines the size of the current in an electrical circuit? **P3.2** – How do Series and Parallel circuits work?	

		P3.3 – What determines the rate of energy transfer in a circuit? **P3.4** – What are magnetic fields? **P3.5 -** How do electric motors work?	
P4	**Explaining motion**	**P4.1** – What are forces? **P4.2** – How can we describe motion? **P4.**3 **-** What is the connection between forces ad motion? **P4.4** – How can we describe motion in terms of energy transfers?	
P5	**Radioactive materials**	**P5.1** – What is radio activity? **P5.2 -** How can radioactive materials be used safely?	
P6	**Matter – models and explanations**	**P6.1** – How does Energy trans form matter? **P6.2** – How does the particle model explain the effects of heating? **P6.3** – How does the particle model relate to materials under stress?	
P7	**Ideas about Science**	**P7.1 –** How can solar energy make a difference? **P7.2 –** What is heat?	
P8	**Practical techniques**	(see practical activities for skills been used/developed) – integrated throughout the year.	