

Year group: 5	Term: Autumn 2	Unit: Data Handling- Mars Rover 1
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- Must have knowledge:**
- To know that Mars Rover is a motor vehicle that collects data from space by taking photos and examining samples of rock
 - To know what numbers using binary code look like and be able to identify how messages can be sent in this format
 - To understand that RAM is Random Access Memory and acts as the computer's working memory

Key Vocabulary:

Data: Information used for a specific purpose or investigation.

Mars Rover: A robotic vehicle, that explores, investigates and returns data about the terrain on Mars.


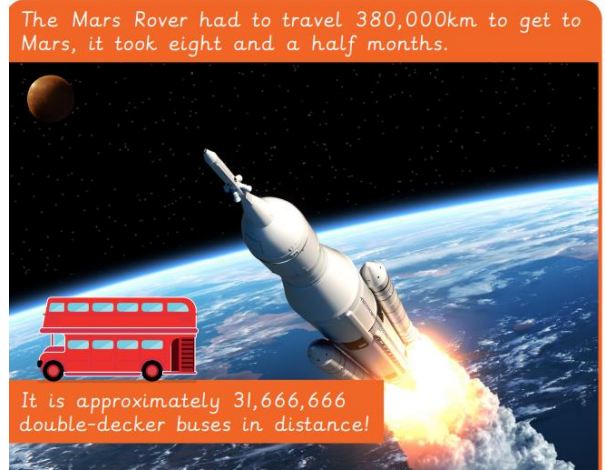
Data Transmission: The movement of information from one or more points to another.

Binary Code: A code used in computers, based around the binary values of 0 and 1.

RAM: A computer's working memory

Key skills

- Describe how data might be used to tell us about a location.
- Carry out binary calculations.
- Recognising how the size of RAM affects the processing of data.

Binary:

When a robot thinks independently, it needs to be able to calculate a range of data. All decisions carried out by a robot, or any computer, are done in binary - including the Mars Rover.

Binary value	Decimal value
0 0 0 0	0 zero
0 0 0 1	1 one
0 0 1 0	2 two
0 0 1 1	3 three
0 1 0 0	4 four
0 1 0 1	5 five
0 1 1 0	6 six
0 1 1 1	7 seven
1 0 0 0	8 eight
1 0 0 1	9 nine
1 0 1 0	10 ten

