Micro:bit by bit

In August 2016, on the back of the BBC's gift of a BBC micro:bit to schools for every S1 student, every Design and Technology department in Scotland was sent a Kitronik Inventor's Kit for the BBC micro:bit courtesy of SSERC. This kit is a great way to get started with programming and hardware interaction. This Inventor's Kit contains everything needed to complete 10 experiments including using LEDs, motors, LDRs and capacitors.
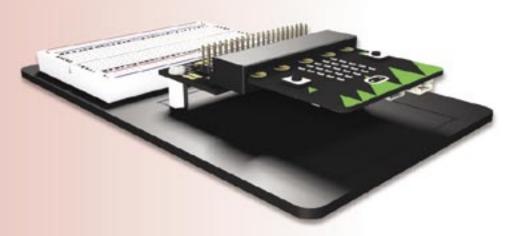
For those unsure of where to start with coding or electronic construction, Kitronik have included a tutorial book which guides you through programming the BBC micro:bit and constructing circuits. The micro:bit aims to give children an engaging introduction to coding and put a new generation back in control of technology. The micro:bit project builds on the legacy of the seminal BBC Micro, which was put into many schools in the 1980s and was instrumental in the careers of some of today's technology pioneers. Computing and digital technology has become ubiquitous since then but for many the emphasis has shifted from creation to consumption. The micro:bit, and the wider BBC Make IT Digital initiative, aims to help redress the balance.

The BBC, with a number of partners, have designed the BBC micro:bit to be a powerful, fully programmable computer to encourage children to get actively involved in writing software and building new things that will be controlled by it. Code is written using one of the easy to use editors provided on the BBC micro:bit website. The BBC micro:bit is connected to a computer via USB and then the downloaded files are dropped directly onto your device. There is also an app for Android and Apple devices.

The micro:bit is designed to be a starting point to get younger children interesting in coding so they can move onto other, more complex devices in future. The micro:bit can connect and communicate with other devices, including Arduino, Galileo, Kano and Raspberry Pi, as well as other micro:bits. This helps a child's natural learning progression and gives them even more ways of expressing their creativity. The Kitronik Inventor's Kit for the BBC micro:bit provides a fantastic way of learning how to construct and control electronic circuits. The BBC micro:bit has a selection of pins that are located on the bottom edge of its PCB. By using the

specially designed Edge Connector Board for the BBC micro:bit in conjunction with the breadboard, it is easy to use these pins to connect additional components to the BBC micro:bit. Electronic circuits can be built without the need to solder, making activities more immediately engaging.

We tried out the Inventor's Kit on our recent Physics and Technology Diamond School. We found that the first four activities gave quick successes before moving on to more challenging tasks. These activities used a colour coded block editor which made coding very straightforward. Later tasks use more advanced editors and had the option to use touchscreen technology. We found Activity 5 particularly challenging, but found support at https://www.kitronik.co.uk/blog/inventors-kit-experiment-5-further-help.

Early feedback from teachers said that it "allowed me to build confidence in coding", "gave a simple set of activities in a very approachable format" and "had good projects to try with classes".

Further kits can be purchased via the Kitronik website [1]. ◀

Reference
[1] http://bit.ly/2hQbYxk (accessed 21st December 2016), or from Scientific and Chemical, and Timstar.

ENTHUSE
Celebration Awards

If you or a colleague attended a professional development course during the academic year 2015-16 which qualified for ENTHUSE funding (through the National STEM Learning Centre), then you are eligible to apply for recognition via the ENTHUSE Celebration Awards.

The awards are presented each year to recognise the impact that teachers, technicians, and support staff have on their students, colleagues, schools, colleges, and peers, as a result of ENTHUSE-supported professional development. Successful applicants, whether individuals or institutions, enrich STEM subjects within the institution, and extend the impact of their work into wider communities.

The categories of Award are:

Individual
• ENTHUSE Award for Excellence in STEM teaching - Primary.
• ENTHUSE Award for Excellence in STEM teaching - Secondary.
• ENTHUSE Award for Excellence in STEM teaching - FE.
• ENTHUSE Award for Excellence in STEM teaching - Technicians and support staff.

Organisational
• ENTHUSE Award for STEM Primary School of the Year.
• ENTHUSE Award for STEM Secondary School of the Year.
• ENTHUSE Award for STEM FE College of the Year.

Further details about the awards can be found at the STEM website [1]. ◀

Reference
[1] www.stem.org.uk/enthuse-celebration-awards.

Applications are now open until 5th March 2017.

NDLW 2017

The 2017 National Digital Learning Week (NDLW 17) will take place from 15-19 May.

This year the theme of the week will be 'Digital Difference' and throughout the week there will be opportunities to share and celebrate the digital approaches which make a positive impact on classroom practice. The week will be packed with inspiring case studies from Early Learning and Childcare through to Senior Phase and beyond showcasing how digital makes a difference throughout the entire learner journey equipping young people for work. ◀

Visit www.digilearn.scot for more information.