









Year 7

AQA Topic	Old Style Name	KS2 Starting Point (Max 2 sentences)	KS2 and KS3 Key Questions	KS3 Topic Summary (Max 2 sentences)	ILNESS sheet
Organisms 1	Cells/Movement	Students may have studied whole organisms, however will probably have no experience of life at a cellular level. Students may have an understanding of how different systems within the body complement each other to perform movement and take in oxygen.		Students will begin by looking at the building blocks of life 'cells' and learning how to use a microscope in order to see them more clearly. They will learn to be able to state the difference between plant and animal cells and relate the specialised cell structure to their function. They will be introduced to the skeletal system and how specialised cells form tissues to facilitate movement.	
Matter 1	Particles/Separating Mixtures	Students may have previously encountered the 3 states of matter, their properties, changes of state and some basic separation techniques. They may also know key words such as 'dissolve' and 'solution'.		Students will start by extending their understanding of the properties of the 3 states of matter and changes between these states. Their previous knowledge of basic separation techniques will be built upon with more complex methods as well as the reasons why they are used for different mixture types and links to the particle model.	
Forces 1	Speed/Gravity	Students may have an understanding of the effects of air resistance, water resistance and friction, and link this to how objects move along different surfaces. They should know why things fall and have some idea of the concept of terminal velocity.		Students will look at speed and develop applying their maths skills through calculations and graphs, before looking at acceleration and applying their knowledge to a worked example. They will then go on to look at vertical motion, linking it to forces and the application of acceleration regarding weight, both on Earth and elsewhere.	
Genes 1	Variation/Reproduction	Students should be able to classify animals into vertebrates and invertebrates, they should also be able to recall the 5 vertebrate groups. Students should understand that there are organ systems within the body including the reproductive system, they should also know about the reproductive cycle of mammals.		Students will build on their previous knowledge of the mammalian life cycle by learning the complex process of puberty, the menstrual cycle and how these enable life to continue. Students will then go on to learn about family trees, the inheritance of characteristics and how variation is caused through genetic and environmental factors.	
Waves 1	Sound/Light	Students should understand luminosity, know light travels in straight lines, and understand shadow formation and bouncing, bending and splitting light. They should also understand They should also know how sound waves are made, how properties of a sound can be changed and how sound travels to our ear.		Students will initially learn about the key properties of sound waves, including amplitude and frequency in relation to the sound's properties, and how the speed of sound can be changed. They will then go on to learn about light, reflection, refraction and dispersion, and the laws associated with light including basic ray diagrams.	
Reactions 1	Metals and Non-Metals/Acids and Alkalis	Students will have a limited knowledge of materials but little real experience of chemical reactions at KS2. Combustion and photosynthesis may have been covered however it is unlikely it will have been examined in detail chemically.		Students will learn about metals and non-metals, differences between these two classes of substance and some key reactions with oxygen, water and acids. The reactivities of different metals will be compared. The concept will then be extended to acids and bases (alkalis), looking at the pH scale and neutralisation	
Ecosystems 1	Interdependence/ Plant Reproduction	Students will understand that different organisms have different adaptations to live in a particular habitat. They will also understand that environmental changes can happen which interrupt interdependence. Students should be able to label parts of a plant and know about the reproductive cycle of the plant.		Students will study different habitats and how they support food chains and food webs, they will then go on to learn about different sampling techniques and data collection methods. Students will then go on to learn about food security and the process of plant reproduction and its role in maintaining interdependence between species.	
Electromagnets 1	Voltage, Resistance and Current	Students should know some common conductors and insulators, and how to build a series circuit and use a switch. They should be able to link the number of cells to brightness of a lamp, or volume of a buzzer. They should know some basic circuit symbols.		Pupils will learn what current, potential difference and resistance are, and how they are linked in an equation. They will also investigate the differences between series and parallel circuits. They will also try to explain the uses of different materials based on their resistance to electric current, and also plan an investigation to determine the resistance of a material.	