



## Medium Term Planning

### Subject: Computing



<b>Term and Year:</b>	Spring 1 – Year 6
<b>Teacher:</b>	Mrs Appleby
<b>Subject:</b>	Data Handling
<b>Vocabulary that will be taught:</b>	barcode, boolean, brand, commuter, contactless, data, data privacy, encrypt, infrared waves, radio waves, signal, analyst, transmission
<b><u>National Curriculum Objectives:</u></b>  ~ understand computer networks including the internet; how they can provide multiple services, such as the world wide web; and the opportunities they offer for communication and collaboration (Digital Literacy) ~ Select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information (Information Technology)	
<b><u>Computing Skills that will be taught and assessed:</u></b>  ~ Understanding and identifying barcodes, QR codes and RFID ~ Identifying devices and applications that can scan or read barcodes, QR codes and RFID	

- ~ Acknowledging that corruption can happen within data during transfer (for example when downloading, installing, copying and updating files)
- ~ Understanding how barcodes, QR codes and RFID work
- ~ Gathering and analysing data in real time
- ~ Creating formulas and sorting data within spreadsheets
- ~ Learning about the Internet of Things and how it has led to 'big data'
- ~ Learning how 'big data' can be used to solve a problem or improve efficiency
- ~ Recognising that updated software can help to prevent data corruption and hacking

<b>Focus of each lesson</b> <b>'Can I...' Statement(s)</b>		<b>Activities/Key points</b>
Lesson 1	Can I explain how barcodes and QR codes work?  ~ I can identify a QR code ~ I can explain the purpose of a QR code ~ I can explain the limitations of these codes	Children will learn to identify how barcodes and QR codes work as well as how they are used for different purposes.
Lesson 2	Can I explain how data is transmitted by infrared waves?  ~ I can explain what infrared waves are ~ I can explain why infrared can be blocked easily	Children will learn how infrared waves transmit data.

Lesson 3	<p>Can I explain how encoding keeps data safe?</p> <p>~ I can explain how RFID can be used to transmit data</p> <p>~ I can recognise the uses of RFID</p> <p>~ I can recognise the importance of encoding</p>	<p>Children will learn to recognize the uses of RFID (Radio Frequency Identification) and to know how encoding keeps data safe.</p>
Lesson 4	<p>Can I gather and analyse data in real time?</p> <p>~ I can collate information</p> <p>~ I can draw conclusions from the data set</p>	<p>Children will learn how to gather and analyse data in real time.</p>
Lesson 5	<p>Can I analyse and evaluate data?</p> <p>~ I can sort data using a table</p> <p>~ I can compare data across columns</p> <p>~ I can explain how RFID can be used in data transfer</p>	<p>Children will learn how to analyse and evaluate data.</p> <p>Children are going to provide a service to London commuters, using some of the Big Data which is collected every day by TfL to help them save time on their journey into, or out of work.</p>