

## Instructor's Guide

### Equipment

- **Each team** is issue **one “Token”** (micro:bit) and **one handout**.
- **One “Locked Box”** is placed at the front **for all teams** to use
- Every teacher should have their own micro:bit and laptop

### Challenges (6 challenges, 0 to 5)

- Challenge 0
  - Alexander's parents moved to Singapore one year after cold war ended (cold war ended in 1991, so they moved here in 1992)
  - Alexander was born one year later (1993)
  - The year is 2025, so he is 32 years old
  - **Send numbers from 0 to 32 via the radio.**
- Challenge 1 (URL : 6348)
  - The clue is written backwards. It says “Same numbers but backwards”.
  - **Send numbers from 32 to 0 via the radio.**
- Challenge 2 (URL : 8321)
  - Token doesn't show challenge number, unless exposed to bright lights (torchlight symbol in clue). Use sunlight, torchlight, or light from phone at close range.
  - Numbers to avoid are all multiples of 3.
  - **Send numbers 0 to 40, but excludes numbers which are multiples of 3 (...use “remainder of” block in “Math”).**
- Challenge 3 (URL : 2482)
  - The clues “LISTEN” suggests that you should program your micro:bit to listen to the token. The token is sending out a character once every second.
  - As the token is sending out a text, you'll need to listen for it using “onReceivedString” and not “onReceivedNumber”. Teams should try both.
  - The **input box below “ASK” can be filled with the received characters (5 total)**, it will reveal a link to the next clue if correct.
- Challenge 4 (URL : 8435)
  - This challenge does not require the teacher's micro:bit. Only the token is needed.
  - Display only turns on when the microbit is held vertically.
  - **Based on the LED that's lit up, rotate the token 360 degrees in the indicated direction.**
    - Repeat this until the next clue appears.
- Last challenge uses the locked box
  - Only one box with a small prize inside. First team to complete will get the prize.
  - Game continues until all teams complete, or until time is up.
  - Challenge 5 (URL : 1870)
    - In the clue, the word “Listen to radio channel 1” is in bold. Teams should “listen” to the micro:bit in the locked box.
    - The micro:bit in the locked box is sending the string “reverse” once every 8 seconds.
    - **The password should be sent in reverse.**
    - Upon unlocking, the box will stay unlocked. Press the reset button to reset the microbit in the box, and it will autolock in 5 seconds.