Tufts UNIVERSITY | Center for Engineering Education and Outreach

Tomb Raider - NXT

Suggested Time	75 minutes
Age	8 - 13
Challenge	In this activity, use an NXT and a light sensor to trace the tracks of an Egyptian tomb raider. The police need to know data about the tomb raider so that they can stop him from robbing other tombs. Can you determine the time the burglar entered the tomb and what path the burglar took around the room?
Topics	Light Sensors, Graphing, Data Collection & Analysis
Subjects	Math and Science
Programming Themes	Light Sensor Data Collection
Materials	- NXT - Light Sensor
Building Instructions	1. Attach a light sensor to the NXT and wire to an NXT input.

Tufts UNIVERSITY | Center for Engineering Education and Outreach
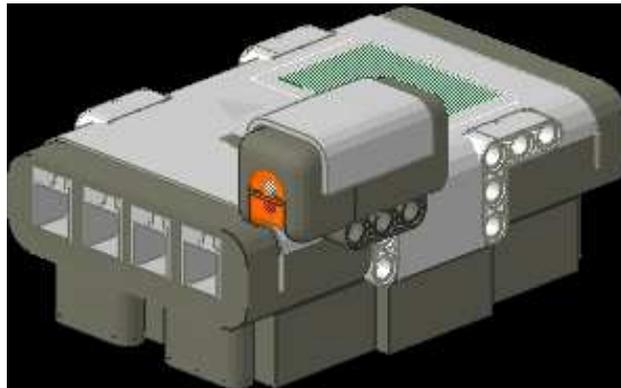
Programming Instructions

1. Using ROBOLAB Investigator, program the NXT to collect light readings every ½ second for 300 seconds.
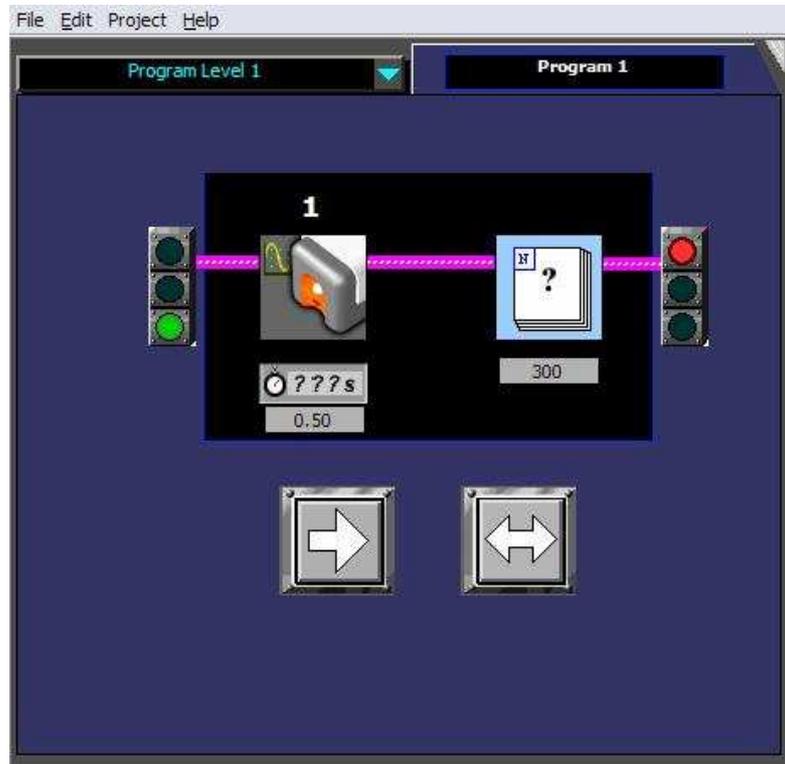
2. Collect and upload your data. Plot your results.

Tufts UNIVERSITY | Center for Engineering Education and Outreach
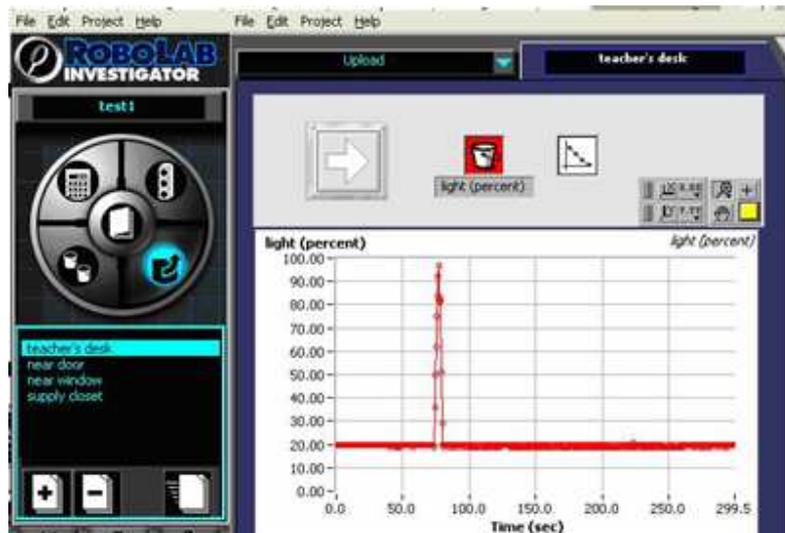
3. Multiple data sets (up to 10) can be uploaded to the same computer and viewed in the view and compare section.
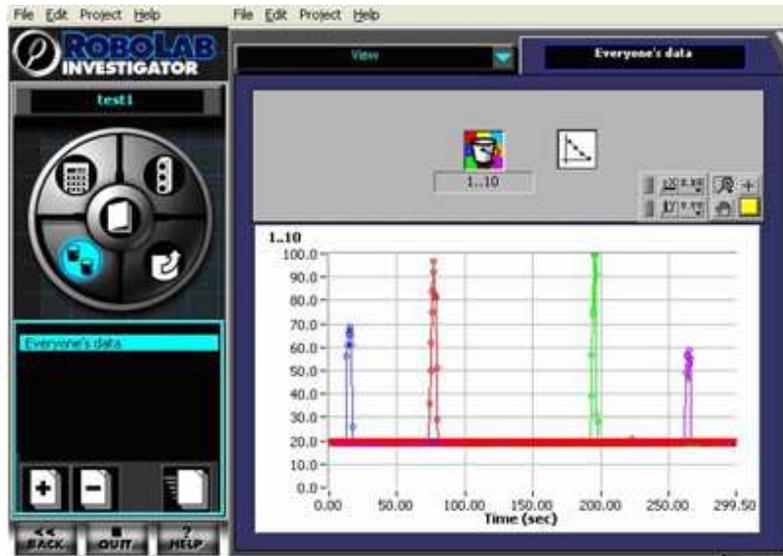
Uploading Multiple Data Sets:

1. Go to the UPLOAD section.
2. After adding your first data set, click the "+" button to add a new page.
3. Upload the next data set.
4. It is useful to change the colors for each data set. To do this, click on the bucket above the graph and choose one of the 10 colors.
5. It is also helpful to label each data set with the location of the NXT in the room. To do this, click on the page's title and edit the name.

In Action

Set up a number of NXTs and determine the path of the tomb raider.

Related Activities

- Scavenger Hunt
- Morse Code
- Find the Hidden Letter

Tufts | Center for Engineering
UNIVERSITY | Education and Outreach

Classroom Managenemnt

_____

1. Build an NXT car.
2. Attach a light sensor to the car.
3. Program your car in Investigator to record light sensor readings.
4. Position your car somewhere in the room, and mark down where each NXT has been placed.
5. The "Tomb Raider" will then walk through the room with a flashlight in hand.
6. Upload your light data into Investigator and then look at a graph to determine at what time the tomb raider passed your NXT.
7. After finding out what time the Raider passed by other NXTs, draw the path you think the raider took around the tomb.
8. Students can fill out the Engineering Journal as they work.
9. Include time at the end of the activity to discuss the results of data collection.