

<b>Year group:</b> 6	<b>Term:</b> Spring 1	<b>Unit:</b> Data Handling- Big Data 1
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**Must have knowledge:**

- To know that data contained within barcodes and QR codes can be used by computers.
- To know that Radio Frequency Identification (RFID) is a more private way of transmitting data.
- To know that data is often encrypted so that even if it is stolen it is not useful to the thief.

**Key Vocabulary:**

**Barcode:** A machine-readable code of lines and numbers

**QR Code:** Quick Response code. When scanned can take you to a specific website or provide information.

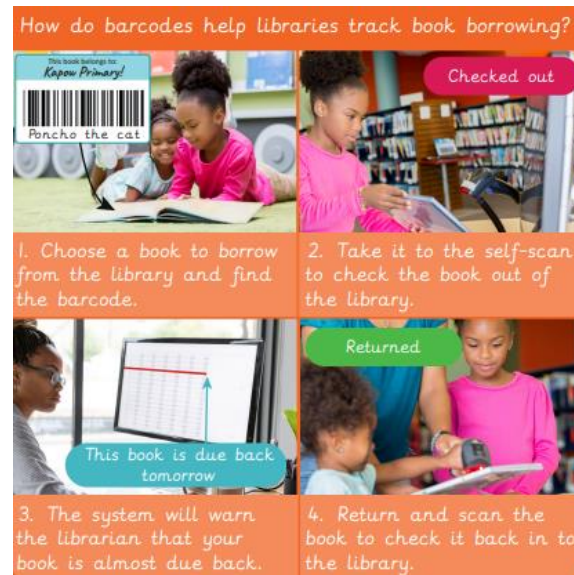
**Encrypt:** To secure information by converting it into a code.

**Radio Frequency Identification:** A device that uses radio signals to check where something or someone is.

**Key skills**

- Create (and scan) their own QR code using a QR code generator website.
- Gathering and analysing data in real time.
- Creating formulas and sorting data within spreadsheets.

*How do barcodes help libraries track book borrowing?*



The infographic illustrates a four-step process for library book borrowing using barcodes. Step 1 shows a child selecting a book titled 'Poncho the cat' from a library shelf. Step 2 shows the child using a self-scan device to check out the book. Step 3 shows a computer screen displaying a due date warning: 'This book is due back tomorrow'. Step 4 shows the child returning the book to the library, where it is scanned and marked as 'Returned'.

*Infrared light can be used to:*

- > Transmit small amounts of data, such as a remote control beaming the instruction to turn the TV on and off or change channel.
- > Provide warmth from electrical heaters.
- > Heat up and cook food.
- > Detect heat through thermal imaging cameras.



The image illustrates the application of infrared light. On the left, a hand holds a remote control, with red lines representing infrared waves being transmitted towards a television. On the right, a thermal imaging camera displays a heat map of a person's face, with a color scale on the right side ranging from 25.1 to 37.8 degrees Celsius.