



LEAD GUITAR WORKSHOP

# Fundamentals Of Music



Suke Cerulo

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# Fundamentals of Music

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Music is a language independent of any instrument. It is an organization of tones arranged in a fashion to connect and convey emotions. It uses single tones, groups of tones and timing. All the music you listen to uses this system of tonal organization.

## Language vs. Instrument

Any musician who plays an instrument is operating in two independent worlds. One is the *language of music*, with its notes, chords and rhythms. The second world is the craft of playing your *instrument*. These are two totally separate entities. A composer may know every single element of the music language and how to tweak it to get any sound he wants but may not be able to play an instrument so well as to perform in public. On the other hand there may be the most gifted and talented guitar player on the planet and he may know nothing about the music language. A common response from someone like this is that it just sounds or feels right when they do it.

A great painter knows exactly how to mix colors, a great writer has a strong vocabulary to help convey feelings and imagery, and a great musician should know the language of music to sound their best, regardless of the instrument they play.



## Melody, Harmony and Rhythm

The Music language can be thought of as three distinct elements.

### Melody

Any single note/voice at a time, the signature of the song  
(scales, intervals etc.)

### Harmony

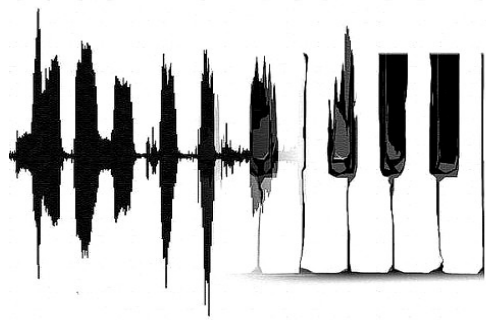
The chords, the building blocks of music  
(Major, minor, 7<sup>th</sup> etc.)

### Rhythm

The pulse and life of music, affecting every instrument and sound  
(BPM, quarter/eighth/sixteenth notes etc.)

In this course we will learn about the fundamentals of music focusing on Melody, Harmony and Rhythm. Chapter one is Melody, chapter two is Harmony, chapter three is Rhythm and it continues similarly for nine chapters concluding with a summary

Whether you're performing, writing or practicing music, these three elements are happening and you need to be aware of them. By focusing on all three you will be a better guitar player and ultimately a better musician .



## Chapter 1 Melody

### Pitch

Note, tone, sound, pitch are all basically describing the same thing. When we open our mouth and say “Aaahh” we are making a sound. If you evenly hold the sound steady you are making a note that can be measured as a pitch.

Another way to think of a pitch is to think about when a drummer plays slowly on the snare drum. You hear each hit individually. As he speeds up you hear less silence between each attack. Eventually he is playing so fast that you start to hear the rapid attacks and one humming sound, creating a pitch. The faster it goes, the higher in pitch.

Pitches are measured in different ways. One is to use Hertz (Hz) which measure how many times a second the sound wave fluctuates. For example a pitch that vibrates 440 times/second is labeled 440Hz. In the music world it was decided to call this pitch by the letter “A”,  $A=440\text{Hz}$ .

### Octave

An octave in music is when a pitch vibrates twice as fast (or half as fast). For example if  $A=440\text{Hz}$  then  $A=880\text{Hz}$  is 1 octave higher. If  $A=440\text{Hz}$  then  $A=220\text{Hz}$  is 1 octave lower.

The average human can hear (perceive) from 20Hz–20,000Hz (20KHz). Although most musical information is probably in the 100Hz–6KHz.



## Notes and Intervals

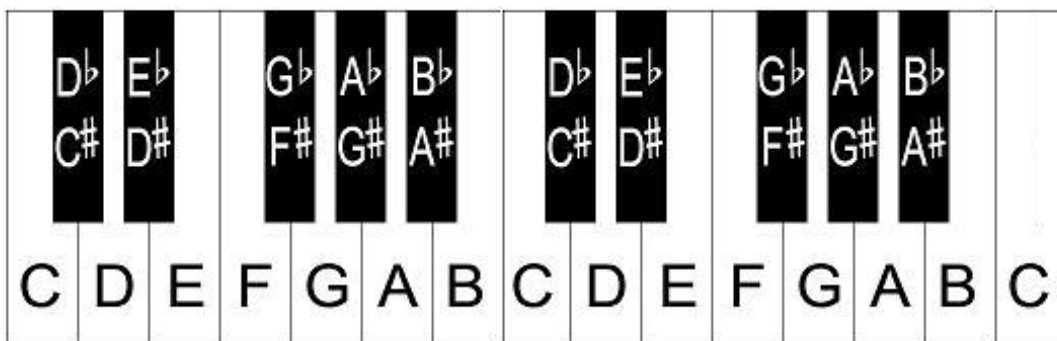
### Notes

In western music we use **12 notes** per octave. Our music system uses about 8 octaves with some exceptions. An average piano has about 7 octaves where a guitar has about 3 usable octaves.

The 12 notes are named partly by the alphabet and the use of the *sharp* (#) and *flat* (b) symbols to raise and lower the pitch respectively.

- All 12 notes are known as the chromatic scale
- The 7 “natural” notes are: A B C D E F G  
these are the white notes on the piano (*aka* C Major/A minor scale)
- The 5 “accidental” notes are: A#/Bb C#/Db D#/Eb F#/Gb G#/Ab

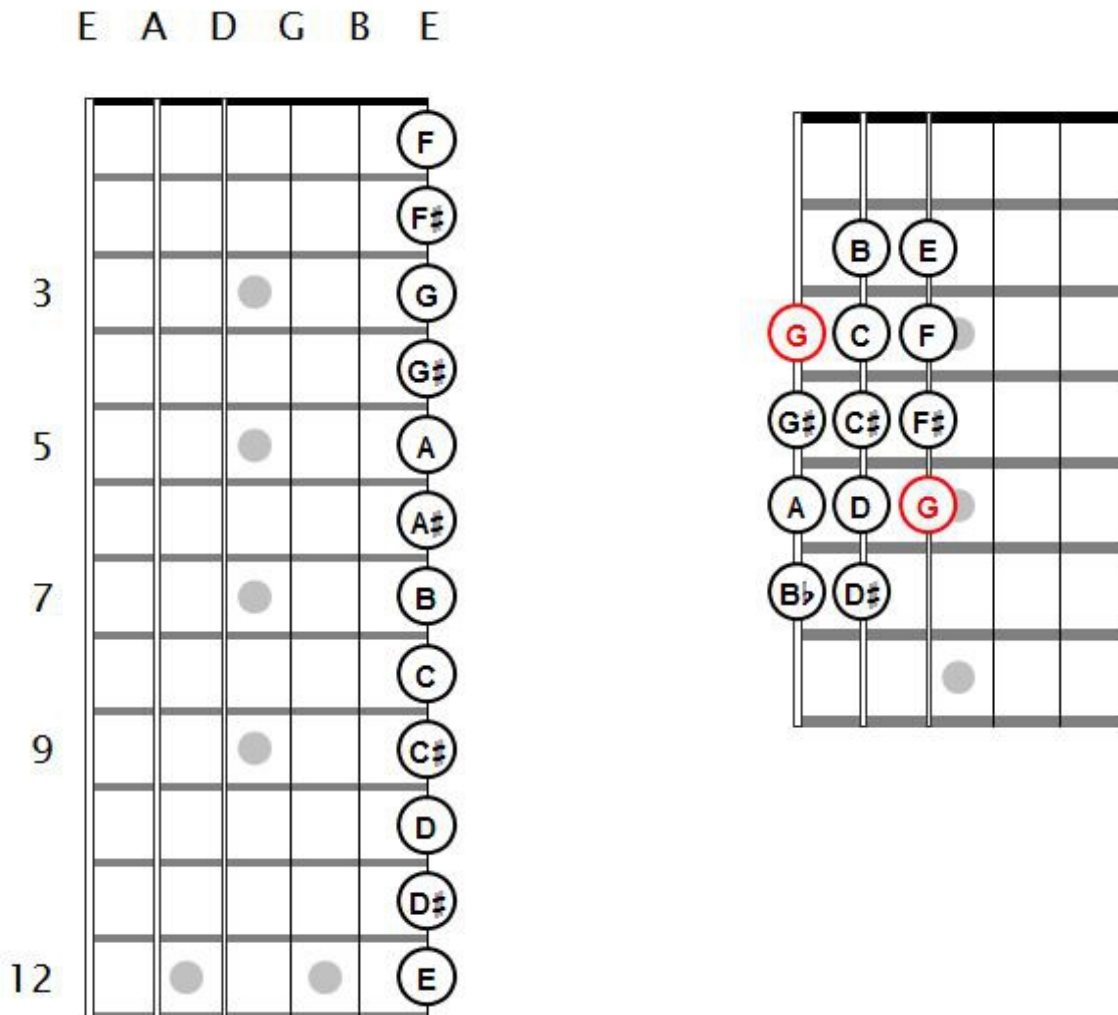
These are the black notes on the piano. These are named because of their position between the natural notes. A *sharp* raises the pitch and a *flat* lowers the pitch. The *accidentals* can be thought of as one higher or one lower than its surrounding natural note, hence two names.



2 Octaves of the chromatic scale



# Chromatic Scale on the Guitar



The left diagram is a 1 octave chromatic scale ascending the high E string. Each string is a chromatic scale starting with the note name of the string.

The right diagram is a 1 octave chromatic scale in position. There are numerous (*too many to count or worry about*) different ways you can play a 1 octave chromatic scale on the guitar.



# Notes and Intervals

## Intervals

An interval is the space between notes. When each note is played separately (monophonic) we call it a *Melodic Interval*

When the notes are played simultaneously (polyphonic) then it is called a *Harmonic Interval*

## Melodic Intervals

The smallest distance between 2 notes is called a *half-step* or a *semi-tone*. Its interval name is a minor 2<sup>nd</sup>. This interval happens to any adjacent notes, for example: C and C# (aka C and Db).

There are two natural *half steps* that occur between the letters **B C** and **E F**

The next basic interval is a *whole step* or a *tone*. It's interval name is a Major 2<sup>nd</sup>.

*half steps* and *whole steps* are the building blocks to make scales

We use **H** to represent a *half step*  
and a **W** for a *whole step*

**H**= *half step*=minor 2nd

**W**= *whole step*=Major 2nd

## 12 Melodic Intervals

# half steps/frets	Interval	Abbreviation
0	unison	
1	minor 2nd	m2, <i>b</i> 2
2	Major 2nd	M2, 2
3	minor 3rd	m3, <i>b</i> 3
4	Major 3rd	M3, 3
5	Perfect 4th	P4, 4
6	Tritone	<i>b</i> 5, #4
7	Perfect 5th	P5, 5
8	minor 6th	m6, <i>b</i> 6
9	Major 6th	M6, 6
10	minor 7th	m7, <i>b</i> 7
11	Major 7th	M7, 7
12	Octave	P8, 8

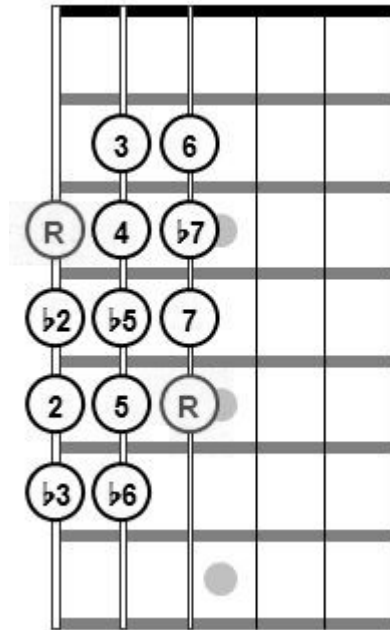
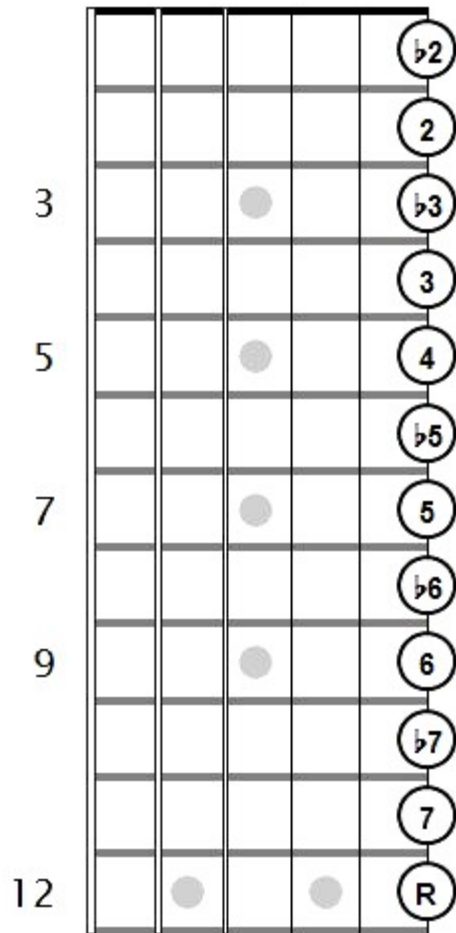
On the guitar we can find the 12 chromatic notes moving in many ways, unlike a piano. The basic way to do this is use 1 string and go fret by fret from the open note (name of the string) all the way up to the 12<sup>th</sup> fret.

On the guitar, on the same string  
**1 fret = *half step* 2 frets = *Whole step***

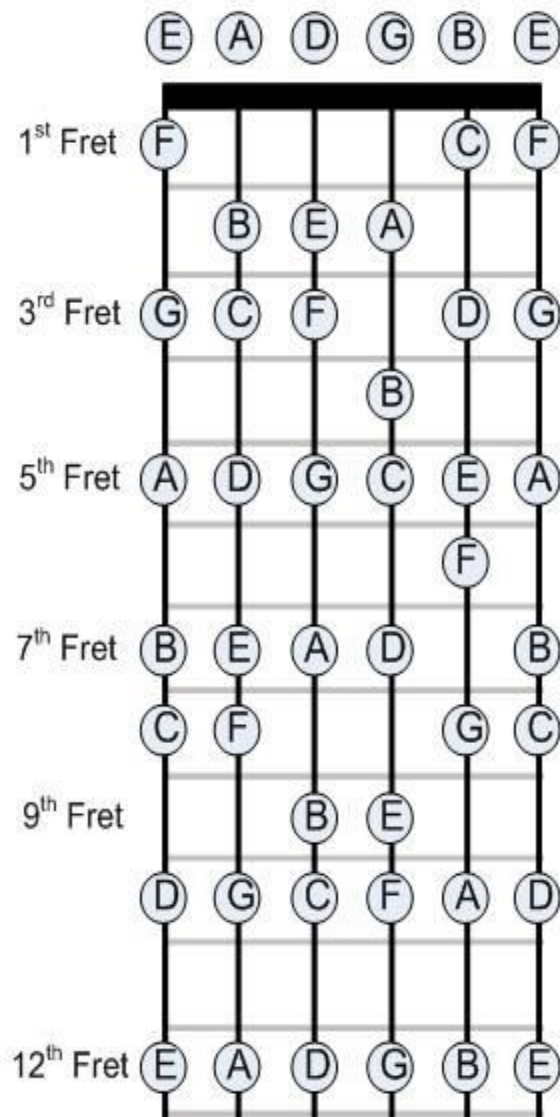
The 12<sup>th</sup> fret always has a double dot/symbol to represent where the 12 tones start over again going up to the next octave on the same string.

# 12 Melodic Intervals on the Guitar

E A D G B E



# Neck Chart



All the natural notes are separated by a *Whole step* except the 2 pairs of natural *half steps* **B C** and **E F** .

The guitar is tuned in Perfect 4<sup>th</sup> intervals except for the G to B string which is a Major 3<sup>rd</sup> interval.

**E to A=P4, A to D=P4, D to G=P4, G to B=M3\*, B to E=P4**

## Tetrachords and the Major Scale

In ancient Greece music theorists began combining *whole steps* and *half steps* to make a 4 note scale referred to as a tetrachord. Traditionally the tetrachord, with its four notes (and 3 intervals) would combine to equal a perfect 4<sup>th</sup> interval.

For example the notes **C D E F** equal a perfect 4<sup>th</sup> when you measure the distance from **C** to **F**. Upon closer inspection we can see that the interval between **C** to **D** is a *whole step*, from **D** to **E** is another *whole step* and from **E** to **F** is a *half step*.

**C   D   E   F**  
**W   W   H**

These would be the first 4 notes of a Major scale. In this case, this is  
**Do Re Mi Fa**

Once this was established they started adding a second tetrachord a *whole step* away from the last note of the previous tetrachord. From the last note (F) of the first tetrachord to the (G) at the beginning of the second tetrachord is a *whole step*

**G   A   B   C**  
**W   W   H**

Combining both tetrachords with the *whole step* creates our 7 note Major Scale also know as *Ionian*

**C   D   E   F   G   A   B   C**  
**W   W   H   W   W   W   H**

*\*It is essential to memorize and understand this formula\**

# The Major Scale

There are only 12 major scales in our music system. Starting on any one of the 12 chromatic tones we apply the WWHWWWH formula to find the seven notes.

For example if we start on the note G apply the WWHWWWH we will get a G major scale.

G	A	B	C	D	E	F#	G
W	W	H	W	W	W	H	

You will notice that since we have to adhere to the major scale formula we have to make the F and F# so it will be a *whole step* away from E and result in a *half step* to the G.

## Major vs minor

When talking about scales and chords there is only one determining factor that makes Major vs minor, and that is the 3<sup>rd</sup> of the scale.

When the interval from the first note (aka the Root) of the scale to the third note is a Major 3<sup>rd</sup> then the scale is Major. When the interval from the root to the third is a minor 3<sup>rd</sup> then the scale is minor. This will be the same with chords too.

I call this relationship the "*Toggle Switch*" in music. It is the *only* factor that determines whether a scale or chord is Major or minor. If neither interval is in the scale or chord then it is neither Major or minor resulting in sort of an ambiguous sound (which is very cool;).

Usually we hear Major sounds as bright, lighthearted and happy and minor sounds as solemn, serious or sad. Although music is subjective, most people agree of these basic ideas.

# EXERCISES

The great thing about music theory is that you don't need an instrument to practice it and you can do it anywhere you are. You only need to do just a couple of minutes. And of course the more you do, the quicker and more familiar the language of music becomes. The information in the music language is fixed and hasn't changed in hundreds of years. In fact the information set is not large at all. It's what creative musicians do with this information that creates and seemingly endless abyss of combinations and sounds.

## Notes

- Pick any note to start and name every chromatic note for an octave as you ascend. You can use the sharp (#) names for ascending
- Do the same as above except name the notes going backwards/descending the octave of chromatic notes. This time use the flat names (*b*) for descending

## Intervals

- Pick any 2 notes and name the interval between them. For example if you said the note A to C then the answer would be a minor 3<sup>rd</sup>.
- Only name the intervals in an ascending order

## Major Scale

- Pick a note and apply the WWHWWH formula to figure out the Major scale
- **RULE:** in the 12 Major scales each of the 7 letters must be represented once. Sometimes that means you might have a B# or C*b*. You have to follow the formula.
- Start with the Major scale for D, E, and A. If you're feeling adventurous try some other keys.







## Chapter 2 HARMONY

### Harmonic Intervals

In chapter 1 we covered the 12 *melodic intervals*. The interval is the space/distance between 2 notes. These intervals occur on any instrument that produce pitch one note at a time (*monophonic*), like our voice, the guitar, saxophone, piano, virtually all of our instruments.

A *harmonic interval* is the same idea as melodic intervals regarding name and spacing. There are 12 harmonic intervals and they use the same terminology (i.e. Major 3<sup>rd</sup>, Perfect 5<sup>th</sup> etc).

The fundamental difference is that the 2 notes are played simultaneously (*polyphonic*). This can only happen on instruments that can play more than one note at a time simultaneously. For example our voice or a saxophone cannot play harmonic intervals. We would need to add other voices/saxophones to achieve this. A guitar or piano can play harmonic intervals.

When 2 notes are played simultaneously we hear this combination as the beginning of a chord. Different intervals combine to make different sounds. We hear these as brighter or darker depending on the interval.

# Diatonic Harmony

*Diatonic* is a musical term that translates to “across the key” or “of the key”. This means that the notes are in the same key or family. When we built our C Major scale in chapter 1 we would say that those 7 notes are *diatonic* to the key of C.

Here is our C Major scale numbered with the *scale degree*. Scale degree is what number they are in the scale, same as the basic interval without the Major, minor or Perfect part of the name.

C	D	E	F	G	A	B	C
1	2	3	4	5	6	7	8

These 7 individual notes are *diatonic* to the key of C. We use these same notes to create the chords that are *diatonic* to the key of C.

The same 7 individual notes create 7 individual chords, one for each note.

To make a chord, we start with a note in the scale and then add every other note until we get 3 notes. We call these chords *triads*.

For example, the first note in the C major scale is C, we then skip the D note and add the E note. We then skip the F note and finally add the G note. This idea of skipping every other note is sometimes referred to as *the rule of thirds*

The result is **C E G = C Major chord**  
this is the first chord in the key of C

We now apply the same process to each of the notes in the scale. For the second chord we start with D and add an F and an A note (skipping the E and G notes).

The result is **D F A = D minor chord**  
this is the second chord in the key of C

## Diatonic Harmony cont.

Before we continue building the rest of the chords let's examine why a chord is Major or minor. In the last chapter we talked about the 3<sup>rd</sup> of a scale (or chord) as being the “toggle switch” between Major and minor. It's the same for chords.

- If the distance (interval) from the 1<sup>st</sup> note of the chord to the second note of the chord (i.e. the C note to the E note) is a Major 3<sup>rd</sup> interval then the chord is **Major**.
- If the distance (interval) from the 1<sup>st</sup> note of the chord to the second note of the chord (i.e. the D note to the F note) is a minor 3<sup>rd</sup> interval then the chord is **minor**.

### Chord Spelling

When we talk about the notes in a chord we not only talk about the actual notes but we also talk about the intervals of the chord which is know as the spelling of the chord.

In the first chord of C Major we noted that it used **C E G** notes. If we look at the full scale again with it's scale degrees we have:

<b>C</b>	<b>D</b>	<b>E</b>	<b>F</b>	<b>G</b>	<b>A</b>	<b>B</b>	<b>C</b>
1	2	3	4	5	6	7	8

You will notice that **C** was the 1<sup>st</sup> note, **E** was the 3<sup>rd</sup> note and **G** was the 5<sup>th</sup> note. We also call the first note of a scale (or chord) the *root*.

The C Major chord has a **Root, 3<sup>rd</sup> and 5<sup>th</sup>**  
this is known as a **Triad**

## Diatonic Harmony cont.

For each of the 7 notes in the Major scale there is also 7 chords (triads). They are created by applying the rule of thirds (skipping every other note) from each note in the scale. Each note gets a 3<sup>rd</sup> and 5<sup>th</sup> above. Now there are 7 diatonic triads in the key

Interval	1ST	2ND	3RD	4TH	5TH	6TH	7TH
5th	G	A	B	C	D	E	F
3rd	E	F	G	A	B	C	D
Root	C	D	E	F	G	A	B

We can take a closer look at the quality of each chord (Major or minor). As mentioned earlier, we need only to look at the interval between the Root and 3<sup>rd</sup> of each chord to determine the quality.

We use roman numerals to indicate the chord interval and quality.  
Upper case for Major chords and lower case for minor chords.

- i C to E = Major
- ii D to F = minor
- iii E to G = minor
- IV F to A = Major
- V G to B = Major
- vi A to C = minor
- vii B to D = minor\* (diminished)

Earlier we talked about a Major triad is comprised of a Major 3<sup>rd</sup> from the root to 3<sup>rd</sup> and then a minor 3<sup>rd</sup> interval from the 3<sup>rd</sup> to 5<sup>th</sup>. This idea flip flops for minor chords. The vii chord in music is known as a diminished triad. It's actually (2) minor 3<sup>rd</sup> intervals. This diminished chord is only in the vii position and it is used less often than the other chords. It is often a transitional chord and used in passing from one chord to another

## Diatonic Harmony cont.

The resulting formula for the chord qualities for all 12 keys is

**I ii iii IV V vi vii**

This is an extremely important formula to remember. It's all seven chords and their quality. Music is often predictable and when you know what key a song is in, then you often expect to find the other chords in the key somewhere in the song. This information takes a tremendous amount of guess work out of the game. You will also learn to hear through this formula.

### 12 Diatonic Keys

Key	<b>I</b>	<b>ii</b>	<b>iii</b>	<b>IV</b>	<b>V</b>	<b>vi</b>	<b>vii*</b>
<b>C</b>	C	D	E	F	G	A	B
<b>G</b>	G	A	B	C	D	E	F#
<b>D</b>	D	E	F#	G	A	B	C#
<b>A</b>	A	B	C#	D	E	F#	G#
<b>E</b>	E	F#	G#	A	B	C#	D#
<b>B</b>	B	C#	D#	E	F#	G#	A#
<b>F#/Gb</b>	<i>Gb</i>	<i>Ab</i>	<i>Bb</i>	<i>Cb</i>	<i>Db</i>	<i>Eb</i>	F
<b>Db</b>	<i>Db</i>	<i>Eb</i>	F	<i>Gb</i>	<i>Ab</i>	<i>Bb</i>	C
<b>Ab</b>	<i>Ab</i>	<i>Bb</i>	C	<i>Db</i>	<i>Eb</i>	F	G
<b>Eb</b>	<i>Eb</i>	F	G	<i>Ab</i>	<i>Bb</i>	C	D
<b>Bb</b>	<i>Bb</i>	C	D	<i>Eb</i>	F	G	A
<b>F</b>	F	G	A	<i>Bb</i>	C	D	E

# EXERCISES

Remember that music theory can be practiced anywhere and at anytime. You just have to get used to actually thinking about it. Sometimes you can do it all in your head but often it is helpful to have a piece of paper (or even a note app) to write down ideas.

## Intervals

- Pick any 2 notes and figure out the interval. This is the same whether it is a melodic or harmonic interval
- Pick 2 notes that are a 3<sup>rd</sup> away from each other and decide if the interval is a Major 3<sup>rd</sup> or a minor 3<sup>rd</sup>
- Pick a note and build the 7 note scale using the W W H W W W H formula

## Triads

- Pick a note and make a Major triad. Its a Major 3<sup>rd</sup> from the root to the 3<sup>rd</sup> and then a minor 3<sup>rd</sup> from the 3<sup>rd</sup> to the 5<sup>th</sup>
- Pick a note and make a minor triad. Its a minor 3<sup>rd</sup> from the root to the 3<sup>rd</sup> and then a Major third from the 3<sup>rd</sup> to the 5<sup>th</sup> of the chord

## Diatonic Harmony

- Practice writing the formula for diatonic harmony I ii iii IV V vi vii
- Using the Major scale you created earlier, now write it again and name them as chords instead of just notes. (i.e. C, Dm, Em, F, G, Am, Bdim)
- When naming chords it is assumed Major when it is just the note name, we must indicate minor, diminished etc for those respective chords





## Chapter 3

# RHYTHM

Rhythm is the heartbeat of music. It's probably as old as human kind and has been used to communicate and connect people since the beginning. Rhythms are everywhere in nature and our world. Rhythm is it's own language and can exist without our 12 notes and chords. You can have music without melodies and music without harmonies, but it is impossible to have music without rhythm. Rhythm is time and time is always moving. Rhythm involves physical coordination and balance.

Rhythm is the secret weapon to sounding great, you don't need a lot of scales and you don't need fancy chords. With a strong rhythmic feel you will sound like a master with whatever notes and chords you know.

I started playing guitar at 12 years old and practiced all the time, hours a day. I took lesson starting the day after I got my first guitar until I graduated Berklee College of Music. When I graduated I knew all of the notes in all 12 keys, I could name any scale and spell any chord. I knew them all over my guitar and could see every note on my fretboard. I had completed and mastered everything I was told to do from 12 years old till graduation. I thought that at this point I would sound like the musician I always wanted to be, ...but I didn't. It wasn't until I met my drummer that I played with for over 20 years to show me how deficient I was in understanding and playing rhythms. I was bummed and amazed I made it so far with such a rudimentary level of rhythmic awareness. That has changed and I've become the guitar player/musician that I wanted to be. Without hesitation I can say it was because of my study and understanding of rhythms that did it. If you are good at rhythm then *anything* you play will sound great.

# Beat, BPM, Bars and Time Signatures

## Beat-Quarter Note

The beat in music is the base rhythmic unit that all other rhythms revolve around. The beat is a steady pulse that we feel throughout music. The beat can be slow or fast and it can change during a song. All rhythms are relative to this beat.

A beat is also known as a *quarter note*, you can think of a quarter note as a foot tap

This is a melodic quarter note, it shows rhythmic duration and note indication when on the music staff



This is a quarter note represented with a slash. It only shows rhythmic duration no pitch/note indication

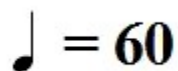


## BPM-Beats per minute

We measure the frequency of the beats using the number of times per minute.

We call this the *tempo* of the music.

A tempo of 60 bpm is the same a beat once per second. It would be written





## Bar/Measure

Once the tempo is established we start to group the number of beats into a measure. Most commonly we use 4 beats per measure. Traditionally we use the music staff to show notes and rhythms. We can ignore note information and just use the rhythm. Initially it was thought that you would draw 2 bar lines and the space in between was the measure. Nowadays the term measure and bar are used interchangeably

Below is 2 examples of 4 quarter notes in 1 measure.

- The top is using rhythmic slashes
- The bottom is the music staff with a percussion clef



## Time Signatures

Most western music uses a count of 4 to pace our music (when we change chords etc). There are many situations where there would be a count different than 4. The next common count would be 3. You can have 5 or more too.

We use a time signature to tell how many beats we are using and even what type of beat (i.e. quarter note). There are times when we use other note values as a base to count with (i.e. eighth notes)

- The number on top represents the *number* of beats *per bar* (4)
- The bottom number represents the *type* of beat being *used* (Quarter note)



# Whole, Half and Quarter-Notes and Rests

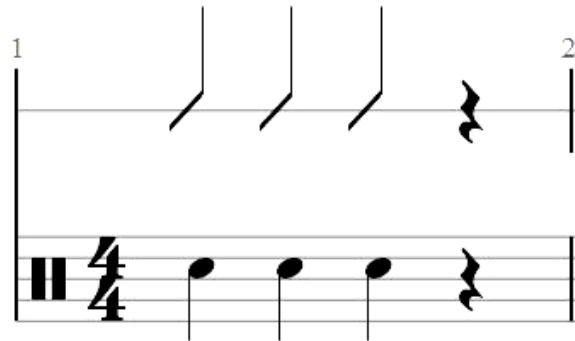
## Rests

In rhythm for every rhythmic value we have an equal value that represents silence.

Below is a Quarter note rest



Here is 1 measure of rhythm with attacks on beats 1,2,3 and a rest on beat 4



## Half Notes

When we add the value of 2 quarter notes together they create a *Half Note*. This means that *one* attack (or note) should last for *two foot taps*.

Below is 1 measure with a *half note* on beats 1 and 2 and a *half note rest* on beats 3 and 4



# Whole Notes

When we add 4 quarter notes (or 2 half notes) we create a *Whole Note*. This means with *one* attack (or note) it should last for *four foot taps*.

Below is 2 measures,  
the first with a *whole note*  
and the second with a *whole note rest*



## General Ideas

- Rhythms are named by the time they take in a bar of 4/4 (Whole note=whole bar, quarter note=quarter of the bar etc.)
- **GET A METRONOME!** Sorry to yell, but it's essential to have one. There are a ton of free apps for your smart phone. Keep it simple, you just need a steady click (beat). I really like *ProMetronome* by *EUMLab*.
- A metronome is like having a drummer play the simplest drum beat.
- Using a metronome engages your ear and brain to listen outside of your self, one of the key elements to being a great musician
- Remember that a rhythm is just an occurrence in time, it doesn't have to be an instrument. It's your heartbeat, you walking down the street, water dripping, a jack hammer, it's every where all the time.
- Some instruments sustain sound, like our voice, the guitar, saxophones, cymbals. They all can hold a sound for many seconds (i.e. whole notes)
- some instruments are percussive and don't sustain. Think of a hand clap, a snare drum or a shaker. Even though an instrument like this cannot sustain a sound for a whole note, they still follow the rhythm as if it could.
- You can always be rhythmic any time of day no matter where you are, that is so awesome!

# Exercises

## Beats and Tempo

- Play any music you have and find the quarter note by tapping or clapping. If you are not sure where the beat is, imagine you have to count off the song to someone.
- After finding the beat of the song, use your metronome app and use the “TAP” function to tap the quarter note in time and find the BPM of your song. Most apps have a TAP function. It's only as good as your timing is, so tap evenly.
- Set your metronome to 60 BPM and start tapping your left foot with it. Once you've done it for 30 seconds switch to your right foot. Then do the same with you left hand on your left thigh and then right hand on the right thigh.
- Do the same as above but set your metronome to 90 BPM, then do it again at 120 BPM and finally 150BPM

## Beats and Bars

- VOICE: Set your metronome to 60 BPM. You are going to do 4 bars of whole notes, then 4 bars of half notes and 4 bars of quarter notes. For each note you are to sing (and sustain) for each rhythm. You can “sing” any sound you are comfortable with
- Do the same as above but alternate every rhythm (not bar) with it's rest. For example, first bar is a whole note, second bar is whole note rest.
- GUITAR: Do all of the above on your guitar. We can do this in 3 different ways.
  - 1. strum a chord.
  - 2. hold a chord and pluck each individual note (arpeggio's)
  - 3. Play single notes of any scale you know, even the chromatic scale.
- Do VOICE and GUITAR again but set metronome to 90BPM. See if you can get to 120 BPM or even the 150 BPM





## Chapter 4 Melody

### Inverted Intervals

In chapter 1 we discussed the 12 melodic intervals from unison to the octave. When we first looked at them the interval was ascending. We also have intervals that descend.

We know that the distance between the notes **A** and **B** is a Major second or whole step. Whether we go from **A** up to **B**, or **B** down to **A** the interval (space) is the same.

But what happens if we go from **A** *down* to **B**? If you follow the notes down from **A** to **G** to **F** to **E** to **D** to **C** and then to **B** you will realize you descended an interval of a 7<sup>th</sup>. This is called an *inverted interval*.

Inverted intervals are complimentary as the 2 intervals make an octave. In our previous example you go up a Major 2<sup>nd</sup> to go from **A** to **B** and go down a minor 7<sup>th</sup> to go from **B** to **A**. A Major 2<sup>nd</sup> and minor 7<sup>th</sup> combined make an octave.

An easy way to remember this is the interval add up to 9.

- 2<sup>nd</sup> and 7<sup>th</sup>
- 3<sup>rd</sup> and 6<sup>th</sup>
- 4<sup>th</sup> and 5<sup>th</sup>

The other trick is that there is one Major and one minor interval (i.e. minor 2<sup>nd</sup> and Major 7<sup>th</sup> or Major 3<sup>rd</sup> and minor 6<sup>th</sup>). The 4<sup>th</sup> and 5<sup>th</sup> are still perfect.

# Circle of Fifths

We know that there are only 12 notes in all of our music language. With the 12 notes we learned how to make a Major Scale if we used the pattern

**W W H W W W H**

Once we make a Major scale we learned how to make the 7 chords (one for each note) to make a *Key*.

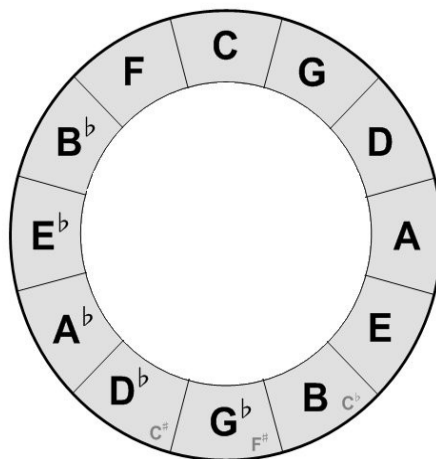
A *Key* is the 7 note scale and it's 7 chords. There are 12 keys.

The Key of C Major is the only key that uses all 7 natural notes (no sharps or flats).

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

The circle of fifths is a way that music is organized that represents a logical pattern to remember all of the notes of the 12 keys, known as *Key Signatures*. The circle also represents how we hear music via chord progressions.

It starts with the note **C** and moves in Perfect 5<sup>th</sup> intervals through all 12 notes. It moves clock wise in a circle. **C** to **G** is a perfect 5<sup>th</sup> and **G** is the second key in the circle of fifths. A 5<sup>th</sup> above a **G** note is **D**, and that is the third key. Clockwise around the clock is the circle of fifths. If you move counter-clockwise its the *circle of fourths*, remember that fourths and fifths are Inverted intervals.



From the note **C** a perfect 5<sup>th</sup> higher (interval) will be the note **G**. In the circle of fifths this will be the next key. If we follow W W H W W W H we get

**G A B C D E F# G**

By following the Whole Half rule for the Major scale we find that this creates a sharp note in the seventh degree. The note **E** to **F** is a half step, but it needed to be a whole step and therefore has to be **F#**.

If you proceed with the applying the formula to each note in the order of the circle of fifths you will get all 12 keys.

- The first half of the circle are the sharp keys and the second half are the flat keys
- The key of **C** has no sharps or flats
- Starting with the Key of **G**, Each key adds a sharp until halfway around at **F#/Gb**. (They stack up, F# is the most common)
- Starting with **Gb**, the keys start losing a flat per Key until back at **C**

<u>Key</u>	<b>R</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>
<b>C</b>	C	D	E	F	G	A	B
<b>G</b>	G	A	B	C	D	E	F#
<b>D</b>	D	E	F#	G	A	B	C#
<b>A</b>	A	B	C#	D	E	F#	G#
<b>E</b>	E	F#	G#	A	B	C#	D#
<b>B</b>	B	C#	D#	E	F#	G#	A#
<b>F#/Gb</b>	<i>Gb</i>	<i>Ab</i>	<i>Bb</i>	<i>Cb</i>	<i>Db</i>	<i>Eb</i>	F
<b>Db</b>	<i>Db</i>	<i>Eb</i>	F	<i>Gb</i>	<i>Ab</i>	<i>Bb</i>	C
<b>Ab</b>	<i>Ab</i>	<i>Bb</i>	C	<i>Db</i>	<i>Eb</i>	F	G
<b>Eb</b>	<i>Eb</i>	F	G	<i>Ab</i>	<i>Bb</i>	C	D
<b>Bb</b>	<i>Bb</i>	C	D	<i>Eb</i>	F	G	A
<b>F</b>	F	G	A	<i>Bb</i>	C	D	E

# Major and minor Scales

## Major Scale–Ionian

A scale is a set of notes (usually 5 or 7) diatonic to a key. One of the notes is the starting point and is called the *root*. A scale is used to create the melody of songs and is used to create the chords of the key as well. We learned about that in chapter 2 when we used the rule of 3rds to skip every other note to create triads, one for each of the 7 notes.

The formula of W W H W W W H creates our Major scale. This is the most widely used scale in western music, there are only 12 Major scales. Many people use *solfege* to remember the degree and sound of the scale.

*Do Re Me Fa So La Ti Do*  
R 2 3 4 5 6 7 8

The Major scale is also known as *Ionian*. In ancient Greece they named the Major scale Ionian. This is part of a series of scales called *modes*. We cover more of this in chapter 7.

## minor scale–Aeolian

A Major scale accompanies major chords and major based chord progressions. There is a minor scale that accompanies minor chords and minor chord progressions. This scale is also known as *Aeolian* in the mode world.

To make an Aeolian (minor) scale we use the original Major (Ionian) scale and lower (flat) the 3<sup>rd</sup>, 6<sup>th</sup> and 7<sup>th</sup> degrees of the scale. Below is a C Major and C minor scale.

**C D E F G A B C**  
Ionian (R 2 3 4 5 6 7 R)

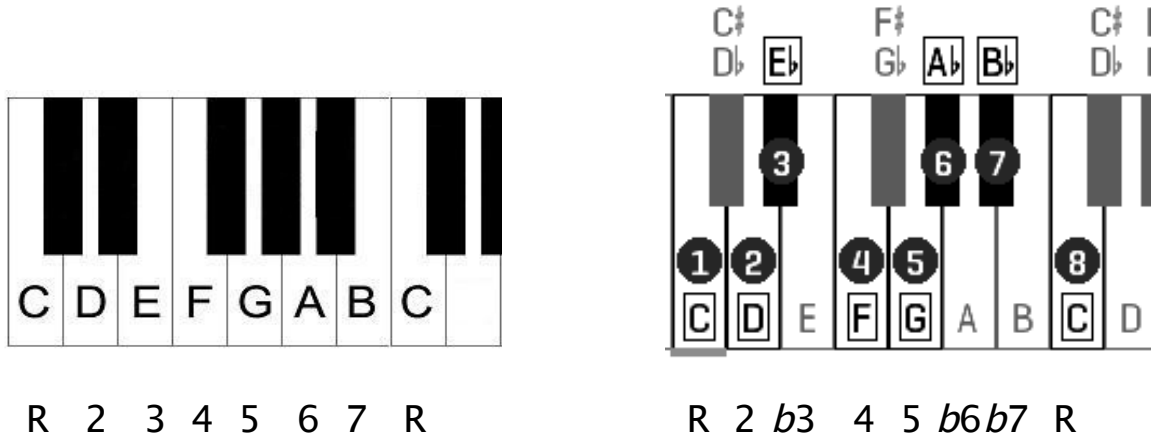
**C D E<sup>b</sup> F G A<sup>b</sup> B<sup>b</sup> C**  
Aeolian (R 2 *b*3 4 5 *b*6 *b*7 R)



# Ionian and Aeolian scales on Piano and Guitar

## PIANO

On the left is a C Major (Ionian) scale. On the right is the C minor (Aeolian) scale.

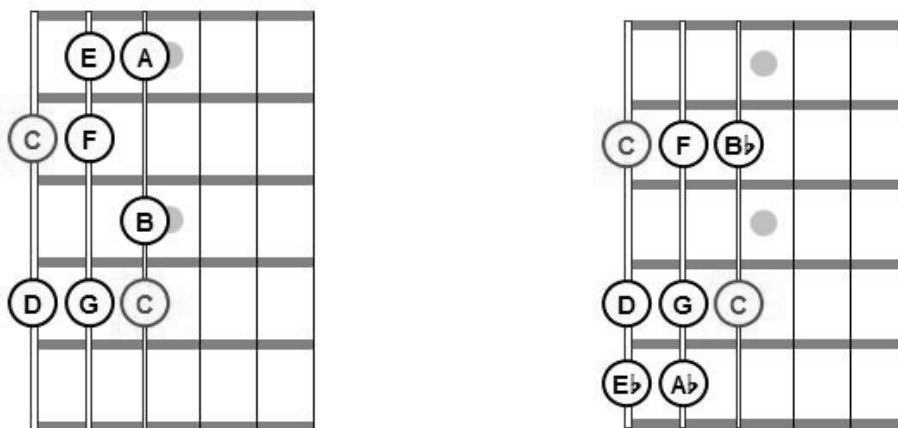


## GUITAR

On the left is a C Major (Ionian) scale. On the right is the C minor (Aeolian) scale. They start on the root C on the 8<sup>th</sup> fret of the guitar.

It's important to note that the shape stays the same when you start on a different note (play in a new key). Every fret is a new key

The shapes usually stay the same when you start on the same root note on different strings. The only limit is running out of strings (playing on the B or high E string). Also when ever you use the B string, the notes in the shape have to move up 1 fret to compensate for the half step difference in tuning the B string



# Pentatonic Scales

Pentatonic scales are 5 note scales and are the backbone to most music in the world. They are in traditional and folk music from around the globe and are the heart of blues and contemporary music. These scales are deep rooted in human beings and we naturally resonate with these sounds.

Fundamentally there are Major and minor pentatonics but there are more variations out there.

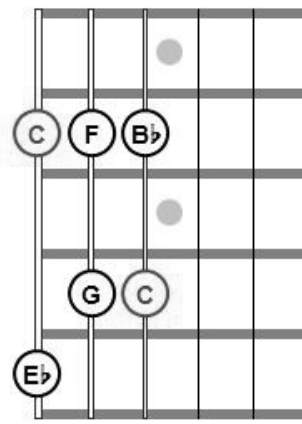
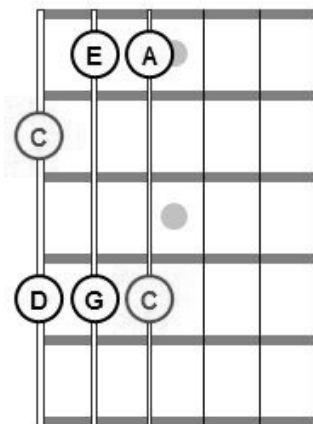
The pentatonics use the same notes as the 7 note scales but don't utilize the 2 half steps.

Major pentatonic is: R 2 3 5 6  
C D E G A

minor pentatonic is: R *b*3 4 5 *b*7  
C *E**b* F G *B**b*

## GUITAR

On the left is the Major pentatonic and the right is the minor pentatonic. Both with the root C starting on the 8<sup>th</sup> fret. Starting on a different fret will change the key, the shape stays the same. As with the other scales on guitar you can usually start the same shape on different strings but have to take into account the 1 fret difference with the B string.



# EXERCISES

## Notes and Intervals

- name/write all 12 chromatic notes ascending and descending
- name/write all 12 intervals
- pick a pair of notes and name the interval and inverted interval
- start on C and name the 12 notes/keys in the clock wise order of the circle of fifths
- start on C and name the 12 notes/keys in the counter-clockwise order of the circle of fourths

## Scales

- Using the W W H W W W H formula, spell the major scale (Ionian) for the key of D, G, A and E
- Use the C Ionian scale and lower the 3<sup>rd</sup>, 6<sup>th</sup> and 7<sup>th</sup> notes to make a C Aeolian scale.
- Use the G Ionian scale and lower the 3<sup>rd</sup>, 6<sup>th</sup> and 7<sup>th</sup> notes to make a G Aeolian scale.
- Using the G Ionian scale figure out the 5 notes of G Major pentatonic scale.
- Using the G Aeolian scale figure out the 5 notes of G minor pentatonic scale.

## Guitar

- Play the C Major pentatonic and C Ionian scale pattern on the 8<sup>th</sup> fret.
- Do the same as above but with the C minor pentatonic and C Aeolian scale.
- Using all 4 scale patterns transpose (change key) to the key of G starting on the 3<sup>rd</sup> fret of the guitar.
- Using the Major pentatonic scale pattern play it through the circle of fifths to play all 12 Major pentatonic scales.

Knowing these 4 scale pattern shapes and knowing the 12 notes on the low E string will allow you to play all 12 Ionian, Aeolian, Major and minor pentatonics that exist in all of music. That is some very powerful information!





## Chapter 5 Harmony

### Triads and Seventh Chords

#### Triads

We know that a triad is a 3 note chord and is created by stacking every other note in a scale for a total of 3 notes. Here is the G major (Ionian) scale

G A B C D E F# G  
1 2 3 4 5 6 7 8

We can pick any of the 7 notes and stack every other note (aka rule of thirds). If we pick a G note then we would get G (root) B(3<sup>rd</sup>) and D(5<sup>th</sup>)

G B D  
R 3 5

If we did this with the D note, then we would get D(root) F#(3<sup>rd</sup>) and A(5<sup>th</sup>)

D F# A  
R 3 5

There are 7 triads in each of the 12 keys and they follow the formula for diatonic harmony. Upper case roman numerals are Major chords and lower case are minor.

I ii iii IV V vi vii(*dim*)

## Seventh Chords

Triads are named for the fact that they use 3 notes to make a chord. A 4 note chord is logically named a seventh chord, wait what? Oddly enough at some point in music history when you stack a fourth note (w/rule of 3rds) you end up on a note that's a 7<sup>th</sup> away from your root and not the 5<sup>th</sup> that you stop on with triads.

Key of G  
G A B C D E F# G  
1 2 3 4 5 6 7 8

G Major triad  
G B D  
R 3 5

If we stack a fourth note, a 3<sup>rd</sup> away, we will add the note F# to the chord and it becomes a G Major 7<sup>th</sup> chord

G B D F#  
R 3 5 7

There are 4 types of seventh chords in Diatonic harmony

1. **Major 7<sup>th</sup>**—written as **Maj.7**, or less often **M7** or **Δ7**. These are Major chords and sound soft and lush, very pleasing.
2. **Dominant 7<sup>th</sup>**— written as **7** or less often **dom.7**. These chords are Major chords too but have a very blusey and gritty quality. Blues, R+B and funk use this chords frequently. They want to resolve back to the I chord.
3. **minor 7<sup>th</sup>** – written as **m7**, **min7** and **-7**. These are minor chords but don't sound as severe or serious as just a minor triad. They sound like a happy minor chord, fun and groovy but still minor sounding. Very much a part of jazz and pop music.
4. **minor7b5**—aka *half diminished*. Written as **m7b5**, **-7b5**, **half-dim**, **ø7**. These chords are more than minor, they are in the diminished family and very unstable sounding. They are not used often and only used as transitional chords.

## Seventh Chords cont.

Upon building a seventh chord from each of the 7 notes of the Major (Ionian) scale we get this formula. It's the same as diatonic triads but with more information about the sevenths

**I**Maj7 **ii**m7 **iii**m7 **IV**Maj7 **V**7 **vi**m7 **vii**m7b5

It's important to remember that by following the WWHWWH formula, when you start stacking notes, that the combination of whole steps and half steps change with each chord. This affects their sound and function. Most important is that the **V7** chord really want to resolve to the **I** chords.

You will find that the **I** and **IV** chords are Maj7th, the three minor triads all became minor 7<sup>th</sup> chords. The really important one is that only the **V** chord becomes a Dominant 7<sup>th</sup>. There is only one Dom7 chord per key. There is only 1 m7b5 per key as well.

### Seventh Chord Spelling

Major 7 <sup>th</sup>	R	3	5	7
Dom 7 <sup>th</sup>	R	3	5	b7
min7th	R	b3	5	b7
min7b5	R	b3	b5	b7

The spelling for the original triads are still the same it's just the addition of the 7<sup>th</sup> degree that changes it. The only difference between a major 7th and Dom 7<sup>th</sup> is the actual 7<sup>th</sup> note. Both triads are Major (they have Major 3<sup>rd</sup>) and the Maj7th has a natural 7 and the dom7th has a flatted 7<sup>th</sup> note.

# Chord Inversions and Slash Chords

## Chord Inversions

A chord inversion is when the notes of the chord are stacked in a different order other than R 3 5. If you moved the root up an octave then it would start with the 3<sup>rd</sup> of the chord. If you then moved the 3<sup>rd</sup> up an octave then it would start with the 5<sup>th</sup>.

When a chord starts with the root note as the lowest note, it is known as *root position*.

After the root position a triad has 2 inversions. A seventh chord has 3 inversions because it has an extra note.

## Triads

- root position C Major triad= C E G
- 1<sup>st</sup> inversion C Major triad= E G C (C/E)
- 2<sup>nd</sup> inversion C Major triad =G C E (C/G)

## Sevenths

- root position C Major 7<sup>th</sup> chord= C E G B
- 1<sup>st</sup> inversion C Major 7<sup>th</sup> chord= E G B C (Cmaj7/E)
- 2<sup>nd</sup> inversion C Major 7<sup>th</sup> chord= G B C E (Cmaj7/G)
- 3<sup>rd</sup> inversion C Major 7<sup>th</sup> chord= B C E G (Cmaj7/B)

# Slash Chords

A slash chord is similar to an inversion except the main difference is the bass note doesn't have to be a part of the chord.

A slash chord is written similar to a mathematical fraction. There is a numerator and a denominator but it is written side by side. The numerator is the actual chord and the denominator is the bass note. Here is a C major chord with an E note in the bass.

C/E

You should notice that this is a 1<sup>st</sup> inversion C major triad. *All inversions are slash chords but not all slash chords are inversions.* Inversions only use notes in the chord. A slash chord can have any of the 12 notes as a bass note.

Slash chords mainly have two purposes in the music world. One is that they can help smooth out a chord progression by making the bass motion move in whole steps and half steps instead of the common motion of fourths and fifths. For example a chord progression like this

C G Am  
would look like  
C G/B Am.

This now makes the bass motion go down in steps from C to B to A. Originally the bass motion went down a 4<sup>th</sup> (C to G) then up a whole step (G to A). The slash chord (inversion) makes the chord progression a lot smoother

The second function is when you have one chord and the bass line descends/ascends under it. Think the Beatles "Dear Prudence" . The main chord progression is

D D/C D/B D/B $\flat$

This type of progression happens when someone plays the chord and the bass player descends down the scale. Piano players also use this technique with ease, having 2 hands, where it is a lot more difficult to do on the guitar.



# Exercises

## Seventh chords

- pick 1 key (start with C,G,D,A,E) and write the Major scale from the WWHWWH formula
- use that key and not only make the triads, but create the seventh chords for all seven chords.

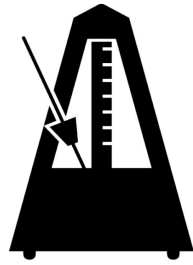
## Inversions

- Still using that key, write the three inversions for each of the seven chords
- also write those chords as slash chords

## General Ideas

- Any Major triad can only come from one of three keys, its either the I, the IV or the V chord.
- The same is true of any minor triad, it's either the ii chord, iii chord or the relative minor vi chord. This holds true for minor 7<sup>th</sup> chords.
- Any Major 7<sup>th</sup> chord can only come from one of two keys. It's either the Imaj7 or the IVmaj7.
- Any dominant chord can only come from one key. It only the V7 chord.
- All of the above ideas can help you quickly understand what key your in, what chords to expect and even a way to remember a song.





## Chapter 6 Rhythm

### Eighth-notes and triplets

We know that a *whole note* last for all 4 beats of a measure, a *half-note* lasts for 2 beats of a measure and the *quarter-note* last for 1 beat. The *quarter-note* is the beat and is the measurement for beats per measure (BPM). The *quarter-note* is equivalent to a foot tap.

Once we have the *quarter-note* we can now subdivide that in half and in thirds. Remember that a rhythm is just an occurrence in time. It has nothing to do with notes or chords. Often we refer to a rhythm as an *attack*. For example a *quarter-note* is one attack per foot tap. The attack can represent a clap, a pluck of a string, a chord on a piano, a stick on a snare drum or a note coming from your voice.

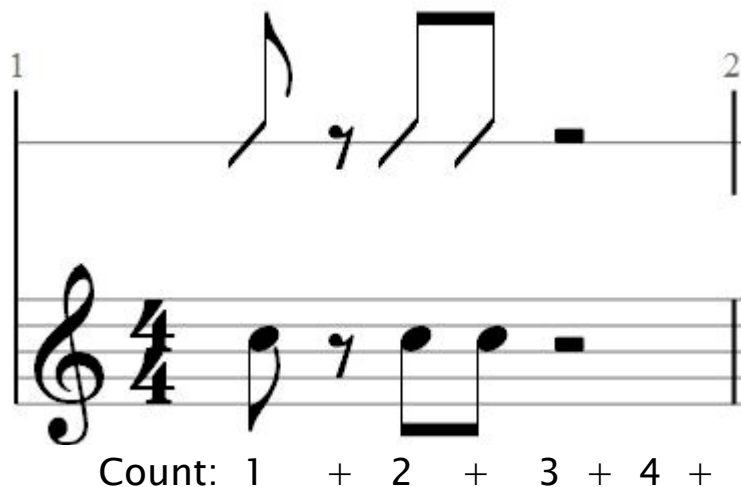
### Eighth-notes

If I set a metronome to 60BPM and clapped on every beat I would be clapping *quarter-notes*. If I then started clapping twice per beat (evenly) I would then be clapping *eighth-notes*. *Eighth-notes* can be thought of as half of a beat. Here is an *eighth-note* and an *eighth-note* rest. Each one equals half of a beat.



Below is a bar of music with a combination of *eighth-notes*.

- Beat 1 is an *eighth-note* and *eighth-note* rest
- Beat 2 is two *eighth-notes* beamed together. Beams don't change the role or sound of the rhythm but they make it easier to read. Usually you won't see more than 4 eighth-notes beamed together
- Beat 3 and 4 are a *half-note* rest.



We count this as 1 and 2 and 3 and 4 and. The “and” is called an upbeat or offbeat and is represented with a + sign.

### Triplets (eighth-note triplets)

When A *quarter-note* is equally divided into thirds we call this an *eighth-note triplet*, often simply referred to as *triplets*. This seems confusing but there are other types of triplets, *quarter-note triplets* and *sixteenth-note triplets*. Below is a picture of a group of *eighth-note triplets*. The symbol for a rest for one of the triplets is an *eighth-note rest* but still within the bracket of 3 notes. *Triplets* are often played with all 3 attacks but sometimes there is a rest used within the group.



Below is a bar with a combination of *quarter-note*, *eighth-note* and *triplets*.

- Beat 1 is a *quarter-note*
- Beat 2 is two *eighth-notes*
- Beat 3 is three *eighth-note triplets*
- Beat 4 is a *quarter-note rest*

COUNT: 1 2 + 3-trip-let 4

### General Ideas

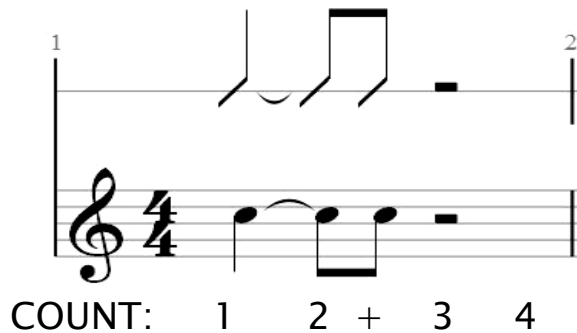
- Rhythms are all relative to the *quarter-note*.
- The *quarter-note* is the beat/pulse/BPM
- The *quarter-note* can be subdivided many times
- 2 *eighth-notes* equal 1 *quarter-note*
- 3 *triplets* equal 1 *quarter-note*
- Every bar of 4/4 has to equal the value of 4 *quarter-notes*
- *rest* means silence, you must stop your instrument from making sound

# Dots and Ties

Dots and Ties are used in rhythms to help achieve different combinations of rhythms that we can't get other wise. They combine the rhythmic values we have to create a unique rhythm.

## Ties

A *tie* is a curved line that connects two rhythmic values to create a larger one that is the sum of the two. Below is a bar with a quarter-note being ties to the first eighth-note of beat 2.



The image shows two staves of music in 4/4 time. The top staff is a rhythmic shorthand with stems and beams. The bottom staff is a standard musical staff with a treble clef and a 4/4 time signature. A quarter note is written on the first beat, tied to the first eighth note of the second beat. The count below the staff is: COUNT: 1 2 + 3 4.

It's important that you play beat 1 and then let the note sustain until you attack it again on the upbeat of 2 (the and of 2). You do not re-attack on the downbeat of beat 2 because it is tied to beat 1.

## Dots

*Dots* have a similar function as *ties* as the help elongate a rhythmic value to create a combination that we don't have a symbol for. *Dots* are a little more confusing to think about.

A dot next to a rhythmic value adds 50% of that beat to itself. A dot next to a *quarter-note* would add the value of an *eighth-note* to itself, creating a value that is 1 and ½ of a beat, as in the example below. This sounds **identical** to the one above.



The image shows two staves of music in 4/4 time. The top staff is a rhythmic shorthand with stems and beams. The bottom staff is a standard musical staff with a treble clef and a 4/4 time signature. A dotted quarter note is written on the first beat, followed by an eighth note on the second beat. The count below the staff is: COUNT: 1 + 2 + 3 4.

# Time Signatures

We know that a time signature helps us with the pacing of music. It determines when the chords and melody changes.

- The top number represents the number of beats per bar
- The bottom number represents the type of beat being counted
- A bar of 4/4 means that there will be the value of four quarter-notes for each measure. This is the most common time signature in the western world
- A bar of 5/4 means that there will be the value of FIVE quarter-notes per measure. You can find an example of this in the theme from “Mission Impossible” the theme from Halloween the movie and “Take Five” by Dave Brubeck.

# 6/8

A time signature of 6/8 is very common but a little tricky to think about.

- The top number means there will be 6 notes counted per bar
- The bottom number means we are counting eighth-notes
- 6/8 has a triplet feel and creates a pendulum feeling of the music moving left and right compared to up and down. Think “Hide Your Love Away” by the Beatles, “Old Woman Behind the Counter” by Pearl Jam.
- This is a very common time signature and is found in most types of music. A lot of traditional Irish songs are in 6/8

COUNT: 1 2 3 4 5 6

# 6/8

COUNT: 1 2 3 4 5 6  
Tap Tap

We tap our foot on beat 1 and beat 4. This makes an emphasis happen for every third note. This creates the side to side feeling when you hear it. It sounds and feels like a measure of 2/4 in triplets

# 3/4

COUNT: 1 + 2 + 3 +  
Tap Tap Tap

We tap our foot on beats 1, 2 and 3. This creates a straight ahead feel instead of the side to side feel of 6/8.

Although both of these time signatures are mathematically the same they are very different in how we feel them.

# EXERCISES

## Rhythmic Values

- Put a metronome on 60 BPM, Tap your foot with the quarter-note. Now you are going to sing the sound “Aah” and clap at the same time for the different rhythms.
- Start clapping and singing *whole-notes* for 8 bars
- Clap and sing *half-notes* for 8 bars
- Clap and sing *quarter-notes* for 8 bars
- Clap and sing *eighth-notes* for 8 bars
- Clap and sing *triplets* for 8 bars

## Time Signatures

- Put on Tom Petty's “Last Dance with Mary Jane” and tap and clap all of the quarter notes as you count the beats with 4/4.
- Put on Aretha Franklin's “I've Never Loved a Man (The Way I Love You)” and tap and clap the quarter notes as you count the  $\frac{3}{4}$  time signature.
- Put on The Beatles “You've Got To Hide Your Love Away”. You are going to clap all 6 eighth-notes in 6/8 time. Only tapping your foot on 1 and 4.

## General Ideas

- I have found that when practicing Melody, Harmony and Rhythm, that rhythm is definitely the hardest to grasp and know if you are doing correctly
- Rhythm is real time event and has to be practiced in time not just theoretically. You have to move and clap, it's a physical coordination.
- If you really want to get a black belt in rhythm you should get yourself a copy of “Modern Reading Text in 4/4” by drummer Louie Bellson. It's a book of all of the different ways to combine rhythms. This book, even though it's intended for drummers made me a much better musician. My drummer gave me a copy and I practiced it all the time using scales or strums. It might be a bit intimidating at first but I highly recommend it.







## Chapter 7 Melody

### The Modes

A mode is a function of a scale. Any scale has as many modes as it does notes. We know about the WWHWWH formula and how it creates the Ionian scale (Major scale) and has 7 notes. There are 7 modes of the Ionian scale. When you start the Ionian scale with one of the other notes as the root notes is creates a mode. This changes the sound and function of the scale as it shifts where the half step are in the scale. Here is our C Ionian (Major) scale

C D E F G A B  
1 2 3 4 5 6 7

We know that the  $\frac{1}{2}$  steps are between the notes E and F and B and C. The half steps are between the 3<sup>rd</sup> and 4<sup>th</sup> degree and the 7<sup>th</sup> and 8<sup>th</sup> degree. When you start the C Ionian scale on it's second note (D) it changes the where the half steps are and thus changing it's sound and function. Here is the same scale but starting on the D note

D E F G A B C  
1 2 3 4 5 6 7

Now you can see that  $\frac{1}{2}$  steps are between the 2<sup>nd</sup> and 3<sup>rd</sup> degree and the 6<sup>th</sup> and 7<sup>th</sup> degree. Now that this scale starts with a whole step and half step it becomes a minor scale. It also creates a whole step between the 7<sup>th</sup> degree and octave (C and D notes)

## Modes cont.

If we follow though this idea for each of the notes we get 7 modes, one for each note. Each mode corresponds to its chord quality. The chords and modes follow (Upper case is Major, lower case is minor)

I ii iii IV V vi vii

Each of the 7 modes has an unique name derived from ancient Greece. Here are the name and quality of each melodic mode with my quick description of the sound.

**I–Ionian**–*Major*–*WWHWWH*–the vanilla major–*the Relative Major*

**ii–Dorian**–*minor*–*WHWWHW*–the happy minor

**iii–Phrygian**–*minor*–*HWWHWW*–the dark and strong minor–spanish/flamenco

**IV–Lydian**–*Major*–*WWHWWH*–the exotic major

**V–Mixolydian**–*Major*–*WHWWHW*–the bluesy/funky major

**vi–Aeolian**–*"the minor"*–*WHWWHW*–the serious minor–also the *Relative minor*

**vii–Locrian**–*half diminished*–*HWWHWW*–more than minor, don't see/hear often,

Even though we are talking about scales, modes are actually a result of the chord progression. If a song is based on the I chord of a key then that song is in *Ionian*. If your song is based upon the ii chord of the key (meaning the song resolves and ends on that chord) then your song is in *Dorian*. This will stay true for any of the 7 modes with the exception of Locrian. Locrian is not usually the root chord of a song. It's a very unpleasant chord and it's almost impossible to resolve to the minor7 *b5* chord.

### Relative Major and Relative minor

When people talk about a song being in a Major key they are referring to **Ionian**. When people talk about "the" minor key they are supposed to be referring to **Aeolian**. These 2 modes are know as Relatives to each other. The minor keys are based on the **vi** chord of a Major key

## Examples of famous songs by Mode

**Ionian**–“Let it Be” (Beatles), “Hallelujah” (Jeff Buckley), “The Wind Cries Mary” (Jimi Hendrix), “Free Fallin’” (Tom Petty), “Like A Rolling Stone” (Bob Dylan), “Redemption Songs” (Bob Marley)

**Dorian**–“Moodance” (verses–Van Morrison) “Oye Como Va” (Santana), “A Horse With No Name” (America), “Light My Fire” (guitar solo–The Doors), “Down By The River” (verses and solos–Neil Young)

**Phrygian**–“White Rabbit” (Jefferson Airplane), “Run Like Hell” (verses–Pink Floyd) “Over the Mountain” (Ozzy), “House of Pain” (verse–Van Halen)

**Lydian**–“Here Comes My Girl” (Tom Petty), “Jane Says” (Janes Addiction) “Inca Roads” (Guitar solo–Frank Zappa), Theme from “The Simpsons” “Over the Hills and Far Away” (Led Zeppelin–verse)

**Mixolydian**–“Sweet Home Alabama” (Lynard Skynard), “On Broadway” (George Benson), “Fire on the Mountain” (Grateful Dead), “Sweet Chile O’ Mine” (verse–Guns n Roses), “Can’t You See?” (Marchall Tucker Band), “Thank You” (Led Zeppelin), “I Can See Clearly Now” (Jimmy Cliff)

**Aeolian**–“Sultans of Swing” (Dire Straits), “All Along The Watchtower” (Jimi Hendrix), “Eye of the Tiger” (Survivor), “Breakdown” (Tom Petty), “Dream On” (Aerosmith) “Comfortably Numb” (verses–Pink Floyd) “Layla” (chorus–Eric Clapton), “I Shot The Sheriff” (Eric Clapton)

**Locrian**–I don't know of one song truly in Locrian. Musicians borrow elements from Locrian (ala bass line,riff) but usually somewhere in the music its changed. “Inner Urge” (Joe Henderson), “Set the Controls for the Heart of the Sun” (Pink Floyd)

## Mode Spelling

We know that a C Ionian scale is C D E F G A B. If we want to compare a C Dorian scale and the C Ionian scale we have to first realize that a C Dorian scale is really a Bb Ionian scale starting on the 2<sup>nd</sup> degree.

C Ionian– C D E F G A B C  
R 2 3 4 5 6 7 8

Bb Ionian– Bb C D Eb F G A Bb  
R 2 3 4 5 6 7 8

If we start the Bb Ionian scale with C, then we have a C Dorian scale.

C Dorian– C D Eb F G A Bb C  
R 2 b3 4 5 6 b7 R

We can conclude that a Dorian scale is like an Ionian scale except that it has a flattened 3<sup>rd</sup> and 7<sup>th</sup>. This creates a minor scale because of the 3<sup>rd</sup>.

All 3 minor modes have a b3 and a b7.

If we follow through this idea for all 7 modes we get the following spelling for each mode followed by its characteristic quality.

**Ionian**– R 2 3 4 5 6 7 8

**Dorian**– R 2 b3 4 5 6 b7 8 *(This scale sounds happy from the natural 6th)*

**Phrygian**– R b2 b3 4 5 b6 b7 8 *(The b2 gives this scale strength and power)*

**Lydian**– R 2 3 #4 5 6 7 8 *(The raised 4<sup>th</sup> gives this scale an elated quality)*

**Mixolydian**– R 2 3 4 5 6 b7 8 *(The b7 gives this a blues sound)*

**Aeolian**– R 2 b3 4 5 b6 b7 8 *(The b6 gives this scale it's serious sound)*

**Locrian**– R b2 b3 4 b5 b6 b7 8 *(The flatted 5<sup>th</sup> makes this scale unstable)*

## Other Scales

A scale is a series of tones that fit into an octave. They can range from 5–8 notes on average. The scale is determined by different combinations of half and whole steps. In this course we have discussed

- *Chromatic* scale (12 tones)
- *Pentatonic* scales (5 tones)
- *Ionian* scale and *modes* (7 tones)

The pentatonic and Ionian/modes make up the majority of scales in popular music but there are more scales that are out there and you have heard before. It is beyond the scope of this book to get into them but here are some of the scales you will find. These scales are fundamentally different than the ones we have explored as they have different combinations of whole and half steps, some even having bigger intervals

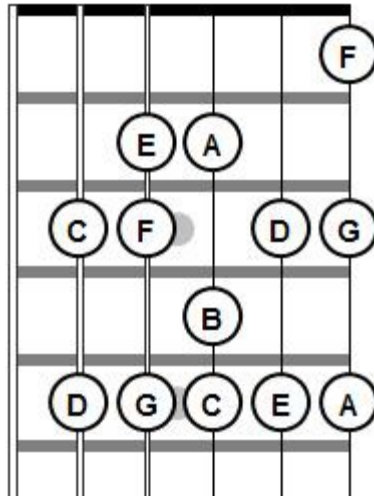
- *Melodic minor* scale (7 tones)
- *Harmonic minor* scale (7 tones)
- *Whole tone* scale (6 notes) (symmetrical scale built of only whole steps)
- *Diminished* scale (8 tones) (symmetrical scale built of alternating half and whole steps)

Some less common scales would include

- *Hungarian minor* (7 tones)
- *Neopolitan* (7 tones)
- *Enigmatic* (7 tones)
- *Augmented* (6 tones)

There are countless combinations of notes, some scales can take 2 octaves to complete. Most of these scales also have modes (symmetrical scales don't use modes). Honestly, it's more about quality than quantity. It's far better to have a command of the pentatonics and modes than to spread yourself too thin and be weak at all of them.

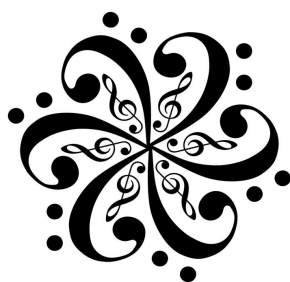
## Exercises



- Using the above scale (almost 2 octaves of the notes in the Key of C)  
Strum a C Major chord. Then play the notes starting on C and ascend for 1 octave to the next C note and descend back to the original C note. Strum the C major chord again.
- Strum a D minor chord. Play the scale starting on a D note, ascend for 1 octave and then descend to the original D note. Strum D minor chord again
- Strum a E minor chord. Play the scale starting on a E note, ascend for 1 octave and then descend to the original E note. Strum E minor chord again
- Strum a F Major chord. Play the scale starting on a F note, ascend for 1 octave and then descend to the original F note. Strum F Major chord again
- Strum a G Major chord. Play the scale starting on a G note, ascend for 1 octave and then descend to the original G note. Strum G Major chord again
- Strum a A minor chord. Play the scale starting on a A note, ascend for 1 octave and then descend to the original A note. Strum A minor chord again

By doing this you are playing the 6 commonly used modes in the key of C major. By strumming the chord first, playing a 1 octave scale and strumming chord again you are giving your ear a really good chance to *hear* each mode.





## Chapter 8 Harmony

### I IV V, The power trio of Harmony

In Harmony we often hear about the I the IV and the V chords. Even if you don't know about them, you have been playing with them since you started and have been listening to them since you first heard music. I wondered about them for years before I fully understood the simple but powerful idea of I, IV and V. They are fundamental to most of the music on the planet for hundreds of years. They are used in any combination and are part of every style of music you have ever listened to. They are the backbone to music harmony and they help you hear harmony.

The I, IV and V chords represent sound, tension and resolution. The I chord is a chord at rest. The IV chord is a chord in motion. The V is also a chord in motion but it really wants to go back home to the I chord.

If you start with any root note, let's say C. Then you add a note a Perfect 4<sup>th</sup> and Perfect 5<sup>th</sup> above the root. In this case it will be C, F and G. These are the bass notes of the I, IV and V.

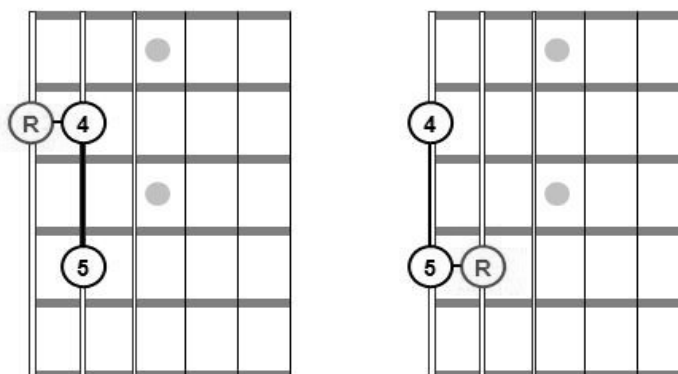
If we assume we are in the key of C, then all three of these notes will become Major chords.

There is a I, IV V in all 12 keys and they are all Major chords. On the following page is a chart with the I, IV and V chords for each Major Key.

Key	I	IV	V
C	C	F	G
G	G	C	D
D	D	G	A
A	A	D	E
E	E	A	B
B	B	E	F#
<i>F#/Gb</i>	<i>F#/Gb</i>	<i>B/ Cb</i>	<i>C#/Db</i>
<i>Db</i>	<i>Db</i>	<i>Gb</i>	<i>Ab</i>
<i>Ab</i>	<i>Ab</i>	<i>Db</i>	<i>Eb</i>
<i>Eb</i>	<i>Eb</i>	<i>Ab</i>	<i>Bb</i>
<i>Bb</i>	<i>Bb</i>	<i>Eb</i>	F
F	F	<i>Bb</i>	C

### I IV V Root Notes on the Guitar

I call these the “L Brackets” on the guitar. One starts on the low E string and the other on the A string. It's important to try both as the each sound a little different. The one on the left has the I chord as the lowest sounding chord and the V as the highest. The one on the right has the I chord as the highest sounding and the IV is the lowest.





## I,IV, V in the Modes

It's really important to memorize the root notes (bass notes) of the I, IV and V. This is especially true of the keys you play in the most, C, G, D, A, E.

As mentioned earlier all three chords are Major when you start with a the root note of the *Ionian* scale. But the *Modes* of the *Ionian* scale will yield different combinations of *chord quality*.

The idea of I, IV and V chords isn't limited to just starting the with the first note. Remember, the root notes have to be a P4 and P5 above the starting note. For example in the key of C, there is a P4 interval between D and G and a P5 interval between D and A. These would be the I, IV and V in Dorian.

This chart is the I, IV and V *chord qualities* for the *Modes*.

MODE	I	IV	V
<b>Ionian</b>	Major/Maj7th	Major/Maj7th	Major/Dom7
<b>Dorian</b>	minor/min7	Major/Dom7	minor/min7
<b>Phrygian</b>	minor/min7	minor/min7	*dim/min7flat5
<b>Lydian</b>	Major/Maj7	(#IV)*dim/min7flat5	Major/Maj7
<b>Mixolydian</b>	Major/Dom7	Major/Maj7	minor/min7
<b>Aeolian</b>	minor/min7	minor/min7	minor/min7
<b>Locrian</b>	*dim/min7flat5	minor/min7	(bV) Major/Maj7

*\*dim/min7flat5 chords are unstable not often used except in jazz and Latin music as a passing chord.*

## General Ideas

- In some cases (*lydian* and *locrian*) they don't have a true Perfect interval. *Lydian* has a #4 and *Locrian* has a b5. This makes it impossible for them to function properly.
- Note that the Relative Major (*Ionian*) has all three as Major triads and the Relative minor (*Aeolian*) has all three as minor triads
- Musicians have been trying any combination of chord quality while maintaining the relationship of the root, P4 and P5.
- The *Melodic minor* mode produces a **I minor, and IV and V Major triad**
- The *Harmonic minor* mode produces a **I and IV minor but a V Major triad**
- Although we are supposed to use upper case Roman numerals for Major and lowercase for minor, often the I, IV and V are written as uppercase with the chord quality written after it which is the deciding factor.
- Any chord can be the main chord in a key and the basis for a song/part. That makes it in a mode, it doesn't have to use it's own I IV or V chord.

### Famous Songs with modal I, IV and V

Mode	Chord Progression	Song Example
Ionian	I IV V IV	"Brown Eyed Girl" (Chorus) by Van Morrison
Ionian	I IV V IV	"American Pie" (Chorus) by Don Mclean
Dorian	Im IV	"Evil Ways" by Santana,
Dorian	Im IV	"Breathe" by Pink Floyd,
Mixolydian	I IV Vm IV	"Louie Louie" by the Kingsmen
Mixolydian	Vm IV I	"Lucky Man" (Chorus) by ELP
Aeolian	Im, IVm -bVI, Vm	"I Shot the Sheriff" -Eric Clapton version
Aeolian	Im, Vm, IVm , Im	"Aint No Sunshine" Bill Withers

## Modes

When People think of the Modes they initially think of scales when in fact they are the result of a *chord progression*. Any of the seven chords in a key can be the “main” chord that the other chords resolve to.

I like to think of the Modes as a family. There are 12 families (one based on each note) and each family is identical with the same number and type of chords. I always imagine a neighborhood in California where a development has the same shape and size houses. Imagine we have a street with 12 identical houses, one for each key. In each house is the family with seven members. There is two “parental figures” the relative Major (Ionian) and relative minor (Aeolian). There are four siblings, Dorian, Phrygian, Lydian and Mixolydian. And the oddball of the family is Locrian, the relative that may or may not show up on Thanksgiving this year. Any one of these family members can talk with you without needing other members of the family there. It doesn't have to just be one of the “parents”

Any chord can be the basis for a chord progression and I like to keep the numbers the same (I ii iii IV V vi vii), it's a lot easier than rewriting the number to reflect the idea that a chord other than I is the “main” chord.

MODE	Chord Progression	SONG
Ionian	I IV I V	“American Pie” (chorus) <i>Don Mclean</i>
Ionian	I vi IV V	“Stand By Me” <i>Ben E. King</i>
Dorian	ii iii	“Moondance” (verse) <i>Van Morrison</i>
Dorian	ii V	“Evil Ways” “Oye Como Va” <i>Santana</i>
Phrygian	iii IV	“Run Like Hell” (verse) <i>Pink Floyd</i>
Phrygian	iii IV iii V etc.	“It Was a Very Good Year” (verse) <i>Frank Sinatra</i>
Lydian	IV V	“Here Comes My Girl” <i>Tom Petty</i>
Lydian	IV V, IV I I V	“Over The Hills and Far Away” <i>Led Zeppelin</i>
Mixolydian	V IV	“On Broadway” <i>George Benson</i>
Mixolydian	V IV I V	“Sweet Child O' Mine” <i>Guns n Roses</i>
Aeolian	vi V IV V	“All Along the Watchtower” <i>Jimi Hendrix</i>
Aeolian	vi V IV	“Rockin' in the Free World” (verse) <i>Neil Young</i>

# Harmonic Rhythm

Harmonic rhythm is the frequency that the chords change. It's not related to time signatures but does affect the sound in the same way. In most popular music there is either one chord per bar (single measure) or two chords per bar which we call *split measures*.

Often you will see the Harmonic Rhythm increase for the chorus (to split measures from single) to help it feel like it's moving faster and then back again for the verses.

For example in Neil Young's "Like A Hurricane" the verses are

**| Am | Am | G | G | F | F | Em | G |**

The Chorus changes to

**| C G | F G |**

Harmonic Rhythm is absolutely essential to a song sounding correct. It's the foundation of your musical building. When you look at a song online and it's just the lyrics and chords above them that is only a fraction of the info you need. It's like trying to read a book with no periods, you don't know when to start and stop. You must figure it out by ear.

I usually write a bunch of blank bars to the right on the lyrics (by section, verse, chorus, etc). Listen to the song, tap my foot to the quarter notes and start filling in the chords/harmonic rhythm as it goes by. I often have to stop and start over and make sure I'm counting correctly. You would be amazed at how often songs have some weird little harmonic rhythm hiccup, like an extra bar or one bar with a different time signature.

## Tensions and Other Chords

Tensions, or Extensions are other notes that are added to chords to give them a different sound. Any number you see in a chord symbol reflect the note in the scale that is being utilized in the chord.

We know that a Triad is the R, 3<sup>rd</sup> and 5<sup>th</sup> and that we add the 7<sup>th</sup> to make it a seventh chord. That leaves the 2<sup>nd</sup>, 4<sup>th</sup> and 6<sup>th</sup> notes before we have used all seven notes in the scale.

We think of these three notes as extensions of the Rule of Thirds. We move diatonically from the root up a third to the 3<sup>rd</sup>, up another third to the 5<sup>th</sup> up a third to the seventh, up a third to the next octaves 2<sup>nd</sup> note which is know as the 9<sup>th</sup> (whole step above octave) and up another third to the 11<sup>th</sup> (4<sup>th</sup>) and finally another third to the 13<sup>th</sup> (6<sup>th</sup>).

When the chord says “*add*” we just add the note to the chord. For example a C Major triad is C E G. If the chord is a Cadd9 then the chord is simply C E G D. If it was a Cmaj7add9 then it would be C E G B D.

When a chord says “SUS” it can be one of two chords, a sus2 or a sus4. Sus is short for suspended, these chords are neither Major or minor. The idea is you replace the 3<sup>rd</sup> of the chord with the note on either side of it, the 2<sup>nd</sup> or the 4<sup>th</sup>. For example we know that a D Major triad is D F# A.

Dsus2 is D E A

R 2 5

Dsus4 is D G A

R 4 5

Any tension can be altered. You can flatten or sharpen the 9<sup>th</sup>, sharp the 11<sup>th</sup> and flatten the 13<sup>th</sup>. Adjust the chord as needed by what the chord symbol indicates.

# Exercises

## I, IV, V

- write out the I, IV and V chords for the keys of C, G, D, A and E
- Using the chord progression I, IV, I, V write out the chords for the keys of C, G, D, A and E
- Using A, D and E root notes practice and listen to the chord progression I, IV, V, IV and play them all as Major triads, then all as minor triads, Then experiment with different combinations (Modes)

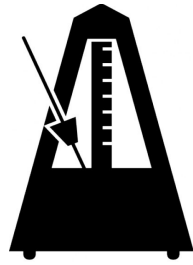
## Harmonic Rhythm

- Listen to “Sweet Home Alabama” and write out the Harmonic Rhythm for the D, C, G chord progression that happens for the entire song
- Listen to the verse of “Brown Eyed Girl” by Van Morrison and figure out how it is different than the chorus to “American Pie” by Don Mclean. They both share the same chords G, C, G, D.
- Print out the lyrics and chords from one of your favorite songs and see if you can figure out the Harmonic Rhythm to one (or more) parts of the song

## Tensions/Extensions

- Spell a Gmaj7add9 chord
- Spell an Amin7add11 chord
- Spell a Csus2 chord
- Spell a Dsus4 chord
- Spell a G7#9
- Spell an C7add9 13



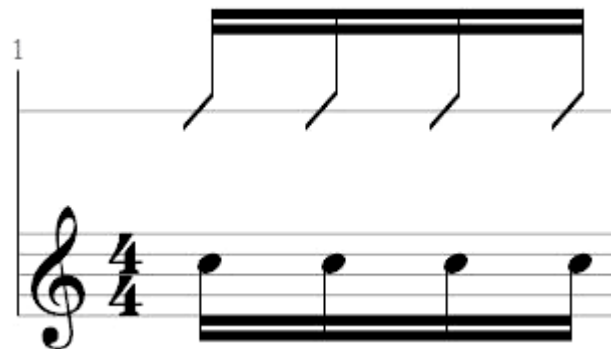


## Chapter 9 Rhythm

### Sixteenth Notes

So far we have talked about *whole-notes*, *half-notes*, *quarter-notes*, *eighth-notes* and *triplets*. Each describing a unit in time. We know that the *quarter-note* is the basis of rhythm and we looked at its subdivisions of *eighth-notes* (two/*quarter-note*) and *triplets* (three/*quarter-note*).

When you evenly divide a *quarter-note* into four parts they're called *sixteenth-notes*.



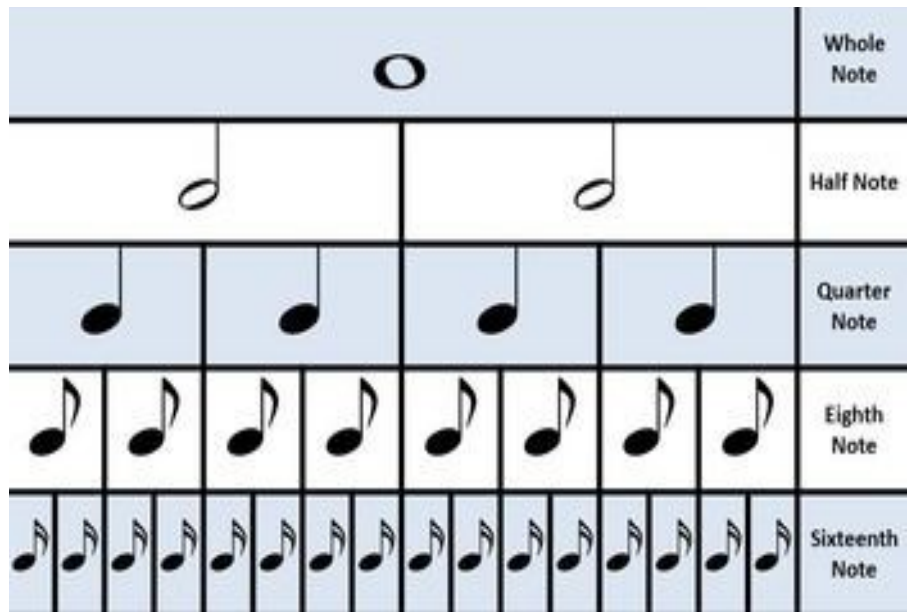
COUNT: One eee and aah

This is four sixteenth notes grouped under two beams. The double beam helps us recognize that these are *sixteenth-notes* and not four *eighth-notes*. These are four notes equally spaced out in the span of a *quarter-note*. You can think of each one as 25% of the *quarter-note*. You count these as **1 eee and aah**. When you count you change the first number to match the beat of the bar you are on.

For example:

**1 eee and aah    2 eee and aah    3 eee and aah    4 eee and aah**

Here is a chart of all of the even rhythms we have discussed so far. Sometimes this is referred to as a rhythm pyramid.



## 5 Common Groups of Sixteenth notes

There are 5 common groups of sixteenth-notes that a musician must recognize by sight and by ear. It's easy to think of these groups as percentages of the beat.

**#1** - This group starts with an eighth-note on the down beat and finishes with 2 sixteenth-notes on the upbeat. You can visualize this rhythm as 50%-25%-25%. You don't re-attack the note in parenthesis.

COUNT: 1 (eee) and aah




**#2**–This group is the same as above except that it is reversed. It starts with the 2 sixteenth–notes on the downbeat and finishes with 1 eighth–note on the up beat. 25%–25%–50%

COUNT: 1 eee and (*aah*)

**#3**–This group is the trickiest. In the first 2 groups an eighth–note replaced either the first or last 2 sixteenth–notes. In this case, the eighth–note replaces the middle 2 sixteenth–notes. 25%–50%–25%


COUNT: 1 eee (*and*) aah

#4-The following two groups involve dotting the eighth-note to add half of it's own value (a single sixteenth-note) to itself. This one creates a 75%-25% combination



COUNT: 1 (eee)(and) aah

#5-This one creates a 25%-75%. This one sounds like a heartbeat



COUNT: 1 eee (and) (aah)

## Sixteenth-note rest

As with any rhythmic value we have a rest for the same duration. A *sixteenth-note* rest looks like an *eighth-note* rest but with the addition on the second beam.



We have to remember that a rest means silence, not just “don't play”. We have to stop our instrument from making noise for the duration of the rest.

Once rests are added/utilized in *sixteenth-note* groups the combinations increase a lot. You just have to count them out and try to visualize each of four *sixteenth-notes*. Here are some examples:

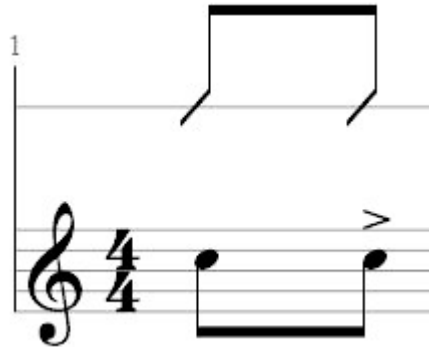
COUNT: 1 (eee) and aah

COUNT: 1 eee (and) aah

# Accents and Subgroups

## Accent

An accent is when a note or rhythm is played louder to bring attention to it. The symbol for an accent is a side ways “V”. Below there is an accent on the 2<sup>nd</sup> *eighth-note*.



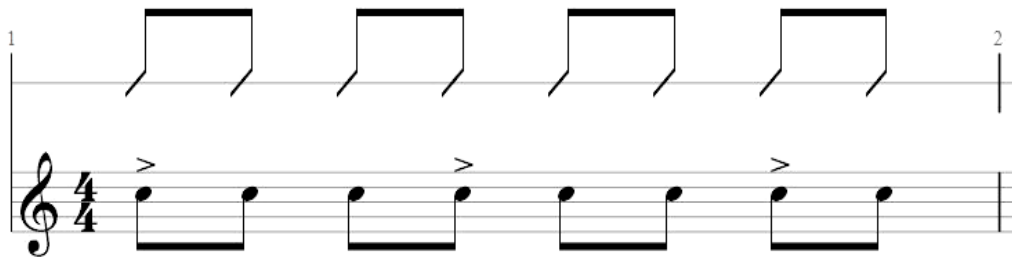
Accents create another layer of rhythm. For example if you were playing constant *eighth-notes* and accented every down beat you would have the original rhythm of *eight-notes* while the accents created a *quarter note* feel.

## Subgroup

A subgroup is when we have a smaller group of notes/rhythms within a larger group of notes/rhythms. If we think about a bar of all *eighth-notes* we normally think of this as two groups of 4. You can further break down the *eighth-notes* into groups of 3's and 2's. One of the most commonly used subgroups is what I call

**3+3+2**

With accents it looks like this



## General Ideas

- Rhythm is a real time event that involves physical coordination and counting.
- A good musician will tap out rhythms without their instrument. Rhythm is it's own language and anything is an instrument
- It's important to “self generate” rhythms, meaning you need to be able to put on a metronome, set up a good tempo and tap and count rhythms without having to hear someone else do it first.
- Learn to just tap your foot to the *quarter note* and tap the other rhythms with your hands.
- The 5 common groups of *sixteenth-notes* are easier to remember if you can find a song you know that utilizes them. For example #3 was really hard for me to self generate. Until I realized it was the opening to Jimi Hendrix's “Spanish Castle Magic”
- Rhythms are around us, and with us all day, every day. It doesn't require an instrument and you can play and practice anywhere anytime.

## Exercises

- set your metronome at 60BPM and start it. Listen to it
- tap your foot to the *quarter-note*
- with your index finger, tap on a table or your other index finger. Tap *quarter-notes* with your foot and the metronome.
- While your foot still taps *quarter-notes*, tap *eighth-notes* with your index fingers. Make sure you count aloud.
- Once you feel like you've correctly tapped and counted a number of bars of *eighth-notes* switch to *sixteenth-notes*. Count all of the *sixteenth-notes*
- Do the same as above except choose one of the 5 common groups and practice it. Play the group just on beat one and tap *quarter-notes* for the remaining 3 beats (assuming we are thinking of 4/4 time)





## Chapter 10

### Summary and Review

Music is its own language and knowing it is only part of the big picture. The language needs a creative, thinking human being to set it in action. A well rounded musician knows their tools and craft but also is a colorful storyteller so that the listener gets totally absorbed into the music and doesn't see all of its parts that created it. There have been brilliant musicians who were unaware of fundamentals of music but still made incredible music. But, having a “black belt” in music theory doesn't guarantee that you will be a brilliant musician either.

For me, knowing the fundamentals of music theory has only made me a better musician. Personally, I couldn't imagine making music without truly understanding what I'm doing other than “it sounds right”. Imagine an artist who didn't understand how to mix colors. They could just keep experimenting until they found something that “looked right”. Or they could truly understand about pigment and hues and use it to create a color they couldn't have imagined.

Knowing music theory has helped me learn music faster, remember music easier, offer me more tools to help me create music, vastly increase my musical confidence, expanded my versatility and enabled me to make a career out of playing and teaching music. I love the language of music, I had to go look for it. I never saw it until I wanted to. Then I realized it was every piece of music I had ever heard. Music theory doesn't discriminate among different styles of music, It *is* music and sound.

# Melody, Harmony and Rhythm

The three pillars of music theory are Melody, Harmony and Rhythm. We've looked at these three throughout this book and learned that they make up everything in the language of music. When you study music you should always think of these three. When you practice and learn an instrument, you should use these three as the basis for your development. Even when an instrument can't play chords (like a wind instrument or your voice) you should still understand chords. Even drummers (who can't be melodic or play chords) should still understand Melody, Harmony and Rhythm.

I believe rhythm to be the most important of all. When any musician is rhythmically competent they always sound good when they play and people pick up on that immediately. The same is true with the opposite. If you lack a sense of rhythm, people will immediately pick up on these despite how good you are at melodies or harmony. Embrace rhythm, it's intimidating at first but it will set you free once you start to master it. Music moves you, and that's mostly because of rhythm. You can have music without harmony and you can have music without melody, but you cannot have music without rhythm, it can't exist. If any single note is really a fast rhythm (beating) and notes create chords, then we must conclude that rhythm is one and all of music.

Let's review the basic elements of Melody, Harmony and Rhythm and ways to practice to help us have a balanced understanding.

# Melody

You should know:

- 12 notes and the 12 intervals
- W W H W W W H = Major scale=Ionian
- Spelling of a Major and minor Pentatonic
- Spelling of all of the Modes
- The Circle of 5ths

How to practice:

- recite all 12 notes ascending (with sharps) and descending (with flats) starting on any of the 12 notes. You could do this while waiting for the train or bus.
- Start with “C” and spell the Major scale using the WWHWWWH relationship. Work through the circle of 5ths
- Start with the note “C” and learn the minor 3<sup>rd</sup> and Major 3<sup>rd</sup> above it. These notes create the “toggle switch” between minor and Major (for scales and chords). Follow this through the Circle of 5ths
- Start with “C” and learn the P4 and P5 above to learn the I, IV and V notes. Follow this through the Circle of 5ths.
- Start with “C” and spell a minor and Major Pentatonic scale—aeolian
- Start with “C” and spell all seven of the modes



# HARMONY

You should know:

- Diatonic Harmony formula for triads:

I ii iii IV V vi vii<sub>dim</sub>

- 12 diatonic keys (one for each note)
- Diatonic Harmony formula for seventh chords

IMaj7 iim7 iiim7 IVMaj7 V7 vim7 viim7b5

- Chord inversions
- Slash chords
- I IV V chords
- The Modes
- Harmonic Rhythm
- Chord spelling

How to practice:

- Starting with seven notes of the C Major scale, create the triads for each of the seven chords using the “rule of thirds”
- Do the same as above but now add the 4<sup>th</sup> note to make them all seventh chords
- Take the G Major triad and write it's two inversions
- Take the Am7 chord and write it's 3 inversions
- Do the same for all seven chords in the key of “C”
- Print out the chords to a favorite song. Listen to the song, count the quarter notes and start writing the Harmonic rhythm (how often the chords change)
- Pick 3 of your favorite songs to study– Figure out the I, IV and V chords and figure out the key. Write the chord progression as numbers.

# Rhythm

You should know:

- Beats and BPM
- Bar/measure
- Time signatures
- Whole, half, quarter, eighth, triplet and sixteenth notes and rests
- Dots and ties
- Accents and subgroups

How to Practice:

- Set your metronome to 60 BPM, start it and listen
- Tap you foot with the *quarter-note*
- Start singing/counting/tapping fingers *whole-notes* for a few bars
- Switch to *half-notes*, then *quarter-notes*, *eight-notes* after many bars of each
- Go back to *quarter-notes* for a few bars then switch to *triplets*, tap and count
- Again go back to *quarter-notes* and then switch to *sixteenth-notes*.
- Once the *sixteenth-notes* are comfortable try using one of the 5 common groups and play it on beat one and tap *quarter-notes* for beats two, three and four
- “Changing Gears” with a BPM of 60 do 1 measure for each rhythm. Start with 1 bar of *whole-notes*, then 1 bar of *half-notes* etc. until you reach *sixteenth-notes*. Then go backwards from *sixteenth-notes* to *whole-notes*

# General Ideas

- Music fundamentals are integral to everything you have ever listened to. As soon as you strum a chord on the guitar it's already happening.
- Rhythm is time, time keeps moving and doesn't stop. Music is the same, it is a real-time event and it keeps moving. You should always approach music like this and not a static event. Really good musicians don't practice to learn, they play to learn. Rumor has it that jazz pianist Thelonius Monk, when home alone, would play 1 song for 2 hours straight! He would learn as he played, in real time.
- The language of music, it's notes etc. do not change and haven't changed in hundreds of years. Once you know the theory that's it. You just get to know it better and better
- There are only 12 keys and they are built the same way just with different names. You could study one a day for 12 days, one a week for 12 weeks or one per month for a year. Eventually you will see all of them and get to know them.
- Get 12 pieces of paper and write the Key at the top of each page. On each page write out the Major scale using the formula. Then build the triads, then build the seventh chords. Write each mode for that key. My teacher had me do this when I was younger (although I did it with music notation) and I remember I saw a picture of Randy Rhodes (one of my guitar hero's) and he had a music notebook with the same thing. I felt so validated and inspired that I was doing the same thing as him.
- Once you start seeing music fundamentals in your favorite music it will really start to click, embrace the “ah ha” moments.
- You can always find a few minutes of your day to think about music fundamentals. It's amazing what a few minutes a day can do
- Always keep a balance between craft and creativity
- Enjoy the ride!

# Resources

## BOOKS

- “**Jazzology**” by Robert Rawlins– A great book about music theory that goes deep into details and piano playing
- “**Modern Reading Text in 4/4**” by Louie Bellson– My favorite book for practicing rhythm. It's all rhythm.
- “**Rhythm Guitar Encyclopedia**” by Jody Fisher – A great book of strumming patterns by style

## WEBSITE

- [www.MusicTheory.net](http://www.MusicTheory.net) This is a great website filled with lots of info and methods for testing your skills. Highly recommended

## APPS

- **Tenuto** – is the app version of Music Theory website. They also have another app called **Theory Lessons**



## ABOUT THE AUTHOR

Suke Cerulo has been playing guitar for 34 years and professionally for 25. He grew up in a musical family and graduated Berklee College of music. He has performed more than 2000 shows nationally with his band Schleigho. They recorded six albums, were on a label with the Allman Brothers for 5 years and toured with the Derek Trucks Band. For the last 15 years Suke has been teaching private lessons and classes in New York City to over 60 students a week. He continues to perform and teach full time in NYC, living there with his wife and son.

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