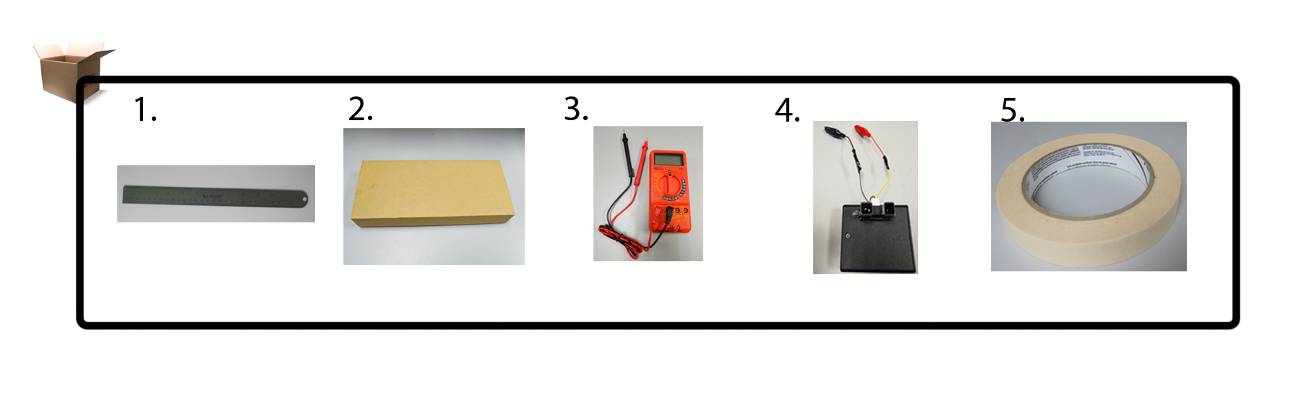
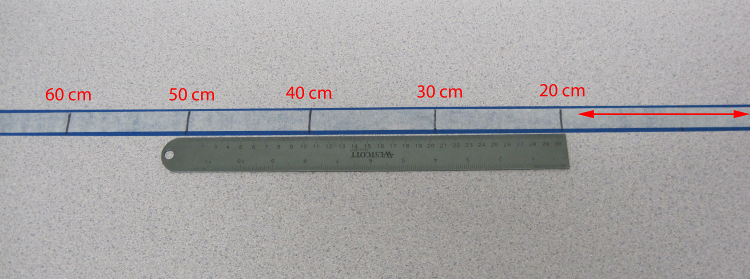
**Catching the Perfect SAR Waves: “Radar” System Calibration**

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|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **1. Standard Ruler** | **2. Small Box or Indoor wall** | **3. Multimeter** | **4. Sharp® GP2Y0A02YK0F Sensor** | **5. Masking Tape** |

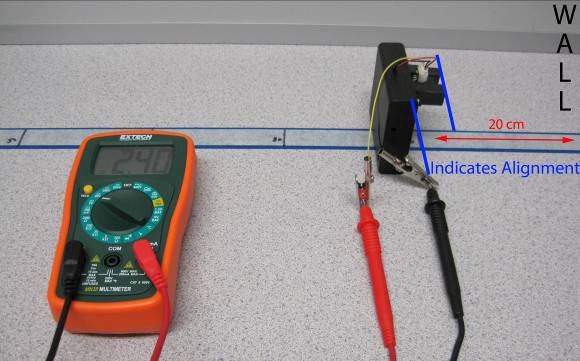
**Note: The GP2Y0A02YK0F infrared takes a continuous distance reading and returns a corresponding analog voltage with a range 20 cm to 150 cm.**

1. **Measuring Tape Setup**
   1. Choose a relatively flat surface.
   2. Place 170 cm of masking tape on the surface.
   3. Using a ruler and marker, label 10 cm apart starting at 20 cm and ending at 150.

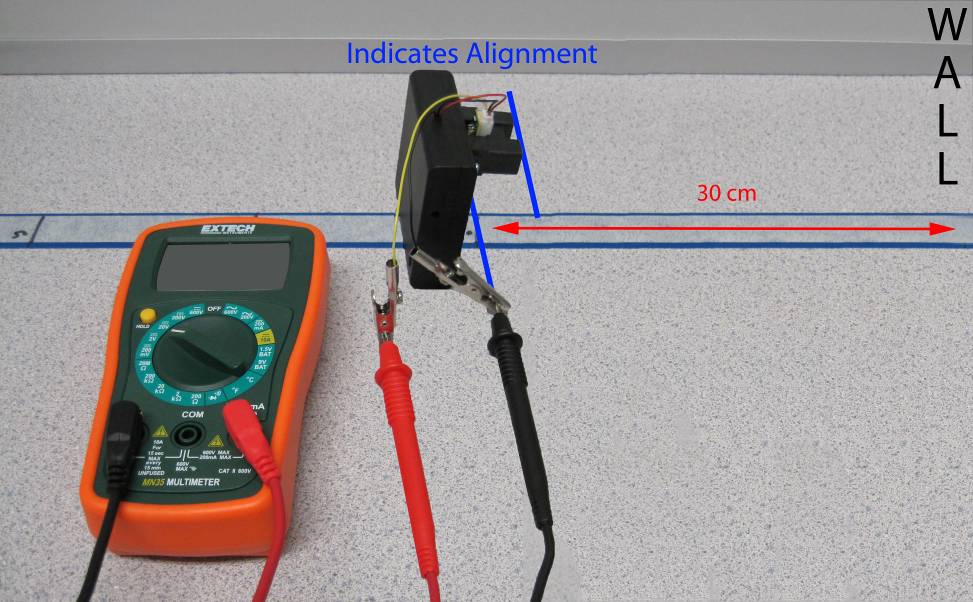


1. **Sensor and Multimeter Setup**
   1. Place the front of the sensor’s light emitter/detector at 20 cm.
   2. Connect a multimeter to read analog voltages (set at 20 V).
   3. Turn on your “radar” system unit and record voltage and distance using the

Mathematical Model handout.



1. **Sensor Relocation**
   1. Shift the front of the sensor’s light emitter/detector to 30 cm.
   2. Record voltage and distance.
   3. Keep shifting sensor back 10 cm and record voltage and distance until it reaches 150 cm.



**Alternative Calibration using Box and Measuring Tape Placement**

