**Background:**

1. Music/noise/sound that we hear is always in the form of a wave.
2. Every wave has distinct properties, some are more complex than the others
3. This distinguishing shape or property of sound wave is what is called as ***timbre***
4. There are other things defining a wave as well:
   1. Frequency
   2. Amplitude
   3. Shape
5. ***Amplitude*** defines the maximum distance between highest and lowest points of the wave or crest and trough
6. ***Frequency****/****Pitch(per second)*** How frequent one wave is defining the frequency of the wave also known as pitch by the musicians. If half a second is taken to traverse a wave, then the frequency is said to be 2Hz since to waves can be traversed in 1 second.
7. ***Notes*** If we double/halve/quadruple the pitch/frequency it sounds absolutely the same just the loudness might increase or decrease (for a human ear). All these pitches always have some common quality called as a ***Note (can also be referred to as the pitch).***

* Each frequency has a corresponding note, for instance if a frequency of ***440 Hz*** produces a ***Note A,*** then this note would be common across the multiples or halves of this frequency like 880 Hz or 220Hz
* All the unique notes would be in the interval of ***440Hz - 880Hz*** or ***220Hz – 440Hz***
* This is what we call an ***Octave,*** an octaveis an interval between 2 pitches where one has a frequency double that of other
* There are number of ways to express Note belonging to an octave. For instance, ***Note A*** that has a frequency of ***440Hz*** belongs to an octave of ***440Hz – 880Hz*** is represented as **A4**(one way of representing it)

**References:**

* [Frequencies of Musical Notes, A4 = 440 Hz (mtu.edu)](https://pages.mtu.edu/~suits/notefreqs.html)
* [Music theory for nerds / fuzzy notepad (eev.ee)](https://eev.ee/blog/2016/09/15/music-theory-for-nerds/)