Sound Skill Objectives

What you should know and be able to do by the end of the unit:

1. **Transverse vs. longitudinal waves**
   - Distinguish between transverse and longitudinal waves.
   - Compare and contrast standing longitudinal and transverse waves.
   - Identify source, medium, and receiver for sound.

2. **Speed of sound waves**
   - Measure the speed of sound.
   - Sound travels at different speeds in different mediums

3. **Resonance and standing waves**
   - Describe the conditions necessary for resonance.
   - Use medium boundaries (open end, closed end) to determine the type of standing wave.
   - Describe standing waves on strings and solid bars, in open and closed tubes.

4. **Characteristics of sound waves**
   - Relate frequency to pitch, amplitude to loudness
   - Identify displacement nodes and antinodes, pressure nodes and antinodes

5. **Harmonics and beats**
   - Describe harmonics and how they add and coexist in musical instruments.
   - Describe beats and how they arise.
   - Calculate beat frequency.

6. **Doppler effect**
   - Describe the Doppler effect and why it occurs.
   - Apply the Doppler effect formula.

- **Additional Study Hints**

  Look over all of our activities, worksheets, and questions of the day.
  Form a study group and review together and quiz each other.