

## Voting Booth - RCX

**Suggested Time**

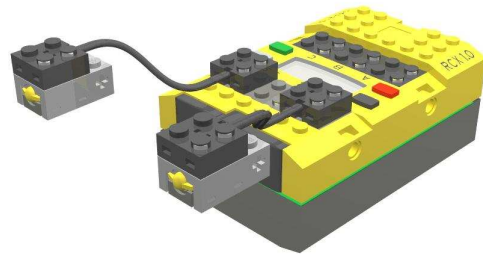
2 sessions, 45 minutes each

**Age**

8 - 13

**Challenge**

In this activity, set up an RCX “voting booth” to gather data using touch sensors. The presses will be recorded and plotted into a graph.

**Topics**

Touch Sensors, Graphing, Data Collection & Analysis

**Subjects**

Math & Science

**Programming  
Themes**

Touch Sensor Data Collection

**Related Math &  
Science Concepts**

Scalar Quantities

**Materials**

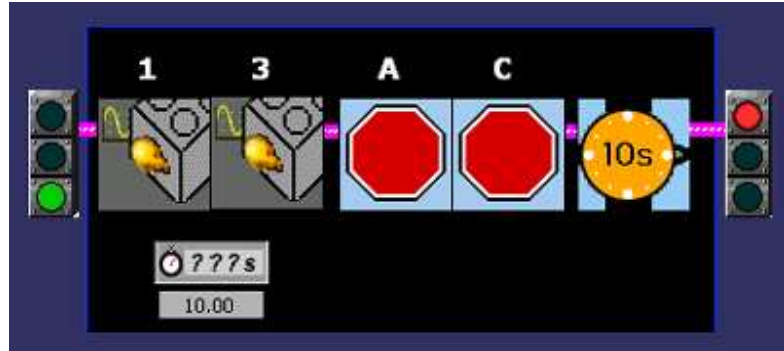
- RCX
- 2 Touch Sensors
- Voters

**Building  
Instructions**

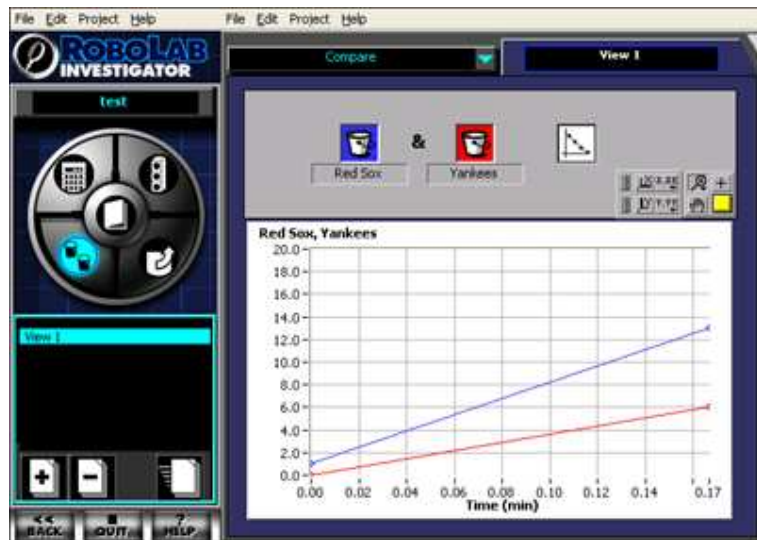
1. Attach 2 touch sensors to the RCX and wire each to the RCX inputs.

*Programming Instructions*

- Using ROBO LAB Investigator, program the RCX to collect touches for a given period of time.

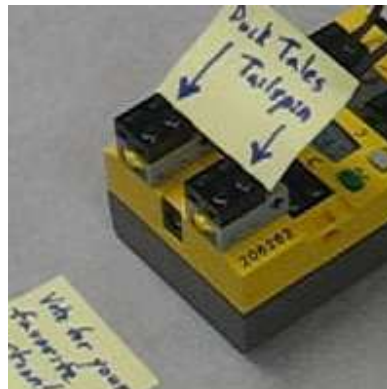


- Collect and upload your data. Plot your results.



*In Action*

Allow people to use your voting booth in order to collect data.



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***Related Activities***

- Platform 9  $\frac{3}{4}$
  - Things that Go Bump
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***Building and Programming References***

- Building With Bricks
  - Building With Plates
  - Building With Beams
  - Axle Uses
  - Connector Pegs & Bushings
  - The RCX
  - RCX Motors & Wires
  - RCX Touch Sensors
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***Knowledge Base***

- I tried to use the touch sensor and it didn't work.
  - When I try to take data, my RCX shuts off!
  - How do I export data from Investigator to Excel?
  - How do I log data in Investigator program levels 4 and 5?
  - Is it possible to load programs on 2 different RCXs from the same VI?
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***Classroom Management***

1. Distribute Engineer's Planning sheet to students and have them develop a survey question.
2. Distribute the direction packets and have the students set up a program.
3. When everyone has finished setting up ROBOLAB, have a group discussion about any difficulties people encountered.
4. Distribute the LEGO materials and have students construct their voting booths.
5. Discuss a procedure to help everyone collect data in a timely and efficient manner.
6. Allow time to collect and upload data.
7. If possible, use a TV monitor and one of the computers to show the class some data. Have a class discussion on how to interpret the data for one of the group's questions.
8. Allow students time to record their results in bar graph form and to write their statements about their findings.