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Tomb Raider - RCX

Suggested Time	75 minutes
Age	8 - 13
Challenge	In this activity, use an RCX 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	• RCX • Light Sensor

1. Attach a light sensor to the RCX and wire to an RCX input.

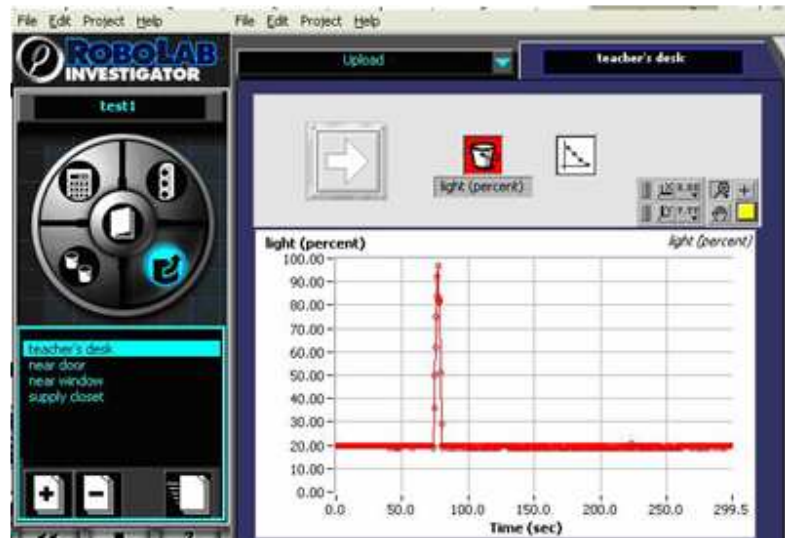Tufts | Center for Engineering
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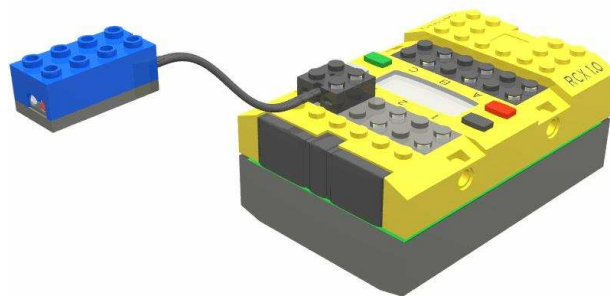
Programming Instructions

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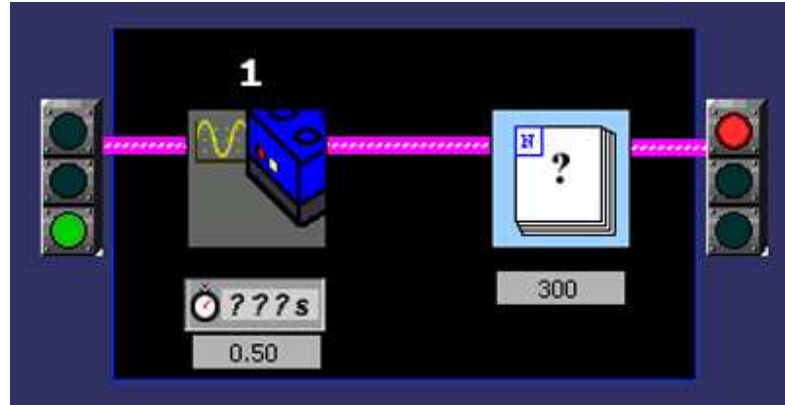
2. Collect and upload your data. Plot your results.

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3. Multiple data sets (up to 10) can be uploaded to the same computer and viewed in the view and compare section.
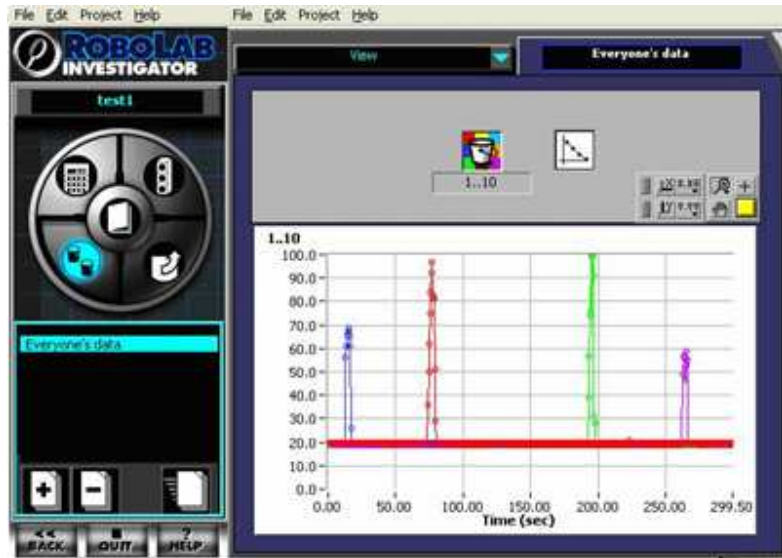
Uploading Multiple Data Sets:

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 RCXs and determine the path of the tomb raider.

Related Activities

- Scavenger Hunt
- Morse Code
- Find the Hidden Letter

Building & Programming References

- The RCX
- RCX Light Sensors
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Knowledge Base

- Why is the light in my light sensor off?
- Is it possible to load a program on 2 different RCXs from the same VI?
- How do I export data from Investigator to Excel?
- When I try to take data, my RCX shuts off!

Classroom Managenemnt

1. Build an RCX 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 RCX 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 car/RCX.
7. After finding out what time the Raider passed by other RCXs, 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.