



Curriculum Overview | Science 2022-23



What will my child learn in Science?

| | Term 1 | Term 2 | Term 3 | Term 4 | Term 5 | Term 6 |
|--------|---|--|--|--|--------|--------|
| Year 7 | <p><u>Particle model</u> What are the building blocks of life?</p> <ul style="list-style-type: none"> ○ Changing state of steric acid ○ Particles <p><u>Separation techniques</u> How do scientists carry out investigations?</p> <ul style="list-style-type: none"> ○ Filtration (Planning) ○ Health and safety lesson. ○ Particles <p><u>Cells and organisation</u> What are the building blocks of all matter?</p> <ul style="list-style-type: none"> ○ Planning & calculating ○ Cells/Interdependence | <p><u>Atoms, elements and the periodic table</u> What are the building blocks of the universe?</p> <ul style="list-style-type: none"> ○ Conservation of Mass ○ (Evidencing & calculating) ○ Particles <p><u>Forces</u> What forces act in the universe?</p> <ul style="list-style-type: none"> ○ Spring Extension ○ (Concluding, calculating) ○ Forces <p><u>Nutrition and digestion</u> How does our body use food?</p> <p>Enzyme Activity (Concluding, Analysis (graphs)) Cells/Particles</p> | <p><u>Energy Stores and transfers</u> How do energy changes occur?</p> <ul style="list-style-type: none"> ○ Heating curve for water ○ (Analysing and concluding) ○ Energy <p><u>Microbes and disease</u> What causes diseases?</p> <ul style="list-style-type: none"> ○ Handwashing investigation ○ (Planning) ○ Cells <p><u>Reproduction</u> How human babies are made?</p> <ul style="list-style-type: none"> ○ Egg & sperm (Evaluating models) ○ Cells | <p><u>Acids and alkalis</u> How do reactions, and acids and alkalis affect us?</p> <ul style="list-style-type: none"> ○ CaO & HCl neutralisation (Planning) ○ Particles/Bonding <p><u>Physical and chemical changes</u></p> <ul style="list-style-type: none"> ○ Diffusion (Evidencing) ○ Particles <p><u>Magnetism</u> How do invisible forces act?</p> <ul style="list-style-type: none"> ○ Effecting the Strength Electromagnets (Conclusions) ○ Forces <p><u>Electrical circuits</u> How do electrical devices work?</p> <ul style="list-style-type: none"> ○ Resistance of a wire (Planning, Evaluating) ○ Energy/Particles/Bonding | | |





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| Year 8 | <p><u>Types of chemical reaction</u></p> <p>How are compounds formed? How are reactions useful?</p> <ul style="list-style-type: none"> Investigating Exo and Endo reactions (Calculations, conclusions) particles <p><u>Forces and motion</u></p> <p>How do forces act to produce movement?</p> <ul style="list-style-type: none"> CORE PRACTICAL Helicopter Investigation (Planning, Conclusion) forces | <p><u>Cellular respiration and gas exchange</u></p> <p>How do organisms get energy?</p> <ul style="list-style-type: none"> Investigating Anaerobic respiration (Evaluation) Cells <p><u>Waves</u></p> <p>How do we use waves for communication?</p> <ul style="list-style-type: none"> Refraction in a Perspex block (Evidencing) Energy | <p><u>Evolution</u></p> <p>How do organisms evolve?</p> <ul style="list-style-type: none"> Bird Beak Investigation (Analysis (graph) Conclusions) Interdependence <p><u>Metals and reactivity</u></p> <p>How are metals useful?</p> <ul style="list-style-type: none"> CORE PRACTICAL Displacement & Reactivity (Evidencing) Particles/Bonding | | <p><u>Photosynthesis</u></p> <p>Why are plants so important for life on earth?</p> <ul style="list-style-type: none"> CORE PRACTICAL Limiting Factors in Elodea (Planning, Evaluation) Cells/Energy/Interdependence <p><u>Relationships in ecosystems</u></p> <p>How do organisms depend on each other?</p> <ul style="list-style-type: none"> Quadrat Sampling (Evidence & Conclusions) Interdependence/Energy <p><u>Earth and atmosphere</u></p> <p>How can we conserve the earth and atmosphere?</p> <ul style="list-style-type: none"> Carbon Dioxide & Global Warming (Analysing (graphs)) Interdependence/Particles | |





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| Year 9 | Biology | Key concepts biology (CB1) (20) Planning Cells, interdependence | | Cells and control (CB2) (10) Data Analysis Cells | Genetics (CB3) (15) Gathering Evidence Cells | | Natural selection (CB4) (10) Evaluation interdependence |
| | Chemistry | States of Matter and Mixtures (CC2) (15) Planning Particles | | | Key concepts chemistry (CC1) excluding calculations involving masses (25) Evaluation Particles | | |
| | Physics | Key concepts physics – Forces & Energy (CPI-CP3) (35) Planning, Conclusion & Calculations Force, Energy | | | Waves (CP4) (10) Evaluation Energy | | |
| Year 10 | Biology | Health and disease (CB5) Data Analysis Cells, interdependence | | Key Concepts Biology Recap | Plant Structures (CB6) Conclusion Cells, particles | Ecosystems and Material Cycles (CB9) Planning / Conclusion Cells, interdependence | |
| | Chemistry | Chemical Change (CC3) Gathering Evidence Particles, bonding | | Calculations Involving Masses (CC1) Calculations Particles | Metal Extraction & Electrolytic Processes (CC4) Conclusion Bonding | Key concepts Chemistry Recap | Groups in the Periodic Table (CC6) Data Analysis Particles, bonding |
| | Physics | Light and the Electromagnetic Spectrum (CP5) Gathering Evidence Energy | | Radioactivity (CP6) Conclusion Particles, energy | Forces and energy Recap | Forces doing work (CP8) Calculations Forces | Forces and Effect (CP9) Forces |





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| Year 11 | Biology | Exchange and Transport (CB8) Planning / Data Analysis Cells, interdependence, particles | | Animal Coordination, Control and Homeostasis (CB7) Data Analysis Cells | | External Examination Revision | |
| | Chemistry | Rates of Reaction (CC7) Gathering evidence, Particles | | Fuels and Earth Science (CC8) Conclusion, Energy | | External Examination Revision | |
| | Physics | Forces and Matter (CPI5) Conclusion Forces, energy | Electricity and Circuits (CPI0) Planning Particles, bonding, energy | Magnetism and Motor Effect (CPI2) Data Analysis Energy, forces | Electromagnetic Induction (CPI3) Calculations Particles, energy | External Examination Revision | |





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|-----------|--|---|---|---|---|---|---|
| Biology | Health and disease (CB5) Data Analysis Cells, interdependence | Key Concepts Biology Recap Triple content from biology topics 1-4 | | Plant Structures (CB6) Conclusion Cells, particles | Exchange and Transport (CB8) Planning / Data Analysis Cells, interdependence, particles | | |
| Chemistry | Chemical Change (CC3) Gathering Evidence Particles, bonding | Calculations Involving Masses (CC1) Quantitative analysis Calculations Conclusion Particles | Metal Extraction & Electrolytic Processes (CC4) Dynamic equilibrium (C) Chemical cells (C) Conclusion Bonding | Transition metals Bonding | Key concepts Chemistry Recap | Groups in the Periodic Table (CC6) Data Analysis Particles, bonding | |
| Physics | Light and the Electromagnetic Spectrum (CP5) Gathering Evidence Energy | Radioactivity (CP6) Conclusion Particles, energy | Astronomy Data Analysis | Forces and energy Recap Braking distance triple content from forces topic | Forces doing work (CP8) Calculations Forces | Forces and Effect (CP9) Forces | Particle model (CPI4) Planning/Evaluation Particles |





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|-----------|---|---|--|--|---|-------------------------------|
| Biology | Ecosystems and Material Cycles (CB9) Planning / Conclusion Cells, interdependence | | Animal Coordination, Control and Homeostasis (CB7) Data Analysis Cells | | External Examination Revision | |
| Chemistry | Rates of Reaction (CC7) Gathering evidence Particles | Fuels and Earth Science (CC8) and Hydrocarbons Conclusion Energy | Alcohols and carboxylic acids (C) Polymers (C) Evaluation bonding | Qualitative analysis (C) Conclusion Particles | Nanoparticles (C) Particles | External Examination Revision |
| Physics | Forces and Matter (CP15) Conclusion Forces, energy | Electricity and Circuits (CP10) Planning Particles, bonding, energy | Static electricity Particles, bonding, energy | Magnetism and Motor Effect (CP12) Data Analysis Energy, forces | Electromagnetic Induction (CP13) Calculations Particles, energy | External Examination Revision |

