

Lyng Primary School Knowledge Organiser

Computing

Topic: Computing



Summer 2

Data handling: How can we control the Mars Rover?

Year 5

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| What Goldilocks and Step On words will I use? |
| **Spelling** | **Defintion** |
| Binary code | A code used in computer based around the values 0 and 1 |
| Data transmission | Movement of information from 1 or more points to another  |
| input  | Information sent to a computer by an input device such as a keyboard or mouse for processing |
| Mars rover | A robotic vehicle that explore, investigates and returns data about the terrain on Mars |
| Numerical data | Information based on numbers and digits |
| Radio signal | The radio wave that is sent or received somewhere |
| Computer simulation | Computer generated immitation of something such as a program test or product prototype |

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**Aims of this unit**

* Learn that a separate computer can program external devices
* Recognise how the size of RAM affects the processing of data
* Learn the vocabulary associated with data: transmit and data
* Recognise that computers transfer data in binary and understand simple binary addition
* Relate binary symbols (Boolean) to the simple character based language ACSII
* Learn that messages can be sent by Binary code
* Learn binary up to 8 characters
* Carry out binary calculations
* Understand how data is collected in remote or dangerous places
* Understand how data might be used to tell us about a location
* Learn about different forms of communication that have developed with the use of technology

**Safeguarding**

Filtering and monitoring system is in place. Children will use their own log in details to track any misuse and to protect the child from harmful websites and pop ups. Children will be reminded of how to stay safe online and to use technology safely and respectfully and to tell a trusted adult if there is anything on their computer that makes them uncomfortable. When using the iPads, the monitoring software will track which iPad has been used to enable us to know which class has used the iPad.

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| Unit Outcomes |
| * Identify some types of data the Mars Rover could collect (for example, photos).
* Explain how the Mars Rover transmits the data back to Earth and the challenges involved.
* Read any number in binary, up to eight bits.
* Identify input, processing and output on the Mars Rovers.
* Read binary numbers and grasp the concept of binary addition.
* Relate binary signals (Boolean) to a simple character-based language, ASCII.
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Summer Term

Data handling

**In this unit…**

The children will develop their understanding of how computers connect and share information using binary code

**Agreed outcome:**

Performing binary calculations to show how computers communicate