

EncycloMedia Man By Mike Overly

Surprise! It's More Than A Bakers Dozen.

Bakers are sweet. They give us 13 instead of 12. Music is even sweeter. It gives us 35 different letter names for a dozen pitches! Let's look at this more closely.

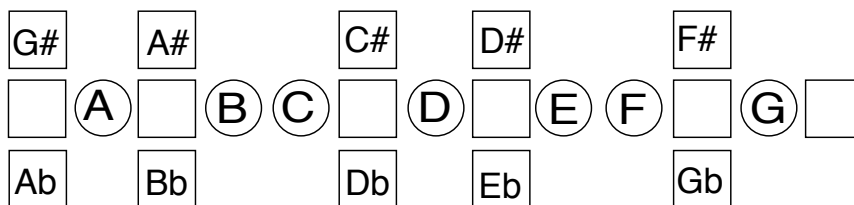
There are 7 letters in music and each of these letters has a pitch. In other words, music may be seen as letters and heard as pitches. The 7 "natural" letters and pitches of music are: A B C D E F G. **Natural** means "not chromatic, in other words, not sharp (#) or flat (b)". Let's illustrate the 7 natural pitches as letters. Figure 1.



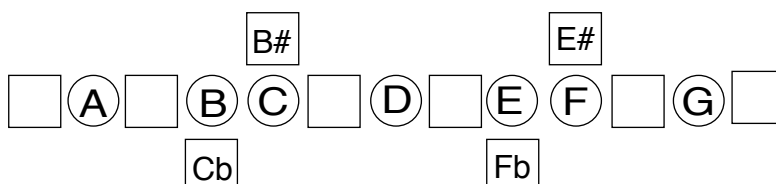
An **interval** is the distance between two sounds, letters or pitches. **Unison** is two sounds with the same letter name *and* the same pitch. For example, E on fret 5 of string 2 has the same pitch as E at "fret zero" (nut or open) of string 1. These two E's are in unison - they sound the same.

An **octave** is two sounds with the same letter, but *not* the same pitch. In other words, an octave is the same letter 12 frets apart. The guitar may be simply thought of as 6 strings and 12 frets with letters that repeat themselves in a second octave. For example, E on string 1 at fret zero and E at fret 12 of have the same letter name, but the E at fret zero sounds low in pitch while the E at fret 12 sounds high. This one octave of 12 frets and 12 pitches may be given letter names. Consider the following.

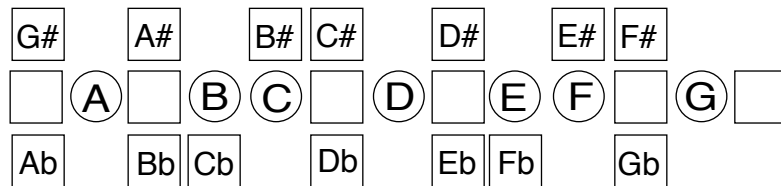
There are 5 "single-chromatic" *pitches* between the 7 natural pitches. **Chromatic** means "by half-step" and one half-step equals one fret. **Sharp** (#) means "one half-step (one fret) higher in pitch from any natural letter or pitch". For example, F is on fret 1 of string 1, therefore, F# is on fret 2. **Flat** (b) means "one half-step (one fret) lower in pitch from any natural letter or pitch". For example, G is on fret 3 of string 1, therefore, Gb is on fret 2. F# and Gb are on the same string and fret so they sound the same, this is called "enharmonic". **Enharmonic** means "two sounds of the same pitch, but *not* the same letter". So, even though there are 5 single-chromatic pitches between the 7 natural pitches, there are 10 single-chromatic letter names! Figure 2.



Now, in addition to the 5 single-chromatic pitches between the 7 natural pitches, 4 of the natural letters (pitches) also have enharmonic single-chromatic letter names: B is enharmonic with Cb, C has the same pitch as B#, E sounds like Fb, and F is enharmonic with E#. Figure 3.

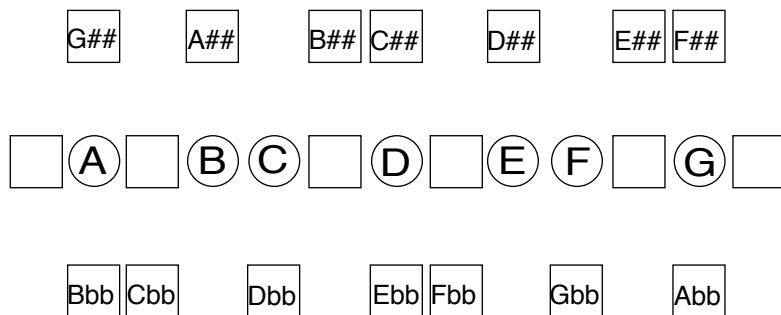


Here are the single-chromatic pitches with their 14 single-chromatic letter names. Figure 4.

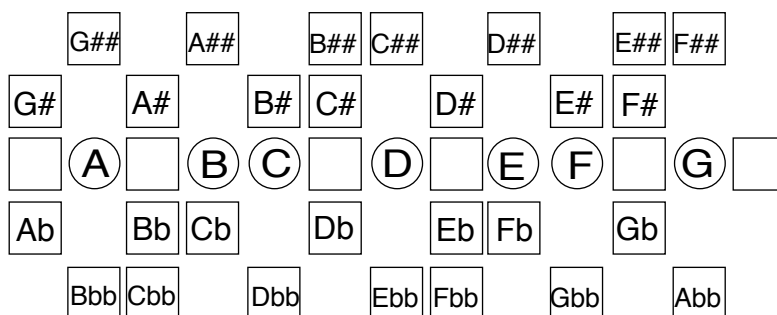


Not only may the 7 natural letters be flatted and sharpened, but they may also be “double flatted and double sharpened”. These “double-chromatics” are two frets (two half-steps) lower or higher in pitch from any natural letter or pitch. Two half-steps (two frets) is also known as “one whole-step”. **Double Flat** (bb) lowers the pitch of any natural letter or pitch two frets. For example, E double flat (Ebb) is enharmonic with D natural, they sound the same. **Double Sharp** (##) raises any natural letter or pitch two frets (two half-steps) higher. For example, D double sharp (D##) is enharmonic with E natural, they have the same pitch. In “traditional music theory”, an “x” is used as the double sharp symbol, not two sharps (##). For example, F double sharp (F##) is written “Fx”. Don’t ask me why!

Anyway, here are the “double-chromatic” pitches with their 14 different double-chromatic letter names. Figure 5.



Well, there you have it, one octave with 12 pitches has 35 different letter names! Here’s the math, 7 natural pitches with 7 natural letter names + the single-chromatic pitches with their 14 single-chromatic letter names + the double-chromatic pitches with their 14 double-chromatic letter names = 35 letter names for the 12 pitches in one octave. Figure 6.



And now that the 35 letter names is as easy as pie, or as one of my students emailed - it’s a “peace” of cake - play and have fun...how sweet it is!

Till next time, I’m listening and I’m here for you.