**Physics of Sound Worksheet**

**Useful equations**

frequency

wave velocity

I0, reference intensity, is the standard threshold of hearing intensity

1. **How does sound move through different media?**
2. **Calculate the wave velocity of the given wave.**



x-axis (time in seconds)

1. **A soundwave hits a wall at a rate of 32.2 Hz.**
   1. **What is the period of the wave?**
   2. **Calculate the speed of the wave if the distance between wave crests is 12 meters.**
2. **The speed of sound at room temperature is 346 m/s.**
   1. **What is the frequency of a wave with a wavelength of 2.5 mm?**
   2. **What is the period?**
3. **A quiet library has a sound intensity of 1x10-8 W/m2**
4. **Calculate the sound intensity in dB.**
5. **What is the threshold of pain?**