

Interactive flute

Create a flute with 2 “holes” at the front and 1 “hole” at the back.

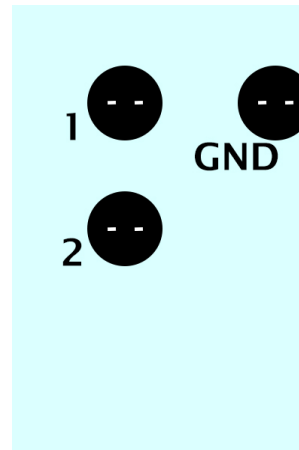
When you touch a combination of different holes together it makes a sound!

- Hold both the 1st hole at the front + hole at the back = first sound
- Hold both the 2nd hole at the front + hole at the back = second sound
- Hold all of them together - hole at the back + 1st and 2nd holes at the front = third sound

The flute will be made with a paper card, some conductive paint, a few staples and will be attached to a micro:bit and a speaker with the help of crocodile clips.

1) Prepare the front of your flute

Draw two circles – you will paint these with conductive paint.



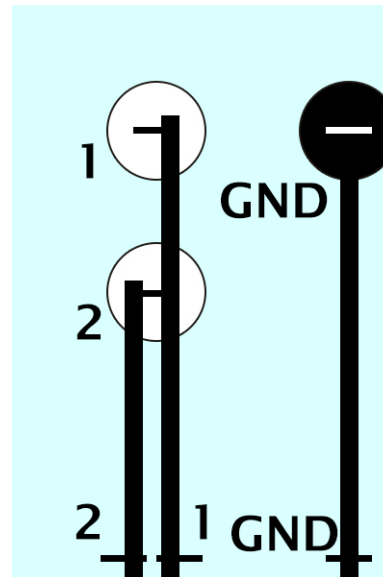
2) Prepare the back of your flute

Draw one circle – you will paint this with conductive paint

Draw a line from the back of that circle to the bottom

Draw a line from the back of circle 1 of your 'front' all the way to the bottom

Draw a line from the back of circle 2 of your 'front' all the way to the bottom



3) Prepare your program

Go onto microbit.co.uk and use the java script block editor to code your program:

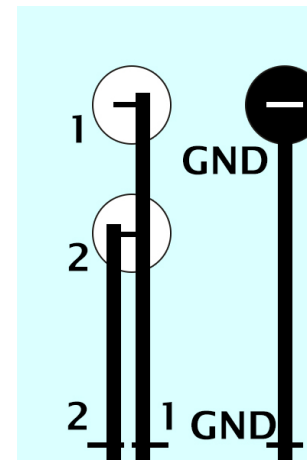
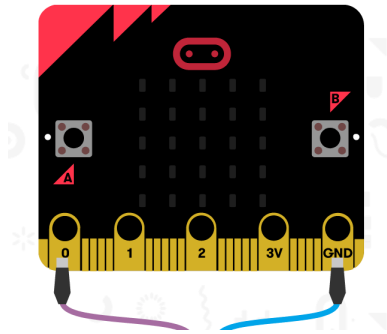
- If pin 1 is touched then play tone 1 for 2 beats
- If pin 2 is touched then play tone 2 for 2 beats
- If pin 1 and 2 are touched then play tone 3 for 2 beats

There will be a level of logic required in order to do this correctly – ask a mentor for help!

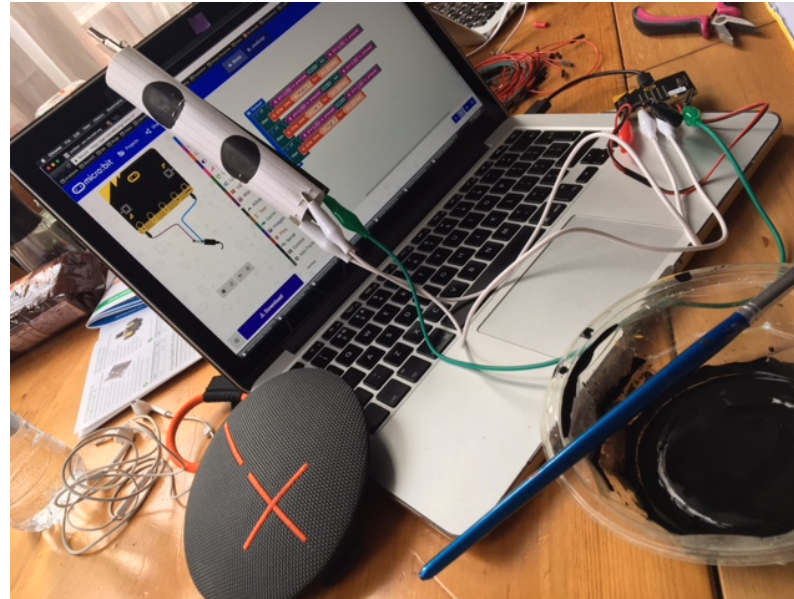
4) Put together your flute

Show a mentor your drawing and paint the circuit with conductive paint.

Ask a mentor to staple your flute and help with connecting the crocodile clips onto the micro:bit.



6) Test your flute
Play each note with your flute!



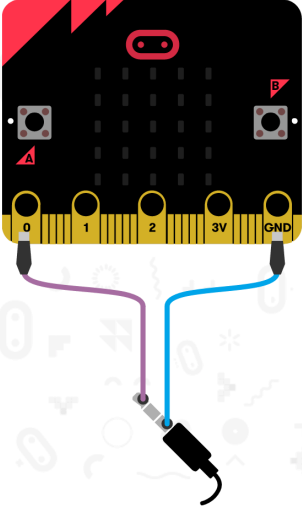
Challenge 1

Play a melody with the right notes

Challenge 2

Try the Quiz activity or think of your own!

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```
forever loop  
  if (pin P1 is pressed and not pin P2 is pressed)  
  then play tone Middle C for 2 beat  
  if (pin P2 is pressed and not pin P1 is pressed)  
  then play tone Low E for 2 beat  
  if (pin P1 is pressed and pin P2 is pressed)  
  then play tone High D for 2 beat
```

Getting Started

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