

# Learning to Read Music - An Introduction

**Especially for Guitar Players**



Copyright, Rick Hendershot, MuzicTrain, 2019



## Why Music Theory?

Many guitar players go a long way and are amazingly effective players without knowing much actual music theory. That's pretty clear if you just watch guitar players.

By "actual music theory" I mean a formal understanding of how scales work, how chords are related, how to read traditional music notation, and so on.

Of course you can get a university degree in music theory or spend a lifetime studying it in great depth. But that is not what I'm talking about here.

What I am assuming here is that a rudimentary understanding of how music works can help you play guitar more effectively. That goes for most other instruments as well.

There are two areas in particular that I want to focus on in this two course series. The first is learning **how to read traditional music notation**. And the second is learning **the notes of the guitar fretboard**.

I suggest that knowing these things will have a direct bearing on your guitar playing. Not because you will suddenly start playing songs from written music. Rather because having that capability will open up possibilities and options.

For example, learning a melody you are not familiar with will be much easier if you can follow the notes in traditional notation. Similarly, you will be a much more versatile player if you can play the same notes or chords in different places on the neck.

I am not suggesting you should become obsessed with these things. I am simply saying you should make the study of basic theory a regular part of your practice routine.

This is helpful to an instrumentalist in the the same way it is helpful to a singer in a choir to be able to follow his or her harmony part written out in front of them.

The alternatives are either to memorize the part or improvise as you go along. Both of those approaches have their place, and most musicians (and members of choirs) may very well memorize their parts eventually anyways

(and perhaps improvise too), but having a third alternative is so much better.

## **It's Like the Rules of Grammar**

Asking whether you need an understanding of music theory to be able to play effectively, is similar to asking whether you need to know English grammar to be able to speak the English language intelligibly and "correctly".

You can answer this question either way. "No", it is certainly true that you don't have to be able to spell out the rules every time you speak.

But you certainly *do* need a grasp of how language is used in practice. And it is also helpful to have a basic understanding of how the rules work – at least the major ones.

This is especially the case when you go from speaking to writing. Writing in sentences and paragraphs is *intrinsically* formal. It demands that you know a fair bit about the rules and common practices in order not to come across as boorish, embarrassingly uninformed, or even, at times, offensive because you haven't conveyed the message you thought you were conveying.

As far as I can tell the same thing goes for music theory. Like a grammarian you can get hung up on the rules and spend more time analyzing the way we speak instead of just putting the rules into practice.

But that doesn't mean the rules are not helpful.

I suspect this is what most criticisms of formal music lessons boil down to: "Too much time spent on theory and not enough time spent on performance." That is precisely why the focus at MuzicTrain is on group performance - playing along with actual songs in a setting designed to help you learn from the playing experience.

Music theory helps you understand your place in that experience, and how you can use your musical capabilities and your instrument to enhance it.



# Learning to Read Music

## Part 1 - How the Staff Works

Learning to read traditional music notation is fairly simple. Once you understand a few basic concepts it is even quite intuitive. The truth is, the basic concepts of the musical staff can be learned with just a bit of instruction, and a moderate amount of practice.

### The two dimensions of the Staff

The musical staff is the basic framework for traditional music notation. The staff consists of a series of five parallel lines. The sequence of musical notes that make up a song are then placed along these lines.

The two dimensions represented on the staff are *pitch* and *time*.

**Pitch** - whether a note sounds "high" or "low" - is represented by placing notes higher or lower in the series of staff lines.

Each line and space between the lines represents a specific note position. An oval shaped note under line 1 is understood as D. A note on line 1 is E. And so on, until we get to E again in the top space, and F on the top line.



**Time** - There are actually two different components to the time dimension of music. Every piece of music has a *beat* which varies from song to song, and sometimes within the same song. This is called the **tempo** of the music.

Tempo is normally measured in terms of *beats per minute (bpm)*, and is indicated at the very beginning of the first staff line of a composition. In our example the tempo is indicated as 80 beats per minute. And this tempo is maintained unless a different tempo is indicated.

The length or *duration* of individual notes is then measured with reference to that tempo. If a song is supposed to have a tempo of 60 bpm, then each beat will be one second long (1/60th of a minute), and in 4/4 time, each quarter note will have a duration of one beat.

The notes placed along the staff therefore tell us three very different things about the sounds they represent. First, they tell us the pitch of the sound. Second, we are told how fast or slow the piece is to be played (its tempo). And third, we know from the shape of each note symbol how long that sound is to be held - the *duration* of each note or rest.

### Pitch, Tempo, and Duration

In the illustration below the highlighted note is a hollow note with a stem, placed in the space between the third and fourth lines. From its position in this space we know to play a C (its pitch). From the tempo marking over the first measure we know that the piece is to be played at 80 beats per minute (tempo). And from its shape (hollow with a stem) we know it is to be held for 2 beats (duration).



The alternative system called *tablature* or *tab* is often used to notate guitar music. Its main feature is that each note indicates which fret on which line is to be played.

While this may seem simpler and more appropriate in some ways for communicating guitar music, it lacks a widely recognized method for indicating note duration. Tab tells us what notes to play, but doesn't tell us in a very consistent way how long to hold those notes. Some versions of tab try to use duration indicators under each note, but at that point the score starts to look like traditional notation.

Conversely, traditional notation does *not* tell us what string or fret to play. When it indicates to play a G, it doesn't tell us *which* G to play. The guitarist has to decide whether to play G at E3, D5, G0 or even some position further up the neck. This is probably considered an advantage if you know the fretboard, but a disadvantage if you don't.

Copyright, Rick Hendershot, MuzicTrain, 2019



# Learning to Read Music

## Part 2 - Understanding Pitch

In Step 1 we described how the **staff** in traditional notation captures the two different dimensions of a musical composition: **time** and **pitch**.

In its simplest form a musical melody is essentially a series of sounds strung together to form a unified composition. Each of the individual sounds is represented as a **note** having a specific **pitch** and **duration**.

In this post we want to say a few things about *pitch*.

### **Pitch is the up or down-ness of the note**

It is difficult to put into words, but just about everybody instinctively understands what it means for a musical sound to be "high" or "low".

Technically speaking, sounds are created by a vibrating medium: a singer's vocal chords, a police siren, a guitar string, the mouthpiece of a tuba or the reed of a clarinet, and so on. The faster the vibration, the "higher" the pitch of the sound created.

On the guitar we raise the pitch of the note created by a string by pressing down on a fret when we strike the string. This essentially shortens the string. And a shorter string vibrates more quickly.

As you probably already know, this is represented in written music by placing the note higher or lower on the musical staff.

Let's explain further...

### **Notes and Octaves**

In music an octave ("octavus" is Latin for 8) is the range between two notes that sound the same, one lower and the other an octave higher. They sound the same because their vibrations are multiples of each other. A higher note - the 8th note (or "degree") in a major scale - has twice the frequency of vibration of the lower one - the 1st note (or "degree") of the major scale.

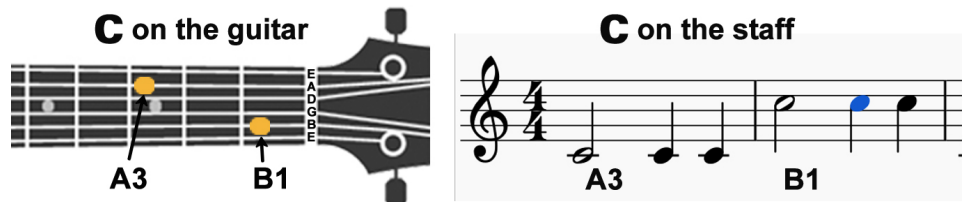
If you look at the piano keyboard you can see the same pattern of notes repeated several times. That is because

notes having the same pitch - only higher or lower - are repeated in a regular sequence.



For example, if you start at "middle" C on the piano and go up (to the right) 8 notes you come to C again.

On the guitar there are two instances of the note C within the normal playing range of a beginner. The lower one is at the third fret of the A string (string 5) - which we refer to as A3. The higher one - an octave higher - is at the first fret of the B string (string 2), which we will refer to as B1.



When we write it in traditional musical notation A3 is one line below the staff. B1 is in the space between lines 3 and 4.

Now if you add the other notes in the C Major Scale between these two instances of C, they look like this: D is at the first space below the staff. E is at the first line of the staff. F is at space 1. G is at line 2. A is at space 2. And B is at line 3. That is how you write the C major scale.



So there you have it...the first major step to learning how to read musical notation for the guitar. In the next post we'll talk about note values: whole notes, half notes, quarter notes...and more.



# Learning to Read Music

## Part 3 - Tempo, Time Signature and Note Values

**Duration** refers to the "length" of each note. This is the second basic property of all notes. (The first was "pitch".)

If you tap your foot at a consistent rate of, say, 60 taps per minute (once every second), that would be called a **tempo of 60 bpm** (beats per minute). Each of these beats is represented in written notation as a **quarter note**.

Traditional written music is divided into what are called "measures" (or "bars"). Each measure is a short chunk of the composition containing a set number of beats. *The simplest and most common measure contains 4 beats.*

When a note is held for the entire measure is called a **whole note**. When it is held for half a measure is called a **half note**. And when it is held for a quarter of a measure - one standard "beat" - is called a **quarter note\***.

This graphic shows how each of these notes is indicated on the staff:



The quarter note is one beat\* long, is usually the most common note in a composition, and is the basis for other note durations. A quarter note can be divided into two **eighth notes** or four **sixteenth notes**.

These can be further divided into even shorter note durations: 32nds and 64ths. But for beginning guitar players the 16th is usually the shortest note encountered in simple songs.

### Time Signature

Many musical compositions are written in what is called 4/4 time - where each measure contains 4 quarter notes. The 4/4 you see at the beginning of each staff is called a "time signature".

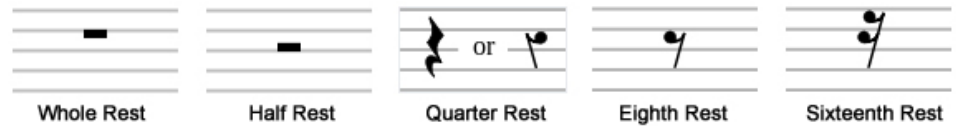
While 4/4 time this is the most common (and, in fact, is called "common time"), it is not the only one found in music. For instance, a "waltz" is written in 3/4 time (3 quarter notes per measure).



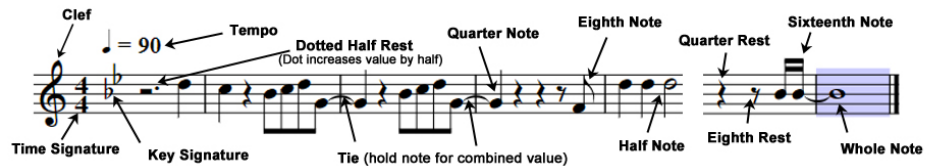
## Rests - where you don't play anything

The other important element of written music is the rest. A rest indicates when you don't play a note. It is "dead air space".

Each note value (whole, half, quarter, eighth, sixteenth) has a comparable rest. They are signified on the staff as in the following graphic:



Here is a graphic showing most of the elements you are likely to encounter as you learn to read traditional music notation:



\*It is technically not correct to say a quarter note is always one beat in duration. As Wikipedia says, "Often, musicians will say that a crotchet [quarter note] is one beat, but this is not always correct, as the beat is indicated by the time signature of the music; a quarter note may or may not be the beat." For practical purposes the beginner can ignore this technicality.



# Learning to Read Music

## Part 4 - Keys, Sharps and Flats

The concept of musical "keys" can be a complicated and confusing topic, so let's give it a go...

For the most part, specifying a musical "key" is simply a way of making clear:

- The pitch range the music is set in (the highest and lowest notes in the song), and
- Which notes should be played as sharps, flats or "naturals".

Step back for a minute and think about how a typical "major scale" is constructed. It starts on Note 1 (the "root") and moves "up" in pitch a series of steps until it comes to Note 8 which is an octave higher than the root.



This piano keyboard gives us a graphic way to look at this. If you start on C and play a series of white notes you will come to C again, eight notes higher. These white notes represent what are called "natural notes" - C-D-E-F-G-A-B-C.

### But what about those black keys?

But we also know that the piano has black keys. And some notes of the C scale have a black key between them. For example, there is a black key between C and D. So there is actually another note between the natural tones C and D, not part of the major scale. That note is called C# or Db\*.

This happens because in the tradition of western (European) music, the smallest gap in pitch between successive musical sounds is called a "semi-tone", or half a tone. But as we can see by looking at the piano, the gap between C and D is actually a full tone. There is another note a half tone above C, namely C# (or Db).

So far so good, but that's not the end of the story. Still looking at the piano keyboard we can see that some natural notes (white keys) have a black key between them, *and some don't*.

So it must be that some adjacent natural notes (white keys) are a full tone apart, and some are only a semi-tone apart (they don't have a black key).

In fact, there are only two instances of this: E to F and B to C. These two gaps are only a semi-tone, or what is often called a "half-step". All the other natural notes are separated by a full tone or "full step".

### The Major Scale Grid

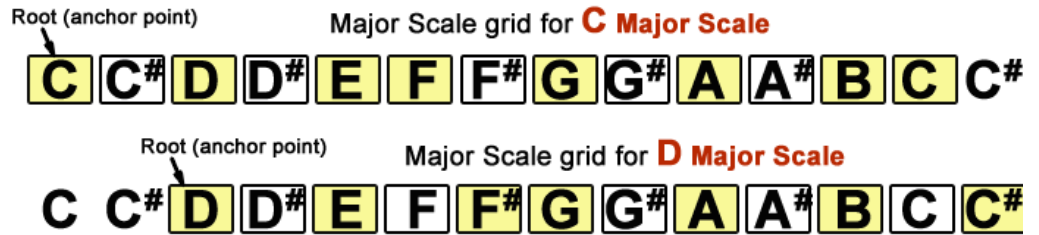


### OK, how is this relevant?

Not too surprisingly this is very relevant to the idea of musical keys.

When we say "This song is in the key of F", for example, what we are actually saying is "Play the song so that the **anchor note** or **root note** is F".

Try to understand this idea of an "anchor note". Think of a song as a sequence of notes. That sequence of notes is like a grid placed on top of a bigger universe of all possible (singable or playable) notes.



When the grid starts at a different Root, the same pattern results in different note combinations.

Virtually all such songs have a natural focal or anchor point. That anchor point defines the starting and finishing point of the song and gives it a particular pitch range. If the anchor point is C we will play (or sing) one set of notes, anchored at C. But if we move the anchor point up to D or E or G, the song will be anchored at a different point and, as a result, the set of actual notes we sing or play will be different.

The gaps between the notes will be the same but because of the irregularity of the whole-step/half-step pattern, the non-natural notes (sharps or flats) will fall in different places.

Just to take a fairly simple example, the song "Ode to Joy" starts out: (where the number is the note or "degree" of the major scale): 3-3-4-5-5-4-3-2. In the key of C this would be E-E-F-G-G-F-E-D, but in the key of D it would be F#-F#-G-A-A-G-F#-E.

**Ode To Joy**  
Key of D - 2 sharps (F and C)

The Key of D has 2 Sharps - F and C

F is played as F# unless otherwise indicated

### How the musical staff helps simplify this

As we said at the beginning, changing the key of a song has two practical effects. First, it pushes the range of musical tones in the song either up or down. Instrumentalists and singers care about this because some keys will put a song out of their *range* (how high and how low they can play or sing).

Second, some notes will have to be played as sharps or flats, because the gaps between notes fall in different places.

Both of these points have a major affect on the guitarist, pianist, or other instrumentalists who have to play the number. Changing keys changes the range required to play or sing the song. And it introduces different sharps and flats. The song sounds terrible if they screw that up.

What the musical staff allows us to do is to indicate that we are playing in a "key" where certain notes are to be played sharp or flat *all the time* (unless otherwise indicated).

If, for example, our anchor point is C (that is, if the song is played in the key of C) all the notes of the song will be natural (no sharps or flats) unless otherwise indicated.

But if we move the anchor point of the song up to D (that is, if the song is played in the key of D), the sequence of notes used in the song will include F sharp and C sharp. Every time we see one of these notes on the staff we know to play them as sharps. All the other notes are natural (unless otherwise indicated).

The use of the staff allows us to put the complicated musical theory aside and just focus on playing the correct notes.

\*To keep it simple, C# and Db are the same note - the note between C and D. When we're thinking in terms of sharps - e.g., in the key of D - we think of this note as C#. But when we're thinking in terms of flats - e.g., in the key of Gb - we think of this note as Db. Yes it is confusing, but hang in there.

Copyright, Rick Hendershot, MuzicTrain, 2019



# Learning to Read Music

## Part 5 - Playing Simple Melodies

Once you have a feel for how the musical staff works, and you have worked with some basic scales, it's time to try a few simple melodies.

Not chording yet to familiar tunes. That will come soon enough (and no doubt you are already doing it). What we're talking about here is playing some simple songs from the written music.

This is not supposed to be playing "by ear". That's an extremely valuable skill to learn as you go along. But in this segment we want to learn how to play from traditional written music.

Like most other beginning guitar players you'll want to start with some fairly simple melodies. One that many people seem to learn is [Ode to Joy](#). It's fairly easy because just about everybody knows it and it goes up and down the scale in a very familiar way.

### Links to Demo Songs

Enter any of these addresses into a browser to see and hear an interactive music score:

#### Ode to Joy

<http://practicetracks.org/A-Members/Guitar/Level-1/Ode-to-Joy-C-at-B1.php>

#### Amazing Grace

<http://practicetracks.org/A-Members/Guitar/Level-1/Amazing-Grace-C-at-A3.php>

#### Hallelujah

<http://practicetracks.org/A-Members/Guitar/Level-1/Hallelujah-C-at-B1.php>

#### Three Blind Mice

<http://practicetracks.org/A-Members/Guitar/Level-1/Three-Blind-Mice-Notes-C.php>

#### Home on the Range

<http://practicetracks.org/A-Members/Guitar/Level-1/Home-on-the-Range-g1-C-at-B1.php>

#### Happy Birthday

<http://practicetracks.org/A-Members/Guitar/Level-1/Happy-Birthday-C-at-A3.php>

#### Jingle Bells

<http://practicetracks.org/A-Members/Guitar/Level-1/Jingle-Bells-G-Notes.php>

#### Budapest

<http://practicetracks.org/A-Members/Guitar/Level-1/Budapest-C-at-A3.php>

#### Havana

<http://practicetracks.org/A-Members/Guitar/Level-1/Havana-Am-2-Chords.php>

**Ode To Joy**  
Key of G - Mid Range - G at G0

Here's another couple of easy melodies: [Amazing Grace](#) and the Leonard Cohen classic [Hallelujah](#)

**Hallelujah - D**  
Root (D) at D0

These arrangements are especially for beginning guitar players. They include the name of the note when it first appears, and how it is fingered.

Of course there are always nursery rhymes like [Three Blind Mice](#), and well-known patriotic and classic western songs ([Home on the Range](#), for example).

Well known special event and seasonal songs like [Happy Birthday](#) and [Jingle Bells](#) work too.

A lot of current and recently popular songs are also surprisingly simple. Like the songs [Budapest](#) and [Havana](#), for example.

# Havana

Camil

E0 B1 G2 B3 E1 Am Root at G2

8 E C A D F

6

3 3

The fact is, with resources like [these exercises and songs for new guitar players](#), you should be "reading" like a pro in no time!

Have fun!

Copyright, Rick Hendershot, MuzicTrain, 2019