

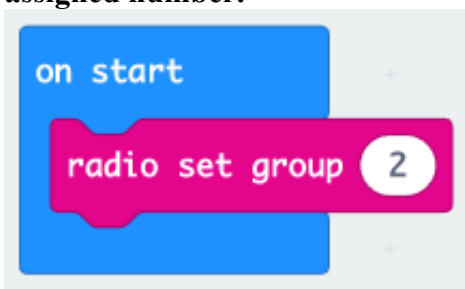
Coding Instructions

Intro:

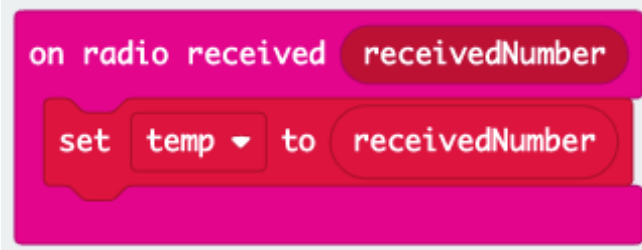
For this project, two separate Microbits will be coded. One to read the temperature and send the information, the other to receive the information and display it. To code the two Microbits, two different programs will need to be created using Microsoft MakeCode : <https://makecode.microbit.org/>

Temperature Display Instructions:

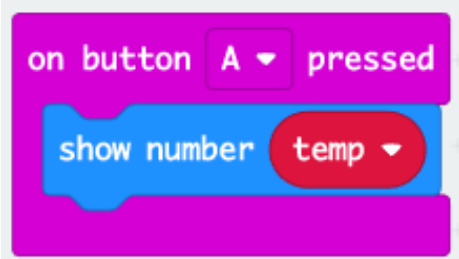
1. Connect the first Microbit via the USB and go to makecode.microbit.org to start a new program. Before starting to code the program, pair the Microbit by clicking on the gear symbol and selecting Pair → Pair Device → Select Microbit → Connect
2. First from the **BASIC** tab, grab and drag the “on start” block, then from the **RADIO** tab snap in the “radio set group” block. The block will need to be set to the number assigned by the teacher, so that both Microbits can use this number to communicate. This is important as it will prevent other Microbits from accidentally connecting and sending reading. **Note: this image sets the group to 2 but the group should be set to the assigned number.**



3. The next step is to code this Microbit for receiving the temperature from the second Microbit. To do this, create a variable by going to the **VARIABLES** tab and selecting “Make a Variable”. Name that variable “temp”, as it will store the number of the temperature being sent by the other Microbit.
4. Now from the **RADIO** tab grab the “on radio received” block and drag it to the middle, then from the **VARIABLES** tab grab the “set temp to” block. Finally, from the “on radio received” block itself, grab the “receivedNumber” oval and drag it into the “set temp to” block.



5. The last step is to create the code to display the temperature that was received from the other Microbit. From the **INPUT** tab drag the “on button A pressed” block. Then from the **BASIC** tab grab the “show number” block and finally from the **VARIABLES** tab drag the “temp” oval and slot it into the “show number” block.



6. Hit **DOWNLOAD** to send the code to the Microbit and then unplug it. Attach a battery pack to keep it turned on.

Temperature Recording Instructions:

1. The second Microbit will be coded to send temperature information for the first Microbit to display. Connect the 2nd Microbit via USB and go to makecode.microbit.org create a new program and pair the Microbit by clicking on the gear symbol selecting Pair → Pair Device → Select Micro:bit → Connect
2. First from the **BASIC** tab grab an “on start” block and a “show icon” block and snap them together. Then from the **RADIO** tab grab a “radio set group” snap it in, and set the group number to match the number assigned to the first Microbit. The icon can be set to anything, it is used to show that the microbit is working.



3. To finish, grab a “forever” block from the **BASIC** tab, then from the **RADIO** tab grab the “radio send number” and lastly from the **INPUT** tab slot in the “temperature” oval into the “radio send number” block.



4. Hit **DOWNLOAD** to the 2nd Microbit and attach the battery pack. Press A on the first Microbit to see the temperature displayed.