

Instructors Guide to:

Depth Chart

This exercise introduces depth sensors and investigator.

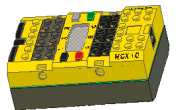
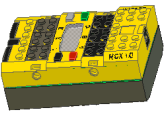
Explain that Investigator is used to collect and analyze data from the RCX. Show the different areas of investigator:

Program Area – use to make a program that will be used to collect data

Upload Area – this uploads the data from the RCX to the computer

Compute Area – use this to calculate your data

View and Compare – allows you to graph your data and compare different sets of data collected



In the Classroom:

Grade Level:

Time:

Building Skills:

Programming Skills: Investigator

Depth Chart

Captain Jim wants to dock his boat on the shore. Unfortunately an uncharted reef stand between his present position and the shore. Help the captain find a safe route to shore by creating a depth chart of the sea floor. The water must be X deep for the Captain's boat to safely pass.

Challenge

1. Using Investigator Level 1, write a program to collect depth data.
2. Attach a depth sensor one end of your stick and wire it to the RCX using a long wire. Start collecting data in the water tank being careful not to get the RCX wet. (ask teacher for what part of the tank you are responsible for charting)
3. Upload your data and record it on your chart.

Materials

RCX, depth sensors, long wires, sticks that are as long as your tank is deep, Investigator, water tank with variable depth floor, tape or string to attach sensor/wires to stick.

Skills Learned

Investigator, how depth sensors work, how depth charts used to be made

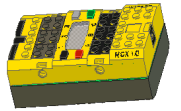
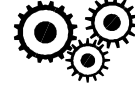
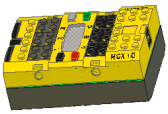
Lego Tips

- Do not let the electrical contacts of the sensors get wet, this will cause inaccurate sensor readings.

Extensions

1. Adjust the sampling time of your sensor so that you can drag it across the bottom surface of the tank and generate a profile of the surface.

Example Programs



This program takes a port 1 sensor reading 10 times, with a delay of one second between readings.

