# Secondary In-school Activities

| Theme | Using Micro:bits to model bats | Using technology to solve a real-life problem | AI: Machine learning |
|---|---|---|---|
| Suggested age group | KS3 | KS3 | KS3 |
| Led by | LBP team (DBS checked) | LBP team (DBS checked) | LBP team (DBS checked) |
| Learning Objectives | • Communicating between micro:bits using radio<br>• Using an ultrasonic sensor to mimic echolocation<br>• Understanding how technology is used to identify rare and threatened bat species | • Understanding some of the threats to British bats<br>• Designing a solution that uses technology<br>• Using a breadboard and micro:bit to create a circuit | • Understand the meaning of datasets and wisdom of crowds<br>• Explore the use of citizen science<br>• Model machine learning |
| Activities | • Sending an image of a bat from one device to another<br>• Coding a micro:bit to respond in different ways relating to input<br>• Programming an ultrasonic sensor using a breadboard. | • Using smart materials and physical computing elements to create a smart lamppost<br>• Using MakeCode to automate their lamp post | • Using real life examples from the Letcombe Brook, model how human input can train AI models<br>• Learn how to distinguish bat calls through patterns and sonographs |
| Session length | 90 mins | 120 mins | 60 mins |
| Resources supplied by school | Micro:bit (per person)<br>Internet connected device with USB port (per pair) | Micro:bit per pair<br>Internet connected device with USB port (per pair) | Internet connected device |