

The Science department at Wexham School
Science Curriculum Map – Key stage 5 Biology, Chemistry and Physics

Term	Year 12 Biology	Year 13 Biology	Year 12 Chemistry	Year 13 Chemistry	Year 12 Physics	Year 13 Physics
Autumn 1	1)Biological Molecules- Polymers, Carbohydrates and Lipids 2)Cells and their Structures-	1.Energy transfers between organisms – Photosynthesis 2) Organism respond to changes in their internal and external environments - Nervous System	1)Physical Chemistry Atomic Structure Amount of Substance 2)Organic Chemistry Intro to Organic Alkanes	1)Physical Chemistry Thermodynamics Rate Equations 2)Organic Chemistry Aromatic Compounds Amines	How are measurements and their errors worked out? Mechanics and Materials – Forces in Equilibrium	Further Mechanics and Thermal Physics Fields and their Consequences
Autumn 2	1)Biological Molecules Proteins and Nucleic Acids 2)Cells and their Transport methods.	1)Energy transfers between organism- Aerobic and Anaerobic Respiration 2)Organism respond to changes in their internal and external environments - Skeletal Muscle and Nerves	1)Physical Chemistry Amount of Substance cont. Bonding 2)Organic Chemistry Halogenoalkanes Alkenes	1)Physical Chemistry Rate Equations cont. Equilibrium Constant Electrode Potentials 2)Organic Chemistry Amines cont. Polymers	What are Particle and Radiation? Mechanics and Materials – On the Move	Astrophysics – Telescopes Fields and their Consequences – Capacitors
Spring 1	1)Biological molecules - ATP, Water and Inorganic Ions 2)Cells and Immunity	1)Energy transfers between organisms – Nutrient Cycles 2)Organism respond to changes in their internal and external environments - Blood Glucose	1)Physical Chemistry Energetics Kinetics 2)Organic Chemistry Alcohols Organic Analysis	1)Physical Chemistry Acids and Bases 2)Inorganic Chemistry Properties of Period 3 3)Organic Chemistry Amino Acids, Proteins and DNA Organic Synthesis NMR Spectroscopy	Electromagnetic Radiation and Quantum Phenomena Mechanics and Materials – Newtons Laws of Motion	Astrophysics – Cosmology Fields and their Consequences – Magnetic Fields

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Spring 2	1)Genetic information, variation and relationship between organisms – DNA, Genes and Chromosomes and Protein synthesis 2)Organisms exchanging substance with their Environments - Surface Area and Volume Ratio and Gas Exchange	1)Genetics, populations, evolution and ecosystems - Inheritance, Populations and Evolution 2)The control of gene expression	1)Physical Chemistry Kinetics cont. Chemical Equilibria Oxidation, Reduction and Redox 2)Inorganic Chemistry Periodicity Group 2 Group 7	2)Inorganic Chemistry Transition Metals 3)Organic Chemistry Chromatography	Waves and Optics Mechanics and Materials – Forces and Momentum	Nuclear Physics – Radioactivity Fields and their Consequences – Electromagnetic Induction
Summer 1	1)Genetic information, variation and relationship between organisms - Diversity, Mutation and Adaptation 2)Organisms exchanging substances with their environment - Digestion,		1)Inorganic Chemistry Periodicity cont. 2)Physical Chemistry Year 13 Thermodynamics 3)Organic Chemistry Aldehydes and Ketones Optical Isomerism		Electricity Part 1 Mechanics and Materials – Work, Energy, Power and Materials	Nuclear Physics – Nuclear Energy Maths Skill Refresher

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	Absorption and Mass Transport.					
Summer 2	1)Genetic information, variation and relationship between organisms - Species and Taxonomy and Biodiversity in Communities 2)Organisms exchanging substances with their environment		PPE Revision Year 12 Content		Electricity Part 2 Mechanics and Materials – Materials	Revision of Past Papers