Queen Elizabeth School

Year Group	Learning Cycle 1 – Autumn Term	Learning Cycle 2 – Spring Term	Learning Cycle 3 – Summer Term
Year 7 The focus in yr7 is to build the knowledge that feeds into our students' learning journey in Science. Our key topics are designed to give the vital secure base knowledge needed on their science journey	Biology – Cells, Tissues and Organs Chemistry – States of Matter Physics – Energy	Biology – Reproduction Chemistry – Separating mixtures Physics – Forces	Biology – Respiration and Photosynthesis Chemistry – Chemical reactions Physics – Electric circuits and electrical safety
Year 8 In yr8 our focus is to add depth to the secure bass knowledge from yr7 adding new topics that build on prior learning that helps to develop curiosity of the word around us.	Biology – DNA, Inheritance and variation Chemistry – Acids and alkali Physics – Light and sound	Biology – Body systems Chemistry - Combustion Physics – Motion and space	Biology - Interdependence Chemistry – metals and their reactions Physics – Particle model of matter
Year 9 This is a transition year where we develop core practical skills and math skills we also continue to develop the knowledge that will be important for the GCSE curriculum, as these topics a	Biology – Ecosystems Chemistry – Separation techniques Physic – Energy and movement	Biology – Biodiversity and material cycles Chemistry – atomic structure and the periodic table Physics – Waves and the electromagnetic spectrum	Biology – Cells, microscopes and enzymes Chemistry – Bonding and structures Physics – Forces

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woven through this year. We follow the Edexcel curriculum as feel this is the best course for our students to achieve their full potential.			
Year 10 Topics taught in year 10 continue to add to our students' knowledge and understanding of cells, inheritance, evolution and how their health can affect them through life. The explanations of how we can make predictions about what elements are going to do when they react is really developed through Chemistry lessons as well as the importance of maths in science to explain reactions. Physics develops the understanding of forces, energy, motion and electricity from year 7 and adds	Biology - Key concepts in Biology Chemistry – Acids and alkalis Physics - Radioactivity (Astronomy SS only)	Biology - Cells & Control and Genetics Chemistry – calculations involving masses, electrolysis processes Physics – Electric circuits and Static electricity	Biology - Natural selection & Genetic modification, Health, disease & the development of medicines Chemistry – obtaining and using metals, reversible reactions and equilibrium, (qualitative analysis, chemical and fuel cells SS only) Physics – Motion revisited, Forces doing work, Forces & their effects

radioactivity and nuclear physics as a new topic.			
Year 11 All those concepts developed previously aid students' exploration of the topics in year 11 which add to their understanding of the importance of plants and the coordination of animal responses. As well as making students question much more our role on this planet, Chemistry addresses the effect developments in Science can have on it as well as modern developments, including nanoparticles. Physics shows students how magnetism and electricity are combined to power the modern world and we finish with further applications of forces.	Biology - Plant structures & their functions and Animal coordination, control & homeostasis Chemistry – Groups in the periodic, table rates of reaction and Energy Change in chemical reaction Physics - Magnetism & the motor effect, Electromagnetic induction,	Biology - Exchange & transport in animals Chemistry – fuels, Earth and atmospheric science (organic chemistry, testing ions and hydrocarbons SS only) Physics - Forces & matter	Preparation for their exams
Year 12 and 13	Year 12	Year 12	Year12 Biology - On the wild side

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Biology, we follow the Edexcel Salters-Nuffield course, which uses a storyline or contemporary issue to add context to the biological principles. We find this approach really encourages students to develop a greater understanding of different areas of their significance in our changing world. The topics include human biology, genetics, biochemistry, ecology and forensics. Biology is a popular choice with students at QE. **Chemistry** focuses on green chemistry, medicinal research and the impact Chemistry can have in the environment with mathematical skills assessed within a chemistry context throughout. Resources for the course a regularly updated and although a difficult subject, it is very rewarding. We have	Biology - Lifestyle, health & risk, Genes & Health Chemistry - Formulae, equations & amounts of substance and Organic chemistry Physics - Working as a physicist, Mechanics and Electric circuits Psychology – Approaches, Social influence and Attachment Year 13 Biology - On the wild side and Infection, immunity & forensics Chemistry - Further kinetics and Further organics chemistry Physics - Nuclear & particle physics Thermodynamics, Nuclear radiation Psychology – Approaches, Addiction and Relationships	Biology - Voice of the genome and Biodiversity & natural resources Chemistry - Atomic structure & the periodic table, Chemical bonding & structure, Redox reactions and Inorganic chemistry & the periodic table Physics – Materials, Waves & the particle nature of light Psychology – Memory, Psychopathology Year 13 Biology - Run for your life and Grey Matter Chemistry - Acid-base equilibria, Further energetics, Further redox and Transition metals Physics - Gravitational fields, Space and Oscillations Psychology – Schizophrenia, Research methods and Issues and debates	Chemistry - Chemical energetics, Reaction kinetics, Chemical equilibrium and Further equilibrium Physics - Waves & the particle nature of light, Further mechanics Psychology - Research methods and Biopsychology Year 13 Preparation for their exams

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regularly competed in the RSC Chemistry Olympiad **Physics** alongside more familiar content like forces, electricity and waves, the course will take you further into modern physics studying particle interactions and quantum effects. You move from thinking about what happens to explaining why, so this is a highly mathematical course too. **Psychology** is one of the most popular subject choices at A level here at QE. It is the scientific study of mind and behaviour so essentially why do people do what they do. Questions considered range form: what causes a phobia to develop and how can psychological techniques be used to treat it? To What do prison inmates and school students have in common? Schizophrenia, addictions and			

relationships also prove to be popular units with students. Psychology uses scientific theory alongside analytical, mathematical and research skills to develop your understanding and evaluative essay techniques.			