Learning Journey – 8J Motion

What have I done previously in my learning journey?	
Previously….	You have used calculations in science and you have looked at how forces can make objects move faster and slower.
In this topic…	In this topic you will explore how to measure the speed and acceleration of an object. • How can we measure and calculate speed? • What is velocity? • How can we interpret distance -time graphs? • How can we draw distance- time graphs? • What is acceleration and how do we calculate it? • What is uncertainty? • What are significant figures?

We will develop our learning by studying the following each lesson:	RAG	Skills in Science checklist
8J.01 Motion and Speed • State that speed is a measurement of how fast an object is moving • Convert units of measurement • Describe the difference between average and instantaneous speed • Calculate the average speed of an object • Rearrange the equation for speed		☐ Scientific Methods ☐ Practical ☐ Number Skills ☐ Application ☐ Communication
8J.02 Calculating average speed • Practice finding the average speed of a person running. • Compare the average speed of a trolley along a ramp in different sections of that ramp. • Describe how the speed of a trolley on a ramp changes in different parts of the ramp.		☐ Scientific Methods ☐ Practical ☐ Number Skills ☐ Application ☐ Communication
8J.03 Distance -Time Graphs • Interpret distance-time graphs to describe changes in motion • Calculate speed from distance-time graphs.		☐ Scientific Methods ☐ Practical ☐ Number Skills ☐ Application ☐ Communication
8J.04 Drawing Distance-time graphs • Draw a distance-time graph using information about a journey		☐ Scientific Methods ☐ Practical ☐ Number Skills ☐ Application ☐ Communication
8J.05 Calculating Acceleration • State what is meant by acceleration • Use the formula to complete acceleration calculations • Interpret graphs of speed, distance and time		☐ Scientific Methods ☐ Practical ☐ Number Skills ☐ Application ☐ Communication

Key Vocabulary

Speed	Velocity	Average	Acceleration	Motion	Uncertainty	Distance-time graph	Instantaneous	Gradient

Future Learning	In both maths and Science GCSE you will need to calculate speed in your exams. You will also have lots of tasks where you will need to find the gradient of a graph.
In careers	Understanding about speed is really important for lots of task in real life from making sure you are at the correct speed limit when you learn to drive to calculating journey time. It is also important in lots of careers where you are required to calculate how fast something is happening e.g. a chemical reaction.