

Westbourne Academy Curriculum Planning Document

Subject: Science

Year: 9

Autumn Term

Prior Learning (from KS2/3)	Y7 - Particles Y8 - Atoms, Elements & the Periodic Table	Y7 - Cells and Organisation Y8 – Plants and Photosynthesis	Y7 – Forces, Light and sound Y8 - Energy
Unit Title	Atomic Structure and the Periodic Table 1	Cell Biology 1	Energy 1
Key knowledge	<ol style="list-style-type: none"> 1. Atoms, Elements and Compounds (Inc. States of Matter) 2. Mixtures and Filtration 3. Crystallisation 4. Distillation 5. Development of the Atomic Model 6. Atomic Structure 7. Electronic Structure 8. Isotopes 	<ol style="list-style-type: none"> 1. Animal and Plant Cells 2. Eukaryotic and Prokaryotic Cells 3. Specialised Cells 4. Microscopy Required Practical 5. Microscope Calculations 6. Comparison of Light and Electron Microscopes 7. Diffusion 	<ol style="list-style-type: none"> 1. Energy Stores and Transfers 2. Conservation of Energy 3. Energy Efficiency 4. Sankey Diagrams 5. Renewable and Non-Renewable Energy
Assessment (methods to assess)	Atomic structure and the Periodic table 1 low stakes assessment., Y9 term 1 assessment, Y10 PRE, Y11 PRE 1	Cell Biology 1 low stakes assessment., Y9 term 1 assessment, Y10 PRE, Y11 PRE 1	Energy 1 low stakes assessment., Y9 term 1 assessment, Y10 PRE, Y11 PRE 1
Links to other units in KS3/4	Y9 - Atomic structure & the Periodic table 2, Structure and bonding 1 Y10 - Structure and bonding 2, Quantitative Chemistry Y11 – Organic chemistry	Y9 - Organisation 1, Infection and Response Y10 – Cell Biology 2 Y11 - Inheritance, Variation and Evolution	Y10 – Energy 2 Y11 - Waves

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Spring Term

Prior Learning (from KS2/3)	Y7 - Particles Y8 - Atoms, Elements & the Periodic Table Y9 – Atomic structure & the Periodic Table 1	Y7 - Acids and Alkalis, Materials from the Earth Y8 - Reactivity of Metals	Y7 – Electricity & Magnetism Y8 - Energy	Y7 - Cells and Organisation Y8 – Biological systems and processes Y9 - Cell Biology 1
Unit Title	Atomic Structure and the Periodic Table 2	Chemical Changes 1	Electricity 1	Organisation 1
Key knowledge	<ol style="list-style-type: none"> 9. The Periodic Table 10. Development of the Periodic Table 11. Group 1 12. Group 7 13. Group 7 Displacement 14. Group 0 	<ol style="list-style-type: none"> Acids, Alkalis and the pH Scale Strong and Weak Acids (HIGHER) Neutralisation Metal Oxides and Metal Carbonates Balancing Equations Soluble Salts Required Practical Acids and Metals Reactivity Series and Metal Displacement Metal Extraction 	<ol style="list-style-type: none"> Circuit Symbols and Circuits Charge and Current Resistance Resistance Required Practical Investigating Resistance in Components I-V Characteristics Required Practical Series and Parallel Circuits 	<ol style="list-style-type: none"> Cells, Tissues, Organs and Organ Systems The Digestive System Enzymes Factors Affecting Enzymes Enzymes pH Required Practical Enzymes Temperature Required Practical Food Tests Required Practical Blood Blood Vessels
Assessment (methods to assess)	Atomic structure & the Periodic table 2 low stakes assessment., Y9 term 2 assessment, Y10 PRE, Y11 PRE 1	Chemical Changes 1 low stakes assessment., Y9 term 2 assessment, Y10 PRE, Y11 PRE 1	Electricity 1 low stakes assessment., Y9 term 2 assessment, Y10 PRE, Y11 PRE 1	Organisation 1 low stakes assessment., Y9 term 2 assessment, Y10 PRE, Y11 PRE 1
Links to other units in KS3/4	Y9 - Bonding and Structure 1 Y10 – Quantitative Chemistry, Structure and bonding 2 Y11 – Chemical analysis	Y10 – Chemical changes 2, Quantitative chemistry Y11 – Using resources	Y10 – Electricity 2 Y11 - Magnetism and Electromagnetism	Y9 - Infection and Response Y10 - Homeostasis and Response

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Summer Term

Prior Learning (from KS2/3)	Y7 - Particles Y8 - Matter	Y7 – Materials from the Earth Y8 – Earth & Atmosphere	Y7 – Cells & Organisation Y8 – Biological systems and processes	Y7 - Particles Y8 – Matter, Atoms & the Periodic Table Y9 - Atomic Structure and the Periodic Table 1 Y9 - Atomic Structure and the Periodic Table 2
Unit Title	Particle Model of Matter 1	Chemistry of the Atmosphere	Infection and Response	Structure and Bonding 1
Key knowledge	1. Density 2. Density Required Practical 3. Changes of State 4. Kinetic Theory 5. Particle Motion in Gases	1. Evolution of the Earth's Atmosphere 2. The Greenhouse Effect 3. Climate Change 4. Carbon Footprint 5. Atmospheric Pollutants	1. Communicable Diseases 2. Viral and Bacterial Diseases 3. Fungi and Protist Diseases 4. Human Defence Systems (Inc. White Blood Cells) 5. Vaccines 6. Antibiotics and Painkillers 7. Discovery and Development of Drugs	1. Ions 2. Ionic Bonding 3. Covalent Bonding 4. Metallic Bonding (Inc. properties of metals)
Assessment (methods to assess)	Particle model of matter 1 low stakes assessment., Y9 term 3 assessment, Y10 PRE, Y11 PRE 1	Chemistry of the atmosphere low stakes assessment., Y9 term 3 assessment, Y10 PRE, Y11 PRE 2	Infection & response low stakes assessment., Y9 term 3 assessment, Y10 PRE, Y11 PRE 1	Structure and bonding 1 low stakes assessment., Y9 term 3 assessment, Y10 PRE, Y11 PRE 1
Links to other units in KS3/4	Y10 – Particle model of matter 2		Y11 – Inheritance, Variation and Evolution	Y10 - Structure and bonding 2, Chemical changes 2 Y11 – Organic chemistry