

Term	MYP1	MYP2	MYP3	MYP4	MYP5
Michaelmas HT1	<p>What do Scientists do? Contents: Hazards & Safety, Introduction to investigations and practical work in Science.</p> <p>Project: Research Scientists like me (D), Practical 1. How strong is an egg? (BC) 2. Which metals react with which acids? (BC)</p> <p>Assessment Format: laboratory report, magazine article or presentation Literacy: Key scientific vocabulary Writing a laboratory report, reading and writing scientific article/biography. Numeracy: Collecting, presenting and interpreting data (drawing tables and graphs manual and on googlesheets). Internationalism/British values: British scientists e.g. I. Newton, M. Anning</p>	<p>Where are we now and where might we be going? Content: Forces and Motion</p> <p>Project: Practical 1.Falling Cupcakes 2. Catapults 3. Making a forcemeter (BC)</p> <p>Assessment Format: End of topic test (A) and Laboratory Report (BC) Literacy: Reading Human evolution and travel e.g Phileas Fogg Numeracy: calculating speed, velocity, acceleration, forces. Motion graphs, area under graph and gradients. Internationalism/British values: Phileas Fogg</p>	<p>How do we make it work? Content: Energy, Forces, and Power</p> <p>Project: Practical 1. Energy in the home and 2. Endo and exothermic reactions (BC) 1.Energy in the home survey (D) How do we make it work/Machines (D)</p> <p>Assessment Format: Survey report (any format), Laboratory report (BC) and poster (D) Literacy: presenting scientific data in an accessible form to persuade family members Numeracy: average, percentage, energy calculations, calculating cost, interpreting energy consumption bills. Internationalism/British values: study of UK power generation (e.g Hinkley point, Gloucester Incinerator (trip)</p>	<p>What is Science?. Content: Units and Prefixes</p> <p>Project: Practical 1 is Nature predictable or random? (BC) 1 Scientists in collaboration or 2. Meet a Scientist (D)</p> <p>Assessment Format: End of topic Test (A) and student choice (D), Lab report (BC) any format (display, lab report) Literacy: Reference books/internet resources, referencing, scientific journals, news articles. Numeracy: Drawing graphs, identifying linear or non linear mathematical relationships, use of googlesheets. Prefixes and powers of 10. Use of Scientific calculator Internationalism/British values: British scientists. Role of UK universities in scientific research</p>	<p>How do machines make our lives better? Content: Human body, motion, forces, levers,</p> <p>Project: Practical 1. Measuring Motion (g) 2. Efficiency of a motor (BC) 1. Replacing the Human Body 2.Useful Machines (D)</p> <p>Assessment Format: End of topic test (A) Laboratory report (BC) and magazine article (D) or oral presentation. Literacy: Reading scientific articles, magazine articles, Reference books/internet resources, referencing, news articles. Numeracy: motion, energy and efficiency calculations, Motion graphs, area under a graph. Internationalism/British values: Individual liberty - The New scientist magazine</p>
Cross Curricular	Humanities, Maths	Humanities, Maths	Humanities, Maths		Sports Science
Michaelmas HT2	<p>What changes Contents: Chemical Reactions, Particles and solutions, Acids and Alkali</p> <p>Project: Practical 1. My fizzy drinks or 2. Making a chemical change happen or 3. Clear Juice (BC)</p> <p>Assessment Format: End of topic test (A) and Laboratory Report Literacy: Research methods and referencing. Numeracy: Collecting, presenting and interpreting data, calculating averages. Internationalism/British values:</p>	<p>How do we map matter? Content: Elements and compounds, Chemical changes</p> <p>Project: Practical 1. Periodic table patterns (metals with water and acid), 2. Reactivity series, 3. Which metal is best for cooking acids, 4. Making a plant indicator, 5.Diffusion (BC) and Early ideas of the atom or anatomy (Greeks) or 2. Elements in the Human Body/mobile phone (D)</p> <p>Assessment Format: Laboratory Report (BC) and poster or magazine(D) Literacy: Internet research and referencing, Scientific writing (articles) Numeracy: identifying patterns or trends. Internationalism/British values: Mendeleev and Greeks, Rutherford experiment.</p>	<p>How do Humans impact the natural world? Content: Environment, Environmental chemistry, Natural resources and organic chemistry, quantitative chemistry</p> <p>Project: Practical 1. Field study Biodiversity and 2. Factors that effects leaf growth (BC) and Our environment or 2. Ecofriendly app (D)</p> <p>Assessment Format: Student choice/ Laboratory report (BC) and poster (D) Literacy: using reference books for identification of flora and fauna/ fractional distillation, Fracking in the UK Numeracy: Using area, sampling techniques, averaging, making a survey. Internationalism/British values: Individual liberty - Debate on fracking in UK Study of British habitats, flora and fauna.</p>	<p>How does scale matter? Content: Building blocks in Science, Atoms, cells, electronic configurations, Bonding, quantitative chemistry and Forces</p> <p>Project: Practical 1. Making a forcemeter & Hooke's Law 2. Measuring g 3. Osmosis or 4. reaction rates (surface area) (BC) 1. What do cells need? (D) or 2. Development in the atomic model (D)</p> <p>Assessment Format: student choice (D), Lab report (BC) any format (display, lab report) Literacy: Reference books/internet resources, referencing, scientific journals, news articles. Numeracy: Drawing graphs, identifying linear or non linear mathematical relationships, gradient of linear graph. Internationalism/British values: Scientists e.g. Hooke, Newton, Royal institute of Great Britain connections</p>	<p>Do you feel electric? Content: Electrostatics and electricity, human body nervous system, electrolysis</p> <p>Project: Practical Reaction times, 2. I-V characteristics, 3.Redox reactions, 4. Electrolysis or 5. Factors affecting Resistance (BC)</p> <p>Assessment Format: End of topic test (A) Laboratory report (BC) Literacy: Reading on Human body nervous system and summarising key points. Numeracy: Ohm's law, gradients of graphs, patterns and trends, circuit skills, equation manipulation. Internationalism/British values:</p>
Cross Curricular			Humanities	Maths	Sports Science
Lent HT3	<p>How do living things work? Contents: Cells and Reproduction</p> <p>Project: 1. Design a creature with adaptations (D) 2. Is it alive? (BC) 3. What are the best conditions to grow yeast/sprouts (BC)</p> <p>Assessment Format: End of topic test (A) and Laboratory Report (BC) and Poster presentation (D) Literacy: Making key statements and questioning techniques. Scientific terminology. for classification of living organism. Numeracy: Calculating magnification Internationalism/British values:</p>	<p>Who are we? Content: Characteristics and variation, human body, Inheritance and respiration.</p> <p>Project: Practical 1. Variation in us 2.Osmosis (BC) and 1.DNA evidence (D)</p> <p>Assessment Format: End of topic test (A) Laboratory Report (BC) Option to chose for DNA (D) Literacy: Internet research and referencing, Scientific writing (articles) Numeracy: Recording time, averages, carrying out a survey and presenting and evaluating data. Internationalism/British values: Role of A. Franklin, Crick and Watson.</p>	<p>What should I eat? Content: Digestion and diet, healthy living,</p> <p>Project: Practical 1. 1. Food tests or 2. Osmosis (BC) and Fad/Different diets (D)</p> <p>Assessment Format: End of topic test (A) Laboratory report (BC) and information leaflet (D) or oral presentation. Literacy: Internet research on different diets and evaluation. Numeracy: pie charts, calorific intake, percentages, proportion. Internationalism/British values: British and international foods, cultural diet evaluation, deficiency diseases.</p>	<p>How do we organise the natural world? Content: Patterns, Trends, Periodic table, Reactivity, Classification,</p> <p>Project: Practical 1. Patterns in reactivity or 2.Metal carbonates (BC) and 1 The development of the periodic table or 2.Why classify (D)</p> <p>Assessment Format: End of topic test (A) Laboratory report (BC) and information leaflet (D) or oral presentation. Literacy: Reference books/internet resources, referencing, news articles. Numeracy: identifying patterns and trends. Internationalism/British values: Mendeleev and Darwin.</p>	<p>How do we pass on our inheritance? Content: Genetics and inheritance, reproduction, radioactivity</p> <p>Project: Practical 1. Finding the mitotic index of onion, 2. Radioactive half life (BC) 1.Stem cells and 2.Genetic engineering and cloning. 3. Mendel 4. Biological effects of radiation (Medicine, Nuclear bombs) 5. Where do you stand on GMO (D)</p> <p>Assessment Format: End of topic test (A) Laboratory report (BC) and magazine article (D) or oral presentation/debate Literacy: Research, reading and referencing Criterion D assessment Numeracy: exponential functions, half live and decay curves. Internationalism/British values: Discussion of effects of Chernobyl on UK radiation levels, look at local variation of background radiation.</p>
Cross Curricular	English (link with second language)	Humanities, English	Humanities, English, Sport Science	English	Humanities

Term	MYP1	MYP2	MYP3	MYP4	MYP5
Lent HT4	<p>What makes change happen ? Contents: Energy, Heat, Forces and Electricity Project: Practical 1. Types of energy (BC) 2. Energy roller coaster (BC) 3. Capturing the sun's energy (BC). 1. Reflecting on energy impacts (D) 2. Saving energy: sustainable housing (D)</p> <p>Assessment Format: Laboratory Report (BC) and Option to present in any format electronic or by hand (D)</p> <p>Literacy: Sustainable energy research and impact on environment (reading comprehension and summarising) Numeracy: Calculate energy, energy efficiency and resultant forces, concept of vectors and scalars</p> <p>Internationalism/British values: Scientists e.g. I. Newton, J. Joules, Royal institute of Great Britain connections. A. Volta and A. Einstein etc. Roll of UK in promoting Green energy and sustainable living to assist developing world to gain access to electricity.</p>	<p>How does our planet work? Content: Rocks, Cycles, Natural disasters, Climate</p> <p>Project: Practical 1. Density of rocks or 2. Water, air earth and temperature (BC) 1. Early warning: preventable disasters (D)</p> <p>Assessment Format: Laboratory report (BC) and Scientific article (D) Literacy: Climate change articles and Natural disaster/newspapers Numeracy: measuring volume, displacement, Greek symbols and rearranging equations. Internationalism/British values: study of local rock formations e.g. Cotswold stone, Pennant sand stone.</p>	<p>How do we put electricity and magnetism to work? Content: Electricity and magnetism</p> <p>Project: Practical 1. Design an electric game 2. Factors effecting an electromagnet 3. 2. Does it conduct? (BC) Research Magnetism in our environment (D)</p> <p>Assessment Format: End of topic test (A) Laboratory report (BC) and student choice (D) Literacy: Magnetism in the world around us (article) Numeracy: measuring magnetism, compass bearings, maps and gridlines Internationalism/British values: Tesla, Faraday. Invention of MRI scanner/Exeter University</p>	<p>What makes a material world? Content: Compounds, Bonding, Forces and Moments, organic and inorganic chemistry, quantitative chemistry, Reaction rates</p> <p>Project: Practical 1. Designing a Battery 2. Elastic properties 3. Is it ionic? 4. Finding the structure of the atom (BC) and research 1. The development of the periodic table 2. Ideas about elements. 3. Graphene and the Bucky Ball 4. Smart Materials (D)</p> <p>Assessment Format: End of topic test (A) Laboratory report (BC) and information leaflet (D) or oral presentation. Literacy: Reading, Reference books/internet resources, referencing, news articles. Numeracy: scales and prefixes, powers of ten Internationalism/British values: Surrey University for Bucky ball etc Noble peace prize</p>	<p>What is our place in the Universe? Content: Space and the Universe, Earth's natural resources, Reaction rates</p> <p>Project: Practical 1. Making a telescope, 2. Reaction Rates, 3. Focal length and lenses (BC) and 1. Space technology 2. Big Bang and its relevance</p> <p>Assessment Format: Laboratory report (BC) and magazine article (D) or oral presentation. Literacy: Research, reading and referencing Numeracy: reciprocal equations, magnification, rates of reaction, manipulating data Internationalism/British values: role of the UK in space technology.</p>
Cross Curricular	English	Maths	Humanities	Maths	Maths, Humanities
Summer HT5	<p>How can we study the living world? Contents: Variation, Ecosystems and Habitats, Classification</p> <p>Project: 1. Ecology: how do the physical conditions effect living organisms in habitat (BC) 2. Field study Woodlice survey (BC) 3. Field study flora and fauna quadrats (BC) Technology in nature (D)</p> <p>Assessment Format: Laboratory Report (BC) and Option to present in any format electronic e.g presentation, wall display (D) Literacy: using reference books for identification of flora and fauna. Numeracy: Using area, sampling techniques, averaging, making a survey. Internationalism/British values: Study of British habitats, flora and fauna.</p>	<p>How do we respond to our world? Content: Microbes and disease, nervous system, Human responses, Adaptations</p> <p>Project: Practical 1. How will do living organisms respond (woodlice, plants) 2. Reflexes 3. Effects of antiseptics and disinfectants or 4. Microbes around us survey (BC) and 1. Vaccination and modern medicine (D) 2. Adopt a microbe (D)</p> <p>Assessment Format: Laboratory report (BC) and poster (D) Literacy: reading articles on vaccination and modern medicine, persuasive language and scientific technical language Numeracy: collecting and presenting survey data, bar graphs. Internationalism/British values: role of E Jenner and A. Fleming.</p>	<p>How can we connect? Content: EM waves, Light, sound and communication</p> <p>Project: Practical 1. Refractive index 2. Reflection curved and plain mirrors 3. Building a radio (BC) 1. Cell phone technology 2. Voices across the globe or 3. Satellite communication and us (D)</p> <p>Assessment Format: Laboratory report (BC) and student choice (D) Literacy: Internet research, scientific articles on cell phones and satellites Numeracy: angles, average, refractive index, sine, prefixes. Powers and powers of 10. Use of Scientific calculator. Internationalism/British values: Snell's Law and Newton</p>	<p>How do we obtain the energy we need? Content: Energy and energy sources, energy changes in reactions, Enzymes and photosynthesis, Products from rocks</p> <p>Project: Practical 1. Endo and exothermic reactions. 2. Testing insulation 3. Enzyme reactions: laundry detergent 3. Specific Heat Capacity (BC) and 1 Impacts of fossil fuels, 2. Future of the automobile or 3. Nuclear Power yes or no (D)</p> <p>Assessment Format: Laboratory report (BC) and debate (D) Literacy: Reading, Reference books/internet resources, referencing, news articles. Numeracy: Graphs and gradient to find SHC for different metals. Means and percentages. Internationalism/British values: Hinkley point and UK energy supplies.</p>	<p>How do humans impact the environment? Content: Food chains and webs, biodiversity, environmental chemistry and climate change</p> <p>Project: Practical. Biodiversity in your area, 2. Radiant surfaces (BC) 1. Natural versus synthetic fertilisers, 2. Solving the thinning ozone layer, 3. Pollution and acid rain, 4. Hiroshima-Nagasaki, 5. Deforestation (D)</p> <p>Assessment: End of topic test (A) Laboratory report (BC) and magazine article (D) or oral presentation. Literacy: Research, reading and referencing Numeracy: Using area, sampling techniques, averaging, making a survey. Internationalism/British values: Study of British habitats, flora and fauna.</p>
Cross Curricular		Humanities, English	Maths	Humanities	English
Summer HT6	<p>Where do we fit into the world ? Contents: Space, Environment and the Earth, Evolution</p> <p>Project: 1. Density (BC) 2. Rock investigation (BC) 3. Rocket investigation (BC) and 1. Evaluating our impact (D) 2. Historical Scientists on the solar system (D) 3. Space technology (D)</p> <p>Assessment Format: End of topic test (A) Laboratory Report (BC) and role play presentation (D) Literacy: researching and reading Race to space, historical ideas, different styles of biographies. Reading different styles of biographies and summarizing complex literature. Numeracy: density equation, use of Greek symbols, rearranging equations Internationalism/British values: Democracy - research present and historical developments in our ideas of the solar system. Race to space, UK, Russia, China and US</p>	<p>What does a wave tell us? Content: Light, Sound, EM waves</p> <p>Project: Practical 1. How does light behave (BC) 1. How do Animals communicate, is it worth it?, 2. Medical waves, 3. Cut the noise (D)</p> <p>Assessment Format: End of topic test (A) Laboratory report (BC) and Scientific article (D) Literacy: Medical Imaging, reading research papers and writing a scientific research summary paper. Numeracy: measuring angles, refractive index, wave equation, interpreting an oscilloscope trace. Internationalism/British values: Role of UK universities in scientific research of animal communication</p>	<p>How do our bodies work? Content: Body systems, human physiology and anatomy, Health and disease</p> <p>Project: Making Healthy choices (D)</p> <p>Assessment Format: End of topic Test (A) and student choice (D) Literacy: Reference books on human body Numeracy: statistics Internationalism/British values:</p>	<p>How do different chemical environments support life? Content: Acids and alkali, salts, digestion, homeostasis, Environmental chemistry, Health and disease</p> <p>Project: 1. Making an indicator 2. What do plants need to grow 3. Neutralisation reactions. 4. Enzymes and pH 5. Childhood diarrhoea in the developing worlds (BC) (D) and 1. Making it sour: sweets 2. Childhood diarrhoea in the developing worlds (D)</p> <p>Assessment Format: End of topic test (A) Laboratory report (BC) and student choice (D) Literacy: Reading, Reference books/internet resources, referencing, news articles. Numeracy: Internationalism/British values: role of the UK in developing word for Health and disease</p>	<p>How can we use Science to make a better future for all? Content: Plastics, engineering, smart materials, energy demands and sustainability</p> <p>Project: 1. Order an organ, 2. Developing materials for the future, 3. Is plastic still the answer, 4. Materials that are clever, 5. Biomimetics, 6. Nuclear Power yes or no, 7. Designing a sustainable school, 8. Plant inspired solar panel (D)</p> <p>Assessment Format: student choice Literacy: Research, reading and referencing Numeracy: Internationalism/British values: Liberty & Democracy</p>
Cross Curricular	Humanities, Maths, English	English	Sport Science	Humanities, Sports Science	Humanities