Edexcel Y10 Combined Science

Combined Science Y10	Autumn 2021	Spring 2022	Summer 2022
Biology	**B1** 1. Microscopes and biological drawing 2. Size and units 3. Plant and animal cells (CP1) 4. Specialised cells 5. Bacterial cells 6. Enzymes 7. Enzyme action 8. Factors affecting enzymes (CP2) 9. Transporting substances 10. Osmosis in potatoes (CP4)	**B2 – B3** 1. Mitosis 2. Growth in plants & animals 3. Stem Cells 4. The nervous system 5. Neurotransmission speeds 6. Meiosis 7. DNA 8. Alleles 9. Inheritance 10. Gene mutation 11. Variation	**B4 – B5** 1. Human evolution 2. Darwin's theory 3. Classification 4. Breeds and varieties 5. Genes in agriculture and medicine 6. Health and disease 7. Non-communicable disease 8. Cardiovascular disease 9. Pathogens 10. Physical and chemical barriers 11. The immune system
Chemistry	**C1 – C4** 1. States of matter 2. Mixtures 3. Filtration and crystallisation 4. Paper chromatography 5. Distillation 6. Investigating inks (CP) 7. Structure of an atom 8. Atomic and mass number 9. Isotopes 10. Atomic number and the PT 11. Electronic configuration and PT	**C5 – C8** 1. Ionic bonds, lattice and properties 2. Covalent bonds 3. Molecular compounds 4. Allotropes of carbon 5. Properties of metals 6. Bonding models 7. Acids and alkalis 8. Indicators 9. Neutralisation 10. Solubility	**C9 - C12** 1. Empirical Formula 2. Conservation of mass 3. Moles 4. Electrolysis 5. Electrolysis of copper sulphate (CP) 6. Reactivity 7. Ores 8. Oxidation & Reduction 9. Life cycle assessment and recycling 10. Dynamic Equilibrium
Physics	**P1 – P2** 1. Vectors and scalars 2. Distance and velocity time graphs 3. Acceleration 4. Resultant forces 5. Newton's first law 6. Mass and weight 7. Newton's second law 8. Investigating acceleration (CP) 9. Newton's third law 10. Stopping distance	**P3 – P5** 1. Energy stores 2. Energy transfers 3. Efficiency 4. Renewable and non-renewable resources 5. Describing waves 6. Investigating waves 7. Refraction 8. Electromagnetic waves 9. Using long & short wavelengths 10. Dangers of EM waves	**P6 – P8** 1. Atomic Model 2. Inside Atoms 3. Electrons and orbits 4. Background radiation 5. Types of radiation 6. Decay 7. Half-life 8. Dangers of radioactivity 9. Work & Power 10. Vector Diagrams

Edexcel Y11 Combined Science

Combined Science Y11	Autumn 2021	Spring 2022	Summer 2022
Biology	**B6 – B7** 1. Photosynthesis 2. Factors affect photosynthesis 3. Light intensity & photosynthesis (CP) 4. Absorbing water and mineral ions 5. Transpiration and translocation 6. Hormones 7. Hormones and the menstrual cycle 8. The menstrual cycle 9. Control of blood glucose 10. Type 2 diabetes	**B8 – B9** 1. Efficient transport and exchange 2. The circulatory system 3. The heart 4. Cellular Respiration 5. Respiration rates (CP) 6. Ecosystems 7. Abiotic factors 8. Quadrats & transects 9. Parasitism and mutualism 10. Biodiversity 11. Water, carbon and nitrogen cycle	**Combined Science Revision and Exams**
Chemistry	**C13 – C15** 1. Group 1 2. Group 7 3. Halogens 4. Group 0 5. Rates of reaction 6. Factors affecting rates of reaction 7. Investigating reaction rates (CP) 8. Catalysts 9. Endo and exothermic reactions 10. Energy changes in reactions	**C16 – C17** 1. Hydrocarbons in crude oil 2. Fractional distillation 3. The alkane homologous series 4. Complete & incomplete combustion 5. Combustible fuels & pollution 6. Breaking down hydrocarbons 7. The early atmosphere 8. The changing atmosphere 9. The atmosphere today 10. Climate change	**Combined Science Revision and Exams**
Physics	**P9 – P11** 1. Electric Circuits 2. Current, potential difference 3. Current, energy and charge 4. Resistance 5. Investigating resistance (CP) 6. Power 7. Electrical Safety 8. Magnets and magnetic fields 9. Electromagnetism 10. Transformers	**P12 – P13** 1. Particles & Density 2. Investigating Density (CP) 3. Energy & changes of state 4. Energy calculations 5. Investigating water (CP) 6. Gas temperature and pressure 7. Bending and stretching 8. Investigating springs (CP) 9. Extension and energy transfers	**Combined Science Revision and Exams**

Edexcel KS4 Separate Biology

Combined Science Y11	Autumn 2021	Spring 2022	Summer 2022
Y10	**B1** 1. Microscopes 2. Plant and animal cells 3. Using microscopes (CP) 4. Specialised cells 5. Bacterial cells 6. Enzyme action 7. Enzyme activity 8. Factors affecting enzymes (CP) 9. Food tests (CP) 10. Transporting substances 11. Osmosis in potatoes (CP)	**B2 – B3** 1. Mitosis 2. Growth in plants & animals 3. Stem Cells 4. The brain 5. Brain & spinal cord problems 6. The nervous system 7. The eye 8. Neurotransmission speeds 9. Sexual and asexual reproduction 10. Meiosis 11. DNA & DNA extraction 12. Protein synthesis 13. Genetic variance and phenotypes 14. Mendel 15. Alleles 16. Inheritance 17. Gene mutation 18. Variation	**B4 – B5** 1. Human evolution 2. Darwin's theory 3. Classification 4. Breeds and varieties 5. Tissue culture 6. Genes in agriculture and medicine 7. GM and agriculture 8. Fertilisers and biological control 9. Health and disease 10. Non-communicable disease 11. Cardiovascular disease 12. Pathogens 13. Spreading pathogens 14. Virus life cycles 15. Plant defences and diseases 16. Physical and chemical barriers 17. The immune system 18. Antibiotics (CP) 19. Monoclonal antibodies
Y11	**B6 – B7** 1. Photosynthesis 2. Factors affect photosynthesis 3. Light intensity & photosynthesis (CP) 4. Absorbing water and mineral ions 5. Transpiration and translocation 6. Plant adaptations 7. Plant hormones 8. Use of plant hormones 9. Hormones 10. Hormones and the menstrual cycle 11. Control of blood glucose 12. Type 2 diabetes 13. Thermoregulation 14. Osmoregulation 15. The kidneys	**B8 – B9** 1. Efficient transport and exchange 2. Factors affecting diffusion 3. The circulatory system 4. The heart 5. Cellular Respiration 6. Respiration rates (CP) 7. Ecosystems 8. Energy transfer 9. Abiotic factors 10. Quadrats & transects (CP) 11. Parasitism and mutualism 12. Biodiversity 13. Preserving biodiversity 14. Water, carbon and nitrogen cycle 15. Rates of decomposition	**Separate Biology Revision and Exams**

Edexcel KS4 Separate Chemistry

Combined Science Y11	Autumn 2021	Spring 2022	Summer 2022
Y10	**C1 – C7** 1. States of matter 2. Mixtures 3. Filtration and crystallisation 4. Paper chromatography 5. Distillation 6. Investigating inks (CP) 7. Drinking water 8. Structure of an atom 9. Atomic and mass number 10. Isotopes 11. Elements and the periodic table 12. Atomic number and the PT 13. Electronic configuration and PT 14. Ionic bonds, lattice and properties 15. Covalent bonds 16. Molecular compounds 17. Allotropes of carbon 18. Properties of metals 19. Bonding models	**C8 – C10** 1. Acids and alkalis & indicators 2. Looking at acids 3. Bases & Salts 4. Preparing copper sulfate (CP) 5. Alkalis and balancing equations 6. Neutralisation (CP) 7. Reactions of acids with carbonates 8. Solubility 9. Empirical Formula 10. Conservation of mass 11. Moles 12. Electrolysis 13. Electrolysis of copper sulphate (CP) 14. Products from electrolysis	**C11 – C14** 1. Reactivity 2. Ores 3. Oxidation & Reduction 4. Life cycle assessment and recycling 5. Dynamic Equilibrium 6. Transition metals 7. Corrosion 8. Electroplating 9. Alloying 10. Uses of metals and their alloys 11. Yields 12. Atom economy 13. Concentrations 14. Titrations & Calculations 15. Acid Alkali titration 16. Molar volume of gases
Y11	**C14 – C20** 1. Fertilisers and the Haber processes 2. Factors affecting equilibrium 3. Chemical cells and fuel cells 4. Group 1 5. Group 7 6. Halogens 7. Group 0 8. Rates of reaction 9. Factors affecting rates of reaction 10. Investigating reaction rates (CP) 11. Catalysts and activation energy 12. Endo and exothermic reactions 13. Energy changes in reactions 14. Hydrocarbons in crude oil & natural gas 15. Fractional distillation of crude oil 16. The alkane homologous series 17. Combustible fuels and pollution	**C21 – C26** 11. Breaking down hydrocarbons 12. The early atmosphere 13. The changing atmosphere 14. The atmosphere today 15. Climate change 16. Alkenes & Alkanes 17. Ethanol production 18. Alcohols 19. Combustion of alcohols (CP) 20. Carboxylic acid 21. Polymer properties and uses 22. Condensation & Addition polymerisation 23. Flame tests and photometry 24. Test for negative and positive ions 25. Identifying ions (CP) 26. Composite materials 27. Nanoparticles	**Separate Chemistry Revision and Exams**

Edexcel KS4 Separate Physics

Combined Science Y11	Autumn 2021	Spring 2022	Summer 2022
Y10	**P1 – P3** 1. Vectors and scalars 2. Distance and velocity time graphs 3. Acceleration 4. Resultant forces 5. Newton's first law 6. Mass and weight 7. Newton's second law 8. Investigating acceleration (CP) 9. Newton's third law 10. Momentum 11. Stopping distances 12. Braking distance and energy 13. Crash Hazards 14. Energy stores & transfers 15. Energy efficiency 16. Keeping warm 17. Stored energies 18. Renewable and non-renewable resources	**P4 – P5** 1. Describing waves 2. Investigating waves 3. Refraction 4. Waves crossing boundaries 5. Ears and hearing 6. Ultrasound 7. Infrasound 8. Ray diagrams (CP) 9. Colour 10. Lenses 11. Electromagnetic waves 12. Using long & short wavelengths 13. Radiation & temperature 14. Investigating radiation (CP) 15. Dangers of EM waves	**P6 – P8** 1. Atomic Model 2. Inside Atoms 3. Electrons and orbits 4. Background radiation 5. Types of radiation 6. Decay 7. Half-life 8. Radioactive decay 9. Using radioactivity 10. Dangers of radioactivity 11. Nuclear energy 12. Nuclear fission & fusion 13. The solar system 14. Gravity & orbits 15. Life cycles of stars 16. Red shift 17. Origin of the Universe 18. Work & Power
Y11	**P9 – P12** 1. Objects affecting each other 2. Vector diagrams 3. Rotational forces 4. Electric Circuits 5. Current, potential difference 6. Current, energy and charge 7. Resistance 8. Investigating resistance (CP) 9. Power 10. Electrical Safety 11. Static electricity 12. Electrical fields 13. Magnets and magnetic fields 14. Electromagnetism 15. Magnetic forces 16. The national grid 17. Transformers	**P12 – P15** 1. Particles & Density 2. Investigating Density (CP) 3. Energy & changes of state 4. Energy calculations 5. Investigating water (CP) 6. Gas temperature and pressure 7. Gas pressure & volume 8. Bending and stretching 9. Investigating springs (CP) 10. Extension and energy transfers 11. Pressure in fluids 12. Pressure & upthrust	**Separate Physics Revision and Exams**