YEAR 5 & 6 CONTENT	Learning cycle / term	**YEAR SEVEN COVERAGE & OUTCOMES Class of 2022 CHEMISTRY**	KEY SKILLS	**YEAR SEVEN COVERAGE & OUTCOMES Class of 2022 BIOLOGY**	KEY SKILLS	**YEAR SEVEN COVERAGE & OUTCOMES Class of 2022 PHYSICS**	KEY SKILLS	**GCSE DESTINATION / LINK** (please include all the Assessment Objectives for your new GCSE specification (s) so that clear links can be made with the content and skill sets being covered in Years 7 & 8 and how they relate directly to final GCSE outcomes)	
According to Focus education a 'year 6 chemist' should be able to… (baseline testing will check this) • Compare and group materials based on their properties (eg hardness, solubility, transparency & conductivity. • Describe how material dissolves to form a solution; explaining the process of dissolving • Describe and show how to recover a substance from a solution. • Describe how some materials can be separated. • Demonstrate how materials can be separated through filtering, sieving & evaporating. • Know and can demonstrate that some changes are reversible & some are not. • I can explain how some changes result in the formation of a new material and that this is usually reversible. • I can discuss reversible & irreversible changes. • I can give evidenced reasons why materials should be used for specific purposes According to Focus education A Year 6 Biologist should be able to (baseline testing will assess this) • Classify living things into broad groups according to observable characteristics & based on similarities & differences. • Describe how living things have been classified.	**AUTUMN 1** September – October	**WEEK 1: CAT4 TESTING WEEK FOR ALL YEAR 7** Science Base Unit - Health and Safety, using and drawing equipment, understanding how to investigate different scientific questions, constructing graphs from data, Science Baseline assessment, (approx. 3 weeks) **Mixtures & separation** • Two or more substances that are not chemically combined. • Solids that don't dissolve into liquids • Reversible changes • Solubility of substances and dissolving • Conservation of mass & physical changes • Reversible states of matter • Chromatography to separate and analyse solutes. • Methods of separating miscible & immiscible liquids.	Recall Identify Classify Design Describe Explain Evaluate Compare Linking to Biology (applying)	• No Biology Topic • All Year 7 students to complete the mixtures and separation topic		• No Physics Topic All Year 7 students to complete the mixtures and separation topic		**AO1:** To demonstrate knowledge & understanding of: scientific ideas; scientific techniques & procedures. **AO2:** To apply knowledge & understanding of: scientific ideas; scientific techniques & procedures. **AO3:** To analyse information & ideas to: interpret & evaluate; make judgements & draw conclusions; develop & improve experimental procedures.	
		BASELINE ASSESSMENT **Assessment and skills tested at the end of each topic** **This piece of work is a portfolio piece for EBacc subjects.**							
	AUTUMN 2 October – December	No Chemistry topic in this half of the term	Identify State the meaning of… Describe Classify Compare Justify Plot Interpret	**Cells and Tissues** • All organisms carry out life processes • Organs are important parts of large organisms. • Organs are made up of different tissues. • Tissues and cells can be studied using microscopes. • Cell structure and function • Specialised cells	Identify State the meaning of… Describe Classify Explain Compare Justify Design	**Electricity/Energy** Energy from Fuels • Conservation of Energy. • Combustion of fuels. • Energy Transfers. • Energy resources. • Electricity generation. • Global Warming Electric Circuits • Circuit Symbols. • Conductors and Insulators. • Series and Parallel circuits. • Current in circuits. • Voltage in circuits. • Mains electricity and Plugs.		**AO1:** To demonstrate knowledge & understanding of: scientific ideas; scientific techniques & procedures. **AO2:** To apply knowledge & understanding of: scientific ideas; scientific techniques & procedures. **AO3:** To analyse information & ideas to: interpret & evaluate; make judgements & draw conclusions; develop & improve experimental procedures.	

• Give reasons for classifying plants & animals in a specific way. • Identify & name the main parts of the circulatory system. • Describe the function of the heart, blood vessels & blood. • Discuss the impact of diet, exercise, drugs & lifestyle on health. • Describe the ways in which nutrients & water are transported in animals, including humans. • Describe how the earth and living things have changed over time. • Explain how fossils can be used to find out about the past. • Explain about reproduction & offspring. • Explain how animals & plants are adapted to suit their environment. • Link adaptation over time to evolution. • Explain evolution.	**SPRING 1** January –February	**Particle Model** • The three states of matter • Particle arrangements & properties • Particle theory and the concept of purity. • Kinetic theory and diffusion. • Kinetic theory and link to properties of solids, liquids & gases. • Kinetic theory & pressure of gases.	Identify State the meaning of… Describe Classify Compare Justify Plot Interpret	**Organ Systems** • Organs work together in organ systems • Understanding of the role and function of the following organ systems ○ The digestive system ○ The circulatory system ○ The gaseous exchange or breathing system ○ The nervous System ○ The urinary system ○ The immune system	Identify State the meaning of… Describe Classify Explain Compare Justify Design	No physics topic in this half of the term		**AO1:** To demonstrate knowledge & understanding of: scientific ideas; scientific techniques & procedures. **AO2:** To apply knowledge & understanding of: scientific ideas; scientific techniques & procedures. **AO3:** To analyse information & ideas to: interpret & evaluate; make judgements & draw conclusions; develop & improve experimental procedures.
		FORMATIVE ASSESSMENT **Assessment and skills tested at the end of each topic** **This piece of work is a portfolio piece for EBacc subjects.**							
According to Focus education A Year 6 Physicist should be able to (baseline testing will assess this) •	**SPRING 2** February – March	**Acids & Alkalis** • Acid substances that are corrosive • Alkalis – solubility & reaction • Indicators for acids & alkalis • The pH scale • Acids and reactions with bases.	Name… state Give examples.. Choose / select describe Consider Apply Research Analyse Deduce Compare Plan Justify Link Design construct	No Biology topic in this half of the term		**Sound** • Types of wave. • How sounds are made. • Meaning of pitch, volume and intensity. • How sounds travel. • Hearing ranges. • Speeds of sound in different materials.	Name… state Give examples.. Choose / select describe Consider Apply Research Analyse Deduce Compare Plan Justify Link Design construct	**AO1:** To demonstrate knowledge & understanding of: scientific ideas; scientific techniques & procedures. **AO2:** To apply knowledge & understanding of: scientific ideas; scientific techniques & procedures. **AO3:** To analyse information & ideas to: interpret & evaluate; make judgements & draw conclusions; develop & improve experimental procedures.	
• Explain how light travels • Explain and demonstrate how we see objects. • Explain why shadows have the same shape as the object that casts them. • Explain how simple optical instruments work Explain how the number & voltage of cells in a circuit links to the brightness of a lamp etc	**SUMMER 1** April –May	No Chemistry topic in this half of the term		**Reproduction** • Internal and external fertilisation • Structure and function of the male and female sex organs • Pregnancy, foetal development and giving birth • Puberty	Name… state select describe Apply Research Compare Plan Justify Link Design Construct Evaluate	**Forces** • Mass and Weight and how it's calculated. • Friction and its effects. • How to measure forces. • Effects of forces on objects. • Balanced and unbalanced forces. • Pressure, force and area.	Name… state Give examples.. Choose / select describe Consider Apply Research Analyse Deduce Compare Plan Justify Link Design construct	**AO1:** To demonstrate knowledge & understanding of: scientific ideas; scientific techniques & procedures. **AO2:** To apply knowledge & understanding of: scientific ideas; scientific techniques & procedures. **AO3:** To analyse information & ideas to: interpret & evaluate; make judgements & draw conclusions; develop & improve experimental procedures.	

	SUMMER 2 June – July	**Atoms, elements & compounds** • Types of atoms & elements • How elements are arranged in the periodic table & the representation of elements using symbols. • Compounds • How physical & chemical changes can be classified as reversible or irreversible. • Gases and the Earth's atmosphere.	State Recall Describe Explain Consider Give reasons… Evaluate Count Construct Represent Interpret Classify Distinguish calculate	**Ecosystems** • Habitats and adaptations of organisms for survival • How changes in physical and environmental factors affect communities and populations and how they can be monitored • How competition affects survival of organisms • Food chains and webs. • Feeding relationships can be described in terms of energy flow. • Human activity can damage ecosystems.	State Recall Describe Explain Consider Give reasons… Evaluate Count Represent Interpret Classify Distinguish Calculate Construct	No Physics topic in this half of the term		**AO1:** To demonstrate knowledge & understanding of: scientific ideas; scientific techniques & procedures. **AO2:** To apply knowledge & understanding of: scientific ideas; scientific techniques & procedures. **AO3:** To analyse information & ideas to: interpret & evaluate; make judgements & draw conclusions; develop & improve experimental procedures.	