Knowledge Organiser
Year 5 – Autumn Term – Data Handling: Mars Rover (Binary code)

What I should already know	Key Knowledge				Key Vocabulary
How to search the web efficiently. How to use a spreadsheet to record data. How to create a video.	**What is binary code?**	Binary Code is a code used in computers, based around the binary values of 0 and 1 All decision carried out by a computer are done in binary.	**What are the binary values?**		**Discovery** – When something is intentionally or unintentionally found. **Distance** – The amount of space between two places or objects. **Input** – Information sent to a computer by an input device such as a keyboard or mouse for processing. **Mars Rover** – A robotic vehicle that explores investigates and returns data about the terrain of Mars. **Output** – Information or data that is sent by the computer to an output device such as a printer or speakers. **Radio signal** – A radio wave that is sent or received somewhere.
Things I need to know how the Mars Rover transmits the data back to Earth and the challenges involved in this. How to read any number in binary, up to eight bits. How to read binary numbers and grasp the concept of binary addition.	**What is numerical data?**	Numerical data is information that is based on numbers and digits	**What is data transmission?**	Data Transmission is the movement of information from one or more points to another.	
This will help me in the future:	**What is data?**	Data is information used for a specific			

Binary value / Decimal value table:

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

Applying what I have learnt on independent projects. Use an online community responsibly.		purpose of investigation.			**Sequence** – A set order or pattern for something to follow. **Signal –** A voltage, current or electromagnetic wave that is either sent or obtained. **Computer simulation –** Computer generated imitation of something such as a program test or product prototype.