

## Intervals, Steps, and building Scales

We have learned that music is just vibration. Now we will take these vibrations and call them steps and build scales with them.

A half step is the closest distance between two notes. On a piano, it is the very next key beside any key, regardless of color. On a ukulele, it is the very next fret up on that string, or the very next fret down on that string.

On your fretboard, if you move up two frets, that is moving up two half steps, which becomes one whole step. Two halves always makes a whole.

Getting from one note to another is moving by half steps. C, up to C#, up to D, up to D#, up to E, up to F... Wait. Why does E go straight to F without an E#? Here's the catch, there is a naturally occurring half step between E and F. This also happens between B and C. So, C goes up to C#, up to D, up to D#, up to E, up to F, up to F#, up to G, up to G#, up to A, up to A#, up to B, up to C and we've just moved up a whole octave using half steps.

Now, let's start on that top C and come back down, again, moving by half steps. C, down to B (natural half step), down to Bb (no longer called A#), down to A, down to Ab, down to G, down to Gb, down to F, down to E (naturally occurring half step), down to Eb, down to D, down to Db, down to C,

Written with just the note names, it looks like this:

C C# D D# E F F# G G# A A# B C B Bb A Ab G Gb F E Eb D Db C

Above, is a one octave (C to C) chromatic scale. Chromatic means "moving by half steps"

Notice how the scale uses sharps going up and flats coming down.

Now, building a major scale consists of moving by half and whole steps.

The formula for a major scale is whole whole half, whole whole whole half. Remember to use the key for that scale.

Let's use the Key of C, with no sharps and no flats. Let's put the formula down:

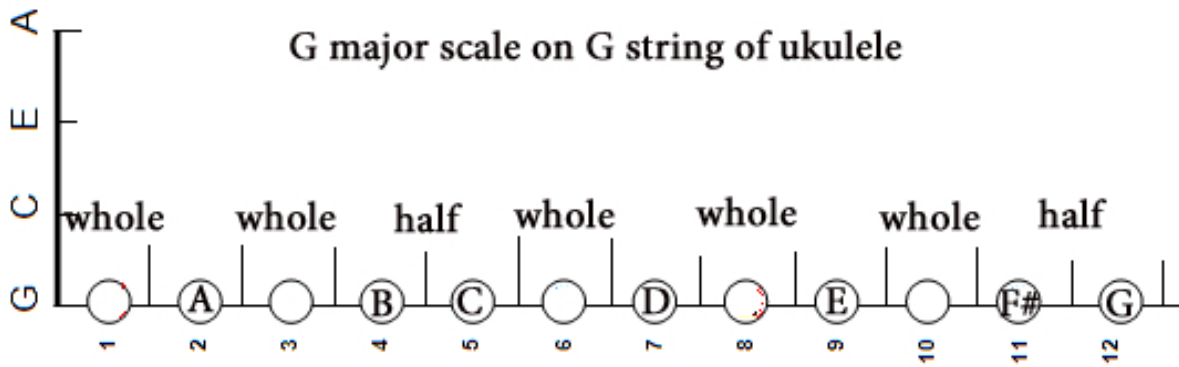
whole whole half whole whole whole half half whole whole whole half whole whole  
C D E F G A B C B A G F E D C

Let's write it out:

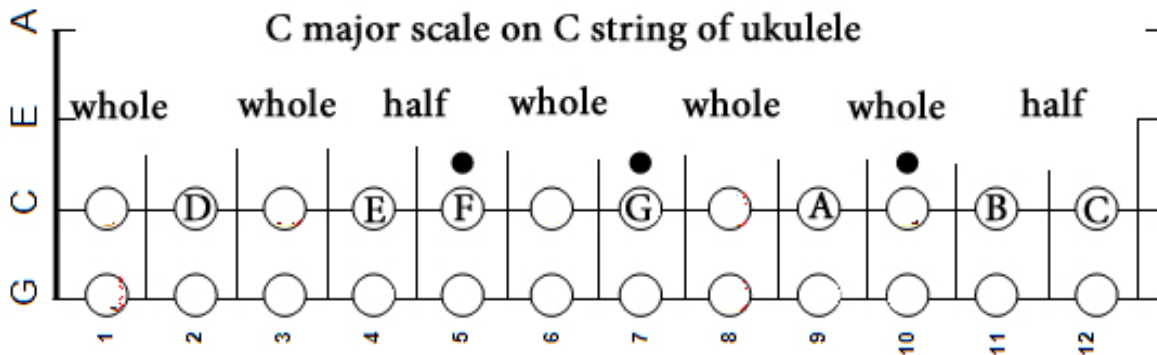
C up a whole step to D, up a whole step to E, up a half step to F, up a whole step to G, up a whole step to A, up a whole step to B, up a half step to C (that's our octave) down a half step to B, down a whole step to A, down a whole step to F, down a half step to E, down a whole step to D, down a whole step to C.

Remember, a whole step on ukulele is two frets, a half step is one fret, as long as you stay on the same string.

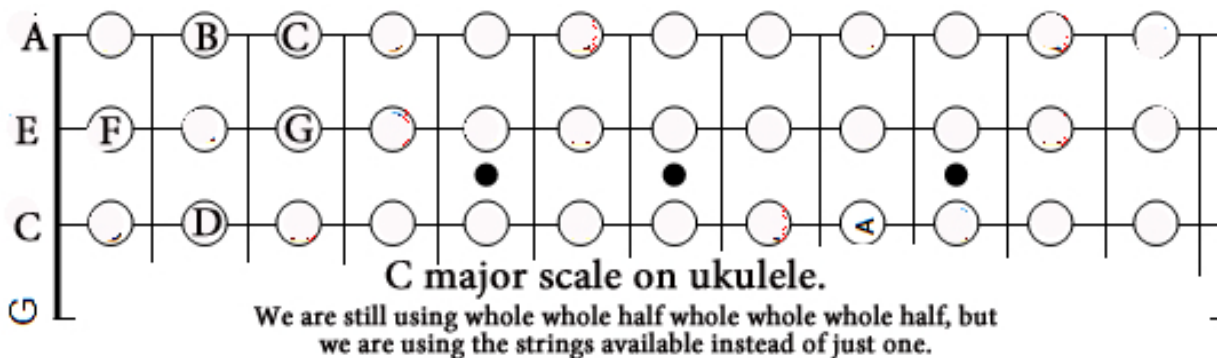
Now, let's take the G string on your ukulele and do a scale on that one string.



Now, let's look at a C scale on your ukulele, using the C string.



We can make scales on just one string, but we have four strings, which allows us to play up to four notes at the same time. Instead of flying up and down the fretboard, let's make a C major scale using the strings available to us, the C, E, and A strings.



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