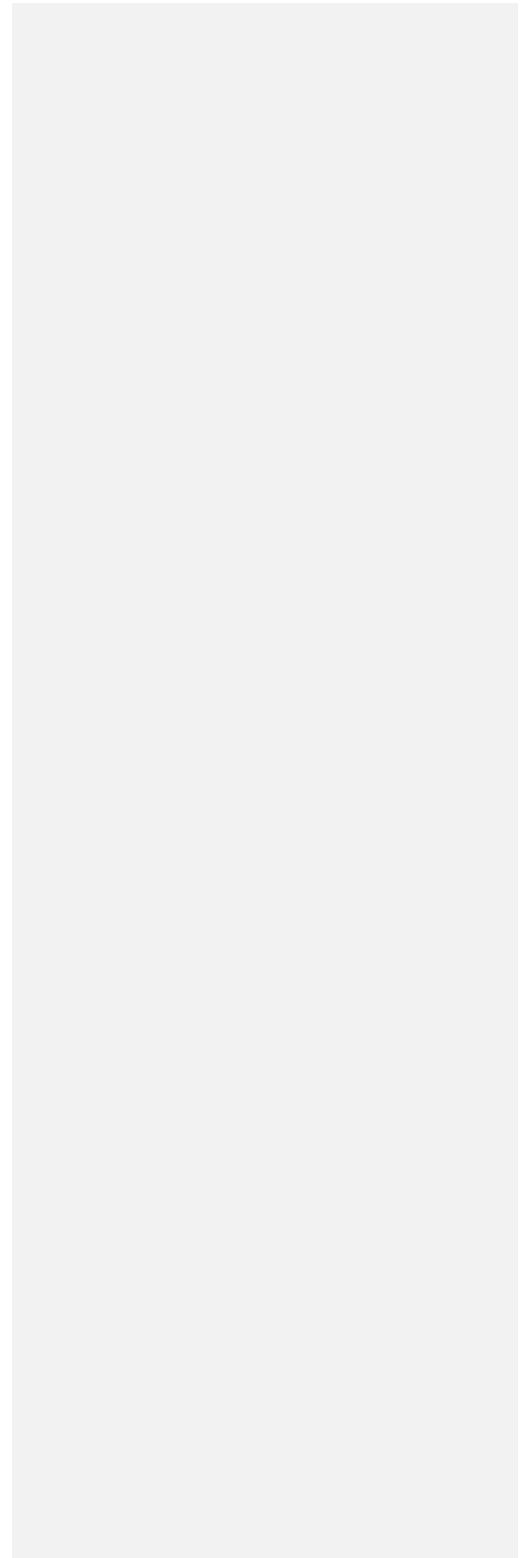


## Equipment

- Sound sensor
- Arduino
- Wire
- Soldering equipment
- Header Pins



# Sensor Worksheet No. 2

## Timing Window

To get a good sound reading, we need to take several amplitude measurements over time. You will need to write code to take amplitude measurements over a sampling time. **Practice writing timing code with your Arduino and an LED.**

## Calibration

You must calibrate your sound sensor to a known dB level before using it. Determine with your group where you should make your calibration. To calibrate, write down the voltage output for the measured dB level.

**Location** \_\_\_\_\_

**Measured Voltage** \_\_\_\_\_

**Measured dB** \_\_\_\_\_

## Testing

Once you have your calibration values, use the `calibrateSensor(voltage, dB)` function to calibrate your sensor. Look at the output of your program and compare your sensor's measured dB to the phone's in the table below for a quiet, normal, and loud sound.

Sensor Output (dB)	Phone Output (dB)

You can also test the limits of your sensor with a speaker (what is the loudest sound you can measure, and what is the quietest?).

**Commented [1]:** Walk them through how to calibrate via a worksheet of voltage vs dB. Have them test the limitations of their device (what is the loudest/quietest they can measure? Highest and lowest frequency?) Electronics helpers will need a dB measurement app on their phone to calibrate the sensor.

**Commented [2]:** this function name may change