

**TECH IT OUT**

**ROBOTICS**  
**LEVEL**

**3.0**

**Data Logging**

# Activity 12: Programming Data Logging Mission

## Introduction

In this activity, students will investigate whether blindfolding a person affects their hand eye coordination. Students will conduct a “fair test” using NXT sound sensor to log how many times a person can clap without and with a blind folding in a given time.

## Learning Objectives

Students will be able to

- Configure a new experiment using NXT Data Logging
- Collect data using a sound sensor
- Analyze data on a graph

## Materials Needed

NXT Kit  
Sound Sensor  
Lap Top  
USB Cable  
Journals  
Blindfold

### STEP 1: Opening the Software

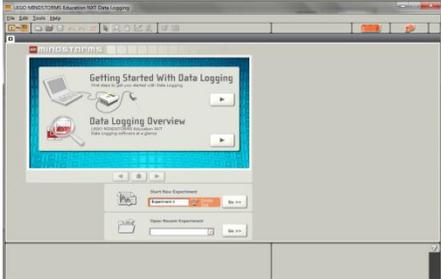
1. Double Click the NXT-G 2.0 Data Logging icon from the desk top of the computer.

If you already have the NXT-G software open, click the “Switch to Data Logging” tab in the top left- hand corner of the software.

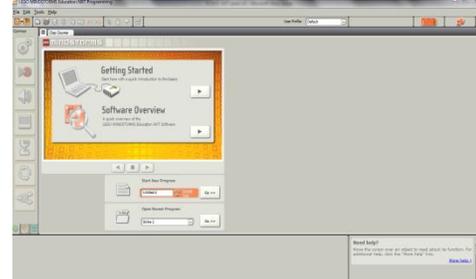


- Notice that the window for Data Logging is blue while the NXT programming is orange. The NXT programming window will remain in the background while the data logger is used.

NXT-G Data Logging Window



NXT Programming Window



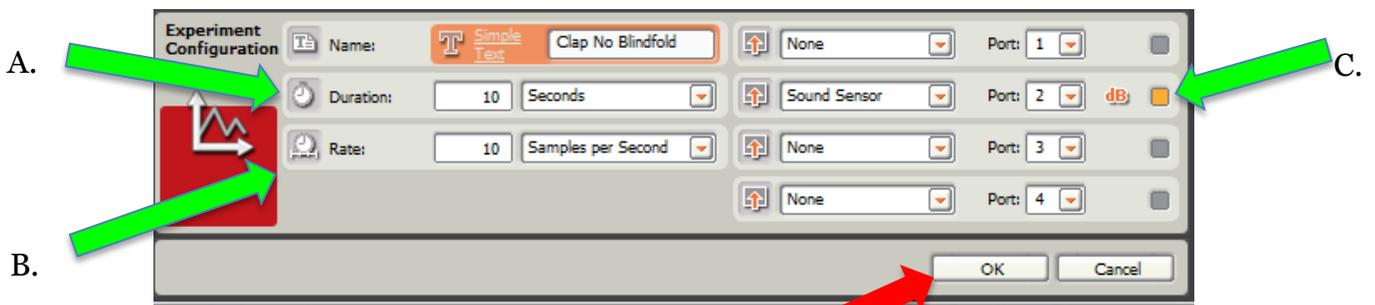
## STEP 2: Creating a New Experiment

- To start a new experiment, enter a program name in the section called “Start New Experiment”. *TIP (Always name the experiment according to what you are measuring.*
- Start a new experiment called Claps No Blindfold. This will be the data for the number of claps without blindfolds. Once you have entered the name of the experiment, click GO >>
- A configuration window will pop up with different properties that you will need to specify.

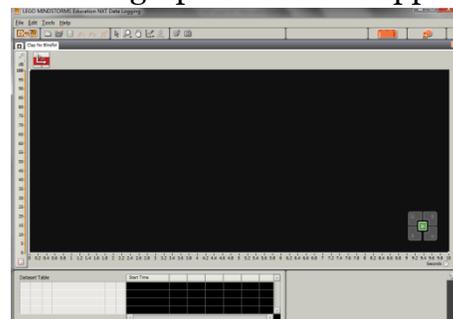
Duration (How long do you want to test?): 10 seconds

Rate (How much time between measurements?): 10 samples per second

Sensor (Which variable will you measure?): Sound connected to Port 2



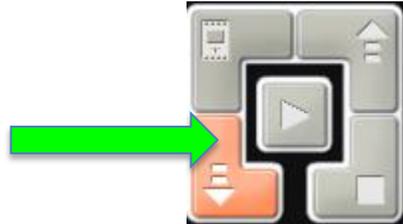
- Click ok when the configurations are done. A graph screen will appear.



### STEP 3: Launching a Log

The NXT Data Logger can be launched either in Remote or Real Time.

1. For remote logging, you will download the program into the robot. Navigate to My File > Software Files> Select “Clap without Blindfold”> Select Run



2. When the experiment is finished, reconnect the NXT to the USB connected to the computer.
3. Click the Upload from NXT to retrieve your data.



4. For real time logging, click the download and run button to have the experiment graph changing in real time.



## STUDENT OBSERVATION WORKSHEET

### Objective:

In this activity, students will investigate whether blindfolding a person affects their hand eye coordination.

Sensor:

Port:

### Experiment:

Students will conduct a “fair test” using NXT sound sensor to log how many times a person can clap without and with a blind folding in a given time.

**Set Up: (Describe how you set up the testing area.)**

**What did you measure?**

Variables	Trial 1	Trial 2
Claps with Blindfold		
Claps without Blindfold		

**What were the results?**