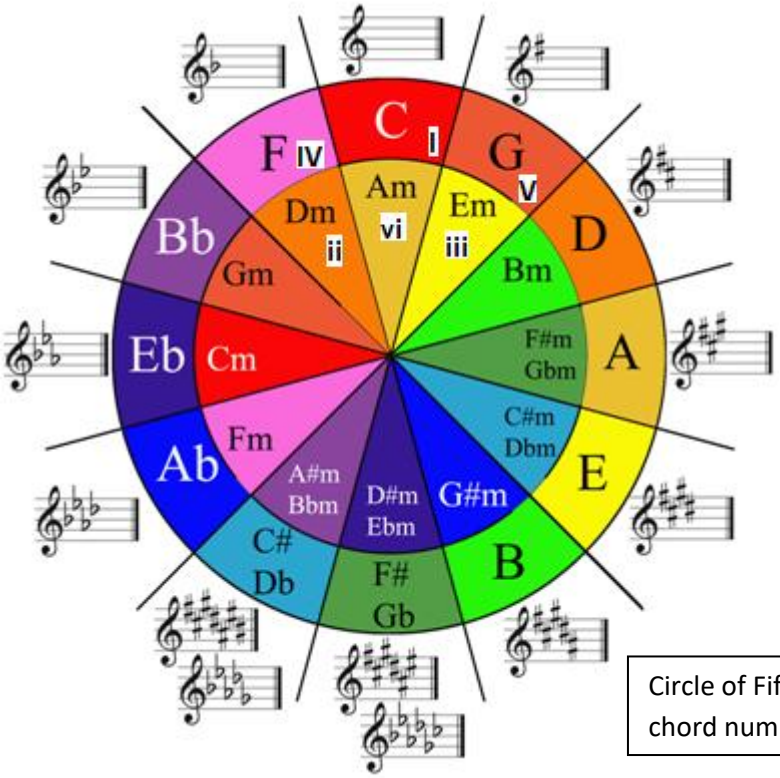
The Circle of Fifths



I	ii	iii	IV	V	vi	vii0
C	Dm	Em	F	G	Am	Bdim
G	Am	Bm	C	D	Em	F#dim
D	Em	F#m	G	A	Bm	C#dim
A	Bm	C#m	D	E	F#m	G#dim
E	F#m	G#m	A	B	C#m	D#dim
B	C#m	D#m	E	F#	G#m	A#dim
F	Gm	Am	Bb	C	Dm	Edim
Bb	Cm	Dm	Eb	F	Gm	Adim
Eb	Fm	Gm	Ab	Bb	Cm	Ddim
Ab	Bbm	Cm	Db	Eb	Fm	Gdim

Circle of Fifths showing chord numbers for C scale

The Circle of Fifths is a way of understanding the essential elements of western music: the notes, the intervals, the chords, and the relationships between them. It describes the main tonal and chord relationships in Western music's 12-note equal temperament scale.

Moving clockwise, each note is a fifth above the last one — so G is the 5th note of the C scale, D is the 5th note of the G scale, etc. Note how you go clockwise around the circle the number of sharps increase, then the number of flats reduces.

The outer circle refers to major chords, and the inner circle to their relative minor chords. The relative minor is always the vi chord in a major key. (To represent relationships of chords in a scale, the major chords are represented in upper case roman numerals, and the minors in lower case. See diagram above.)

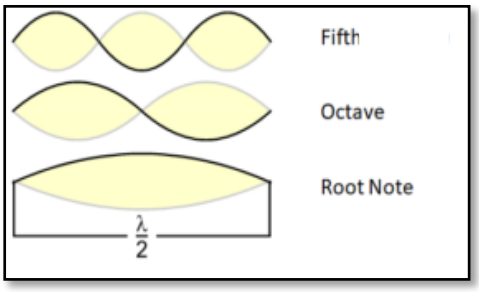
In the key of C-major, the most common chords are: C (I), Dm (ii), Em (iii), F (IV), G (V), Am 9vi). You can see that these 6 chords are adjacent to each other on the chart, all bordering on the root note of the scale (C, in the example shown)

So many songs use a variation of these 6 chords. Many popular songs use only 3 or 4 of them. Now look at the Circle of Fifths. The chords touching the C-major are the other five major and minor chords in the key of C major.

This hold true for whatever key you're in. In the key of G, all the chords touching the G correspond to the other major and minor chords in that key.

The most common cadence in our music is the fifth: V to I (e.g. G or G7 to C; D or D7 to G, etc).

Why is the fifth so important? It's all about the ratios. The octave to any note is the same note name, either higher or lower. An octave above a note is twice the frequency (vibrations per second). This is why two notes, an octave apart, sound the most harmonious and pleasing.



The ratio of a note to its 5th is a 2:3 ratio. So, for every 2 cycles of the root note, there are 3 cycles of the 5th note. (1:2 and 2:3 are the first two ratios of the Fibonacci Sequence, which commonly shows up in physical natural patterns.)

When you start exploring the frequency ratios for major and minor thirds, sixths, and seconds, the ratios become more complex, therefore less obviously harmonious, and progressively more dissonant.