# Anti-Poaching Collar

**Main theme: animal extinction, illegal wildlife trade** [(Global goal 15.7)](https://www.globalgoals.org/15-life-on-land)

## Overview

In this activity students consider the illegal wildlife trade, with a focus on poaching. They then create their own micro:bit anti-poaching collar.

## Activities:

**What is the illegal wildlife trade?**

* Discuss with students what they know, giving them time to research and present their findings if you wish (**slide 2**). e.g.
  + What is the illegal wildlife trade?
  + Why does it exist?
  + What are the impacts?
  + What animals are endangered? Focus if you can on your own country/continent and especially less well-known examples.

**A focus on poaching**

* Invite students to focus on poaching and share what they know, or research to find out (**slide 3**). Encourage them to look at deeper issues (e.g. social media driving increased demand, poverty of local communities driving people to poach). e.g.
  + What is poaching?
  + What are the biggest issues with poaching (locally if appropriate)
  + What efforts are being made to stop poaching and how successful are they?
* Students could focus on area that they find interesting and create a presentation or video to share with others.

**How could technology help?**

* Give students time to creatively consider ways technology could help with poaching (**slide 4**) e.g.
  + Tracking animals (there are many examples online)
  + Helping local communities
  + Educating people about the issues

**Creating a micro:bit anti-poaching collar**

* Introduce the idea of using micro:bit as an anti-poaching collar and invite students to consider how it could help and potential issues (**slide 5**).
* Consider the example algorithm and code (**slides 6 and 7**) and depending on your students’ experience they could:
  + Write an algorithm and program for a simple micro:bit anti-poaching collar
  + Be given starting block(s) and then work out the rest of the program
  + Write their own program and extend it beyond the example code ([collar](https://makecode.microbit.org/#pub:_WuwhhoT769U5) transmitter and [receiver](https://makecode.microbit.org/#pub:_71q8YAJt3Lb0) and supplied HEX files **collar transmitter** and **collar receiver**)
  + Create and program their own physical micro:bit anti-poaching collar

*Note: ensure students use different radio group numbers and alert message messages so they have their own groups and do not trigger each other’s alarms.*

**Presenting collars**

* Give students time to present their collars and encourage some simple evaluation (**slide 8**). e.g.
  + What are they pleased with and would work well?
  + What would need further research and development?

**Summary**

* Give students time to discuss and consider other ways they could help with poaching and the illegal wildlife trade through the design challenge.

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