Sound Wave Notes Day 3

The higher the AMPLITUDE , the higher the volume or loudness.

The higher the FREQUENCY, the higher the pitch or tone.

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	1.0×10^{0}
10	10	1.0×10^{1}
20	100	1.0×10^{2}
30	1000	1.0×10^{3}
40	10,000	1.0×10^{4}
50	100,000	1.0×10^{5}
60	1,000,000	1.0×10^{6}
70	10,000,000	1.0×10^{7}
80	100,000,000	1.0×10^{8}
90	1,000,000,000	1.0×10^{9}
100	10,000,000,000	1.0×10^{10}
110	100,000,000,000	1.0×10^{11}
120	1,000,000,000,000	1.0×10^{12}
130	10,000,000,000,000	1.0×10^{13}
140	100,000,000,000,000	1.0×10^{14}
160	10,000,000,000,000,000	1.0×10^{16}