

Barefoot meets micro:bit Resource guide

What are the Barefoot meets micro:bit resources?

Our Barefoot meets micro:bit resources are made up of two separate activities:

- Wildlife animations for pupils aged 7 - 9 years
- Litter Hunt for pupils aged 9 -11 years

Each activity focuses on pupils programming the micro:bit physical computing device. The micro:bit is a pocket-sized computer that introduces pupils to how software and hardware work together. It has an LED light display, buttons, sensors and many input/output features that, when programmed, let it interact with pupils and the world. Further information about the micro:bit is available on the 'Introduction' page - <https://www.microbit.org/get-started/first-steps/introduction/>

In the first lesson for pupils aged 7 - 9 years, pupils learn about the components of the microbit and how programs are created on a computer or tablet and transferred to the device. Pupils create simple sequence based programs lighting the micro:bit's LEDs. In the second lesson, pupils apply what they have learnt from lesson one to create a simple animation using the micro:bit's LEDs. They plan their animations first using a simple design sheet and then recreate their designs as code.

In the first lesson for pupils aged 9 - 11 years, pupils explore the use of the microbit's input buttons to change the value of variables. They learn how to initialise variable values and create a button pressing race game to consolidate their learning. In the second lesson, pupils apply what they have learnt to create a counting device to record recyclable and non-recyclable litter around their school environment. They spend time considering the commands required to implement a counting algorithm. Pupils then code their counting programs and use the micro:bit to record data.

Setting up the micro:bit

The Barefoot meets micro:bit lessons assume the micro:bit is connected to a desktop or laptop computer using a USB cable. The micro:bit can be used with computers running Windows, MacOS, Chrome OS or Linux.

Before using the resources, you should ensure the micro:bit MakeCode editor can be accessed within school on pupil devices - <https://makecode.microbit.org/> and that programs can be transferred from pupil devices to the micro:bit, using a USB cable. Further information can be found on the micro:bit 'Set up' page - <https://www.microbit.org/get-started/first-steps/set-up/>

micro:bit features

The lessons for pupils aged 7 - 9 years begin with pupils locating the LEDs and USB connector, with the lessons for pupils 9 - 11 years also examining the buttons and accelerometer. Further information on these features can be found on the micro:bit 'User guide' page -

<https://microbit.org/get-started/user-guide/overview/>

Health and safety

When using the micro:bit, pupils should hold the micro:bit by the edges in order to avoid damaging any of the components. Liquids should also be kept away from the micro:bit and appropriate guidance given if using batteries. Further information on using the device safely, including details of how to clean the devices if required, can be found here - <https://www.microbit.org/get-started/user-guide/safety/>

Some of the lessons involve pupils visiting locations outside the classroom or school. In particular, lesson 2 for ages 9 - 11 years involves pupils taking part in a litter hunt. Your school's health and safety guidance should be followed before undertaking such activities, including ensuring appropriate risk assessments are in place.

Lesson timings

The Barefoot meets micro:bit resources contain a range of engaging activities for pupils to undertake in each lesson. The lessons assume pupils have previously used desktop and laptop computers to access web based content, and they are able to independently log on to a computer and access a website in a timely manner. If pupils require significant support with these tasks, you may wish to allocate longer than an hour for each lesson, or spread the lesson activities over additional lessons.

Sharing your work

Do let us know if you use the Barefoot meets micro:bit resources by sharing pictures or details with us on Twitter @barefootcomp or Instagram @barefootcomputing Maybe you could let us know about the animations you made, or the litter you counted in your local area? We love hearing from you and your pupils!we break something down into parts.