

Find That Sound

To Do and Notice:

Find a partner and together go to the exhibit called *Where's that Sound*. One of you will be the experimenter and one of you will collect data on this sheet. The experimenter needs to stand right in front of the box. Notice there is an array of speakers in front of you- six horizontal and six vertical speakers. Press the new sound button. Try to identify the location of that sound. If you need to hear the sound again, press the Play button. Make your best guess about the sound's location and then press the answer button. Your partner should record whether the sound was in the vertical or horizontal plane and your error. If you guessed correctly, your error would be 0. If you are one off from the correct speaker, your error would be 1. Your error CANNOT be greater than 5. Complete 10 trials and then switch roles.

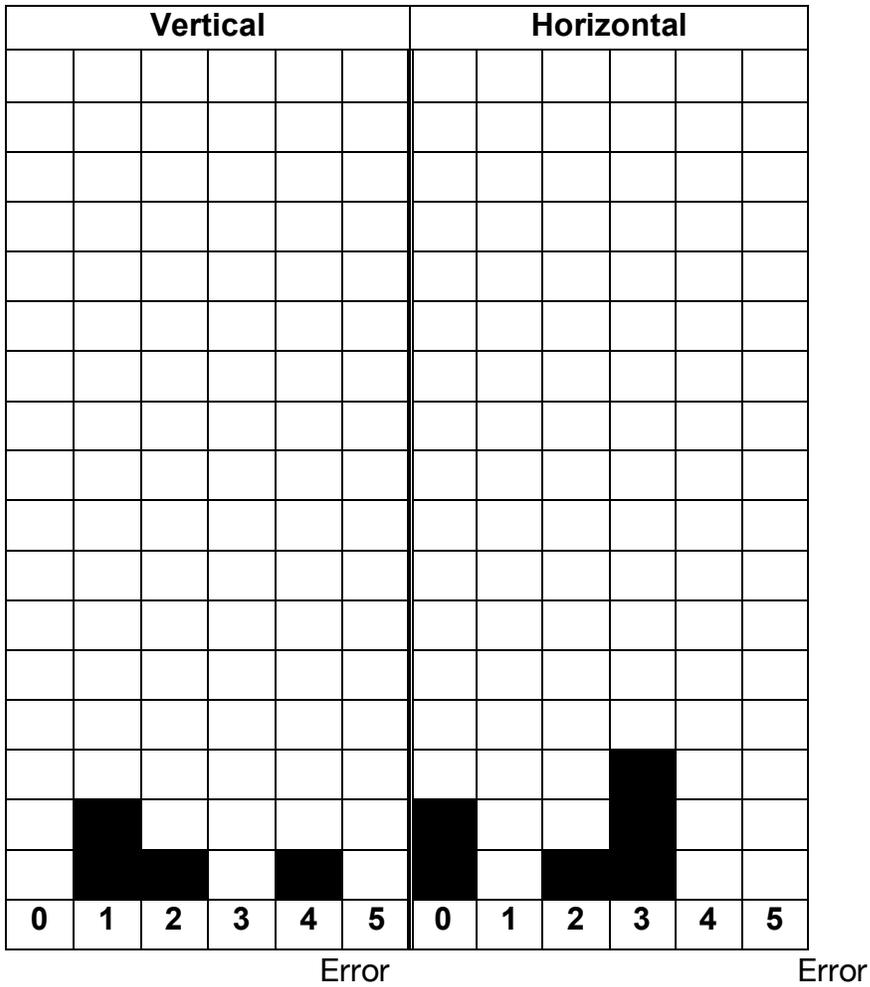
Vertical or Horizontal	Error

Histogram

Use your data together with the data other groups collected to create a histogram. Starting at the bottom of the histogram (next page), add your data by filling one field for each data point, like shown in the example table and histogram that follow.

Example:

Vertical or Horizontal	Error
V	2
V	1
V	4
H	0
H	0
H	3
H	3
H	3
V	1
H	2



What's going on?

You can localize sound much more easily in the horizontal plane than in the vertical. Our brain uses the very small time delay and volume change between hearing the same tone in our right ear and left ear to localize sound. Since our ears are side by side, it is easier to “find that sound” in the horizontal plane.

