Frequency Hearing Testing

Names: __________________________________________________________

Materials

- Headphones
- Computer

Lab Instructions

1. Plug the headphones into the computer for this exercise and make sure the computer volume is adjusted properly (Adjust the volume as needed throughout the lab)
2. Open the Hearing Test High Interface to begin the process of testing for the highest frequency you can hear (This is located at http://schubert.ece.drexel.edu/gk12 under the Activities category)
3. The Frequency Selection Bar will be used to select different frequencies that you will hear over the headphones and see in the waves that appear in white box
4. The Amplitude Adjustment Slider will be used to change the amplitude of the sound waves you hear over the headphones and see in the waves that appear in the white box
5. The Play button is used to play the sound specified by the frequency and amplitude selected (Note: To stop playing the sound click the Stop button)
6. Briefly experiment with both the Frequency Selection Bar and the Amplitude Adjustment Slider.
7. Determine the affect the Frequency Section Bar has on both the sound you hear and the wave generated in the white box and record this data in the Observations section
8. Determine the affect the Amplitude Adjustment Slider has on both the sound you hear and the wave generated in the white box and record this data in the Observations section.
9. Now that you are familiar with how this interface functions, determine which frequencies in the Frequency Selection Bar you can hear
10. Do this by selecting each frequency and listening through the headphones to determine if you can hear the pitch produced (Note: If you feel like you can’t hear a pitch, it may be that the volume is too low or try adjusting the Amplitude Adjustment Slider and the computer’s volume
11. Record your findings in the Observations section.
12. Now test the lowest frequency they can hear by navigating to the Hearing Test Low Interface (This is located at http://schubert.ece.drexel.edu/gk12 under the Activities category)
13. Repeat steps 10 and 11 for this interface
14. Again, record your findings in the Observations section
15. Close the browser
16. Report your frequency observations to the teacher.
Observations

What affect does the Frequency Selection Bar have on the displayed wave in the white box?

What affect does the Frequency Selection Bar have on the sound heard through the headphones?

In the boxes below draw a sound wave with a high frequency in the box on the left and a sound wave with a low frequency in the box on the right. Label the axes.

| high frequency | low frequency |

What affect does the Amplitude Adjustment Slider have on the displayed wave in the white box?

What affect does the Amplitude Adjustment Slider have on the sound heard through the headphones?
In the boxes below draw a sound wave with high amplitude in the box on the left and a sound wave with low amplitude in the box on the right. Label the axes.

Hearing Test for Highest Frequency (place a check next to the frequencies you can hear for each member in the group):

- 15500 Hz
- 16000 Hz
- 16500 Hz
- 17000 Hz
- 17500 Hz
- 18000 Hz

Hearing Test for Lowest Frequency (place a check next to the frequencies you can hear for each member in the group):

- 5 Hz
- 10 Hz
- 15 Hz
- 20 Hz
- 25 Hz
- 30 Hz
- 35 Hz
- 40 Hz

Results

Highest Frequency Each Member Can Hear: 

Lowest Frequency Each Member Can Hear: 

Note: Remember to report your findings to the teacher.