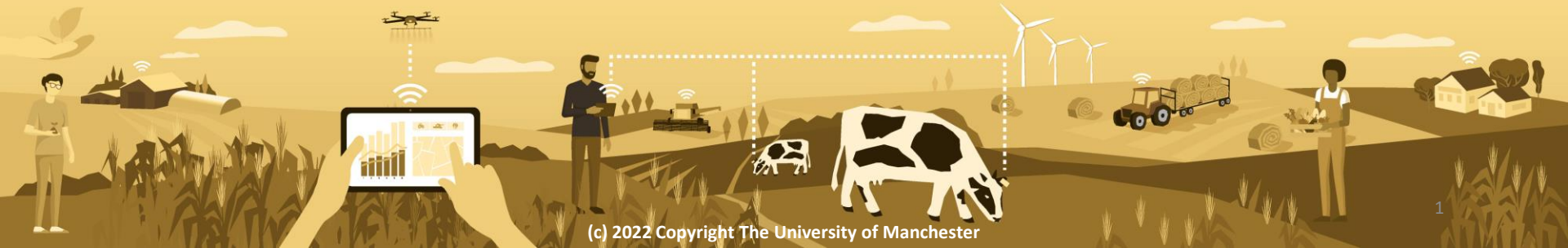




SESSION 5

Spray-Stop-Spray



Oh no! What's happened here!?



Could we use technology to find a solution to farmers spraying beyond their fields by turning off the spray as the tractor turns at the boundary and then automatically turning it back on again?



Ploughing the soil



Planting and seeding



Collecting & transporting crops

365 days on the farm

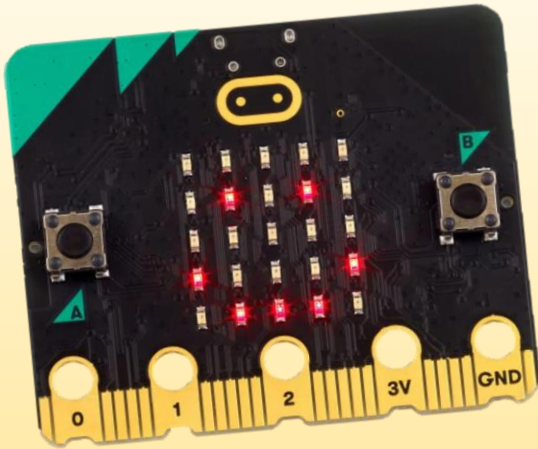


Harvesting

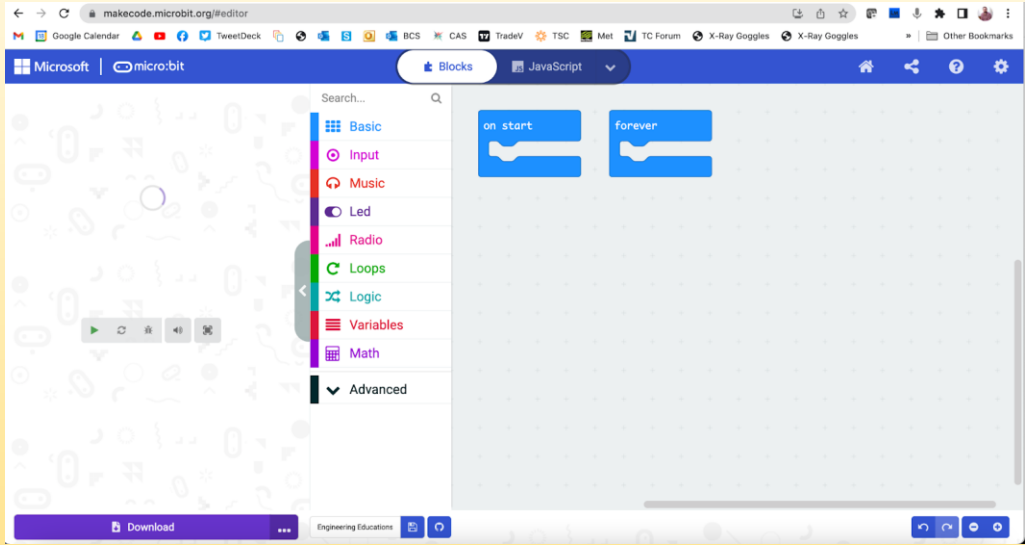


Fertilising the soil

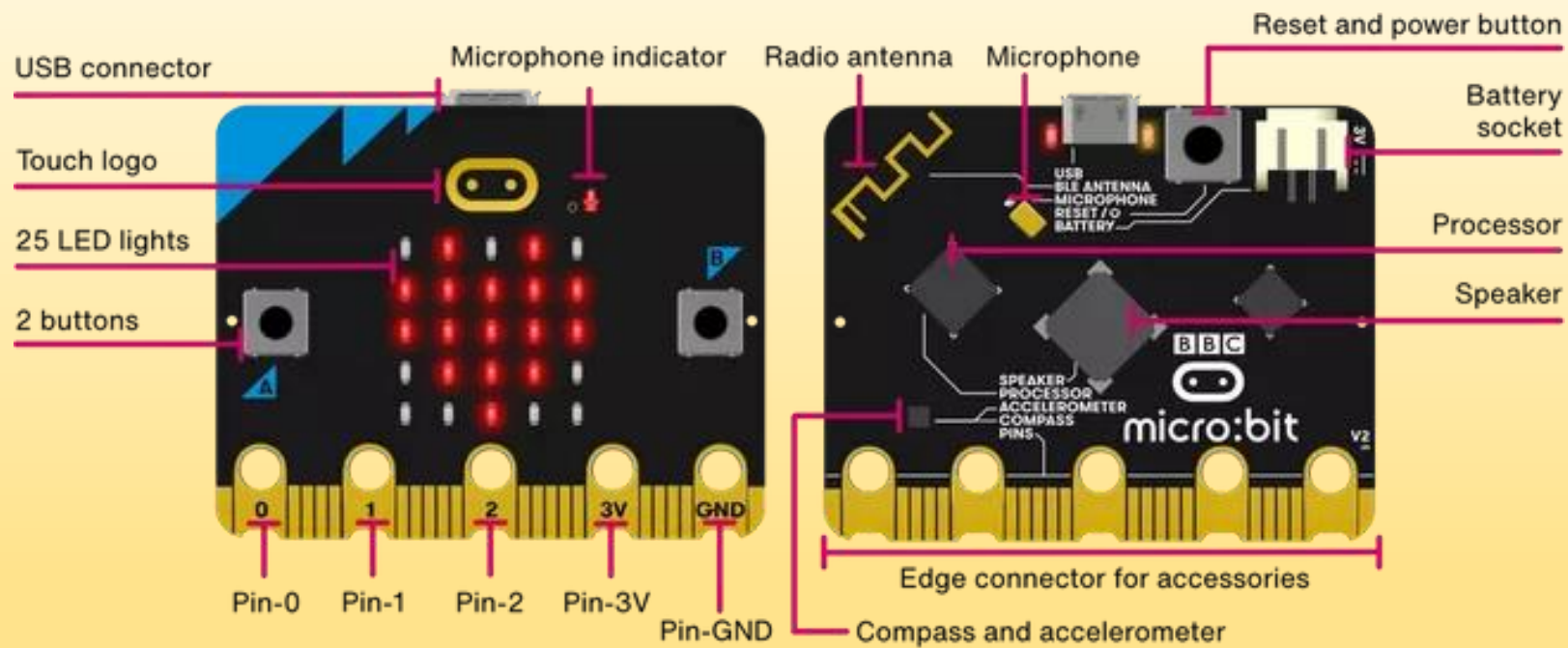




Micro:bit

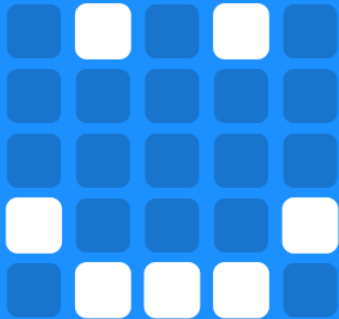


Make Code Editor



on button **A** ▼ pressed

show leds

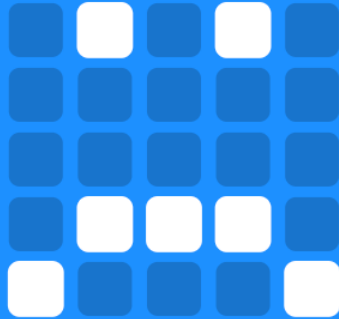


pause (ms) 100 ▼

clear screen

on button **B** ▼ pressed

show leds



pause (ms) 100 ▼

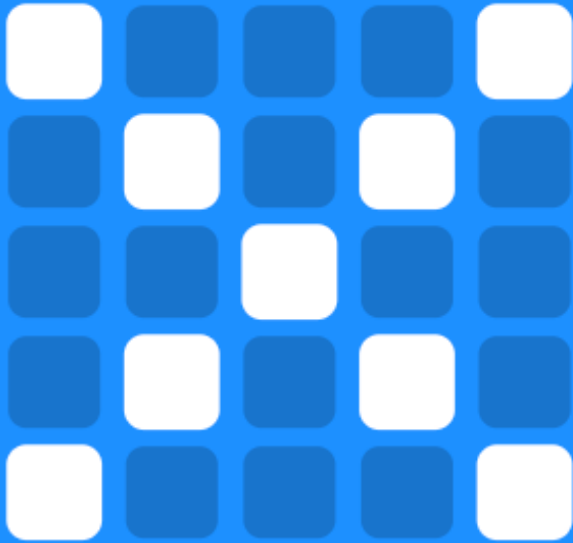
clear screen

Challenge yourself

Can you:

- change what is displayed by clicking on the individual LEDs;
- add another 'on button pressed' command to get the micro:bit to display something different when buttons A+B are pressed together;
- change the time the LEDs display for before the screen is cleared?

show leds



LEDs to show
tractor is spraying

How could we use
the Micro:bit to
tackle this
challenge?

Parson's Problem

Add these commands to your micro:bit project.

Combine the code to complete the challenge:

- Spraying starts when the program is run.
- Spraying is paused for different amounts of time when either the A or B button is pressed and then automatically resumes.

The image shows a collection of Scratch code blocks on a light blue grid background. The blocks are:

- A 'show leds' block with a 5x5 grid of LEDs, where the top row has the first and last LEDs lit, the second row has the second and fourth LEDs lit, the third row has the third LED lit, and the bottom two rows have all LEDs lit.
- A 'clear screen' block.
- An 'on start' block.
- A 'pause (ms)' block with the value '5000'.
- An 'on button B pressed' block.
- A 'pause (ms)' block with the value '1000'.
- An 'on button A pressed' block.
- A 'show leds' block with a 5x5 grid of LEDs, where the top row has the first and last LEDs lit, the second row has the second and fourth LEDs lit, the third row has the third LED lit, and the bottom two rows have all LEDs lit.
- A 'show leds' block with a 5x5 grid of LEDs, where the top row has the first and last LEDs lit, the second row has the second and fourth LEDs lit, the third row has the third LED lit, and the bottom two rows have all LEDs lit.

How did you solve the challenge?

When the program is run, we want spraying to start.

on start

show leds

When A is pressed we clear the screen to show spraying has stopped, then wait 1 second and start it again.

on button A pressed

clear screen

pause (ms) 1000

show leds

When B is pressed we clear the screen to show spraying has stopped, then wait 5 second and start it again.

on button B pressed

clear screen

pause (ms) 5000

show leds

Think about!

- Is the time the spraying is paused for long enough?
- Can you change their code to increase it?

SOIL DEFENDERS

