Notes Chapter 21 Section 2

The speed of sound depends on the __________________ through which it is traveling.

You may want to include a chart on how the speed of sound is affected by different media. One thing you may notice is that the speed of sound increases the __________________ atoms are together.

Math Break

How far does sound travel in 5 seconds through 1) air 2) water, and 3) steel at 20 °C

1) 

2) 

3)
How did Chuck Yeager travel faster than the speed of sound even though he was traveling at 293 m/s?

Why do particles travel slower in cold air than in warm air?

__________________ is how high or low you perceive a sound.

The pitch of a sound is dependent on the __________________ of the sound wave. ________________________ is the number of waves produced in a given time.

Why can a dog hear a dog whistle, but you cannot?

The average human ear can detect sounds between _____________ and _____________.

__________________ describes sounds with frequencies that are lower than 20 Hz.

__________________ describes sounds with frequencies that are higher than 20000 Hz.

The ______________________________ is the apparent change in the pitch of a sound caused by the motion of either the listener or the source of the sound.

Figure 7 is a very important example. Copy this figure into your notes. Make sure you understand this picture (i.e. you may want to include the captions a,b,c)
_________________________ is how loud or soft a sound is perceived to be.

The harder you strike a drum the ____________ energy you transfer to it. The more energy you transfer to the drum the ____________ energy is transferred to the surrounding air. The more energy transferred to the surrounding air the ____________ the particles will vibrate from their rest position. This is also known as an increase in ______________. If you increase amplitude there is also an increase in ________________.

The most common unit used to measure loudness is _________________.

Humans can usually only hear anything above _________.

Anything above _________ is usually painful to the human ear.

A device called an _________________________________ is used to graph representations of sound waves.

Copy figure 10 down in your notes. Which of the two has a greater amplitude?

Which of the graphs has a greater frequency? Which of the following has a greater pitch?