

The Basics of Reading Music

by Kevin Meixner

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Introduction

To better understand how to read music, maybe it is best to first ask ourselves:

What is music exactly?

Well, according to the 1976 edition (okay so I need to update my book collection!) of Funk & Wagnalls Standard Desk Dictionary the definition is:

mu.sic (myoo'zík) *n.* **1.** The art of producing significant arrangements of sounds, usually with reference to rhythm, pitch and tone colour. **3.** A succession or combination of notes, especially if pleasing to the ear.

Man!, don't you just hate it when you look up a definition and you need to look up words the definition uses? Well, I'll try to save you the trouble this time. pitch is the frequency at which a note vibrates, I'll explain this shortly. Tone colour is the type of sound, for example an overdriven electric guitar has a very rough aggressive tone while a flute usually has a soft mellow tone (unless the flute player really sucks I suppose). Rhythm is a measure of the the time frame you play the notes in, but I will explain that later too. For now, let's just say that music is the art of producing significant arrangements of sounds, usually for the purpose of causing emotional responses in people (usually, you want people to like what they hear unless of course you are trying to be the latest punk band and want people to be offended by your sound! To each his own I guess...).

Okay, now back to what we set out to do in the first place, teach you how to read music...

Sound and Pitch in Music

Now that we've established that music is made up of sounds I will explain what a sound actually is:

All sounds are caused by the vibrations of air molecules. These waves ("sound waves") of vibrations in air molecules originate from some kind of vibrating object, perhaps a musical instrument or a person's vocal chords. In music we refer to the frequency (how many times the molecules vibrate per second) a note vibrates at as the **pitch** of the note.

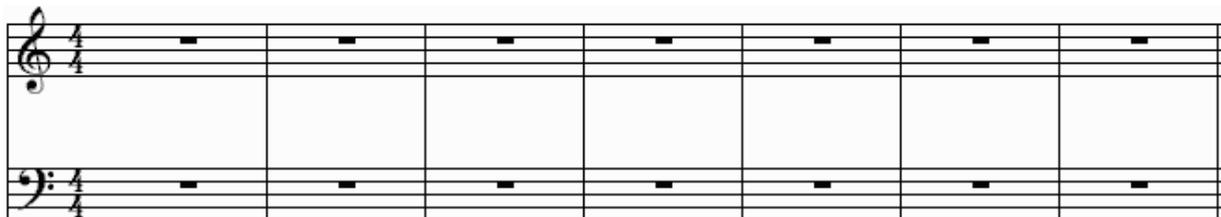
In most contemporary sheet music you will see the music will be written on either the treble clef staff:



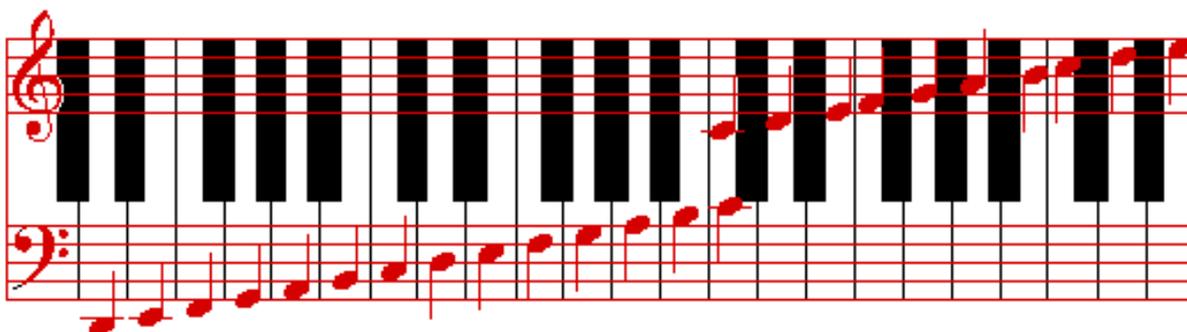
Or the bass clef staff:



As the notes are written closer to the top of these clefs there pitch increases giving them a higher, lighter sound. Conversely, as notes are written closer to the bottom of the clefs the pitch decreases giving them a lower, darker sound. The treble clef contains notes that are higher in pitch than the bass clef and the bass clef contains notes that are lower in pitch than the treble clef. For this reason for some instruments that have a wide range of notes, the piano in particular, you may see these two staves combined as follows:

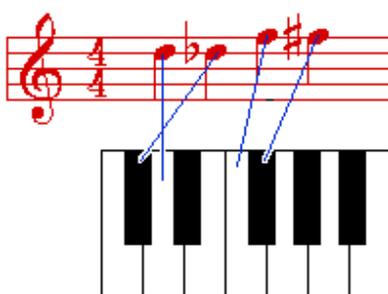


The next image may help you visualize how notes are placed on the staves in relation to their pitch. It is a picture of a piano keyboard with the clefs and notes written over top:



[Click here to listen to sound of notes in picture from left to right](#)

Notice that as you go from the lower pitch notes on the left of the piano to the higher pitch notes on the right side of the piano the notes are written on the staves in ascending order. As you can see from the diagram above we sometimes write notes that are below or above the lines on the staff, these notes appear on extra small lines called ledger lines. You may also notice that there is one note (middle C) which can be written as either one ledger line above the bass clef or as one ledger line below the treble clef. The diagram above shows all of the white notes on the piano written on the staves, but you are probably wondering about the black notes, how are they written? Well, this can be answered by viewing the diagram below:



[Click here to compare regular and accidental notes in picture](#)

(Note: The rhythm in the sound file is slightly different to than the rhythm shown in the picture.)

In music there are notes that we sometimes come across called "Accidentals". So what exactly are these accidentals, you may be asking, the notes I accidentally play by mistake? No, although some musicians might try to use that as an excuse, accidentals are actually notes that are called for you to play in a piece of music which are not in the general key that most of the song is written in.

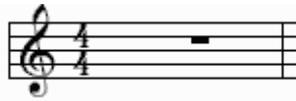
When you encounter a note in music that has a b to the left of it you play the note immediately left of it on the keyboard. If you encounter a note that has a \sharp in front of it you play the note immediately to the right of it on the keyboard.

Rhythm and Note Durations

There are many different durations of notes, typically you will see the following basic note durations in today's contemporary music:

Whole Note
Half Note
Quarter Note
Eighth Note
Sixteenth Note

The majority of the contemporary rock and pop music you hear on the radio these days is written in the 4/4 time signature:



The top number tells us how many of the specified notes are in a bar and the bottom number tells us what duration (ie: how long) that specified note is. For example in 4/4 Time the top number tells us there are 4 notes in a bar and the bottom number tells us that each note is 1/4 of the length of the bar, or more simply put a quarter note. Therefore, we can tell that a song written with a 4/4 time signature is made up of **bars** (musical units a song is divided up into) which contain 4 quarter note long beats. The following picture may help in visualizing this:



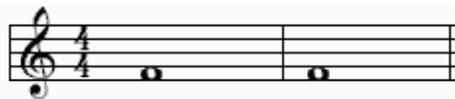
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(Note: I have added a drum click to emphasize the beat and will also do so in some later examples. The drum will be played on every beat with an accent on beat one.)

Notice how in each bar (separated by vertical lines) contains exactly four notes and each of these notes is 1/4 of the length of the bar and hence a quarter note.

There are many more possible time signatures but only a few in particular are commonly used in rock and pop music, they are 4/4 ([most common music forms: rock, pop, etc.](#)), 6/8 ([rock ballad](#)), 2/4 ([country/polka](#)) and 3/4 ([waltz](#)). For simplicity we will concentrate on the 4/4 time signature for now.

In 4/4 time a whole note would be held for the entire duration of one bar and written as follows:



[Click here to listen](#)

Notice in the diagram above that the whole note is held for the duration of a whole bar, this is where the name "whole note" comes from. To play a whole note you would play it and either count inside your head or tap your foot four times at the **tempo** (speed) of the song. The times you tap your foot or count inside your head must be at even intervals (eg: 1 2 3 4 as opposed to 1 2 3 4 with respect to time).

Half notes in 4/4 time would be held for half of the bar or two of the 4 beats of the bar. Each half note would be played for the duration of half of the bar as follows:



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You would either count for two beats before going to the next half note or tap your foot two times in even intervals. For the bars above in 4/4 time you would count: 1 2 during the first half note in the bar and: 3 4 the second half note in the bar.

Quarter notes in 4/4 time would be held for 1/4 of the length of a bar as in the following diagram:



[Click here to listen](#)

Each quarter note would get one foot tap. The proper way to count quarter notes in 4/4 time is 1 for the 1st quarter note, 2 for the 2nd, 3 for the 3rd and 4 for the 4th.

Eighth notes are half the length of quarter notes and are notated as in the picture below:



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In the first bar I put eight eighth notes. In the second bar I have only put four eighth notes with eighth **rests** inbetween them. Rests are symbols for when you do not make any sound with your instrument for a certain time. I will explain rest in more detail later but for now just notice how the eight notes in the 2nd bar look a little different when they are not attached to an eighth note beside them, this is why I put them alone so you would know that those are also eighth notes. In the first bar the proper way to count the notes is : 1 + 2 + 3 + 4 + which is read as "one and two and three and four and". In the second bar you would still count the same way but you would not make a sound during any of the rests (on the "ands").

And last, but not least, sixteenth notes are 1/16 of the duration of a bar in 4/4 time and 1/4 of the duration of a quarter note as the following picture shows:



[Click here to listen](#)

I have put 16 sixteenth notes in the first bar and only 4 in the second bar to show you the two possible ways they might appear. The proper way to count sixteenth notes is by silently saying to yourself inside your head: 1 e + a 2 e + a 3 e + a 4 e + a (spoken as "one eee and aaah two eee and aaah three eee and aaah four eee and aaah"). The second bar would also be counted the same, however, you would only make sounds on the 1, 2, 3 and 4 and would be silent for all of the e's, +'s and a's.

There are actually such things as 32nd notes, 64th notes and 128th notes but these are so extremely rare that I won't explain them in detail. Basically, a 32nd note is 1/32nd of the length of a 4/4 bar, a 64th note is 1/64th, a 128th note is 1/128th, etc.. I have been playing in various school bands for 13 years and I've only come across one 64th note once, I've never come across a 32nd note and I've only seen one 128th note in a classical piano piece once so you really do not need to worry about these at this point. If you've understood everything up to this point you would probably be able to figure out how to play them properly anyway.

In addition to these basic note durations there are also **dotted notes**. Dotted notes are notes that have a dot placed to the right of them. What this means is that the note is held for an additional duration equal to half of the duration of the note. For example, a dotted half note would be held for 3 beats instead of only two, a dotted quarter note would be held for 1 and a half beats, etc. A picture of some of these dotted notes can be seen in the following picture:



[Click here to listen](#)

In the first bar in the picture above the first note is a dotted half note and would be held for a count of three beats spoken as "one two three", the last note is a quarter note that falls on the fourth beat of the bar and would be counted as "four".

In the second bar the first note is a dotted quarter and it would be held for the first one and a half beats of the bar on "1 + 2" (spoken "one and two"). The next note is an eighth note that falls in the "+" of 2 (spoken "The And of two"). The next note is a half note which falls on beats 3 and 4 of the second bar.

In the third bar the first note is a dotted eighth note which would be held for the duration of 3 sixteenth notes as counted as "1 e +" (spoken "one eee and") and the second sixteenth note falls on the "a" (spoken "aaah"). The third note in the second bar is a quarter note that falls on "2". The third note in bar 2 is another dotted eighth note, this note would be counted as "3 e +" and there would be a 16th note duration of silence following it. The next note is a quarter note and falls on "4".

If you have understood everything so far then you are well on your way to being able to read music. If you are a little confused try to reread the parts you don't understand. Remember the most important thing you must learn to do if you want to be in a band is to learn to count music right. If you have no sense of rhythm or at least where the beat is in relation to where the notes you are playing/singing are then it will be impossible to play in a group with other people. Learn to count, I can't stress it's importance enough!

Below you will see some music with rests between the notes, I will alternate notes with rests of the same duration of notes, whole note, whole rest, half note, half rest, quarter note, quarter rest, quarter note, quarter rest, etc...:



[Click here to listen](#)

There are also dotted rests which just like the dotted notes are held for exactly 1/2 of their duration extra on top of their normal duration (a dotted half rest is held for three beats, a dotted quarter note rest is held for the same duration as three eighth notes would be, etc...). Some dotted rests can be seen in the picture below:



[Click here to listen](#)

The first rest is a dotted half rest and it would be held for three beats ("1 2 3") and the quarter note in the first bar would fall on beat 4. There would then be silence for the first "1 e +" of the 2nd bar and then there would be a sixteenth note played on the "a" of beat 1. There is then a quarter rest on "2". Next there is a dotted rest starting on "3" of the 2nd bar which would be held during "3 + 4". The eighth note at the end of the 2nd bar would fall on the "+" of "4" (spoken "the and of four").

In some music you may see these notes in music **tied** together with a curvy line at the top. For example, You may see two eighth notes tied together. This means that you would play the two eighth notes without a break (of silence) inbetween, if they both have the same pitch then they would be played as a single quarter note in duration, this is what is called a tie. (note: if these notes had different pitches it would be called a slur).

Some examples of tied notes can be seen in the following picture:



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In the picture above the 1st note in the 1st bar is a dotted quarter note which would be held for "1 + 2", the second and third notes are two eighth notes which are tied together so they would be played as a quarter note on "+ 3" and the final dotted quarter note in the 1st bar would be played on "+ 4 +". So the bar would be counted for the three notes as: "1 + 2", "+ 3", "+ 4 +". The first note of the 2nd bar is also a dotted quarter and would also be counted as "1 + 2". The second note is an eighth note tied to a quarter note so this is equivalent to a the duration of a dotted quarter note and is counted as "+ 3 +". Finally, the last note in the 2nd bar is a quarter note on "4 +".

Well, that's all there is to learn about rhythm in 4/4 time. For a beginner it may be helpful to actually write the words corresponding to the values of the notes in pencil on your sheet music to help you remember how to count the notes properly, especially where complex rhythms are concerned. Even some professional players in orchestras sometimes do this if they come across a really challenging part in a piece of music. The best way to practice reading different rhythms is by **sight-reading** sheet music (sight-reading is the act of trying to read and play a new piece of music you've never seen before) and trying to figure out how to play the rhythms properly. The more you practice reading new music, the better at reading rhythms you'll become. Whatever instrument you play or even if you sing, in music the saying "practice makes perfect" is absolutely true.

HINT: When you practice, try to concentrate on small sections of a piece one at a time and perfect them first before trying to play a piece from beginning to end. If you can play every section of a musical piece well, then you should be able to play the entire piece from beginning to end well too.

Learning the Names of the Notes

There are only a couple more basic things you will need to know before you begin to attempt to read sheet music. First you need to know the names of the notes, at least it is a good idea to. Notes are named according to their pitch. In the concert pitch scale of C major (the scale which has only the white keys on the piano on it), the scale consists of 8 notes, in ascending order as: C D E F G A B C. If you go above the C at the top the cycle repeats: C D E F G A B C D E F G A B C D E F G A B C, this is also true if you go below the low C in the scale. When you reach a note higher in pitch with the same name as the one you started with, the higher note is said to be an octave above the one you started with. For example, C D E F G A B C, the second C is said to be an octave above the first C. A note that is an octave higher than another note has a frequency that is exactly twice that of the note an octave lower, but we really don't need to worry about that right now. All we need to do is teach you what the names of the notes on the staffs are.

On the treble clef, the notes that fall on the lines in ascending order are E G B D F which can easily be remembered by the phrase "Every Good Boy Deserves Fudge" in which the first letter of the words corresponds to the note name. The empty spaces between the lines in ascending order are F A C E which can easily be remembered since they spell the word "FACE". So if you put them together you get E F G A B C D E for the notes on the treble clef. I will draw a diagram to better illustrate these note names:

The following notes are from left to right named E G B D F:



[Click here to listen](#)

The following notes are from left to right named F A C E:



[Click here to listen](#)

The following picture shows all the notes on the treble clef from left to right named E F G A B C D E F:



[Click here to listen](#)

On the bass clef all the notes names are shifted down two notes. The notes on the lines in ascending order are G B D F A which can easily be remembered by the phrase "Good Boys Deserve Fudge Always". The notes in the open spaces are A C E G which can easily be remembered by the phrase "All Cows Eat Grass". Put them together and you have G A B C D E F G A. The diagrams below may better illustrate these note names for the bass clef:

The following notes are from left to right named G B D F A:



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The following notes are from left to right named A C E G:



[Click here to listen](#)

The following picture shows all the notes on the bass clef from left to right named G A B C D E F G A:



[Click here to listen](#)

Accidentals and Key Changes

Now the last thing you need to know is that not all songs are written in concert pitch (the key of C major containing all and only the white notes on the piano). The world would be a very boring place musically if all music was written in the same key, I've been to some live performances of local rock bands who played all their songs in the same key and boy does it get boring quick! Most music is written in other keys either for variety or to complement the vocalists singing range, etc.. If a song is written in a different key then some of the notes in the scale will always be played as either a sharp or a flat (those black keys on the piano). If this is the case, the first bar of the song will contain the key signature in which either sharps (indicated by the symbol \sharp) will be placed on the notes to be played as the note to the right of the regular white notes, or flats (indicated by the symbol \flat) will be placed on the appropriate lines to indicate which notes should be played as the note to the left of the regular white note. This note will be played as either the sharp or flat note indicated unless otherwise stated beside the note in a later bar of music, but as soon as that bar ends it will go back to being what the key signature specified. But there are only 15 possible key signatures and three of them are merely duplicate ways of notating the same key, so in reality there are only 12 possible keys to play music in. An example of a key signature is shown below:



[Click here to listen](#)

In the diagram above the sharp sign (\sharp) appears on the notes of F and C in the key signature. This means that all notes named F must be played as F sharp and all the notes named C must be played as C sharp. So the notes you would play in this piece of music in order would be:

D F# A D A F# D

In pieces of music with key signatures, the notes specified to be played sharp or flat would be played as sharp or flat during the whole musical piece unless they were cancelled out by a natural sign (\natural). If a natural sign is encountered in front of a note then all notes with the same name as that note within that bar would be played as the "natural" white piano notes instead of the sharp or flat ones. However, the notes in the next bar afterwards would be played as the way the key signature specifies. This can be illustrated by the picture below:



In the music above, the notes in the first bar in order from left to right would be played as D F# A C, the notes in the second bar would be played as D F A F and the notes in the third bar would be played as D F# D.

Some musical pieces may have different sections written in different keys. They will start out with a certain key signature indicating what key to play in. Later on in the song, another key signature may be specified, this means that from that point on you play the notes the way that key signature specifies until possibly another key signature is encountered. The following picture may illustrate this better:



The first two bars are in the key of D where F is played as F# and C is played as C#. The third and fourth bar are in the key of C where all notes are played as naturals (notice how the previous key signature's sharp notes are cancelled out by putting natural signs in the new key signature over those notes) and the fifth and sixth bar are in the key of F where all notes are played naturally except for B which is played as B flat.

So the notes in this piece would be played as:

D F# A C#, D C# A F#, C E G C, D C G E, F A Bb A, F

Well, that's basically all there is to reading pitch and rhythms of notes in music. There are a few things I have left out for simplicity which I will mention in later lessons. This should be enough to get you started at reading pieces of music. Of course music is not simply about pitch and rhythm, there are expressive devices such as dynamics (changes in volume (loudness) of sound), articulations (the style of what types of sound you make) and many more musical devices which I will get to in a later lesson. For now just practice trying to read music and play the right notes and rhythm correctly on your instrument.