



Subject	Year	Term
STEM	7	3
Topic		
Mars Lander Challenge		
Content (Intent)		
Prior Learning (Topic) Aerospace Challenge		
- STEM first two terms experience In KS2 students have learned: - about the wider world in general. - to interpret and present data using bar charts and tables. - to interpret and present discrete and continuous data using appropriate graphical methods, including bar charts and time graphs. - to develop creative skills through modelling. - basic scientific formulas and facts.		
Future Learning (Topic) Self-Driving Cars Project		
What Knowledge and Skills will be taught (Implementation)	How will your understanding be assessed & recorded (Impact)	
Students will investigate how the conditions of Mars compare to Earth and the challenges a lander might face after a launch. Students will construct graphs based on real data to determine the best window of opportunity to launch a lander towards Mars. Students will design and create a Mars lander with features adapted to Mars’ atmosphere. They will test their landers and interpret and analyse the class results. Students will learn about space travel and the challenges real scientists face when planning launches.	Graph work completed in class will be assessed through a mixture of self-assessment against success criteria, peer-assessment and teacher feedback. There are many built-in opportunities for graph work to be assessed throughout the STEM curriculum. Students will ultimately present their findings, and the teacher will give valuable feedback to students to prepare them for this.	
How can parents help at home?		
Students will be given homework tasks to produce based on specific STEM subjects and whole topic. Provide students with resources to allow them to research STEM careers and opportunities. Provide resources for modelling at home.		
Helpful further reading/discussion (including Reading and Vocabulary Lists)		
Reading Space Travel videos on YouTube Space Science resources on stem.org.uk NASA YouTube channel – How Do You Build a Mars Rover?	Vocabulary Lists Atmosphere Gravity Orbit Engineering Stability	Air-resistance Specialised