Digital Learning Cornwall

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READ FIRST

YEAR 4: MICROBIT DATA HANDLING

CURRICULUM MILESTONES

I can use a digital device to collect data automatically

I can choose how often to collect data samples

WHY THIS? WHY NOW? CURRICULUM SEQUENCING AND ASSESSMENT

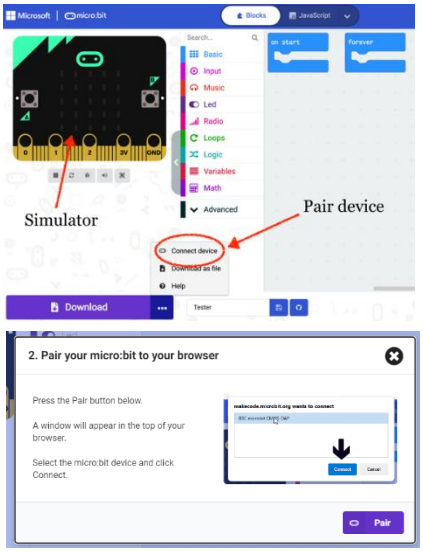
This unit introduces works through data handling concepts, and does so utilising the features of Microbit hardware. These micro-controllers give children a really hands-on experience with programming, seeing what they code appear physically before their eyes. The unit builds upon previous learning within Microbits First Use and Branching Databases in year 3.

The data element of this unit means that it lays groundwork for understanding within the Flat-File Database unit in year 5. The programming elements also build foundation knowledge ahead of more advanced programming concepts in year 5 and beyond.

Prefer to combine with Year 4 Science (Electricity topic) ? A Microbit unit that combines electricity and Microbit use is available, though quite involved with equipment and setting up. It may be worth having a look here to see if it would work for your class as an alternative.

Microbits general guidance:

Microbits are one of the most fun and accessible pieces of programmable hardware that children can encounter at primary level. They may look intimidating at first, but these simple units allow children to learn / experiment with code in a fun and accessible manner.



Using a Chromebook or other laptop is normally the most relaible way to work with a Microbit, using the small USB lead to plug the device in and download code each time it is adjusted. The Microbit should be 'paired' to the chromebook or laptop so that each time the 'Download' button is clicked, it automatically updates the Microbit with the new code. This makes the process much easier for children as they adjust their code.

Battery packs and batteries are often *optional* extras for each project – do keep them out of the way until needed.

In this series of 4 lessons, students learn about data through a variety of unplugged activities. They write and evaluate algorithms and programs using selection and repetition. They use the micro:bit as a temperature recorder and an automatic warning system.

Children will need to have a degree of independence with handling the microbits and taking recordings. You might find that tackling this unit when children are settled into year 4, in Spring or Summer, best.

One Microbit / device between two children is normally a very good ratio for learning. You do not need to follow every slide in the Powerpoint materials if you feel that the pace of your lesson is suffering.

EASY ACCESS TIPS: LESSON 2

This session could easily take longer than 60mins – sections can be done as a class group if you need to save time. Battery packs are required for measuring temperatures around the school building.

EASY ACCESS TIPS: LESSON 3

Features a video that will open up in YouTube. Children do not actually make their designs, but nevertheless this session could be extended beyond 60mins

EASY ACCESS TIPS: LESSON 4

Use of Microbit Classroom is extremely helpful for sending the pre-made code to children.

EASY ACCESS TIPS: OPTIONAL LESSON 5

This optional activity brings together the learning from this lesson sequence into a practical activity that may be popular with children – capturing data from kicking a football. You would need to devote more than 60 minutes to get this activity done fully, and