Overall Curriculum Aim:

Develop a love of science and intellectual curiosity whilst embedding the knowledge and skills required to be successful at GCSE and beyond.

Scheme for Learning

Curriculum Area – Science

Overview – Year 9 Science 2021-22

Personnel Responsible – Mrs. R. Cooper

Quality Assured by – Mr. J. Anderson (AVP)

Exam Board/Qualification AQA (Trilogy/Separate).

Assessment Cycle	Topic/Unit Title – *Big Question*	Rationale/Skill Development	Link to other curriculum areas The following areas will be assessed
1	Building blocks of Biology, Chemistry and Physics (cells and atoms). Big Q1: What are the building blocks of our universe?	Students will develop their knowledge of the building blocks of science. Students will acquire the basic knowledge needed to carry them through their science journey at Q3 Langley. Students will further their knowledge gained in Year 7 on the basic units of life (cells) and will use scientific apparatus (microscopes) to identify key organelles of a cell. Students will develop mathematical skills when calculating magnification of different cells. Students will apply mathematical skills to calculate current, resistance and potential difference, whilst also developing their experimental skills when building electrical circuits Students will advance their knowledge of the Periodic Table and gain a deeper understanding into the structure of atoms and the arrangement of a the Periodic Table.	Atoms and Elements (Y8 Cycle 1, Y7 Cycle 1) Electrical Circuits (Y7 Cycle 3) Cells (Y7 Cycle 1) Respiration (Y8 Cycle 2, Y10 Cycle 2) Photosynthesis (Y8 Cycle 3, Y10 Cycle 1)
2	Movement of substances and bonding. Big Q2: How do substances move around?	Students will apply learning from Cycle One on cells to develop new knowledge of how substances move around cells. Students will develop their experimental and math skills during the osmosis required practical. Students will develop their analytical skills when analysing and plotting data from their experiment. Students will develop knowledge on the properties of different elements. Finally, students will further their knowledge gained during Cycle One on electricity and will relate this to their everyday life at home.	Cells (Y7 Cycle 1, Y9 Cycle 1) The Periodic Table (Y8 Cycle 1, Y9 Cycle 1, Y10 Chemistry) Electricity (Y7 Cycle 3, Y9 Cycle 1)
3	Organisation, Energy and Bonding. Big Q3:What keeps us going?	Students will develop knowledge on the organisation of different organ systems in the human body and link this back to the building blocks of life. Students will develop their working scientifically skills by planning, conducting and evaluating the food test practical. Students will develop knowledge on the structures of different substances. Students will develop their maths skills when using a variety of equations to calculate energy, specific heat capacity and specific latent heat. This will also develop students working scientifically skills as they will need to select appropriate units and formulae.	Organisation (Y7 Cycle 1) Digestion (Y8 Cycle 4) Cells (Y7 Cycle 1, Y9 Cycle 1) Energy (Y7 Cycle 1, Y10 Physics)
4	Using Energy, Heart and CHD, Non-communicable diseases. Big Q4:	Students will develop knowledge on energy resources and understand the advantages and disadvantages of each method. Students will look at the human circulatory system and evaluate different lifestyle factors that can lead to cardiovascular disease. Students will then develop their SMSC skills by looking at risk factors for CHD. Students will develop knowledge on the structures of different substances such as carbon.	Organisation (Y7 Cycle 1, Y9 Cycle 3) Structure of Atoms (Y9 Cycle 1, Y7 Cycle 1) Disease (Y10 Cycle 1)