

12. Door alarm

Use your micro:bit to tell you if anyone has been in your room. You'll need a micro:bit, battery pack, a magnet and some way of fixing them to the door.

It uses the micro:bit's compass to measure how strong a magnetic field is and show an angry face when the door has been opened – when the magnetic field is less than (<) 200.

You may need to change the 200 number depending on how strong your magnet is. Put this program on your micro:bit – the first time you use the compass, you may be asked to calibrate it by playing a little game, tilting the micro:bit to light all the LEDs.

Use button A to test how strong the magnetic field is when the door is closed and then how strong it is when open. Use this to decide what value you need to trigger the alert if 200 doesn't work for you.

```
on button A pressed
  show number magnetic force (μT) strength

forever
  if magnetic force (μT) strength < 200 then
    show icon angry face
```

