Physics Curriculum Overview KS3

7I		
Energy	• Recall that our bodies need energy, which we get from food. • Describe ways in which energy is stored and transferred. • Describe what fossil fuels are and how they were made. • Give some examples of renewable energy resources. • Describe advantages and disadvantages of different energy resources.	• Compare results and calculate ratios
7J		
Current Electricity	• Explain how switches work. • Describe what a current is and how it is measured. • Use a physical model to help explain electric circuits. • State what is meant by series and a parallel circuit. • Describe how changing the number or type of components in a circuit affects the current. • Describe how a voltmeter is used. • Describe the relationship between resistance and current. • Explain some safety precautions to be followed when using electricity.	• Understand how models are used in science.

7K		
Forces	• Name forces and classify them as contact or non-contact forces. • Describe the extension of a spring depends on the force applied. • Recall the effects of friction and how it can be changed. • Calculate pressure and recall its units. • Identify balanced and unbalanced forces.	• Explain why scientists use SI units.
7L		
Sound	• Explain what causes a sound and how to make it louder. • Explain the link between frequency and pitch. • Describe the parts of the ear and their functions. • Describe how microphones convert sound into electrical signals. • Describe some uses of ultrasound. • Compare longitudinal and transverse waves.	• Present information as a scatter graphs.
8I		
Fluids	• Describe and explain the properties of different states of matter in terms of the particle model. • Describe what happens to particles during changes of state.	• State what is meant by density and recall its units

8J		
Light	• Compare light and sound waves. • Describe how mirrors and rough surfaces reflect light • Recall some uses of lenses • Recall the parts of the cameras and eyes and state their function. • Describe how to make a spectrum.	• Use ray boxes to investigate light
8K		
Energy Transfers	• Explain how internal energy and temperature are different. • Describe how energy is transferred by radiation, conduction and convection. • Recall ways of reducing energy transfers. • Describe what power and efficiency mean • Explain how power companies charge for energy used.	• State the meanings of accuracy and precision
8L		
Earth and Space	• Describe some ways of investigating the planets • Compare different models of the solar system • Use the tilt of the Earth's axis to explain the changes of the season. • Describe the Earth's magnetic field and how it affects compasses. • Calculate weight and factors affecting gravity. • Describe stars, galaxies and constellations	• Calculate ratios and percentages

9I		
Forces and motion	• Recall the names of different types of force • Explain the effects of balanced and unbalanced forces. • Recall ways in which energy can be stored and transferred • Recall the law of conservation of energy • Use the formula relating speed, distance and time. Use a distance-time graph. • Identify the load, effort and pivot on a diagram of a lever. • Describe the factors that affect the total work done.	• Use the formula relating to speed, distance and time.
9J		
Force fields and electromagnets	• Describe the shape of a magnetic field and recall factors that affect the strength of gravity • Describe how electrically charged objects affect each other. • Recall how current and voltage behaves in a series and parallel circuit. • Use the formula relating to voltage, current and resistance. • Describe how the strength of an electromagnet can be changed.	• Use decimal places and significant figures
9		
Conservation of energy	Consolidation of some KS3 topics • Describe the conservation of energy • State energy stores and transfers • Describe insulating a building	

Generating electricity	• State renewable and non-renewable energy resources • Evaluate renewable and non-renewable energy resources	