

Kinetic Art Class with µBits

3 hours

1st 45 minutes

Intro to µBits

- What the hardware is
- Get on dev site
- Plugging in boards
- Downloading programs → Display an icon
- Events → reactions
- Coding exercises
 - On button presses
 - On movement
 - On compass
- Challenge: Display something that changes when you do something
- Radio
 - Can communicate
 - exercise → Pairs - send a message from one to the other

15 minute break

2nd 45 minutes

Introduce challenge: Make a scene

- eg
 - Village of electronic creatures
 - Rube Goldberg
 - ...

Introduce modules

- NeoPixels x 3
- Servos x 3
- Speakers x 2
- Distance sensors x 2

Exercise

get each example to work

- servo → Try built in under pins
- Ultrasonic distance → Add sonar extension
- neopixel → Add neopixel extension

Introduce building supplies

- card
- tape
- scissors

What's your scene going to be?

Discuss and decide on scene,

Planning session 1

Just like planning scene, µBits will need to communicate

Planning session 2

Come up with communication protocol

15 minute break

3rd 50 minutes

Build your group creation!

Background (soundtrack) sound demo:

https://makecode.microbit.org/_HHJhbMJ.Pmgpb

Servo Demo:

https://makecode.microbit.org/_HjTcAahymCM9

Distance Sensor Demo:

Extensions -> search for: sonar -> add

note: be patient; the search can be quite slow!

https://makecode.microbit.org/_aTybgvhp.JWvr

H-Bridge Demo

https://makecode.microbit.org/_5gA97ccyHYFA

Neopixel Demo

https://makecode.microbit.org/_HCgUU24HC95j