

Lesson 1: Load the Mystery Sensor App and Connect the Micro:bit

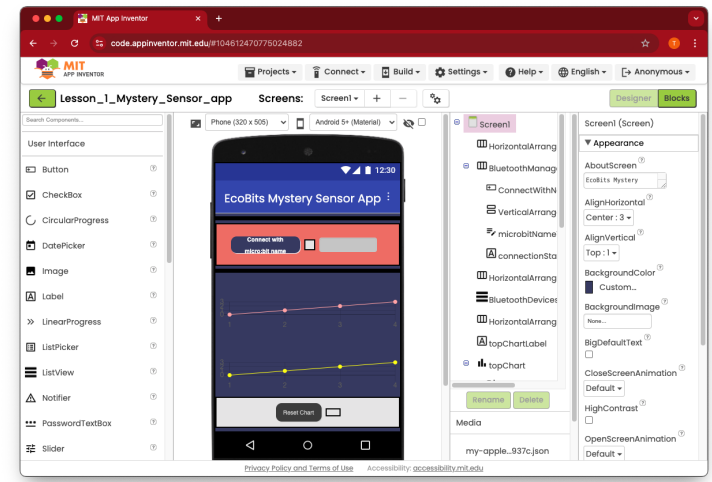
Step	What to Do	Details
Download the MIT App Inventor Companion app on your phone or tablet	• Companion is a helper app for your mobile device (iPhone, iPad, Chromebook, Android phone, or Android tablet) • The app allows you to use the app you build just like any other and test changes you make on the App Inventor building site. • Once you are ready to permanently load your app on your phone, follow the Android or iOS instructions.	 
If you already have the MIT App Inventor Companion App, check that it is up-to-date	• On your device, check the Companion app on the Apple App Store or Google Play. Update the app if needed.	

**On a browser,
get the app for
the lesson:**

**“Lesson 1
Mystery
Sensor Data
Logger App”**

- **Download the Lesson 1 Mystery Sensor App** to your App Inventor account using the following automatic links:
 - If you are using your **Google Account** with App Inventor, [click here to get the app](#).
 - If you are using the anonymous site, **code.appinventor.mit.edu**, [click here to get the app](#).

\



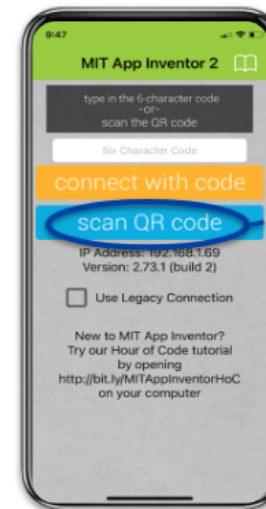
Run the app on your phone, tablet, or Chromebook

- From the **Connect** menu, **select AI Companion**.
- **Scan the QR code** with the AI Companion app on your phone or tablet.

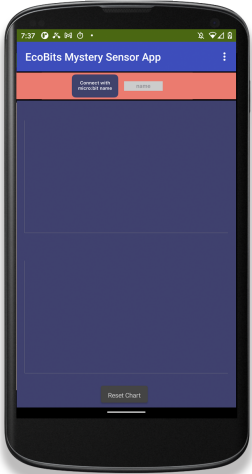
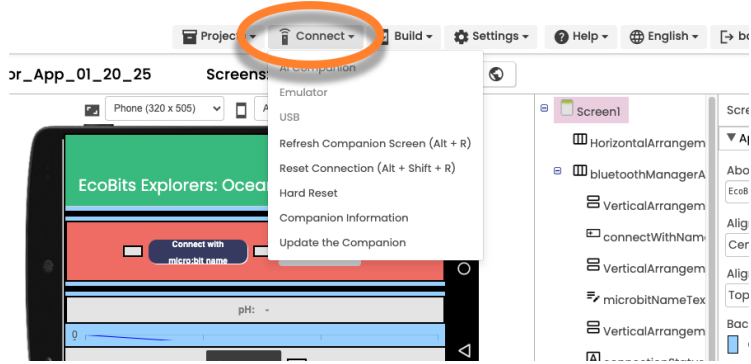


Use any of these codes to connect! **Web browser - App Inventor Workspace**

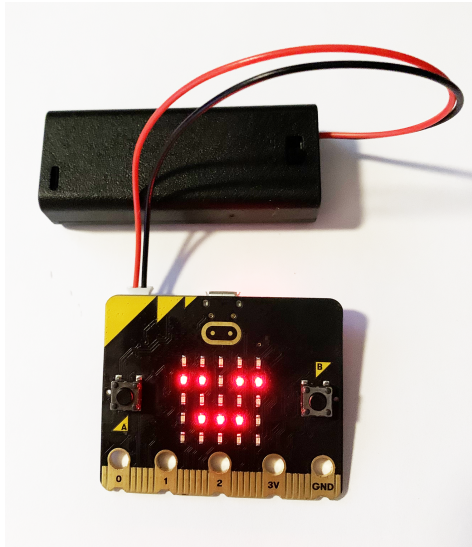
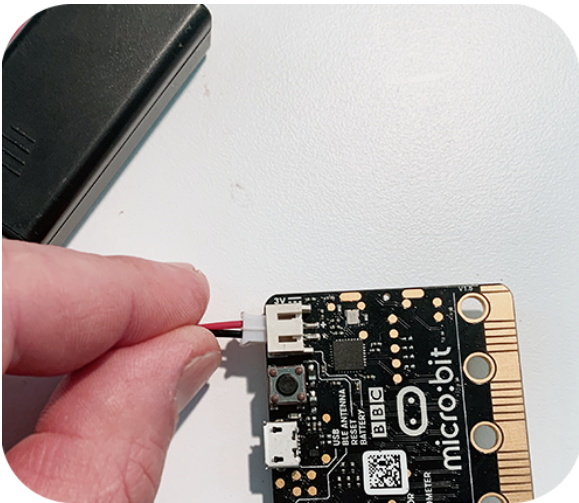
Mobile Device - Companion App

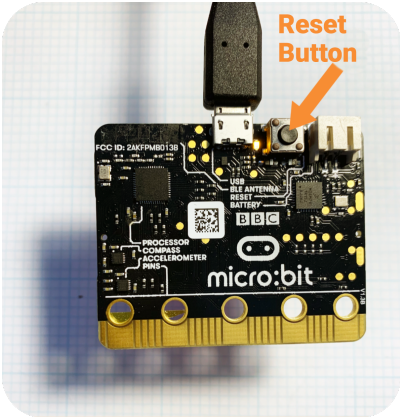
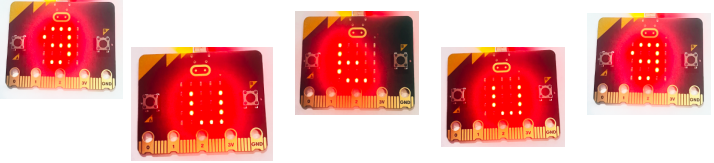
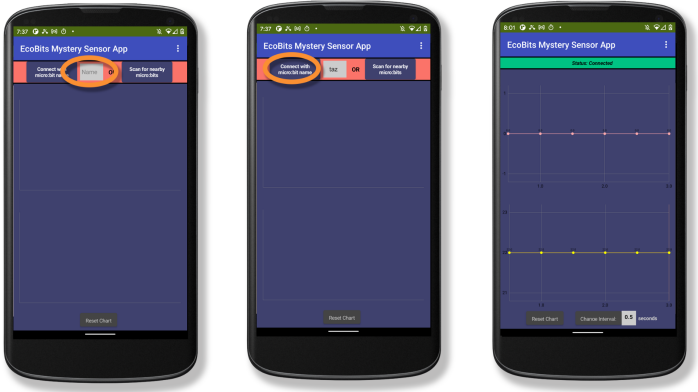


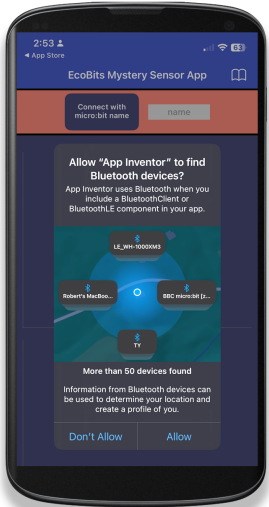
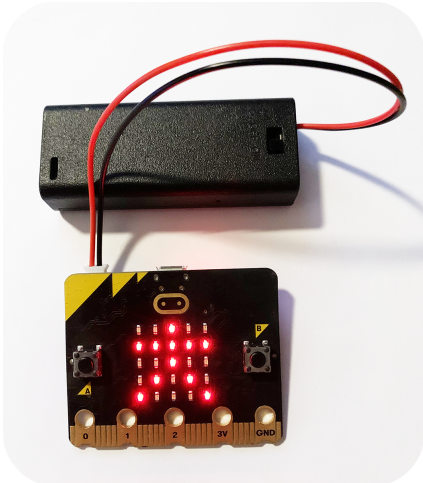
Use this button to scan the QR code or type the six character code in the text box above

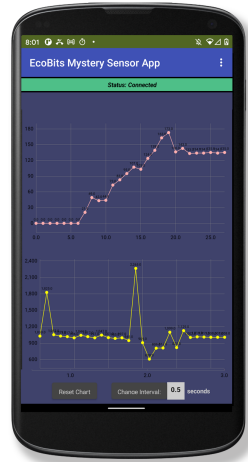
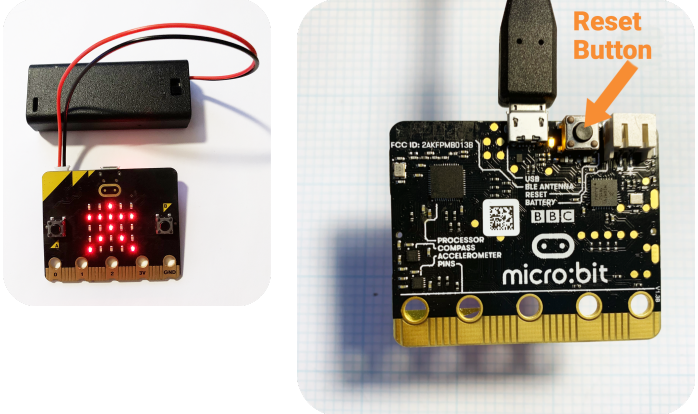
	After a few seconds, the app should appear on your device.	
Using the Micro:bit with the App Inventor Companion app	- You can always check whether your app is still connected to the App Inventor website. - If the app gets disconnected, you can still run the app on your phone; you just won't be able to make live changes	

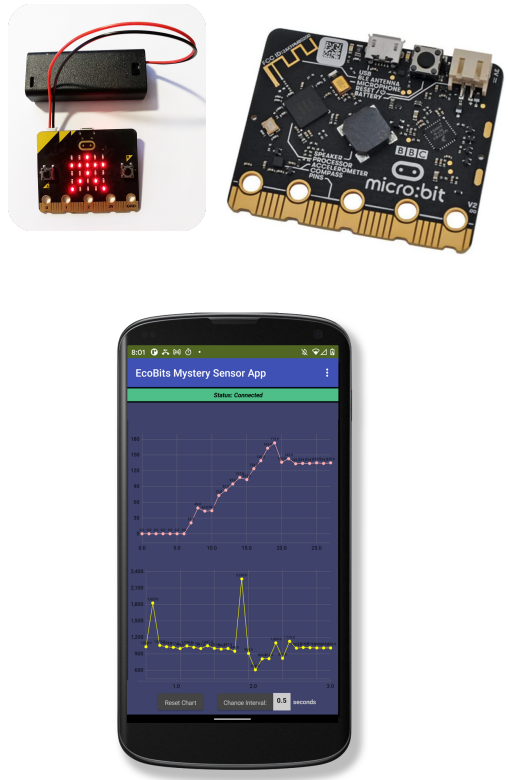
Start Logging Data

Step	What to Do	Details
Plug the Micro:bit into a power source.	Power the Micro:bit with the USB cable, or attach a battery.	 A photograph showing a black battery pack with red and black wires connected to a Micro:bit. The Micro:bit is lying flat, and its red LED matrix is illuminated.
	- The battery pack comes with a little white connector. - Look at the shape to make sure the connector is facing the right side up. - Press in with your fingers. You might have to push hard!	 A close-up photograph showing a person's fingers pressing a small white connector from a battery pack onto the 3V pin of a Micro:bit. The Micro:bit is held at an angle, showing its underside and the connection point.

Find your Micro:bit's name	• When working with other student teams, you want to make sure your app is connected to <i>*your*</i> micro:bit (and not somebody else's!) • You will use a unique code to connect the app and Micro:bit. • Find your Micro:bit's name by pressing the Reset Button on the back (Make sure your Micro:bit has power!). • The name should scroll by on the front screen as shown below.	
	• Write down the 5 letters of the Micro:bit's name scrolling on the screen. • If you miss the name, you can always press Reset again! • They are all letters, not numbers. • Sometimes the letters are a little hard to read. If you have trouble, ask a teammate or your teacher.	
	• Enter the 5 letters of the Micro:bit name in the textbox at the top of the app. • Click the button "Connect with micro:bit name." The two devices should start talking to one another!	

	- The first time you run the app, you will have to click a couple of permissions. Approve any permissions that pop up on your phone during this process - Your phone may ask to access Bluetooth - Your phone may also ask for permission for Location data	
Your Micro:bit will be connected!	- The Micro:bit display should show a little standing guy. Having trouble? If your app does not connect, check: - You have typed the Micro:bit name correctly - You have the permission for Location and Bluetooth both allowed on your phone	

	• The app should collect some data.	
What happens if my app gets disconnected from the Microbit?	• Sometimes the app gets disconnected from the Micro:bit by Bluetooth. This happens when: ○ You make a design change to the app while the Micro:bit is connected ○ The app gets too far away from the Micro:bit • When this happens, the Micro:bit sometimes thinks it is still connected (it may be showing the standing guy.) • Turn the device over and press Reset to reconnect with your app. • Reenter the 5 letters of your code into the app!	

	• Other problems can be solved by resetting the Micro:bit, as shown above. • If issues persist: ◦ Reset the connection for MIT App Inventor Companion on your mobile device and connect with a new QR code on Companion. ◦ Or stop and restart the app entirely and reconnect with App Inventor on your browser.	
Guess the Mystery Sensor!	• You will see two graphs on the app screen, each showing data from a different type of sensor. Identify the type of sensor data on each graph – for instance, is it temperature, light, or movement? • Guess what the sensor is experimenting – cover it with your hand, shake it, or press your hand against both sides – and then look at what is being measured. ◦ Some sensors are on the back side of the Micro:bit with all the microchips attached; some are on the front with the large LED display!	 The image shows a Micro:bit board, a small sensor module with a red LED display, and a smartphone displaying the 'EcoBits Mystery Sensor App'. The app screen shows two line graphs: the top graph has a red line and the bottom graph has a yellow line. The status bar at the top of the app says 'Status: Connected'. The bottom of the screen has buttons for 'Reset Chart' and 'Change Interval' set to '0.5 seconds'.