Lees Brook Community School
Lead Believe Create Succeed

Curriculum Map	SCIENCE

	AUTUMN TERM		SPRING TERM		SUMMER TERM	
	AUT 1	**AUT 2**	**SPR 1**	**SPR 2**	**SUM 1**	**SUM 2**
Year 7	**Introductory Topic (safety in the lab.)** **CASE lessons 1-5**	**Biology 1** • Cells • Reproduction • Muscles and bone • Ecosystems • Food and nutrition **CASE (~ fortnightly)**	**Chemistry 1** • Mixtures and separation techniques • Particles and their Behaviour **CASE (~ fortnightly)**	**Chemistry 1** • Acids and Alkali • Elements, Atoms and Compounds **CASE (~ fortnightly)**	**Physics 1** • Energy • Electricity • Forces **CASE (~ fortnightly)**	**Physics 1** • Sound • Earth and space **CASE (~ fortnightly)**
Year 8	**Physics 2** • Fluids • Light • Energy transfers **CASE (~ fortnightly)**	**Physics 2** • Forces and motion • Force fields and electromagnets **CASE (~ fortnightly)**	**Chemistry 2** • Combustion • The periodic table • Metals and their ores **CASE (~ fortnightly)**	**Chemistry 2** • Making materials • Reactivity **CASE (~ fortnightly)**	**Biology 2** • Plants and their reproduction • Breathing and respiration **CASE (~ fortnightly)**	**Biology 2** • Unicellular organisms • Genetics and evolution • Plant growth **CASE (~ fortnightly)**

CASE – Cognitive Acceleration through Science Education

Lees Brook Community School
Lead Believe Create Succeed

Year 9 – EDEXCEL GCSE COMBINED SCIENCE (9-1) (601/8612/4)

	AUTUMN TERM		SPRING TERM		SUMMER TERM	
	AUT 1	AUT 2	SPR 1	SPR 2	SUM 1	SUM 2
Year 9	**Biology 1** • Cells • Digestion • Enzymes • Transport	**Physics 1 & 2** • Motion • Calculations of motion • Forces and motion	**Chemistry 1, 2, 3 & 4** • States of matter • Separating techniques • The periodic table • Properties of elements • Electronic structure	**Physics 3** • Types of energy • Energy calculations • Energy transfers • Conservation of energy	**Biology 2** • Specialised cells • Nervous system • Mitosis	**Chemistry 5, 6 & 7** • Ionic bonding • Covalent bonding • Properties and structures

Year 9 – Triple Science EDEXCEL GCSE BIOLOGY (601/8610/0), EDEXCEL GCSE CHEMISTRY (601/8611/2), EDEXCEL GCSE PHYSICS (601/8609/4)

	AUTUMN TERM		SPRING TERM		SUMMER TERM	
	AUT 1	AUT 2	SPR 1	SPR 2	SUM 1	SUM 2
Year 9	**Biology 1** • Cells • Digestion • Enzymes • Transport **Chemistry 1 & 2** • States of matter • Separating techniques **Physics 1** • Motion • Calculations of motion	**Biology 1** • Cells • Digestion • Enzymes • Transport **Chemistry 3 & 4** • The periodic table • Properties of elements • Electronic structure **Physics 2** • Forces and motion	**Biology 2** • Specialised cells • Nervous system • Mitosis **Chemistry 5, 6 & 7** • Ionic bonding • Covalent bonding • Properties and structures **Physics 3** • Types of energy • Energy calculations • Energy transfers • Conservation of energy	**Biology 2** • Specialised cells • Nervous system • Mitosis **Chemistry 5, 6 & 7** • Ionic bonding • Covalent bonding • Properties and structures **Physics 3** • Types of energy • Energy calculations • Energy transfers • Conservation of energy	**Biology 3** • DNA • Meiosis • Inheritance **Chemistry 8** • Reactions of acids and bases • Neutralisation reactions • Solubility of salts **Physics 4** • Wave properties • Wave calculations • Electromagnetic spectrum • Reflection • Refraction	**Biology 3** • DNA • Meiosis • Inheritance **Chemistry 8** • Reactions of acids and bases • Neutralisation reactions • Solubility of salts **Physics 4** • Wave properties • Wave calculations • Electromagnetic spectrum • Reflection • Refraction

Lees Brook Community School
Lead Believe Create Succeed

Year 10 – EDEXCEL GCSE COMBINED SCIENCE (9-1) (601/8612/4)

	AUTUMN TERM		SPRING TERM		SUMMER TERM	
	AUT 1	**AUT 2**	**SPR 1**	**SPR 2**	**SUM 1**	**SUM 2**
Year 10	**Biology 3** • DNA • Meiosis • Inheritance **Chemistry 8** • Reactions of acids and bases • Neutralisation reactions • Solubility of salts **Physics 4** • Wave properties • Wave calculations	**Biology 4** • Natural selection • Selective breeding • Genetic engineering **Chemistry 9** • Chemical formulae • Masses • Reacting masses • The Mole **Physics 5** • Electromagnetic spectrum • Reflection • Refraction	**Biology 5** • Types of disease • Fighting infections • Health & fitness **Chemistry 10, 11 & 12** • Extracting metals • Reactivity series • Oxidation and reduction • Recycling • Equilibria • Haber process • Transition metals • Alloys • Corrosion **Physics 6** • Structure of the atom • Models of the atom • Types of radioactivity • Measuring radioactivity • Half-life	**Biology 5** • Types of disease • Fighting infections • Health & fitness **Chemistry 10, 11 & 12** • Extracting metals • Reactivity series • Oxidation and reduction • Recycling • Equilibria • Haber process • Transition metals • Alloys • Corrosion **Physics 6** • Structure of the atom • Models of the atom • Types of radioactivity • Measuring radioactivity • Half-life	**Biology 6** • Photosynthesis • Transpiration • Translocation **Chemistry 13,14 &15** • Groups 1,7 &0 • Rates of reaction • Endo/exothermic reactions **Physics 7&8** • Work • Power • Forces • Vectors	**Biology 6** • Photosynthesis • Transpiration • Translocation **Chemistry 13,14 &15** • Groups 1,7 &0 • Rates of reaction • Endo/exothermic reactions **Physics 7&8** • Work • Power • Forces • Vectors **End of Year 10 exam**

Lees Brook Community School
Lead Believe Create Succeed

Year 10 – Triple Science EDEXCEL GCSE BIOLOGY (601/8610/0), EDEXCEL GCSE CHEMISTRY (601/8611/2), EDEXCEL GCSE PHYSICS (601/8609/4)

	AUTUMN TERM		SPRING TERM		SUMMER TERM	
	AUT 1	AUT 2	SPR 1	SPR 2	SUM 1	SUM 2
Year 10	**Biology 3** • DNA • Meiosis • Inheritance **Chemistry 8** • Reactions of acids and bases • Neutralisation reactions • Solubility of salts **Physics 4** • Wave properties • Wave calculations • Electromagnetic spectrum • Reflection • Refraction	**Biology 4** • Natural selection • Selective breeding • Genetic engineering **Chemistry 9, 10 & 11** • Mass calculations • Chemical formulae • Reacting masses • The Mole • Electrolysis • Extracting metals • Reactivity series • Oxidation and reduction • Recycling **Physics 5** • Electromagnetic spectrum • Reflection • Refraction	**Biology 5** • Types of disease • Fighting infections • Health & fitness **Chemistry 12 & 13** • Reversible reactions • Dynamic equilibria • Transition metals • Alloys • Corrosion • Electrolysis • Electroplating **Physics 6** • Structure of the atom • Models of the atom • Types of radioactivity • Measuring radioactivity • Half-life	**Biology 5** • Types of disease • Fighting infections • Health & fitness **Chemistry 12 & 13** • Reversible reactions • Dynamic equilibria • Transition metals • Alloys • Corrosion • Electrolysis • Electroplating **Physics 7** • Solar system • Stars • Galaxies • Universe	**Biology 6** • Photosynthesis • Xylem and phloem • Transpiration • Plant adaptations • Plant hormone **Chemistry 14, 15 & 16** • Dynamic equilibria • Haber process • Gas calculations • Fuel cells **Physics 8 & 9** • Energy transfers • Calculating energy • Gravitational potential energy • Kinetic energy • Power • Efficiency • Types of forces • Effect of forces • Moments	**Biology 6** • Photosynthesis • Xylem and phloem • Transpiration • Plant adaptations • Plant hormone **Chemistry 14, 15 & 16** • Dynamic equilibria • Haber process • Gas calculations • Fuel cells **Physics 8 & 9** • Energy transfers • Calculating energy • Gravitational potential energy • Kinetic energy • Power • Efficiency • Types of forces • Effect of forces • Moments **End of Year 10 exams**

Lees Brook Community School
Lead Believe Create Succeed

Year 11 – EDEXCEL GCSE COMBINED SCIENCE (9-1) (601/8612/4)

	AUTUMN TERM		SPRING TERM		SUMMER TERM	
	AUT 1	**AUT 2**	**SPR 1**	**SPR 2**	**SUM 1**	**SUM 2**
Year 11	**Biology 6** • Photosynthesis • Transpiration • Translocation **Biology 7** • Hormones • Menstrual cycles • Blood glucose • Diabetes **Chemistry 14 &15** • Rates of reaction • Endo/exothermic reactions **Physics 9** • Circuits • Current & voltage • Charge & energy • Resistance • Transferring energy • Power • Electrical safety	**Biology 7** • Hormones • Menstrual cycles • Blood glucose • Diabetes **Biology 8** • Transport in animals • Circulation • The heart • Cellular respiration **Chemistry 14 &15** • Rates of reaction • Endo/exothermic reactions **Physics 9** • Circuits • Current & voltage • Charge & energy • Resistance • Transferring energy • Power • Electrical safety	**Biology 9** • Ecosystems • Abiotic and biotic factors • Parasites • Biodiversity • Cycles **Chemistry 16 & 17** • Crude oil • Fractional distillation • Alkanes • Combustion • Fuels and pollution • Early atmosphere • Changing atmosphere • Atmosphere today • Climate change **Physics 10&11** • Magnetic fields • Electromagnets • Magnetic forces • Transformers	**Biology 9** • Ecosystems • Abiotic and biotic factors • Parasites • Biodiversity • Cycles **Chemistry 16 & 17** • Crude oil • Fractional distillation • Alkanes • Combustion • Fuels and pollution • Early atmosphere • Changing atmosphere • Atmosphere today • Climate change **Physics 12&13** • Density • Energy • Pressure • Springs	**Revision** **Combined Science exams** • B1 • C1 • P1	**Revision** **Combined Science exams** • B2 • C2 • P2

Lees Brook Community School
Lead Believe Create Succeed

Year 11 – Triple Science EDEXCEL GCSE BIOLOGY (601/8610/0), EDEXCEL GCSE CHEMISTRY (601/8611/2), EDEXCEL GCSE PHYSICS (601/8609/4)

	AUTUMN TERM		SPRING TERM		SUMMER TERM	
	AUT 1	**AUT 2**	**SPR 1**	**SPR 2**	**SUM 1**	**SUM 2**
Year 11	**Biology 7** • Hormones • Menstrual cycles • Blood glucose • Diabetes • Thermoregulation • Osmoregulation • Kidneys **Chemistry 17, 18 & 19** • Groups in the periodic table • Rates of reaction • Endo/exothermic reactions **Physics 10** • Circuits • Current & voltage • Charge & energy • Resistance • Transferring energy • Power • Electrical safety	**Biology 8** • Transport in animals • Circulation • The heart • Cellular respiration • Rates of respiration **Chemistry 20&21** • Crude oil • Fractional distillation • Alkanes • Combustion • Fuels and pollution • Early atmosphere • Changing atmosphere • Atmosphere today • Climate change **Physics 11** • Static charges • Uses of static • Dangers of static • Electric filed **Physics 12 &13** • Magnetic fields • Electromagnets • Magnetic forces • Electromagnetic induction • National grid • Transformers and energy	**Biology 9** • Ecosystems • Abiotic and biotic factors • Pollution • Parasites • Biodiversity • Cycles • Food security • Decomposition **Chemistry 22,23 & 24** • Alkanes • Alkenes • Ethanol production • Alcohols • Carboxylic acids • Addition polymerisation • Condensation polymerisation • Polymer properties • Problems with polymers **Physics 14 & 15** • Density • Energy • Pressure • Gas pressure and volume • Springs • Pressure in fluids • Pressure and up thrust	**Biology 9** • Ecosystems • Abiotic and biotic factors • Pollution • Parasites • Biodiversity • Cycles • Food security • Decomposition **Chemistry 25 &26** • Flame tests • Testing for ions • Choosing materials • Composite materials • Nanomaterials **Physics 14 & 15** • Density • Energy • Pressure • Gas pressure and volume • Springs • Pressure in fluids • Pressure and up thrust	**Revision** **Science exams** • B1 • C1 • P1	**Revision** **Science exams** • B2 • C2 • P2