Sound and Music Worksheet
Match both the science/engineering terms on the left and the music terms on the right with the definitions in the middle. You will use some of the definitions twice.

J  ____ Low Frequency  A. Waves in the air caused by vibrations  J  ____ Low note
C  ____ Longitudinal Waves  B. Waves that move in one direction,  E  ____ Pitch
E  ____ Frequency  but "wave" in another direction  F  ____ Dynamic level
G  ____ High Amplitude  C. Waves that move and "wave"  H  ____ Soft note
L  ____ White Noise  in the same direction  M  ____ Music
F  ____ Amplitude  D. The distance between one wave  I  ____ High note
A  ____ Sound Waves  and the next wave  A  ____ Sounds
K  ____ Standing Waves  E. How often a single wave goes by  G  ____ Loud note
B  ____ Transverse Waves  F. How big the difference is between  
D  ____ Wavelength  the high points and the low points
I  ____ High Frequency  of the waves
H  ____ Low Amplitude  G. Big difference between highs and lows

Give short answers:

1. Can sound travel through empty space? Why or why not?
   No; there can be no sound vibrations where there is nothing to vibrate.

2. How are sound waves like water waves? How are they not like water waves?
   Both can have frequency and amplitude, but water waves are transverse and sound waves are longitudinal.

3. Name 2 ways a player of a musical instrument can change the sound of the instrument.
   They can make the pitch higher or lower or make the sound louder or softer.

4. How can an instrument with only 4 strings get more than 4 different pitches?
   You can make the vibrating part of the string shorter, and the pitch higher, by holding the string down with one finger.

5. When a trumpet player pushes down a valve, she opens an extra loop of tubing. What does this do to the trumpet? To the sound?
   This in effect makes the trumpet longer, so the sound is lower.