Subject:	KS3	Year: 7	Ability: All
	Science		

	Half-term 1			Half-term 2	
Topic	Particle model	Separating mixtures	Speed	Gravity	Movement
Topic overview **Students will learn…**	Students will learn how to relate the properties of materials in different states to the features of the particle model.	Students will learn how to devise ways to separate mixtures based on their properties.	How the speed of an object relates to the distance it travels and the time taken. Students will also learn the factors that affect the speed of an object.	The difference between mass and gravity. They will also learn the effects gravity has on other objects and compare the force of gravity on Earth and other planets.	How the skeletal and muscular system work together to cause movement.

	Half-term 2			Half-term 3	
Topic	Cells	Respiration 1	Photosynthesis 1	Metals and Non-metals	Acids and Alkalis
Topic overview **Students will learn…**	How multicellular organisms are composed of cells which are organised into tissues, organs and systems to carry out life processes. How specialised cells work together in complex organisms.	How to use word equations to describe aerobic and respiration.	The importance of photosynthesis and why other organisms are dependent on photosynthesis. How to use word equations to represent photosynthesis.	Students will learn how to compare and contrast the reactions of metals and non-metals and use experimental results to suggest an order of reactivity of various metals.	Students will learn about acids and alkalis as classes of chemicals with distinct properties and uses; using indicators to classify solutions as acidic, alkaline or neutral and using the pH scale to compare the acidity and alkalinity of different solutions.

Subject:	KS3	Year: 7	Ability: All
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	Half-term 4			Half-term 5	
Topic	Energy Transfers	Energy Costs	Interdependence	Sound	Light
Topic overview **Students will learn…**	How energy can be transferred from one object to another. Students will also learn how the energy stored in an object depends on its speed, temperature, height or whether it is compressed or stretched.	How electricity is generated from a range of resources and be able to calculate the cost of domestic electricity.	How to describe that a species' population changes as its predator or prey population changes. Explain effects of environmental changes and toxic materials on a species' population.	Students will learn that sound travels as a wave and how changing pitch and volume change a wave.	Students will learn how light passes through, reflects back from or is refracted travelling through different materials.

	Half-term 5		Half-term 6			
Topic	Earth Structure	Universe	Variation	Human Reproduction	Current	Voltage and Resistance
Topic overview **Students will learn…**	Students will know the three types of rocks and how they link into the rock cycle. They will understand how these can be converted over millions of years through weathering and erosion, heat and pressure, melting and cooling.	Students will be able to model how objects move through the Solar System. They will be able to explain the length of a day and year, seasons, and the visibility of objects from the earth.	Students will learn that there is variation between individuals of the same species and the effect of this.	Students will learn about the process of the menstrual cycle and pregnancy.	The definition of electrical current and how it is affected in series and parallel circuits. Students will learn how objects become charged and the effect of the electric fields these produce.	That voltage is the energy per charge that pushes electrons around a circuit. Students will learn that resistance is the restriction of this flow, and use the formula V=IR to relate the 3 together.