Science

Intent	Science provides us with the ability to make sense of all that surrounds us, preparing us for life beyond the classroom. Studying science allows us to develop our thinking skills, improves our ability to solve problems and can opens doors to many other disciplines. At Hebburn Comprehensive, our science curriculum covers the three fundamental disciplines – Biology, Chemistry and Physics, giving our pupils the skills and knowledge to understand the world around them. At KS3 we follow the National Curriculum, drawing on the experience of our department and resources from the wider teaching community, including Ark, to develop a bespoke Scheme of Learning tailored to meet the needs of our young scientists. The course is designed to ignite enthusiasm, create awe and wonder, and build solid foundations to allow a seamless transition into the GCSE course. Promoting enthusiasm and engagement regardless of the route post 16, is a priority for us in science. We want to encourage our future doctors and engineers are much as we want to instil a lifelong interest in the world around for our pupils who chose a different path when they leave us.				
	7	**8**	**9**	**10**	**11**
Topics	Particles Cells Scientific skills Forces Reproduction Space Separating mixtures Density & pressure Movement & transport	Compounds Interdependence Electrical circuits Acids & alkalis Respiration Nutrition Earths systems Light & sound Heating & cooling	Biology: ecology, genetics, cell transport Chemistry: types of reaction, Earths atmosphere resources, pure substances and mixture, atoms and the Periodic table Physics: magnets, moving by force, energy	Edexcel GCSE Biology: cells and control, genetics, natural selection and genetic modification, health, disease, and the development of medicine, plant structure and their functions, animal coordination, control, and homeostasis Chemistry: bonding, acids and alkalis, electrolysis, reactivity, equilibrium, groups of the periodic table Physics: Waves, light and the electromagnetic spectrum, radioactivity, energy (forces doing work), forces and their effects, electricity and circuits, magnetism and the motor effect, electromagnetic induction, particle model, forces and matter	Edexcel GCSE Biology combined: exchange and transport, ecosystems and material cycles, ecosystems and material cycles Biology triple: core practical (food tests), virus life cycles, plant defences and diseases, core practical (antibiotics), monoclonal antibodies, hormones, exchange and transport in animals, ecosystems and material cycles Chemistry combined: rates , energy changes, fuels, atmosphere Chemistry triple: qualitative analysis, dynamic equilibrium, fuel cells, hydrocarbons, alcohols and carboxylic acids, polymers, qualitative analysis, bulk and surface properties Physics combined: forces and matter Physics triple: astronomy, static electricity, Nuclear energy, rotational forces