07-03 Properties of Sound Lab ***Name: _____***

Objective

- Find the relationship between amplitude and loudness.
- Find the relationship between frequency and pitch.

Materials

- Rubber band
- Frequency generator with speaker

Procedure

Amplitude

1. Stretch the rubber band so that the rubber band is only touching something at the ends.
2. During this part of the experiment, do not change the force used to stretch the rubber band.
3. Pluck the rubber band with a small amplitude and listen to the sound created.
4. Pluck the rubber band with a medium amplitude and listen to the sound created.
5. Pluck the rubber band with a large amplitude and listen to the sound created.
6. What property of the sound changed as you plucked the rubber band harder? _____
7. As the amplitude increases, the _____ (from #6) of the sound _____ (increases or decreases).

Frequency

8. Open the frequency generator on the computer.
9. Listen to the computer make a sound of 100 Hz.
10. Listen to the computer make a sound of 250 Hz.
11. Listen to the computer make a sound of 500 Hz.
12. Listen to the computer make a sound of 750 Hz.
13. Listen to the computer make a sound of 1000 Hz.
14. What property of the sound changed as you changed the frequency? _____
15. As the frequency increases, the _____ (from #14) of the sound _____ (increases or decreases).
16. Does this relationship sound linear? Did the changes from #9-13 sound evenly spaced? _____
17. Adjust the frequency down until you cannot hear it any more. What is the lowest frequency you can hear from the speakers? _____ Hz
18. Adjust the frequency up until you cannot hear it any more. What is the highest frequency you can hear from the speakers? _____ Hz
19. What frequency are you most sensitive to? (It sounds the loudest.) _____ Hz