Scale Theory - The C Scale
You likely have been playing in the key of C major. C is the root note, begin there.
This key, C major has a scale consisting of the notes C D E F G A B C
You could play the scale only using the third string - C string - frets 0, 2, 4, 5, 7, 9, 11, 12
Starting at the nut for C, go up 2 frets, play D. Then go up 2 more, then 1, 2, 2, 2, 1

Look above at the notes on a piano, they help to remember that there is no note between E and F or B and C - only 1 step between these notes but there are 2 steps, counting the (note) between the others, like C step C# (same as Db) step D

All the notes
C C# D D# E F F# G G# A A# B C
C scale
Steps - this works for any major scale

You could also play the C scale using strings 3, 2 and 1
Practice this and learn where C D E G A and C “live”
What would that look like if we display all of the notes at the nut?
What numbers relative to the scale do these notes represent? C D E F G A B C

1 2 3 4 5 6 7 1

Remember, we could also just progress up the fretboard and use 221-2221 to find the scale. Use the third string because it is C at the nut.

So, nearly every melody note in sings in the key of C will fall on the notes of this scale - try it. You Are My Sunshine - C E F G G F G E E E F G A C C B A G....

I have chosen to call each increment between notes of the chromatic scale a step. The more accepted way to discuss musical increments is using the terms whole tone (two ½ tones) and half tone. This ends up being a bit confusing, because you have to count the number of tones and half tones. The 12 notes in a chromatic scale are each divided by 1/12th of an octave – therefore, each note of the chromatic scale is separated by what we will hereafter call a step – same as one fret. So, if someone wants to use the term whole tone, we understand them to mean 2 steps. So, a ½ tone is a step, and we will dispense with the terms whole and half tones until we understand the scale.

This method of deriving the major and minor scales is so useful for knowing which note of the scale is being used, chord understanding, transposing, sorting out how which sharps or flats that you will never regret memorizing the # 221-2221.

221-2221 – the key to understanding musical scales and chords
Other major keys – playing the scale

You could use this same fretboard major scale pattern to play in the key of D by starting at the second fret or in the key of F by starting at the 5th fret. Or, key of G at the 7th fret.

Note that the number positions relative to the scale still hold, relative to the key.

What about the G scale at the nut? - we'd start with the open 4th string and then use a different pattern - note that you have a choice where to play the E and the scale is continued up to the C - the 4th note in the key of G

How do we know which notes are appropriate for the key of G?
To find the scale in G: first write all possible notes G G# A A# B C C# D D# E F F# G use the formula for the major scale steps 221-2221 G 2 A 2 B1C 2 D 2 E 2F#1G
Therefore, the G major scale is G A B C D E F# G

This method will work for any major scale

Let's find the scale in F: first write all possible notes F Gb G Ab A Bb B C Db D Eb E F use the formula for the steps major scale 221-2221 F 2 G 2 A1Bb 2 C 2 D 2 E1F
Therefore, the F major scale is F G A Bb C D E F
What about minor keys?

There are also minor keys, like A minor. For an exercise, let’s generate a minor scale. We use the sixth note of the major scale, is A, the “relative minor” - of C, one could use the same 221 2221 system to construct the A minor scale by writing all notes in C scale twice, then starting at A and see what happens:

C Db D Eb E F G Ab A Bb B C Db D Eb E F Gb G Ab A
C 2 D 2 E 1 F 2 G 2 A 2 B 1 C 2 D 2 E 1 F 2 G 2 A
See that these are the same notes of the C major scale, but by starting the scale at A, we generate the A minor scale. Play it, A B C D E F G A

A B C D E F G A – these notes that are present in the C major scale sound different when beginning at A, perhaps more sad.

We could learn a new formula, but it’s better only to have to remember 221-2221 and then write the notes twice as above and start on the 6th note for the relative minor. This key – like Am to C has the same number of sharps or flats (none for C, none for Am).

Let’s see how key of F works - major scale is F G A Bb C D E F - D is 6th ... Dm
F G Ab A Bb B C Db D Eb E F G Ab A Bb B C Db D Eb E F
D 2 E 1 F 2 G 2 A 1 Bb 2 C 2 D 2 E 1 F

Dm scale is F G A Bb C D E F.

Why are the notes written as sharps sometimes and flats, other? Sharps are used when ascending generally and flats when descending. Certain keys use sharps,

G D A and others flats F Bb Eb
F# F#, C# F#, C#, G# Bb Bb, Eb Bb, Eb, Ab

See the module on the circle of fifths, as certain keys use flats and others sharps. It is worth your effort to learn the circle of fifths, so you will know your way around the whole of music. Now that we have a handle on scales, we can use this to begin to construct and understand chord structure - see chord theory module.