

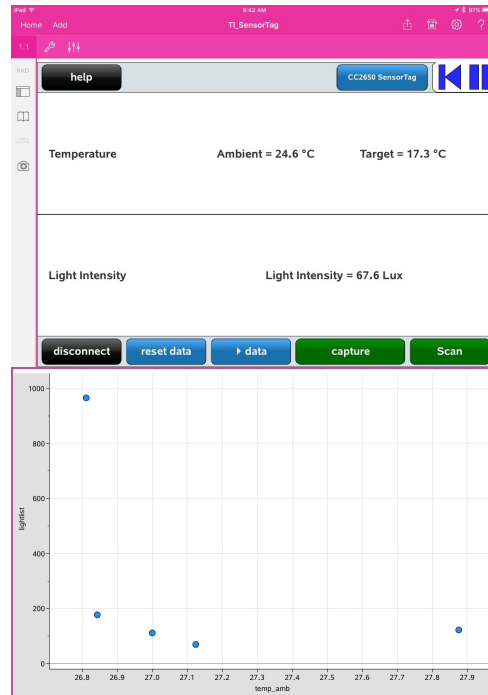


Sample Activity: *Where is the Best Place to Sit in the Classroom?*

Like most of the best STEM-active questions, the answer is ... It depends!

Some people feel the cold more than others, and like to sit near a heater. For others, they want to be as far away from the heat source as possible. Some like to sit where the light is bright. There are numerous factors that determine our preferences, and these can be easily explored using the TI-SensorTag. Just select the Temperature and Light Intensity sensors on start-up, and use the Capture Event button to grab the readings at different points around the room.

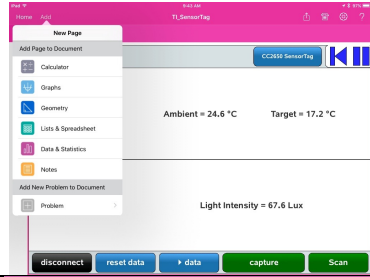
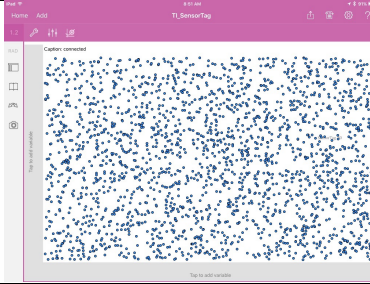
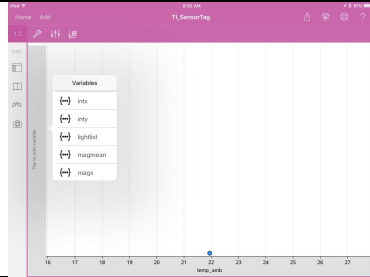
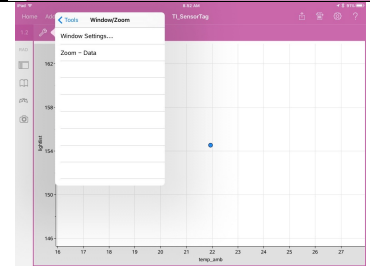
This can even be set as a game challenge. In the past, I would go into the room before the students and collect temperature and light data from several points, then display the graph to the students and ask them to decide where these spots are located! It offers a fun and worthwhile challenge.



Sensors: (Ambient) Temperature + Light Intensity

<p>Step 1: Connect</p> <p>(1.1) Turn on your TI SensorTag and open the TI_SensorTag.tns document.</p> <p>(1.2) Press 'Scan' and wait for the checklist of sensors.</p> <p>(1.3) Select Temperature and Light Intensity (as shown).</p>	<p>The screenshot shows a checklist of sensors: Temperature (checked), Humidity, Barometer, Light Intensity (checked), Accelerometer, Magnetometer, and Gyroscope. A 'Scan' button is at the bottom right.</p>
<p>Step 2: Capture Data</p> <p>(2.1) Tap on the blue CC2650 SensorTag button at the top left. Wait for the Sensor readings to appear and begin to change.</p> <p>(2.2) Move to the first location: Tap the green 'capture' button to store temperature and light data for that position. Repeat for other positions around the room.</p>	<p>The screenshot shows the app with sensor readings: 'Temperature Ambient = 24.6 °C Target = 17.3 °C' and 'Light Intensity Light Intensity = 67.6 Lux'. The 'capture' button is highlighted in green.</p>



<p>Step 3: Display the Data</p> <p>(3.1) Press 'Add' at the top of the App window (beside 'Home' in the pink zone).</p> <p>(3.2) Select Data & Statistics.</p>	
<p>(3.3) At the bottom centre of the D&S window you will see 'Tap to add variable'. Tap and select 'Temp_Amb'.</p>	
<p>(3.4) At the left centre of the window 'Tap to add variable' and select 'LightList'.</p>	
<p>(3.5) Finally, choose the 'Tools' menu from the top (pink zone) – looks like a wrench).</p> <p>Select Tools > Window/Zoom > Zoom – Data</p> <p>Enjoy!</p>	

Australian Curriculum Reference Samples:

Year 5: Pose questions and collect categorical or numerical data by observation or survey
Construct displays, including column graphs, dot plots and tables, appropriate for data type, with and without the use of digital technologies

Describe and interpret different data sets in context

Year 10: Use scatter plots to investigate and comment on relationships between two numerical variables

Senior (General Mathematics)

Topic 1: Bivariate data analysis

review the statistical investigation process; for example, identifying a problem and posing a statistical question, collecting or obtaining data, analysing the data, interpreting and communicating the results. (ACMGM048)