# Spot the species!

**Main theme: protecting habitats and eco-systems**[(Global Goal 15.5)](https://www.globalgoals.org/15-life-on-land)

**Additional themes:** biodiversity, animal extinction

## Overview

In this activity students consider the wildlife they see in their local habitat and consider how important it is. They then create a micro:bit counter to record different species.

## Activities:

**What kind of wildlife is in your local area?**

* + Discuss with students and create a list together (**slide 2**)
  + You could go out on a nature walk together to spot different species

**Why does it matter what wildlife is in our local area?**

* + Discuss with students the importance of wildlife in your local environment (**slide 3**).
  + E.g.
    - the role wildlife plays in local ecosystems and balancing the local environment
    - the different habitats they observe in your local area
    - any changes that have occurred and possible reasons (e.g. an environmental disaster/a gradual observed decline in a species over time)
  + Students could create ‘fact files’ or food chain posters for a local ecosystem or species of their choosing

**How can we monitor the wildlife in our local area?**

* + Discuss how recording different species can help to monitor your local ecosystem (**slide 4**)
  + Explore the ways in which this could be done
  + Ask students to decide what species they’d like to ‘spot’ (**slide 5**)

**Creating a micro:bit species counter**

* + Introduce using micro:bit as a counter and explore with students how it could be used effectively (**slides 6 and 7**)
  + Depending on your students’ experience they could:
    - collaboratively write an algorithm for how the counter would work before programming it (developing important computational thinking skills - see example).
    - be given starting block(s) and then work out the rest of the program
    - write their own program and extend it beyond the [simple **species counter HEX file** example supplied](https://makecode.microbit.org/#pub:_hCqMzCisviVK)

**Wildlife survey**

* + Give students time to spot and count their chosen species using their counters
  + Collect, analyse and, if you wish, present the data (**slide 8**)
    - what does the data show?
    - what species are least/most prevalent?
    - what surprises are there?

**Summary**

* + Give students time to discuss and consider other ways they could monitor and protect local species through the design challenge.

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