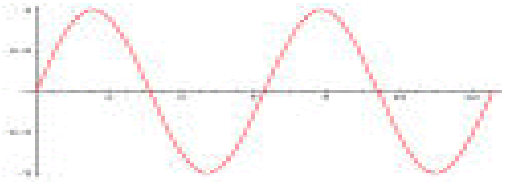
Charting Sound Waves

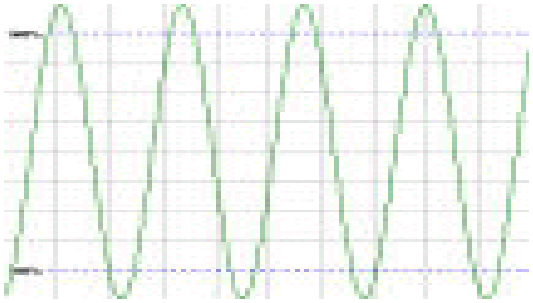
- So imagine a straight line 1,100 feet long. One sound wave would travel along that line from beginning to end in 1 second. But if we start sound waves at one end at the rate of 1,100 per second, then all along that line there would be a high pressure point at each one-foot mark. Move 6" right or left, and that's where each low pressure point would be.

- Now we can graph these increases and decreases in pressure. First, we need a piece of graph paper 1,100 feet long. Then at each one-foot mark we would have a high point. Then, 6 inches to the left and 6 inches to the right of those high points would be low pressure points. The resulting graph (or a tiny piece of it!) looks like this:

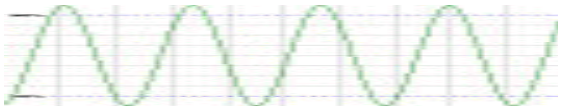


- Remember, the X-axis is **time**, from Zero time to 1 second.
- The Y-axis is **air pressure**, as the wave contains more and then less pressure.
- Nothing goes up and down, like a rowboat on waves. This is a graph of pressure, not of physical displacement.

- A sound wave having a higher frequency might look like this:



- A sound wave having the same frequency (pitch) but less amplitude (less volume) might look like this:



- Finally, the sounds coming from a complex source such as the human voice or a musical group could be exceptionally complex waves: