Capturing the Wind - NXT

Suggested Time

45 minutes

Challenge

In this activity, design and construct a windsail mechanism connected to a rotation sensor and an NXT to measaure the speeed of the wind.

Age

8-18

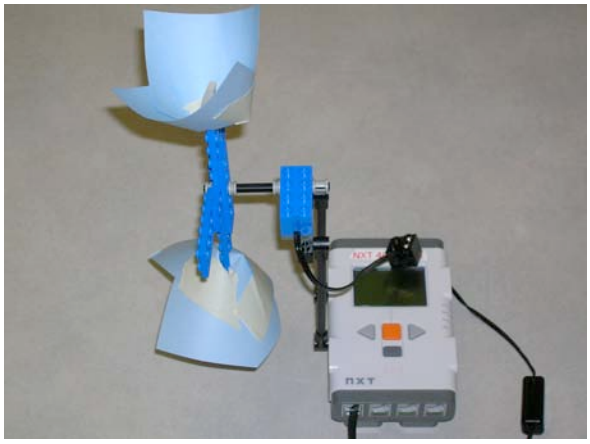
Topics

Building, Speed, Data Collection and Analysis

Subjects

Rotation Sensor Data Collection

Programming Themes



Example Amusement Park Ride. "Pirate Ship" Designed to swing forward and backwards when motored.

Related Math & Scineces Concepts

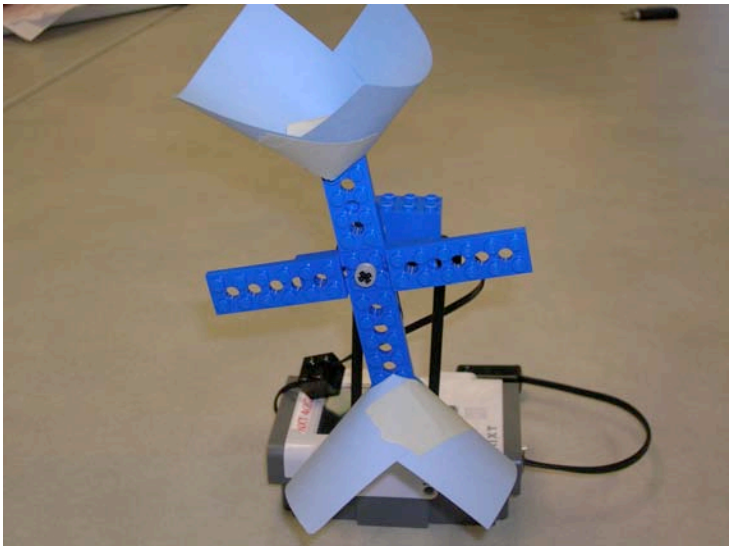
- Forces
- Structures

Materials

- NXT
- Rotation Sensor (RCX)
- RCX-NXT Wire Converter

Building Instructions

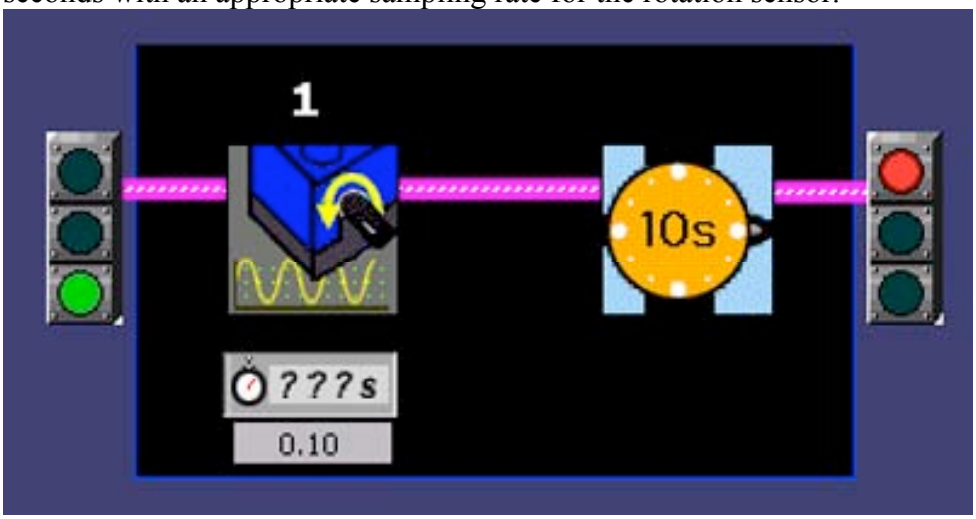
Construct a windmill of sorts by using plates and construction paper for sails. Connect a rotation sensor to the NXT to record rotations.

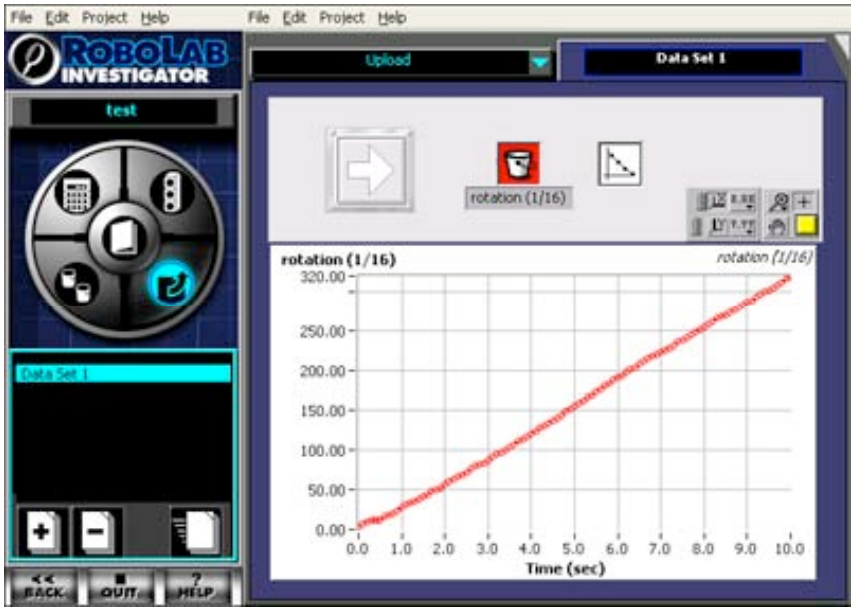


Programming Instructions

Choose whether to use ROBOLAB or the LEGO NXT Software to program (Note: You cannot use the LEGO NXT Software if you chose to build your amusement park ride using the RCX).

1. Using ROBOLAB INVESTIGATOR, program the RCX to run for 10 seconds with an appropriate sampling rate for the rotation sensor.





Programming Hints

* Since the RCX rotation sensor counts each rotation as 16, use the compute area to divide your raw data, giving you the actual number of rotations.

Building and Programming Refrence

- The NXT
- RCX Rotation Sensor

Related Activities

- Crane with Rotation Sensor Joystick

Knowledge Base

- Create a program in Investigator that can run 2 tasks at the same time.
- Is it possible to load programs on 2 different RCX's from the same VI?
- How do I export data from Investigator to excel?
- When I try to take data, my RCX shuts off!

Classroom Management