Goals: Experiment with the miniQ light sensors and create a script based on the different values. Results of experimentation are graphed in MATLAB.

Common Core Math Standards: (f), (i)

Sequence:

1. Use voltageRead to get light sensor readings from the robot; one with hand covering sensor and one without. Reference: sensordata.m *(10 min)*
2. Create reference photosensor.m script with students. *(20 min)*
3. Run graphreading.m, define the threshold value for turning the robot on and off. Discuss differences in graphs students are getting from their readings *(20 min)*
4. Create a script for getting the robot to move forward or stop depending on light readings. Reference forward.m, backward.m, left.m, right.m *(40 min)*
5. Main activity: Create a robot using scripts to get the robot to move depending on light. Add a function for the button for when it is pressed: *(20 min)* Reference: lightsensorrobot.m

*\*Time buffer: 10 min*

Extension task:

1. Increase the speed of the robot or when button pressed makes the robot less sensitive to light.

Evaluation:

1. Students have graphed the miniQ robot’s light sensor data and compared their results with peers. Ask why difference occurred.
2. Students have created a robot which moves forward when light sensor covered and incorporates a button by increasing the speed by which it moves forward.

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