

## When do people show up?

**Sensor:** Ultrasonic Sensor

**Overview:** Use the Ultrasonic sensor to keep track of how many people walk into the room during a given time period.

**Setup:** Attach an NXT and Ultrasonic Sensor pointing across the classroom door. As people walk past the sensor the distance measured by the data logger will be shortened. Log the data that the Ultrasonic sensor see as people walk through the door.

**Q:** What reading do you get if no-one walks through?

**Q:** What happens if 2 people walk through at the same time?

**Q:** Based on your graph, can you tell how many people walked through the door?

**Extension:** Can you modify the experiment to record the height of the people walking through the door.

## Quickest Draw in the West

EXPERIMENT	BUTTON SPEED
EXPERIMENT 1	
EXPERIMENT 2	
EXPERIMENT 3	
AVERAGE	

**Sensor:** Touch Sensor

**Overview:** How quick are you?

**Setup:** Construct a simple device that can measure how many times you can click a button in a set length of time

**Q:** Look at your graph and determine how many button presses you made in a 5 second period.

**Q:** Did you press the button at a constant rate the whole time? Did you speed up or slow down?

**Q:** What is your button pressing speed per second?

**Q:** Run the experiment at the start of the day, middle, and at the end of the day.

## Treasure Hunt

NOISE DESCRIPTION	1	2	3

**Sensor:** Sound Sensor

**Overview:** Go on a treasure hunt to find out the volume of various areas. Fill in the table with measurements that you take.

**Setup:** Construct a simple device that can measure sound in different locations.

Compare your table with another group

**Q:** Did they measure the same things as you?

**Q:** If 'yes' did they get the same readings as you?

Why?

Why not?