SMS 491, 2012, Sounds in the ocean
Laboratory: building a hydrophone (done in groups of two)

1. Read about Piezo-electric material (http://en.wikipedia.org/wiki/Piezoelectricity, http://en.wikipedia.org/wiki/Loudspeaker#Piezoelectric_speakers) to get a sense as to why they can be used to sense sound under water.
2. Wire up the disks to a wire that can connect to an amplifier/speaker (you may need to solder).
3. Record data from 4 distances away from a fixed buzzer and, after downloading the data and obtaining information about intensity, compare to the lab sound meter. Is the relation linear?
4. Check the performance of your sensor in water and compare to a commercial meter.