

# Learning / Research for Music

“What is A Chord in Music? How To Build Chords and Chord Progressions” on Youtube



[https://www.youtube.com/watch?v=T2gw9Fcc\\_w0](https://www.youtube.com/watch?v=T2gw9Fcc_w0)

**Chords:** Where three or more notes play at the same time (It sets emotion in music).

**Harmony:** When two notes are played at the same time

**Triads:** The most common chords; They contain three notes from the major scale

Major, Minor, diminished, and augmented

e.g.) C      c      C<sup>+</sup>      c<sup>o</sup>  
Uppercase   Lowercase   Uppercase      Lowercase

**Root:** 1<sup>st</sup> note of scale, 3<sup>rd</sup> note of scale, 5<sup>th</sup> note of scale, etc.

e.g.) C E G → If we move this shape around, we can get different chords in the key of C major

**Intervals:** the distance between two tones

**Octave:** the distance between one note and another note that's double its frequency

➔ Two musical notes that are eight tones apart on a scale

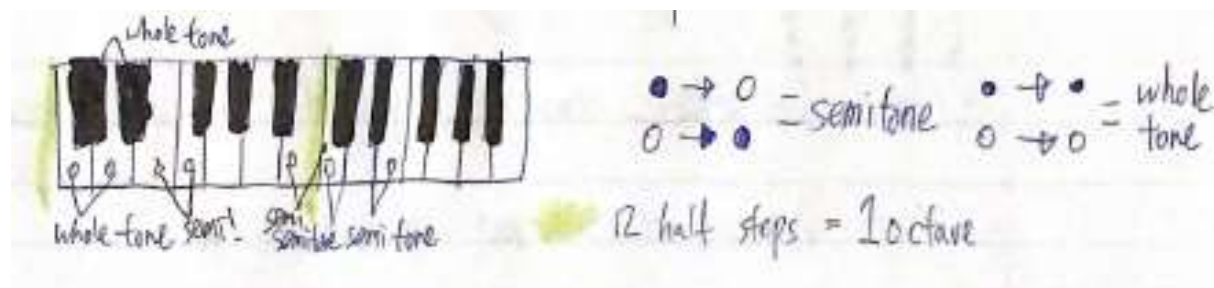
### Formula for Major chords:

4 semitones between the 1<sup>st</sup> two notes and 3 semitones between the 2<sup>nd</sup> two notes.

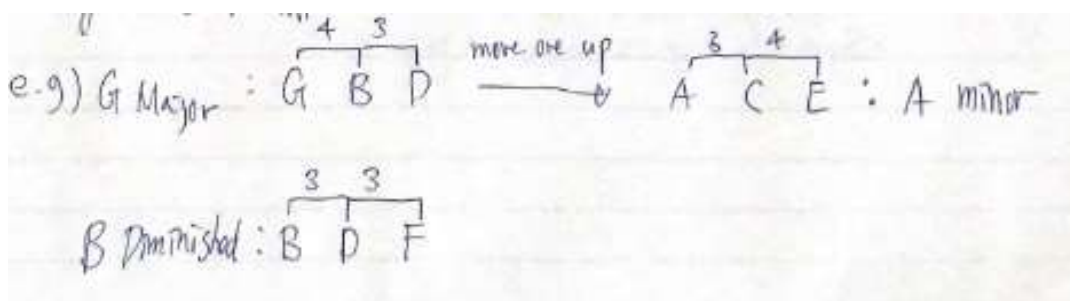
### Formula for Minor chords:

3 semitones between the 1<sup>st</sup> two notes and 4 semitones between the 2<sup>nd</sup> two notes.

\*\* You can flip the formula between Major and Minor by switching 3 and 4.



### How to tell Major vs. Minor: Analyze the formula



### Chord Qualities to a Major scale:

Ma – mi – mi – Ma – Ma – mi – dim.

### Roman Numerals:

1	I	C Major	C <sup>4</sup> E <sup>3</sup> G
2	ii	D Minor	D <sup>3</sup> F <sup>4</sup> A
3	iii	E minor	E <sup>3</sup> G <sup>4</sup> B
4	IV	F Major	F <sup>4</sup> A <sup>3</sup> C
5	V	G Major	G <sup>4</sup> B <sup>3</sup> D
6	vi	A minor	A <sup>3</sup> C <sup>4</sup> E
7	vii <sup>o</sup> (dim)	B diminished	B <sup>3</sup> D <sup>3</sup> F

Uppercase: Major / Lowercase: Minor

Chord progressions can be played in any key; it follows the same structure.

### Changing the key of the song (Transpose):

- It creates a different vibe.
- It matches a singer's voice better
- It syncs up two samples in your da.
- Instrumentalists may also find that a musical piece is easier to play if it is in a different key.

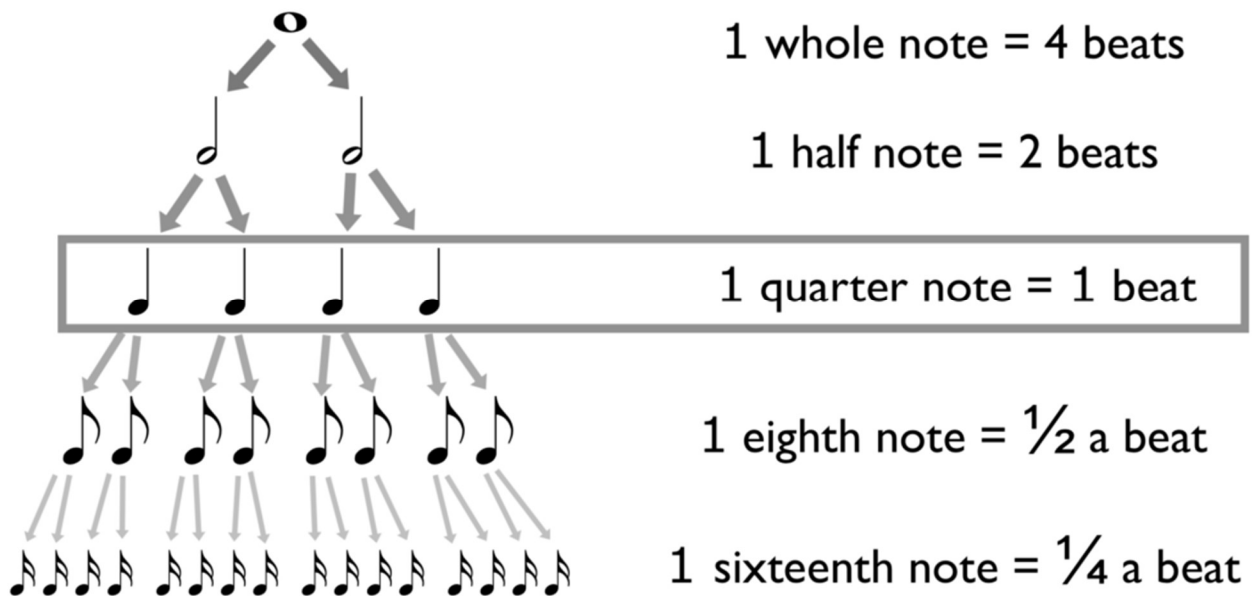
### Beats:

It is a constant pulse that does not change.

Beats are organized into sections → These are called measures.

Measures are separated by bar lines

The most common way is four beats per measure. → 4/4



For example, 12/8, twelve beats per measure is twice fast as 4/4.

## Repetition signs:

$\text{||:|, | |, \%}$  → If you see these signs on sheet music, it is related to repeating the

**Treble Clef notes**

F G A B C D E F G A B C D E F G A B C D E

**Bass Clef notes**

A B C D E F G A B C D E F G A B C D E F G

Sharp/Flat	Notes			
C <sup>#</sup>	D <sup>b</sup>	F <sup>#</sup>	G <sup>#</sup>	A <sup>#</sup>
D <sup>b</sup>	E <sup>b</sup>	G <sup>b</sup>	A <sup>b</sup>	B <sup>b</sup>

C D E F G A B

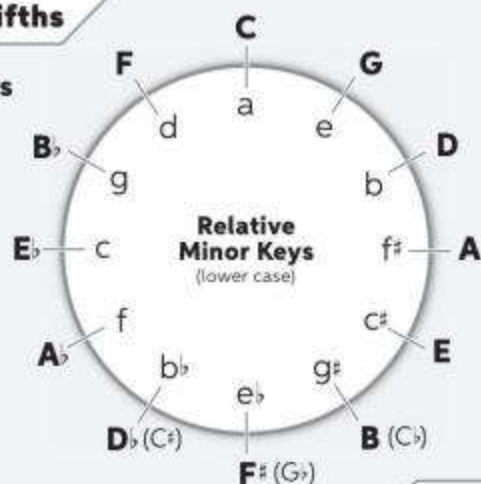
♯ - Sharps - black notes to the **right** (sharp things point up!)

♭ - Flats - black notes to the **left** (flat tyres go down!)

Note	Rest	Value
Quaver		1/2 each
Crotchet		1
Minim		2
Dotted Minim		2 + (1/2 x 2) = 3
Semibreve		4

specific part between the bars

## Circle of Fifths

Major Keys  
(UPPER CASE)

## Key Signatures

Staff	Major	Minor	# of Flats	Staff	Major	Minor	# of Sharps
	F	d	1 flat		G	e	1 sharp
	B $\flat$	g	2 flats		D	b	2 sharps
	E $\flat$	c	3 flats		A	f#	3 sharps
	A $\flat$	f	4 flats		E	c#	4 sharps
	D $\flat$	b $\flat$	5 flats		B	g#	5 sharps
	G $\flat$	e $\flat$	6 flats		F#	d#	6 sharps
	C $\flat$	a $\flat$	7 flats		C#	a#	7 sharps

The elements of music domain we had to consider for building an algorithm: chords and how to label the chords in a number list (for easier representation of chord progressions), chord qualities (implemented within the chord, major vs. minor), line (it's a sequence of chord), and structure of the song (Intro, verse, pre-chorus, chorus, outro, etc.).