

Hobart High School Key Stage 3 Curriculum Map – Year 7



Department: Science

	Unit Title	Knowledge & Skills Developed	Assessment	Personal Development
Autumn 1	1. Introduction to lab safety and skills 2. Sound 3. Light	Waves Vibrations and Energy Transfers Loudness and Pitch Detecting Sound Echoes and Ultrasound Light Reflection Refraction Camera and the Eye Colour Skills: Planning investigations, recording data, analysing data, Evaluating data Maths: Graph skills, gradients, equations	Sound and Light Test	
Autumn 2	4. Forces 5. Space	The Night Sky Solar System The Earth The Moon Squashing and Stretching Forces Drag and Friction Forces at a distance Balanced and Unbalanced Forces Skills: Planning investigations, recording data, analysing data, Evaluating data Maths: Graph skills, gradients, equations, angles	Forces test	
Spring 1	6. Particles 7. Elements	Particle Model States of Matter Melting and Freezing Boiling Diffusion	Elements Test	

		<p>Gas Pressure Elements Atoms Compounds Chemical Formulae Skills: Planning investigations, recording data, analysing data, Evaluating data Maths: Graphs, negative numbers, % change, standard form</p>		
Spring 2	8. Reactions 9. Acids and Alkalies	<p>Chemical Reactions Word Equations Burning Fuels Thermal Decomposition Conservation of Mass Endothermic and Exothermic Reactions Acids and Alkalies Indicators and pH Neutralisation Making Salts Skills: Planning investigations, recording data, analysing data, Evaluating data Maths: Graphs, negative numbers, % change, standard form</p>	Y7 Chemistry Test	CO2 and the environment
Summer 1	10. Cells	<p>Observing Cells, Plant and Animal Cells Specialised Cells. Movement of Substances, Unicellular Organisms Skills: Planning investigations, recording data, analysing data, Evaluating data Maths: Scale, Averages, Percentages, Significant figures</p>	Cells Test	

Summer 2	11. Body Systems 12. Reproduction	Adolescence Reproductive Systems Fertilisation Development of a foetus Menstrual Cycle Flowers and Pollination Levels of Organisation Gas Exchange Breathing Skeleton Movement: Joints and Muscles Skills: Planning investigations, recording data, analysing data, Evaluating data Maths: Scale, Averages, Percentages, Significant figures	Y7 Biology Test	Physical and emotional changes during adolescence. Exercise and Fitness
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Hobart High School Key Stage 3 Curriculum Map – Year 8

Department: Science



	Unit Title	Knowledge & Skills Developed	Assessment	Personal Development
Autumn 1	1. Energy	Food and Fuels Energy and Temperature Energy Transfer: particles and radiation Energy Resources Power, Work and Machines Skills: Graph Skills, Planning investigations, recording data, analysing data, Evaluating data Maths: Significant Figures, % change, fractions, unit conversion, gradients	Energy Test	Healthy Eating Exercise
Autumn 2	2. Electricity and Magnetism 3. Motion and Pressure	Charge Circuits and Current Potential Difference Series and Parallel Circuits Resistance Magnets Electromagnets and their uses Speed Motion Graphs Pressure in liquids and gases Pressure on Solids Turning forces Skills: Graphical skills, Planning investigations, recording data, analysing data Maths: Equations, averages, ranges	Y8 Physics Test	

Spring 1	4. Periodic Table 5. Metals and Acids	Metals and Non-Metals Groups and Periods Group 1 Elements Group 7 Elements Group 0 Elements Acids and Metals Metals and Oxygen Metals and Water Metal Displacement Reactions Extracting Metals Ceramics, Polymers and Composites Skills: Graphical skills, Planning investigations, recording data, analysing data, interpreting and evaluating models. Maths: % change, averages, interpreting graphs	Metals and Acids Test	Plastics
Spring 2	6. Separation Techniques 7. The Earth	Mixtures Solutions Solubility Filtration Evaporation and Distillation Chromatography Skills: design of experiments, selection and use of equipment Maths: Graphs	Y8 Chemistry Test	
Summer 1	8. Healthy Lifestyle 9. Ecosystems	Nutrients Food Tests Unhealthy Diet Digestive System Bacteria and Enzymes in Digestion Drugs Alcohol Smoking Competition and Adaptation Adapting to Change Variation (continuous and discontinuous) Inheritance Natural Selection Extinction	Health Test	Healthy Eating Drugs/Smoking Diet

		Skills: Graphical data, research skills, evaluating data Maths: Averages, % Change, significant figures		
Summer 2	10. Adaptation and Inheritance	Photosynthesis Leaves Plant Minerals Chemosynthesis Aerobic Respiration Anaerobic Respiration Food Chains and Webs Ecosystems Skills: Use of models, equations, Maths: % change	Y8 Biology Test	Ecosystems

Hobart High School Key Stage 3 Curriculum Map – Year 9

Department: Science



	Unit Title	Knowledge & Skills Developed	Assessment	Personal Development
Autumn 1	Physics: Energy Transfers	Energy stores and systems Changes in energy Energy changes in systems Power Skills: Measurement, practical design (risk and accuracy) Maths: Calculate energy change, application, use and rearrangement of equations,	Energy Transfer Exam Specific Heat Capacity Required Practical	
Autumn 2	Physics: Energy Resources Atomic Structure	Conservation and dissipation of energy Energy transfers in a system Efficiency National and global energy resources Skills: Investigate thermal conductivity, Evaluate energy resources (efficiency, environmental impact) Maths: calculate efficiency (percentage, decimal), use of equations and rearranging equations.	Energy Resources Exam	
Spring 1	Chemistry: Atomic Structure and Periodic Table	Atoms, elements and compounds Mixtures The development of the model of the atom Size and mass of atoms Relative atomic mass Electronic structure The periodic table Development of the periodic table Metals and non-metals Group 0, 1, 7	Atomic Structure Exam	

		<p>Skills: Word and symbol equations, balancing equations, safe use of a range of separation techniques, evaluate evidence, prediction</p> <p>Maths: SI Units, nano prefix, Standard form, Visualise and represent 2D and 3D forms, size and scale,</p>		
Spring 2	Chemistry: Chemical Changes	Chemical bonds Ionic bonding Covalent bonding Polymers Metallic bonding Properties of metals and alloys The three states of matter Structure and bonding of carbon Graphene and fullerenes Skills: Use of diagrams to show atoms, ions and molecules Maths: Visualise and represent 2D and 3D forms, Empirical formula,	Bonding Exam	
Summer 1	Biology: Cell Biology	Cell structure Eukaryotes and prokaryotes Animal and plant cells Cell specialisation Cell division Mitosis and the cell cycle Stem cells Microscopy Transport in cells Diffusion Osmosis Active transport Skills: Use of models, drawing and interpreting images of cells, Evaluate risk and ethical issues (stem cells) Maths: Uses of measurement and prefixes (nano, micro etc), Standard Form, Percentage change, graph skills,	Cell Biology Exam Microscopy Required Practical	
Summer 2	Biology: Organisation	Principles of organisation	Organisation Exam	

	<p>Animal tissues, organs and organ systems The human digestive system The heart and blood vessels Blood Coronary heart disease: a non-communicable disease The effect of lifestyle on some non-communicable diseases Cancer Plant tissues, organs and systems Plant organ system Skills: Size and scale, use of models (enzymes), Evaluating risk, Collecting data, displaying data, evaluating data (graphs, tables), drawing and observation (leaf section) Maths: Scale, measurement, percentages, scatter diagrams</p>	<p>Carbohydrate, Lipid and Protein testing Required Practical</p>	
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