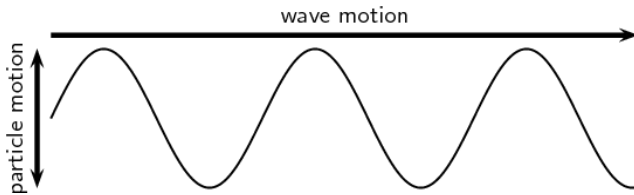


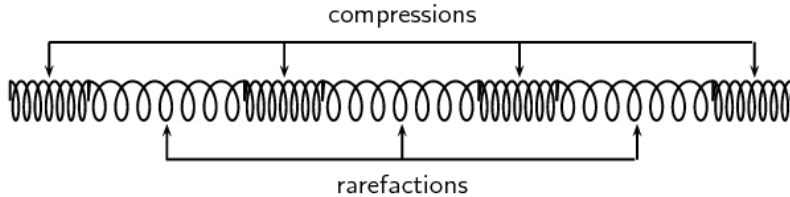
SOUND INTENSITY NOTES (W 1/23)

We reviewed the properties of sound waves and the differences between transverse and longitudinal waves. The higher the AMPLITUDE, the higher the volume or loudness. The higher the FREQUENCY, the higher the pitch or tone.

Transverse wave - moves (oscillates) at a 90 ° angle to the motion of the wave.



Longitudinal Wave - moves (oscillates) in the direction of motion of the wave.



We looked at the relative intensity of sound. If we looked at the information in the 2 tables, we see that for every 10 dB change, there is a change in intensity of 10 x.

Bel (B) - a unit that measures the intensity /volume of a sound.

Decibel (dB) = 1/10 bel

Card	Type of sound	Number of squares shaded	Total number of squares on the card	Proportion of shaded squares on the card (relative intensity)	Decibel level (dB)
A	Moderate rainfall	1	10,000	1/10,000	50
B	Normal conversation	10	10,000	1/1,000	60
C	Vacuum cleaner	100	10,000	1/100	70
D	Traffic on busy street	1000	10,000	1/10	80
E	Headphones on MP3 player, full volume	10,000	10,000	1	90

Decibels (dB)	Relative Intensity	Scientific Notation
0	1	
10	10	
20	100	
30	1000	
40	10,000	
50	100,000	
60	1,000,000	
70	10,000,000	
80	100,000,000	
90	1,000,000,000	
100	10,000,000,000	
110	100,000,000,000	
120	1,000,000,000,000	
130	10,000,000,000,000	
140	100,000,000,000,000	
160	10,000,000,000,000,000	

We did some scientific notation practice. It is a way for us to show very large and very small numbers. This is not a required skill at this point.