

# Islip Manor High School

## Scheme of Learning Overview



This scheme of learning has been designed to ensure that you make progress, develop, and master key knowledge, skills, and ideas through academically rich content that reflects, values, and celebrates the diverse experiences, identities, and contributions of our school community.

<b>Year group:</b>	<b>Term:</b> summer	<b>Unit duration:</b> 3 weeks	<b>Number of lessons:</b> 6	<b>Unit title:</b> Speed
<b>Unit assessment:</b> End of topic test			<b>Fertile question:</b> What does it take to break the 10-second barrier?	
<b>Key skills/ concepts/ prior knowledge that students should have when starting this unit:</b>			<b>Start RAG</b>	<b>End RAG</b>
<ol style="list-style-type: none"> <li>Forces are measured in Newtons (N).</li> <li>Friction slows things down.</li> <li>Gravity pulls objects toward the centre of the Earth.</li> <li>Balanced forces mean no change in motion.</li> <li>Distance and time are used to measure how far and how long.</li> </ol>				
<b>Key skills/concepts/knowledge that students should cover</b>			<b>Start RAG</b>	<b>End RAG</b>
<ol style="list-style-type: none"> <li><b>Calculating Speed:</b> Use the formula. <math>Speed = Time / Distance</math></li> <li><b>Distance-Time Graphs:</b> Draw and interpret the slope (gradient) as speed.</li> <li><b>Relative Motion:</b> Calculate how fast two objects are moving towards or away from each other.</li> <li><b>Pressure in Solids:</b> Use <math>Pressure = Force / Area</math> to explain why sharp knives cut better.</li> <li><b>Pressure in Liquids:</b> Explain why pressure increases with depth (e.g., for divers).</li> <li><b>Upthrust:</b> Describe the upwards force in liquids and why objects float or sink.</li> <li><b>Atmospheric Pressure:</b> Explain why air pressure changes with altitude (mountain vs. sea level).</li> <li><b>Moments:</b> Define a moment as a turning effect of a force.</li> <li><b>Calculating Moments:</b> Use <math>Moment = Force \times distance</math> from pivot</li> <li><b>Law of Moments:</b> Explain how see-saws or levers balance.</li> </ol>				
<b>Stretch. Key skills/concepts/knowledge that students should cover</b> Use the principle of moments to calculate an unknown weight on a balanced beam.				
			<b>Literacy. Key vocabulary/subject terminology that students should cover</b>  Speed, Relative Motion, Distance-Time Graph, Accelerate, Pressure, Area, Upthrust, Atmospheric Pressure, Moment, Pivot.	
			<b>Suggested materials teachers could/should use:</b>  Ks3 Activate Book 2	
			<b>Key home learning tasks students should complete:</b>  Home learning booklet	

