

Sound, Pitch, Tone, Timbre

Sound, by itself, is not musical. But sounds do have different qualities that can be defined and measured. Whether or not they are considered musical is up to interpretation by the hearer.



“Pitch” describes the frequency at which the vibrating thing that produces the sound happens. On a dulcimer, the strings vibrate at different pitches. (**Lesson 2** will compare the different dulcimer strings’ qualities). On a mountain dulcimer when our fingers shorten the strings at the different frets, each string’s pitch changes. On a hammered dulcimer, the strings’ pitches are already determined by the length and tuning of the strings. In music these pitches are called “notes.” (See **Lesson 3** for the names that are used for the notes.)

(Note: **Octaves** describe pitches that vibrate twice as fast as each other. For example, in the modern era, the pitch that vibrates at 440 hz is given the name: “A”. This is usually written like this: A=440. This is the pitch of the A string on a violin, usually used as the tuning note for an orchestra. The A an octave lower vibrates at 220 hz, the A an octave higher vibrates at 880 hz. A=440 is the pitch that you can produce on your guitar by fretting your high E string at the 5th fret and plucking it.

“Tone” describes the overall quality of the musical note. I use this word to describe the sound heard when the mountain dulcimer player’s left hand fingers have good placement (close behind the fret—toward the nut), are pressed down hard enough (so there is no buzzing) and there is nothing on the right hand that is brushing against the vibrating string (watch band, bracelet or sleeves are the most common culprits!) Good tone on the hammered dulcimer is achieved by letting the hammer strike the string freely (not “pinching

or choking” the tone) so that the string is able to ring freely once it has been struck.

“Timbre” (pronounced “tam-ber”) describes the quality of the musical tone, but not its pitch (what note it is) or its intensity (how loud or soft it is).

With relation to mountain dulcimer playing this is most directly affected by whether or not one plays with fingers, fingernails (or fingerpicks) or a flatpick (or thumbpick). The next thing that determines the timbre of the mountain dulcimer’s sound is where one is plucking the strings: over the strum hollow, over the fret board (toward the nut) or close to the bridge. Experiment and you’ll hear how different the timbre is.

With relation to the hammered dulcimer playing timbre is most directly affected first by the choice of hammer (fixed or flexible shaft, length, weight, balance) and the type of striking surface (bare wood, soft or hard wood, suede or padded surfaces. I even have a pair of hammers which are covered with aluminum for a music-box-like timbre.) Secondly, striking closer to the bridge accentuates the sound of the hammer hit, too far away can lead to inaccuracy. Find the optimum distance (usually around an inch from the bridge) to achieve rich tonal quality) on your instrument. This may vary from the low to the high notes.

“Volume” describes how loud or soft a tone is. In physics this is measured as “amplitude.” This is altered simply by how hard one plucks or strums or hits the strings. This concept will be more fully explored in a later lesson on **Dynamics**.