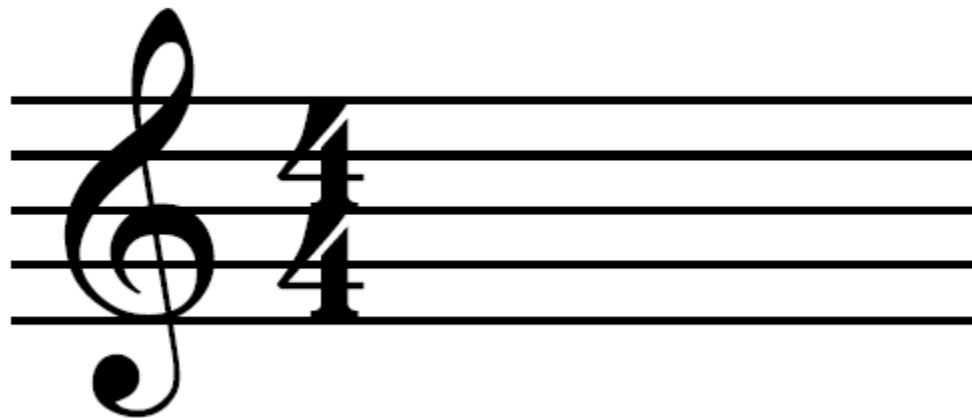


How to Read Music

- The following mini-course will show the components of written music:
 - The Staff
 - Time, Key Signatures
 - Note names, positions on the staff, note values, rest values
- The next section will be a fingering chart for “Bb” instruments
 - What sounds equate to the written music on the staff
- The 3rd section will be some advanced topics such as repeats, endings, expressions, ornaments.

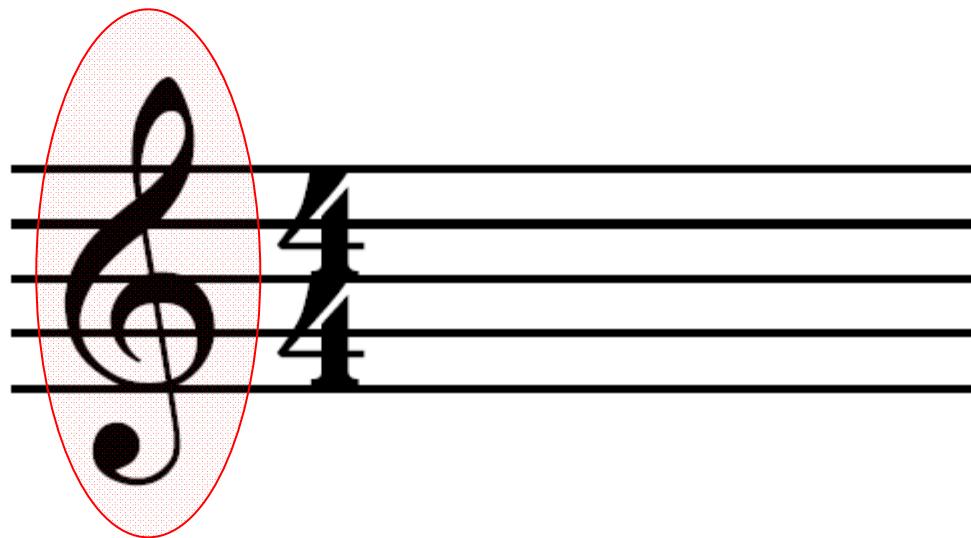
The Staff



These 5 lines are called the Staff. There are a number of parts to the staff:

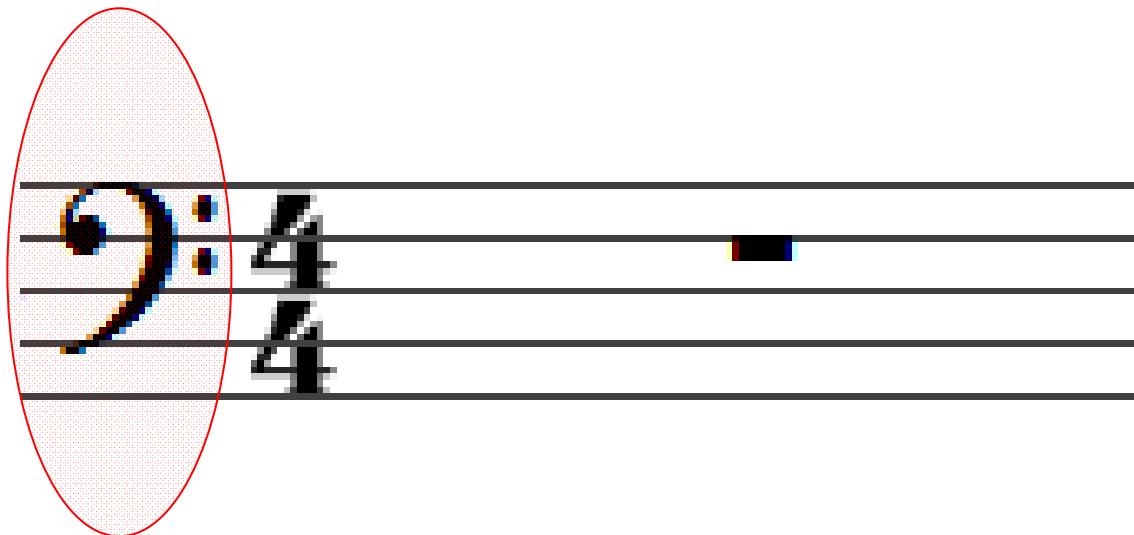
- The Clef, which defines where the notes are placed in the staff
- The Key signature, which can be blank, from 1 to 7 '#' (sharp) signs or 1 to 7 'b' (flat) signs. Much of our music will be in the key of 'C' for our instruments, so no key signature will be present.
- The Time signature, which tells us which type of note gets 1 beat and how many beats there are to a bar (sometimes called a measure).

The Clef



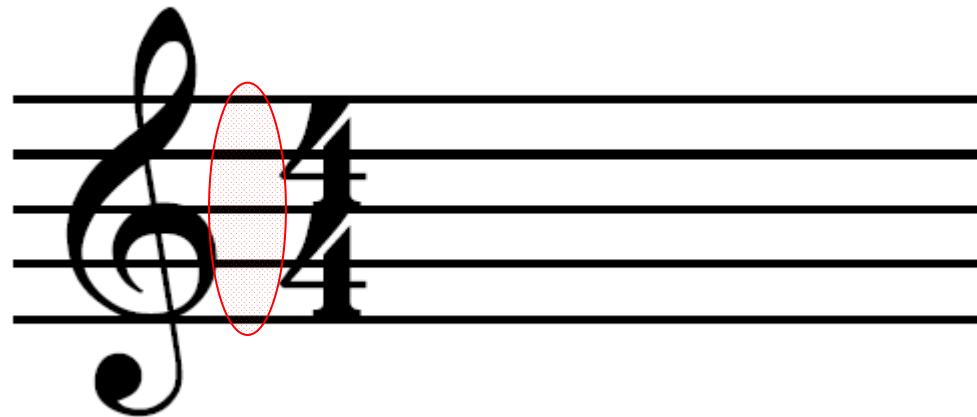
This is called the Treble Clef, and is the one that we will use most often. It defines where the notes appear in the Staff. Middle C is located in the third space from the bottom, but more on that later. The rest of the examples assume Treble Clef.

The Clef



This is called the Bass Clef, and is the one that is used by Trombones and Tubas. “C” is located in the second space from the bottom.

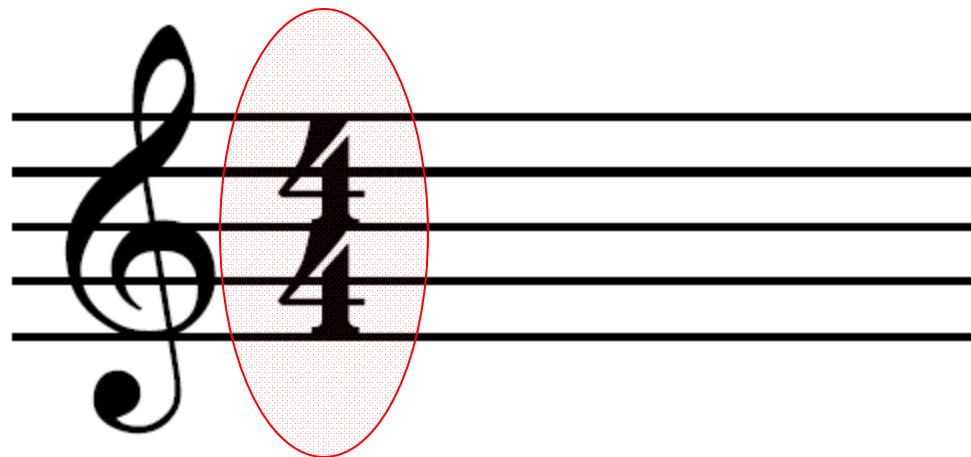
The Key Signature



No sharps or flats, it's the Key of C!

This is very common, but sometimes music is written with sharps (#) or flats (b). One thing to keep in mind: if you see one or more '#' or 'b' signs, then those sharps/flats apply to every note in the song, until either the key signature changes, or the note is modified by an accidental! More on that later.....

The Time Signature

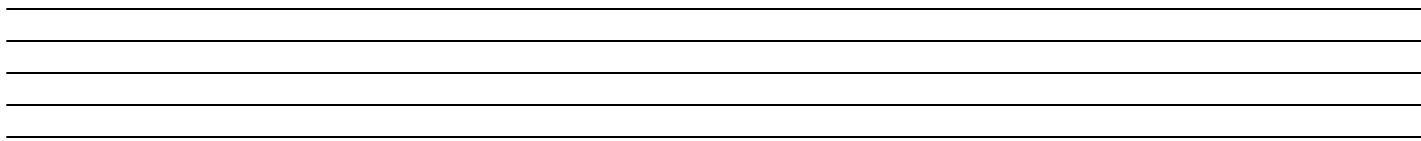


The Time Signature tells us how many beats to a bar, and which note gets 1 beat. The most common Time Signature (oddly enough, called Common Time and appears on the staff as either "C" or 4/4), is shown above. The top "4" means that there are 4 beats to a bar. The bottom "4" means that a quarter note gets 1 beat. A little later we'll see what these quarter notes look like (as well as the other notes like half notes, eighth notes, etc).

FYI - Rock 'n Roll is almost all 4 / 4 time. A waltz (like "The Blue Danube" or "Happy Birthday") is 3 / 4 time, so it has 3 beats to a bar, and a quarter note gets 1 beat.

Every now and then you'll see a C with a vertical bar through it – that means "Cut Time" or 2 / 2. This is typical of jazz or ragtime music. An example is "King Herod's Song".

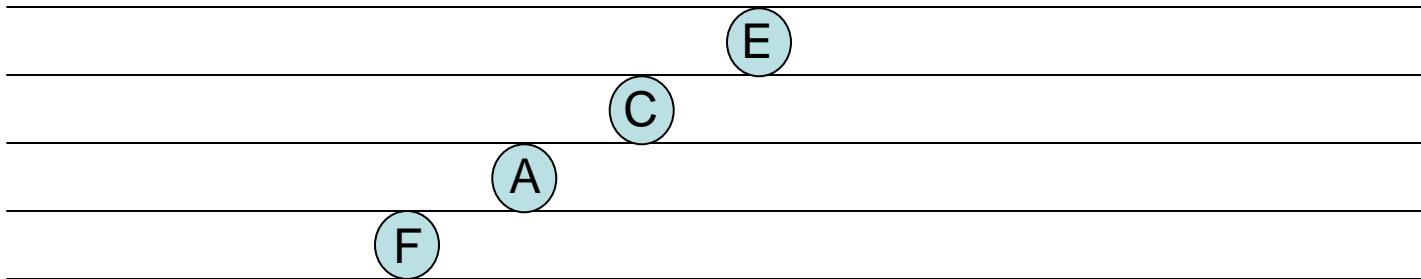
The Notes



Back to the staff lines. When we put notes on these lines, there are 2 major elements to look for:

1. What note should be played? Each note has a name that is a letter of the alphabet from “A” to “G”, and it may have a “modifier” (called an “accidental”) of sharp or flat. We’ll get to accidentals a little later, so for now we’ll stick to the basic notes of “A” through “G”. The position in the staff – either in a space or on a line – tells us which note to play.
2. How long should we play this note? This is defined by the shape of the note (e.g. filled-in or hollow, has it got a tail, are there little lines at the end of the tail, are the tails joined by a horizontal line to one or more other notes, etc.)

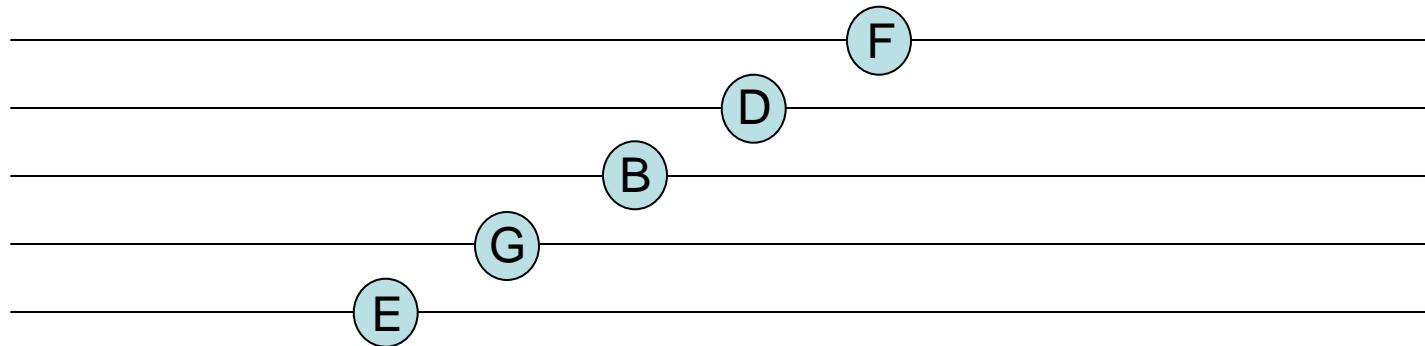
The Note Names



Let's explore the note names and where they fit on the staff in Treble Clef.

1. The note in the spaces, starting from the bottom up, are “F”, “A”, “C” and “E”
 - An easy way to remember them is they make a FACE. (Hopefully a happy one....)
 - The “C” in the third space from the bottom we call “Middle C”

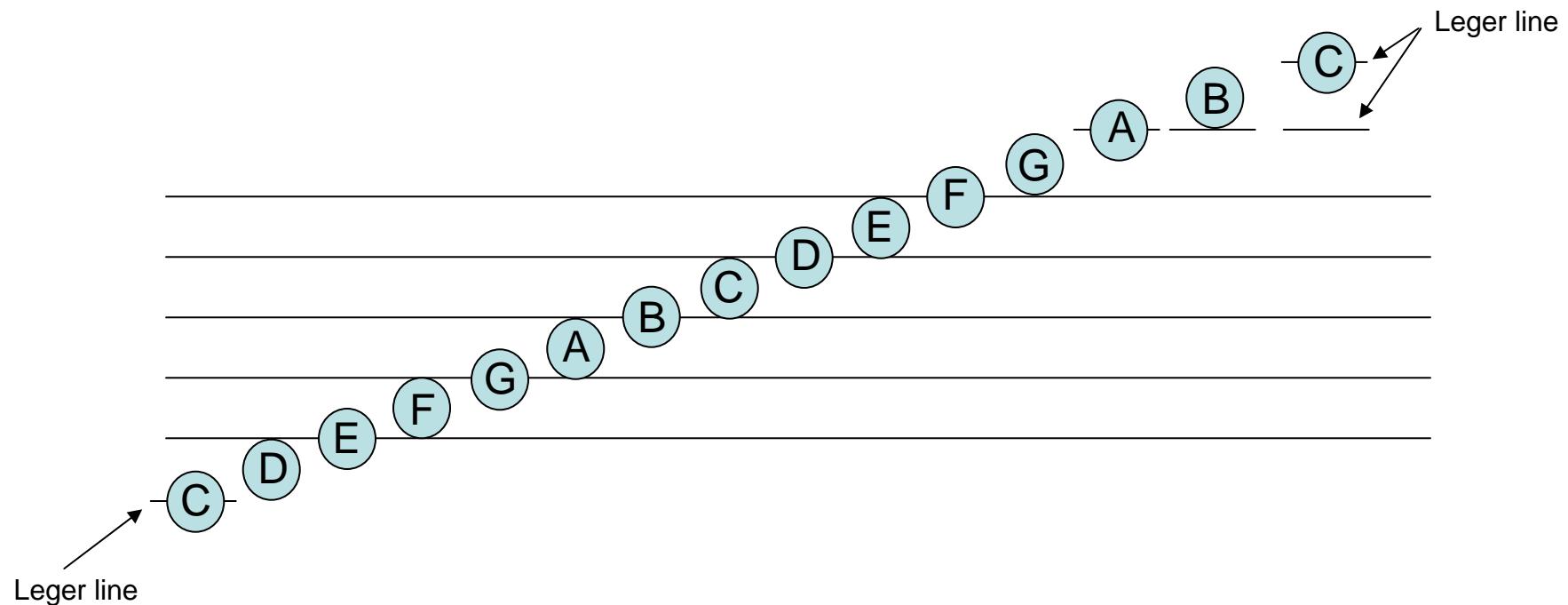
The Note Names



1. The notes on the lines, starting from the bottom up, are “E”, “G”, “B”, “D” and “F”
 - An easy way to remember them is a little phrase:

Every Good Boy Deserves Fudge

The Notes



Now that we know the notes in the staff, notes can also appear above or below the staff. In cases like that, extra lines are drawn to show where these notes fit relative to the 5 line staff. These are called “leger” lines. The picture shows notes from Low “C” (on the 1st leger line below the staff) to High “C” (on the 2nd leger line above the staff).

Sharps and Flats (a.k.a. Accidentals)

#

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

b

C → B
D → Db
E → Eb
F → E
G → Gb
A → Ab
B → Bb

Not all notes that we play are to be found in the major scales, like C Major. Often these notes need to be raised or lowered to make them fit into the proper melody or chord. If you apply the # or b sign to the notes on the left side of the above columns, you get the note to the right of the arrow.

A **sharp** sign (#) raises the note by a semi-tone.

A **flat** sign (b) lowers the note by a semi-tone.

A **natural** sign () cancels a sharp or flat.

NB: Accidentals only last for the duration of the bar!

Sharps and Flats

b

C → C# Db ← D

D → D# Eb ← E

E → F E ← F

F → F# Gb ← G

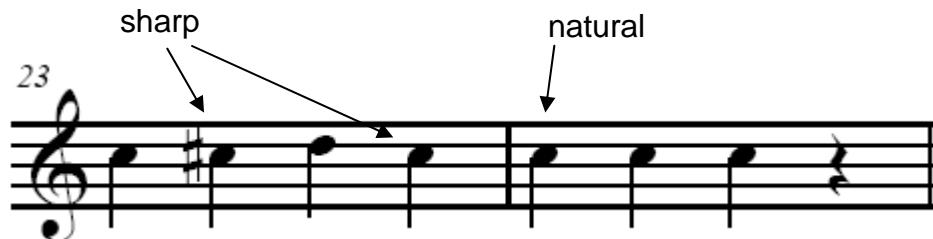
G → G# Ab ← A

A → A# Bb ← B

B → C B ← C

You'll notice that there are a number of duplicates (circled). A note will have 2 different names but sounds exactly the same. This is called Enharmonic spelling, usually done to keep things in the same "flavour" of key signature. For example, in the key of A (3 sharps), you'll see D# a whole lot more times than you'll ever see Eb.

Sharps and Flats (cont'd)

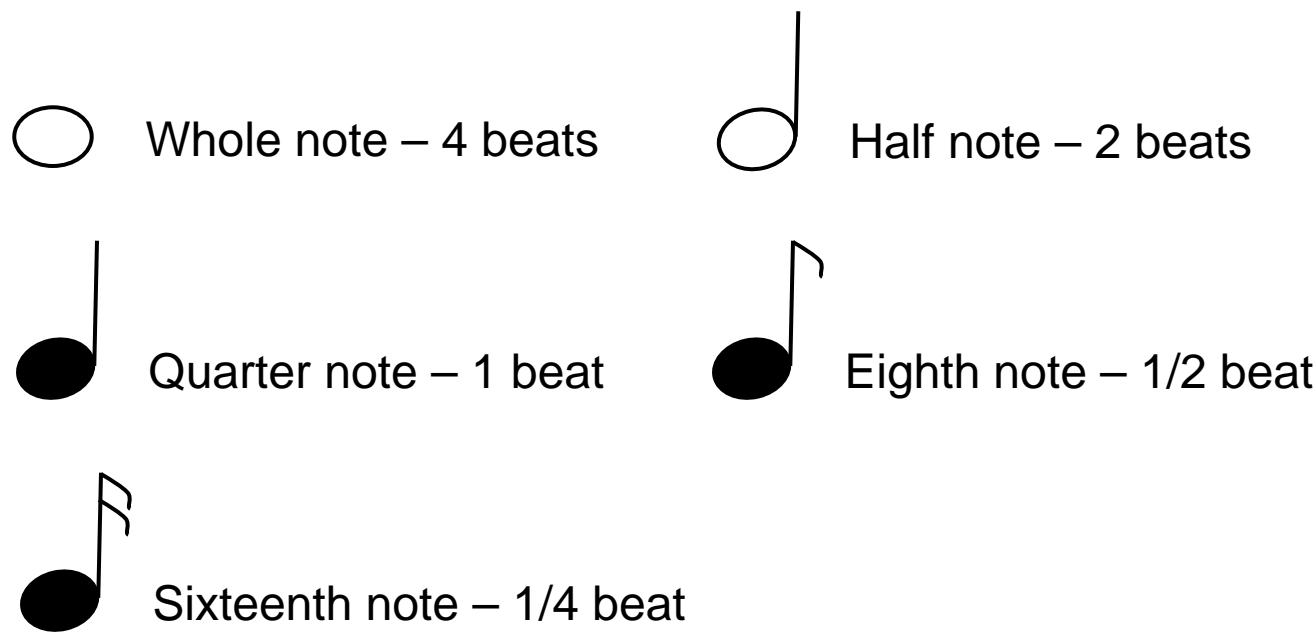


If there is an accidental (sharp, flat or natural) in a bar, then that applies to **every** occurrence of that note in that bar following the accidental, not just the first one. This also includes the same pitch in a different octave! However, this accidental does **not** affect the following bar. If there's supposed to be a sharp in the next bar, it will have to be written again.

In the above example, middle C is marked sharp for the 2nd note, so the third middle C in that bar is still sharp, although it's not marked. The middle C in the next bar is **not** played with a sharp.

The Note Values

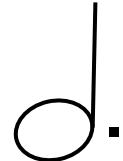
The second major part of reading music is knowing how long (or short) to play each note. We're working with 4 / 4 time, so each quarter note gets 1 beat, and there are 4 beats to a bar. Some notes we hold for 3 beats, some for 2, and so forth. Adding a tail or filling in a note cuts the length of the note in half. The picture below shows how long each note should be held:



The Note Values

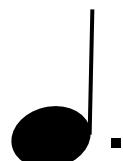
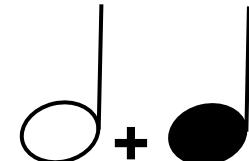
You saw from the previous table that the notes became half as long when the notes were either filled in or had a tail added to them. The other way notes can get changed is by adding a “dot” to them. A dotted note means add on half the value of the note. So a dotted half note last for 3 beats:

half note = 2, the dot means add another half of 2 (one) to make 3.



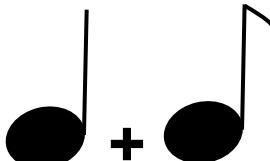
Dotted half note – 3 beats.

Same as:



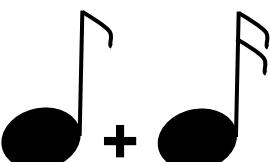
Dotted quarter note – 1 1/2 beats

Same as:



Dotted eighth note – 3 /4 beat

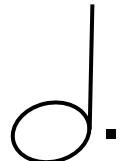
Same as:



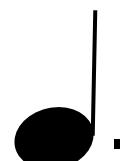
The Note Values

Besides adding dots to extend the note values, a curved line that connects the **same** note names (called a **tie**) can also be used. This tie means play the notes connected by this line as one continuous note.

This tie is not to be confused with a slur. A **slur** connects two or more different note names and means don't articulate (tongue) them. A **tie** connects only the **same** note names and means play them as one note.



Dotted half note – 3 beats.



Dotted quarter note – 1 1/2 beats

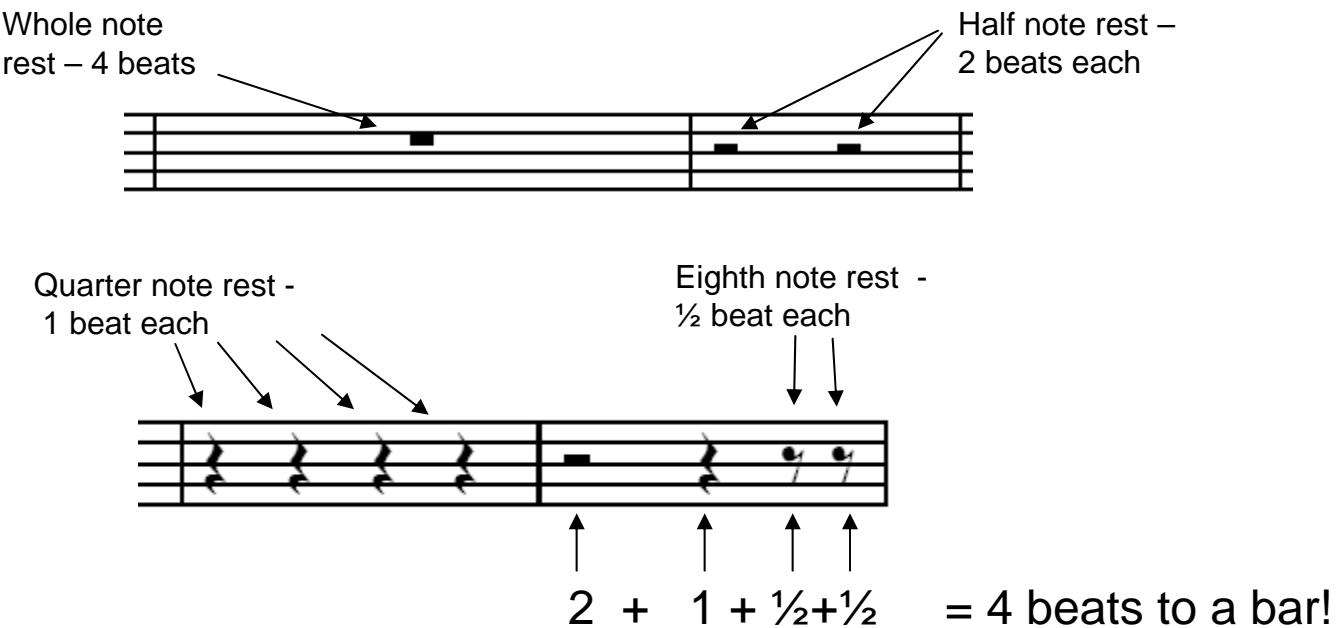


Dotted eighth note – 3 /4 beat



The Note Values - Rests

Every now and then us brass players need a break so that our faces don't start twitching with spasms. We call these welcome moments **rests**. As you can probably guess, the rests have different durations or values, just like the notes. Rests almost always appear in the same spot on the staff, even if the notes beside them are above or below the staff. Unlike notes, there usually aren't any dots or ties to confuse things.

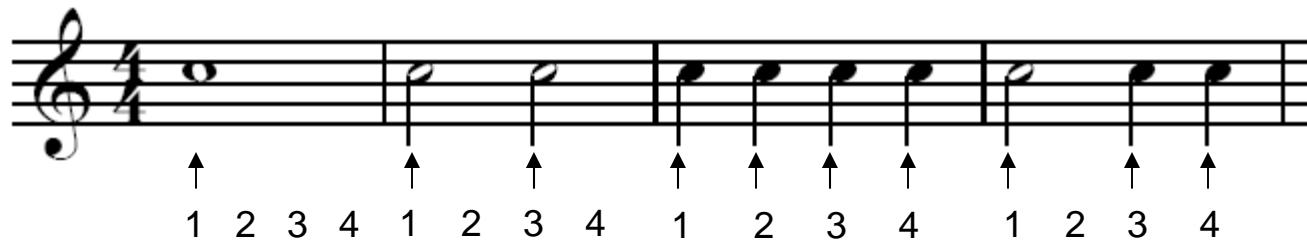


The Notes - Bars

The bottom right-hand picture on the last page kind of puts the timing all together – for 4 / 4 time, there **must be exactly 4 beats to a bar!!**

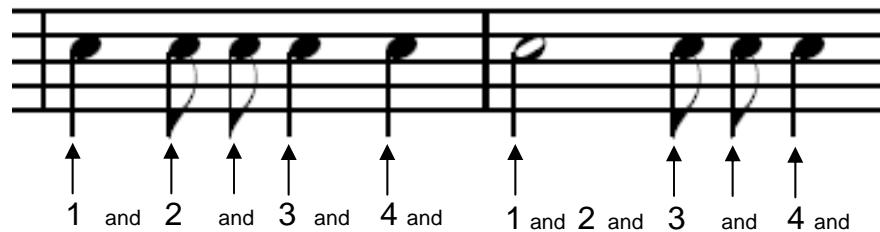
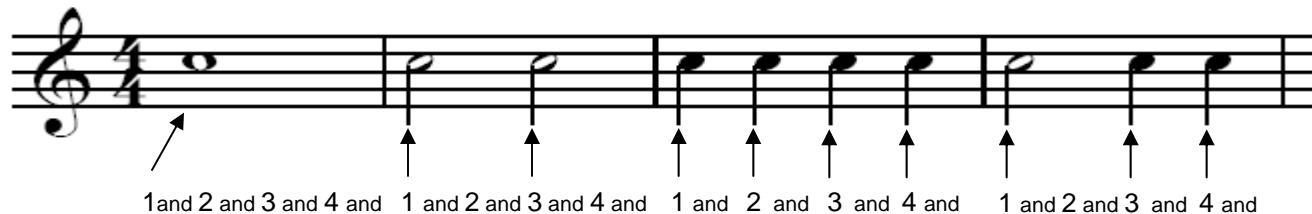
These beats will be made up of a combination of notes and rests, but it's gotta add up to 4!! The end of a bar is marked with a vertical line. More about other types of bar lines later on.....

OK, so how does it go? Well, you'll need to get good at counting to 4. Sounds trivial, but you can count to 4 in a few different ways. For example, if you put the numbers 1, 2, 3 and 4 below a bar, you can figure out which beat each note starts on. Let's pick the longer duration notes to start. I've tried to line it up so that the number corresponds to the beat number in the bar. The note is middle C.....



Timing – Eighth notes

Let's complicate it a bit. If you have eighth notes, they won't always start on a beat. They may start in the middle of a beat (offbeat), so we need another, more clever way of counting to 4. We can add the word "and" between the numbers to distinguish beats and offbeats. The first line below is same set of notes as on the last page, then we'll add another line that's got some eighth notes. The note is still middle C.....



Timing – Sixteenth notes

Let's complicate it even more. If you have sixteenth notes, they won't always start on a beat. They could also start in the middle of a beat (offbeat), so we need yet another, astoundingly clever way of counting to 4. Let's build on what we already have and fill in the spots between the numbers and the word "and" with a few more sounds, like the Canadian "eh" and the very confused "uh". So a bunch of sixteenth notes will look like:

"1 – eh – and – uh 2 – eh – and – uh 3 – eh – and – uh" and so on.
Kinda makes you feel like Lawrence Welk.....

Another approach is to make the beat sound like a 4 syllable word such as:
"al – li – ga – tor". Your choice.

1 eh and uh 2 eh and uh al li gat or al li gat or

Timing – Triplets

Let's go for the gusto and tackle triplets. By far the most common is the triplet, and what it means is play 3 notes in the time of 2 beats (quarter note triplets), or play 3 notes in the time of 1 beat (eighth note triplets). You'll know it's a triplet by a bar over top of the notes with a "3" in the middle of it. The easiest way to count this is to use a 3 syllable word such as "tri – pl - et".

Foot-tapping: left-right-left-right equates to 1 bar in 4 / 4 time. Your left foot is beats 1 and 3. For successive quarter note triplets (3 in the time of 2), you should begin saying the word "tri-pl-et" each time your left foot taps the ground. For eighth note triplets (3 in the time of 1), you should begin saying "tri-pl-et" every time either foot taps the ground.

tri - pl - et tri - pl - et

1 3 1 2 3 4

The Notes – tails, beams

You probably noticed that for notes with tails, sometimes the tails are pointing up, sometimes pointing down. This has no bearing on how you play the notes, it's just cosmetic to make it easier to read.

Another thing that is very common to see is successive eighth or sixteenth notes with their tails connected to make it easier to read. This connecting line is called a beam. One beam means eighth notes, 2 beams mean sixteenth notes. Some examples – the top line is played exactly the same way as the bottom line.

The image shows two staves of musical notation. The top staff consists of a single line of eighth notes. The bottom staff shows the same sequence of notes, but they are grouped into two-beam sixteenth-note patterns. Arrows below the bottom staff point to the note heads of the first four groups of notes, labeled 1, 2, 3, and 4. The number 1 is under the first group of two notes, 2 is under the second group of two notes, 3 is under the third group of two notes, and 4 is under the fourth group of two notes. This indicates that each numbered beam represents a pair of eighth notes combined into a single sixteenth note.

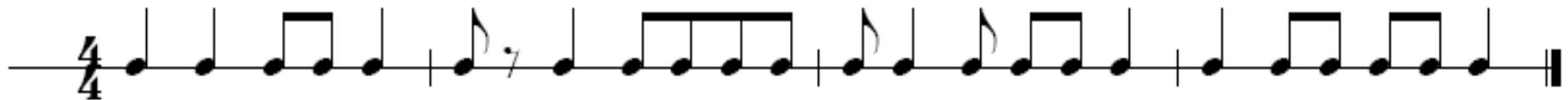
Sight Reading Exercises- Rhythm

The next few pages are rhythm tests – the idea is to be able to decipher the rhythm quickly so you know where each note fits in the context of a beat.



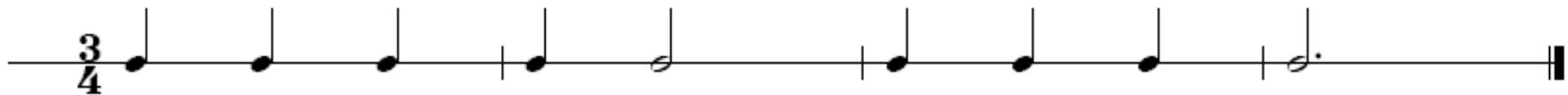
Sight Reading Exercises- Rhythm (cont'd)

Some 8th notes to mix it up a bit.....



Sight Reading Exercises- Rhythm (cont'd)

Waltz me around again, Willy.....



Sight Reading Exercises- Rhythm (cont'd)

Drummers, if you please.....



Fingering Chart – 3 Valve Instrument

Here's the fingering chart for all the notes that can be played on a 3-valve instrument from Low F# up to High C. Anything above High C can be played with the same fingering as the octave below it. 0 means open, 1=1st valve (the one closest to you), 2=2nd (middle) valve, and 1,2 means 1st and 2nd valve, and so on. This chart will be done with notes “spelled” in sharps, then the same note will be “spelled” with flats as appropriate. Just trying to keep you confused.....

The image displays three staves of musical notation, each starting with a treble clef and a key signature of one sharp (F#). The first staff begins at measure 1, the second at measure 8, and the third at measure 15. Each staff consists of ten measures. Below each measure, a sequence of numbers indicates the valve settings: 1, 2, or 3 (representing 1st, 2nd, or both valves closed) followed by 0 (representing the valve open). The notes are represented by vertical stems with small circles at the top, and some notes have horizontal dashes extending from them, likely indicating grace notes or specific performance techniques.

1 1,2,3 1,3 2,3 1,2 1 2 0 1,2,3 1,3 2,3

8 1,2 1 2 0 2,3 1,2 1 2 0 1,2

15 1 2 0 1 2 0 2,3 1,2 1 2 0 27

Fingering Chart – 2 Valve Instrument

Here's the fingering chart for all the notes that can be played on a 2-valve (or Valve + Rotor) instrument from Low F# up to High C. Anything above High C can be played with the same fingering as the octave below it. 0=open, 1=valve, 2=rotor and 1,2 means both. This chart will be done with notes "spelled" in flats, then the same note will be "spelled" with sharps as appropriate. It's the same as the previous chart, but a red "X" will be placed under notes that can't be played.

1

2

3

Sight Reading Exercises

Here's a bunch of familiar tunes that are good for figuring out timing and notes. You'll know right away if you didn't get it right!



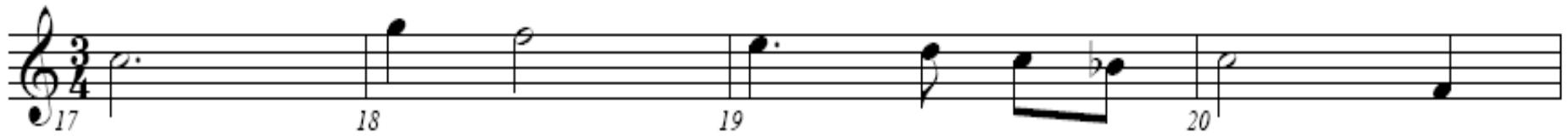
Sight Reading Exercises

This one's got a little bit of syncopation (notes don't start on the beat).



Sight Reading Exercises

Another twist – take a good look at the Time signature, and there's a few off-beat notes as well.



Putting it All Together – So far

Here's an easy tune that everyone is familiar with, namely "Mary Had a Little Lamb". It's mostly quarter notes, with the occasional half note. I'll put the note names and fingerings under the notes. 0 means open, 1=1st valve (the one closest to you), 2=2nd (middle) valve, and 1,2 means 1st and 2nd valve. If you are using a "G" bugle, 1=valve, 2=rotor and 1,2 means both.

Musical notation for "Mary Had a Little Lamb" in G major, 4/4 time. The notes are labeled with their names (B, A, G, etc.) and fingerings (0, 1, 2, 1,2) underneath them.

Staff 1 (Measures 1-4): B (2), A (1,2), G (0), A (1,2), B (2), B (2), B (2), A (1,2), A (1,2), A (1,2), B (2), D (1), D (1).

Staff 2 (Measures 5-8): B (2), A (1,2), G (0), A (1,2), B (2), B (2), B (2), B (2), A (1,2), A (1,2), B (2), A (1,2), G (0).

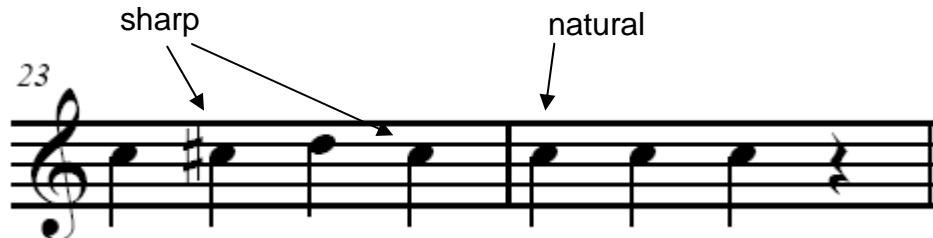
Key Signatures

Back at the beginning we looked at parts of the Staff, one of them being key signatures. We need to worry about this because some music sounds better (or doesn't have any unplayable notes) in certain keys. There are 12 possible keys, but we'll probably use a couple of different ones at most.

|The key signature will consist of no sharps or flats (Key of C), 1 to 7 flats, or 1 to 7 sharps. What it means is that wherever the sharps or flats appear in the key signature, those notes **MUST** be played with a sharp or flat in every bar, regardless of octave, unless it's specifically changed within a bar, or until the key signature changes to something else.

Covered this already, but worth repeating. If there is an accidental (sharp, flat or natural) in a bar, then that applies to **every** occurrence of that note in that bar following the accidental, not just the first one. This also includes the same pitch in a different octave! However, this accidental does **not** affect the following bar. If there's supposed to be a sharp in the next bar, it will have to be written again.

In the following example, middle C is marked sharp for the 2nd note, so the third middle C in that bar is still sharp, although it's not marked. The middle C in the next bar is **not** played with a sharp.



Key Signatures

Here's the shopping list of keys with the number of sharps/flats and which notes are affected. You'll notice that each successive key contains all of the sharps/flats of the previous key, so once you've memorized the first couple of keys (1 to 2 sharps or flats), that will likely cover the vast majority of music that you'll see.

Key	No. of	Affected	Key	No. of	Affected
<u>Signature</u>	<u>Sharps</u>	<u>Notes</u>	<u>Signature</u>	<u>Flats</u>	<u>Notes</u>
C	-	-	C	-	-
G	1	F	F	1	B
D	2	F,C	Bb	2	B,E
A	3	F,C,G	Eb	3	B,E,A
E	4	F,C,G,D	Ab	4	B,E,A,D
B	5	F,C,G,D,A	Db	5	B,E,A,D,G
F#	6	F,C,G,D,A,E	Gb	6	B,E,A,D,G,C
C#	7	F,C,G,D,A,E,B	Cb	7	B,E,A,D,G,C,F

Key Signatures

Agreed, this key signature stuff is confusing, but once you get the hang of it, it will become very straightforward. Here are some examples of what a key signature looks like (we'll use the most common ones), and to illustrate the point, let's have a look at another classic tune "Happy Birthday" in these different key signatures. As you're playing this tune, you'll know immediately if you forgot a flat or sharp!!

C Major – no sharps or flats

The image shows two staves of musical notation. The top staff begins with a treble clef, a key signature of one sharp (F#), and a 3/4 time signature. It consists of six measures of music. The bottom staff begins with a treble clef, a key signature of zero sharps or flats, and a 3/4 time signature. It also consists of six measures of music. The notes are primarily quarter notes and eighth notes, with some rests.

Key Signatures - Sharps

In the next few examples, Highlighted notes that must be played sharp or flat appear in a coloured box. I've also taken some liberties with the octaves to make this easier to play.

G Major – 1 sharp

Musical staff for G Major, measure 10. The key signature has one sharp. The staff shows a sequence of notes: a rest, followed by a quarter note, eighth note, eighth note, quarter note. The eighth note in the 11th measure is highlighted with a red dotted box.

Musical staff for G Major, measure 14. The key signature has one sharp. The staff shows a sequence of notes: a quarter note, eighth note, eighth note, quarter note. The eighth note in the 15th measure is highlighted with a red dotted box.

D Major – 2 sharps

Musical staff for D Major, measure 19. The key signature has two sharps. The staff shows a sequence of notes: a rest, followed by a quarter note, eighth note, eighth note, quarter note. The eighth note in the 20th measure is highlighted with a red dotted box.

Musical staff for D Major, measure 23. The key signature has two sharps. The staff shows a sequence of notes: a quarter note, eighth note, eighth note, quarter note. The eighth note in the 24th measure is highlighted with a red dotted box, along with the eighth note in the previous measure.

Key Signatures - Flats

F Major – 1 flat

Musical notation for F Major (one flat). The first measure (28) has a rest. The second measure starts with a quarter note followed by eighth notes. The third measure starts with a quarter note followed by eighth notes. The fourth measure starts with a quarter note followed by eighth notes. The fifth measure starts with a quarter note followed by eighth notes. The sixth measure starts with a quarter note followed by eighth notes. The seventh measure starts with a quarter note followed by eighth notes.

Measure 32 shows a similar pattern. The first six measures are identical to the ones above. The seventh measure starts with a quarter note followed by eighth notes. The eighth measure starts with a quarter note followed by eighth notes. The ninth measure starts with a quarter note followed by eighth notes. The tenth measure starts with a quarter note followed by eighth notes.

Bb Major – 2 flats

Musical notation for Bb Major (two flats). The first measure (37) has a rest. The second measure starts with a quarter note followed by eighth notes. The third measure starts with a quarter note followed by eighth notes. The fourth measure starts with a quarter note followed by eighth notes. The fifth measure starts with a quarter note followed by eighth notes. The sixth measure starts with a quarter note followed by eighth notes. The seventh measure starts with a quarter note followed by eighth notes.

Measure 41 shows a similar pattern. The first three measures are identical to the ones above. The fourth measure starts with a quarter note followed by eighth notes. The fifth measure starts with a quarter note followed by eighth notes. The sixth measure starts with a quarter note followed by eighth notes. The seventh measure starts with a quarter note followed by eighth notes. The eighth measure starts with a quarter note followed by eighth notes.

Bars – Advanced Topics

Much of music is repetitive, for example: multiple refrains with a repeated chorus. Some repeated sections are identical, while others are identical for the most of it, but the endings are slightly different. Rather than writing the music twice, it's easier to use "repeat signs", and optionally a repeat with different 1st and 2nd endings.

This examples shows a straight 2 bar repeat. Play it REALLY slowly and see if you recognize it.

Begin Repeat sign

End Repeat sign -
Means "Go back to
the Begin Repeat
Sign"

7 8

These repeat signs mean play bars 7 and 8, then go back and play bars 7 and 8 again.

Bars – Advanced Topics

This next examples shows “Mary Had A Little Lamb” with different 1st and 2nd endings.

Begin Repeat sign

1st Ending sign -
Means “Play these bars the first time through until you reach the End Repeat sign. The second time you reach this spot, jump to the 2nd ending”

End Repeat sign -
Means “Go back to the Begin Repeat Sign”

2nd Ending sign -
Means “Play these bars the second time through instead of playing the 1st ending”

The musical score consists of a single staff in treble clef and common time. It features a key signature of one sharp. The score is divided into six numbered bars. Bar 1 starts with a treble clef and a key signature of one sharp. Bar 2 contains a repeat sign. Bar 3 begins a first ending section, indicated by a bracket labeled '1'. Bar 4 ends with a repeat sign, indicated by a bracket labeled '2'. Bar 5 begins a second ending section, indicated by a bracket labeled '2'. Bar 6 ends the piece.

This a little more complicated, so here's the roadmap:

Play bars 1, 2, 3, 4. Bars 3 and 4 are the first ending, so they get played 1st time through only.
Play bars 1, 2 again. The repeat sign at the end of bar 4 means go back to bar 1 (Begin repeat)
Play bars 5, 6. You've already played the 1st ending, so at the end of bar 2, jump to the beginning of the 2nd ending, which is bar 5.

So the bar number sequence will be: 1 – 2 – 3 – 4 – 1 – 2 – 5 - 6

Ornaments, Expressions, Style

Music is a way of expressing emotions, so we need some kind of guidance to know what kind of emotions the composer/arranger had in mind. Are we supposed to be screaming from a rooftop, or crooning a love song? Should these notes be played with strong articulation, (machine-gun style), or should they flow into each other like a soft lullaby?

That info is conveyed in the music score with expression markings, style markings and ornaments. Any Italians in the crowd will have a big head-start, as music markings are in Italian! May not have the exact translations right, but I think you'll be able to figure out the intent.

Some of the more common ones that appear under the bars:

p = pianissimo (soft, quiet) **m** = mezzo (average, middle) **f** = forte (strong, loud)

ppp **pp** **p** **mf** **f** **ff** **fff**

Softest ←————— Softer Medium Louder —————→ Loudest

Legato – Smooth, flowing

Staccato – Short & detached

Crescendo – Volume gradually gets louder
also shown as:

Decrescendo – Volume gradually gets softer
also shown as:

Tempo – Time, how slow/fast to play

Largo – Slow and Stately

Andante – Slow, but not too slow

Moderato – Medium tempo

Allegro – Fast tempo

Presto – Very fast tempo

Ornaments, Expressions, Style

As well as markings that apply to the overall song, often there will be markings that show how each note should be played. These markings typically appear over the notehead, but may show up below the note for ease of reading.

The most common ones are:

- > Emphasized (strong attack), play full value
- ^ Emphasized, but short and detached
- Staccato, short and detached
- Legato, play full value

“Mary had a Little Lamb” with some different expressions:



Next Steps

Like any skill, it will require practice to develop/maintain proficiency, so any written music that you can get your hands is worthy trying. If the rhythm looks too difficult to figure out, try the “divide and conquer approach” – put a pencil mark above each beat in this tricky bar/passage, and that will help you figure out where each note is supposed to go.

As for the notes themselves, at first you may want to pencil in the note names/fingerings, but try to get past that so that you can instantly recognize a note and how to play it. That’s one big step out of the way, then you’ll only be left with working out the rhythm (which will also become easier with practice).

When in doubt, go slow! Accuracy counts for more than speed when you’re working on a tune!