

# Microbit Escape Room Puzzle - Magnetic Alarms

**Overview:** In this project, you and a partner will create an alarm that will go off when a magnet is moved away from the microbit. In many escape rooms, magnetic sensors are used to detect if certain objects are placed in the correct position. To make our program easier to troubleshoot, we will have our microbit make a noise when a magnet is moved close to it.

## **Instructions:**

1. Use [madecode.microbit.org](https://madecode.microbit.org) to create a magnetic alarm - that is to have your microbit play a noise when a magnet is moved away from it.
2. BEFORE YOU BEGIN CODING:
  - a. Find the following blocks of code, right click on them, and select the “help” option. Then read the documentation for that block so that you understand how it works! You will have to search through the block options on the left side of the screen to find each of these. Write a quick description of how each block works underneath it.
    - i. “Forever” block
    - ii. “If...else” block
    - iii. “Show string” block
    - iv. “Ringtone (hz)” block
    - v. “Magnetic force” block
3. Your program should do the following:
  - a. Display the magnetic force number on the screen when the microbit is measuring a magnetic field strength less than 400.
4. Play some sort of noise when the microbit measures a magnetic field strength of more than 400. Plan your code! Before you start coding on the computer, write out what you and your partners plan is to accomplish the task. You can draw a picture, write in sentences, write in pseudocode,... whatever works best for your group, as long as you write something down! Write your plan below.
5. Now go code and test it!