Ravens Wood School

KS3 Curriculum Plan

Subject: Year 8 Speed

KS2 Prior Learning			
None			
Overarching Topic: Speed			
Why is this topic being studied at this time? How does it fit into the wider subject curriculum?	• Speed is an important part of life, for example car choices, sports and entertainment such as fairgrounds. As student progress through life many of them will learn to drive, understanding their speed will aid them in understanding stopping distances and speed restrictions. • In this unit pupils will use the concept of speed. They will consider the relationship between forces (including balanced forces) on an object, and its movement. They will be introduced to distance/time and Speed/time graphs and learn how to interpret them. This will build on the unit of Forces and prepare them for the GCSE speed topic.		
	Essential	**Core**	**Ambitious**
The Big Questions (What questions will students be able to answer upon mastery of the topic?)	Can you use the Speed=distance/time equation? Can you recognise patterns on a distance/time? Can you calculate a gradient of a graph? What is a vector and scalar quantity? What are the units of speed?	Can you describe a journey with changing speed on a distance/time graph, and label changes in motion? How does the speed of an object vary when measured by observers who are not moving, or moving relative to the object?	Can you explain how the motion of two objects moving at different speeds in the same direction would appear to the other? Are you able to predict how an object's speed will change when the forces on it change? Can you use a distance-time graph to calculate speed?
The Key Skills/ Techniques	**The sophistication and application of skills will become more advanced as students' progress through the essential, core and ambitious knowledge**		
	Skill/Technique	**How will this skill be developed?**	
	1. Graphing & Drawing	Draw graphs with suitable scales, axes and units. Correct line of best fit. Appreciation of anomalies and processed data. Scientific drawing of cells, concepts and scientific equipment.	
	2. Variables	Identify independent, dependent and control variables and devise experiments to include these to ensure valid results. Appreciation of uncertainty.	
	3. Data Analysis	Describe, explain and predict trends. Graph and table data interpretation. Identify links and patters within and between topics. Statistical analysis of data to include mode/median/mean/range determination. Drawing justified conclusions from presented data.	
	4. Application	Apply known and taught theory in unfamiliar contexts. Making links to taught theory and extracting key ideas. Communicating using correct scientific terminology.	
	5. Working Scientifically	Identify hazards and planning to limit risk. Describe how to improve accuracy/precision/repeatability/reproducibility/validity. Evaluate	

		reliability of methods and investigations, taking in to account data analysis.