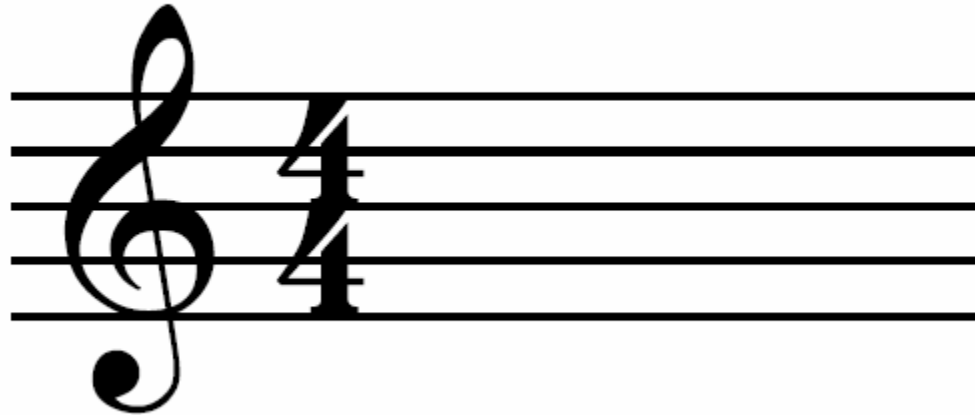


# How to Read Music

- 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 “G” instruments
  - What sounds equate to the written music on the staff
  - What notes can/cannot be played on a 2-valve or valve + rotor instrument
- The 3<sup>rd</sup> section will be some advanced topics such as repeats, endings, expressions, ornaments
- Time and cleverness permitting, I hope to get some of these charts and other songs into a Movie format that you can play on your PC to hear what this stuff sounds like. Maybe even play-along.

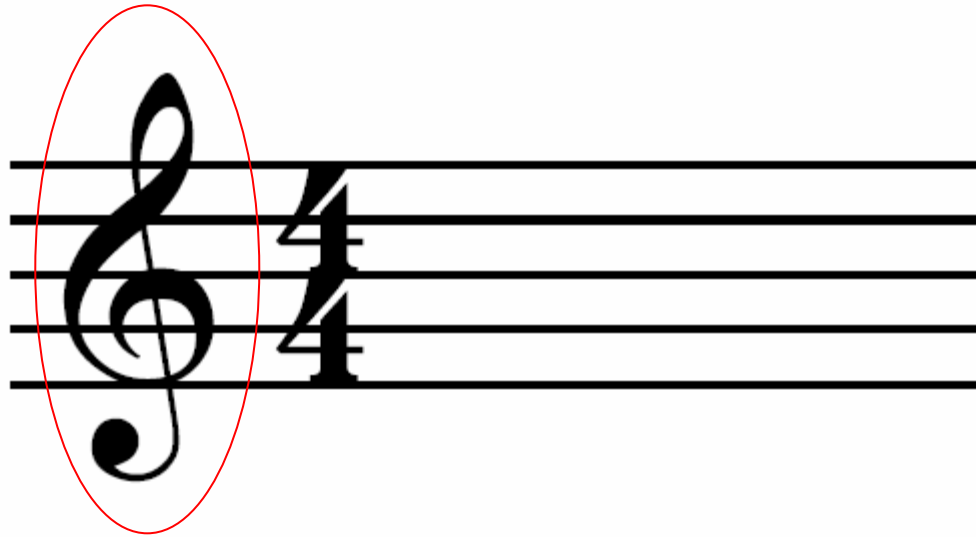
# The Staff



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. Most 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).

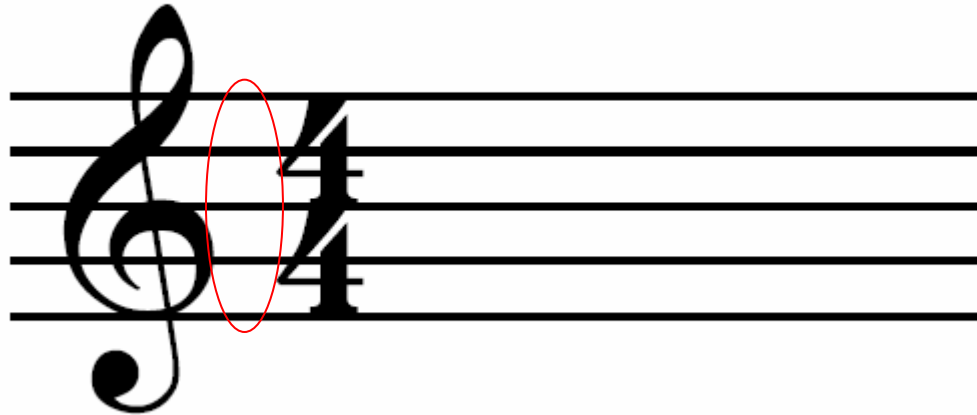
# The Clef



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 second space from the top, but more on that later.

Lower Brass instrument parts are often written in Bass Clef, but we won't address that in this mini-course, as our lower brass will be written in Treble Clef.

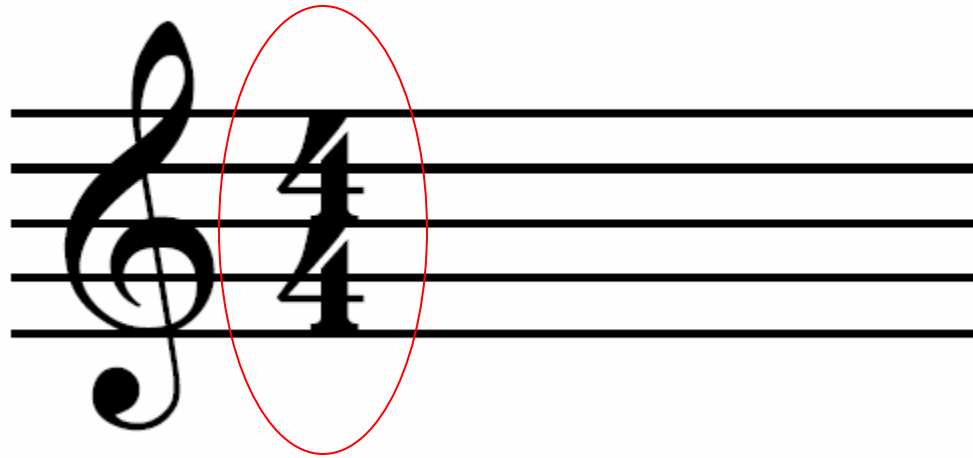
# The Key Signature



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 the key signature changes! 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 “C”), 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 note, 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.

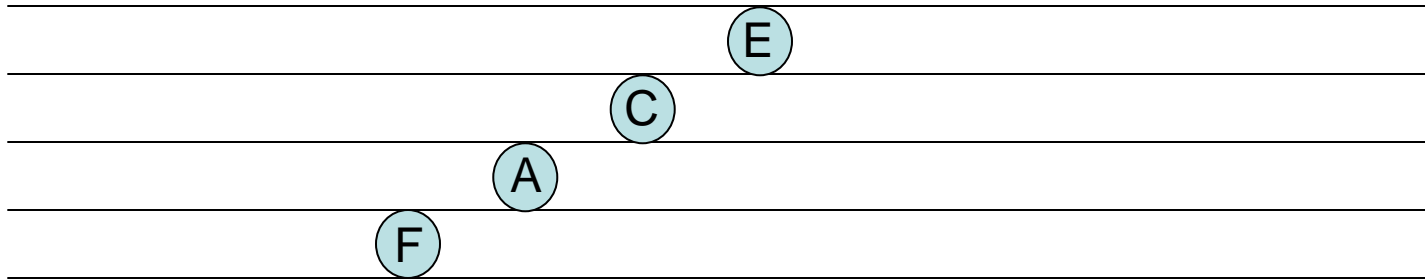
# The Notes



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.)

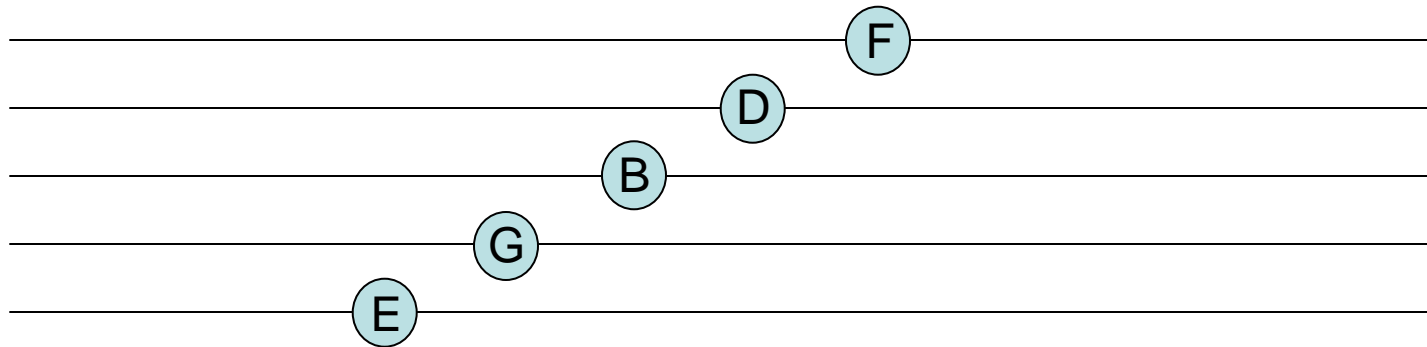
# The Note Names



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

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 second space we call "Middle C"

# The Note Names

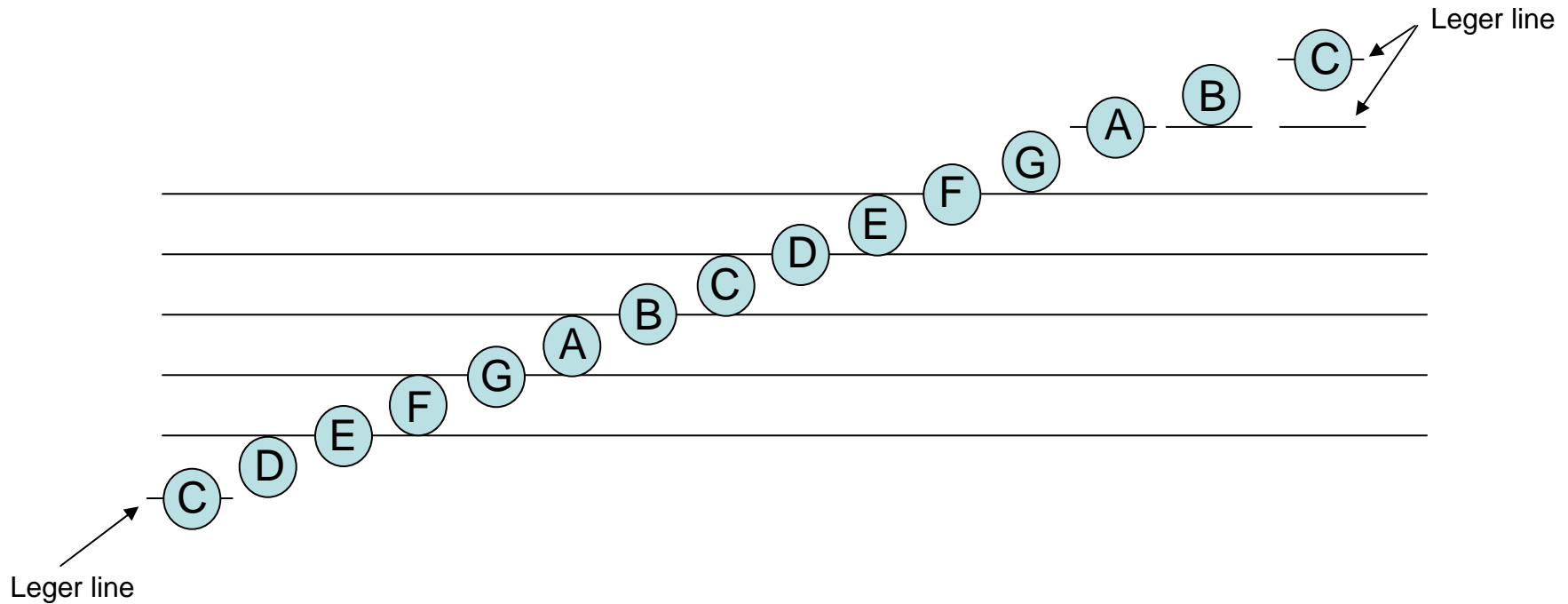


1. The notes on the lines, starting from the bottom up, are “E”, “G”, “B”, “D” and “F”
  - An easy way to remember them is a little phrase:

Every **G**ood **B**oy **D**eserves **F**udge



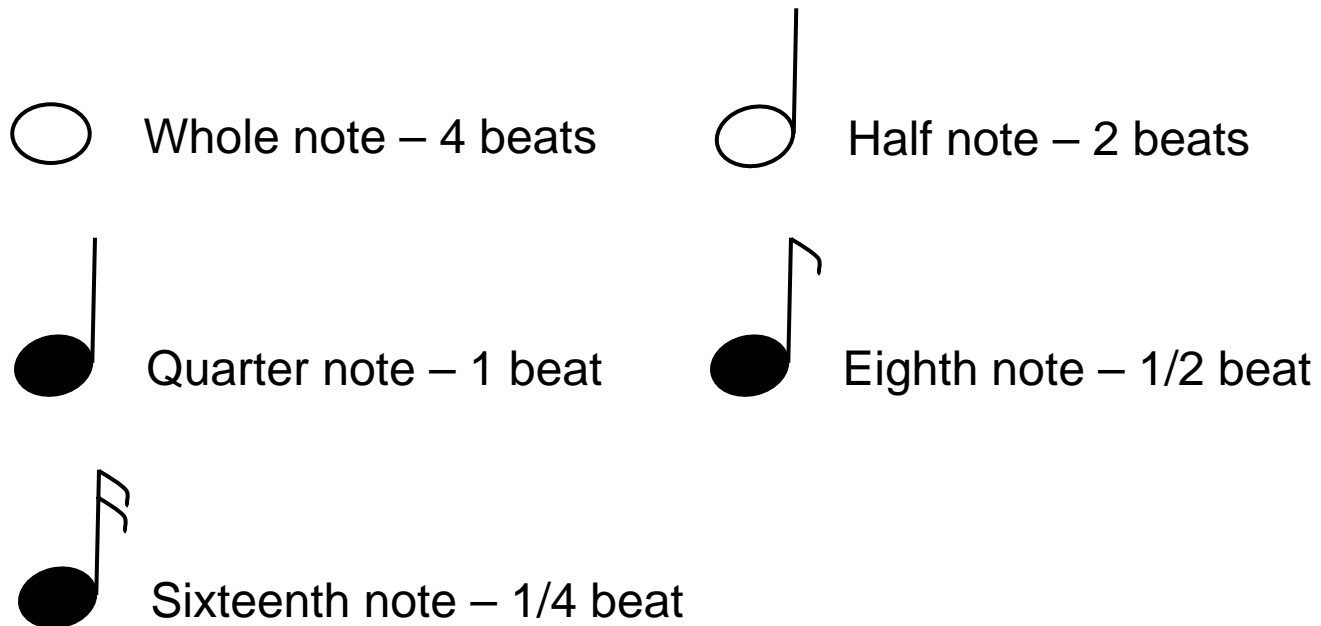
# The Notes



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 1<sup>st</sup> leger line below the staff) to High “C” (on the 2<sup>nd</sup> leger line above the staff).

# The Note Values

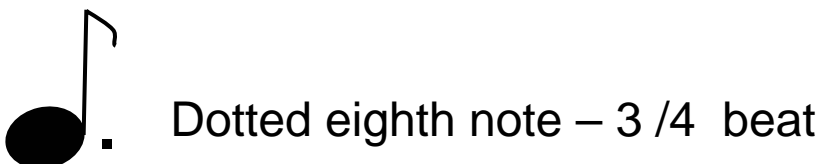
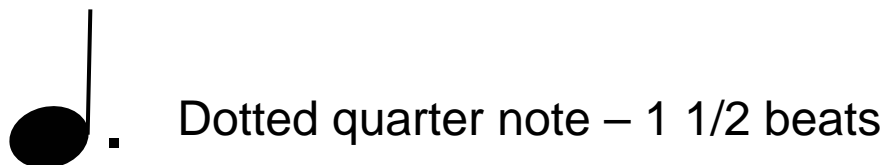
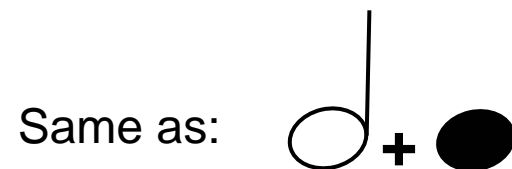
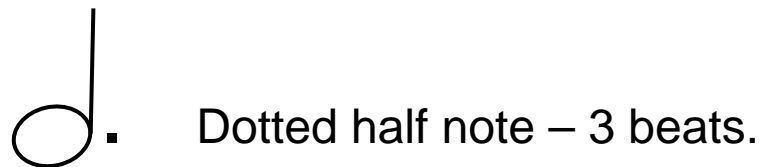
The second major part of reading music is knowing how long (or short) to play each note. We're working with 4 / 4 time, so each quarter note gets 1 beat, and there are 4 beats to a bar. Some notes we hold for 3 beats, some for 2, and so forth. The picture below shows how long each note should be held:



# The Note Values

You might have noticed from the previous table that the notes became half as long as 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:

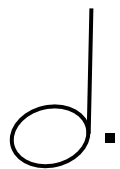
half note = 2, the dot means add another half of 2 (one) to make 3.



# The Note Values

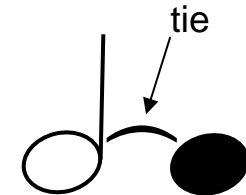
Besides adding dots to extend the note values, a curved line that connects the **same** note names (called a **tie**) can also be used. This tie means play the notes connected by this line as one continuous note.

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.



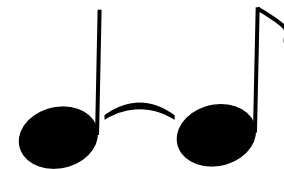
Dotted half note – 3 beats.

Same as:



Dotted quarter note – 1 1/2 beats

Same as:



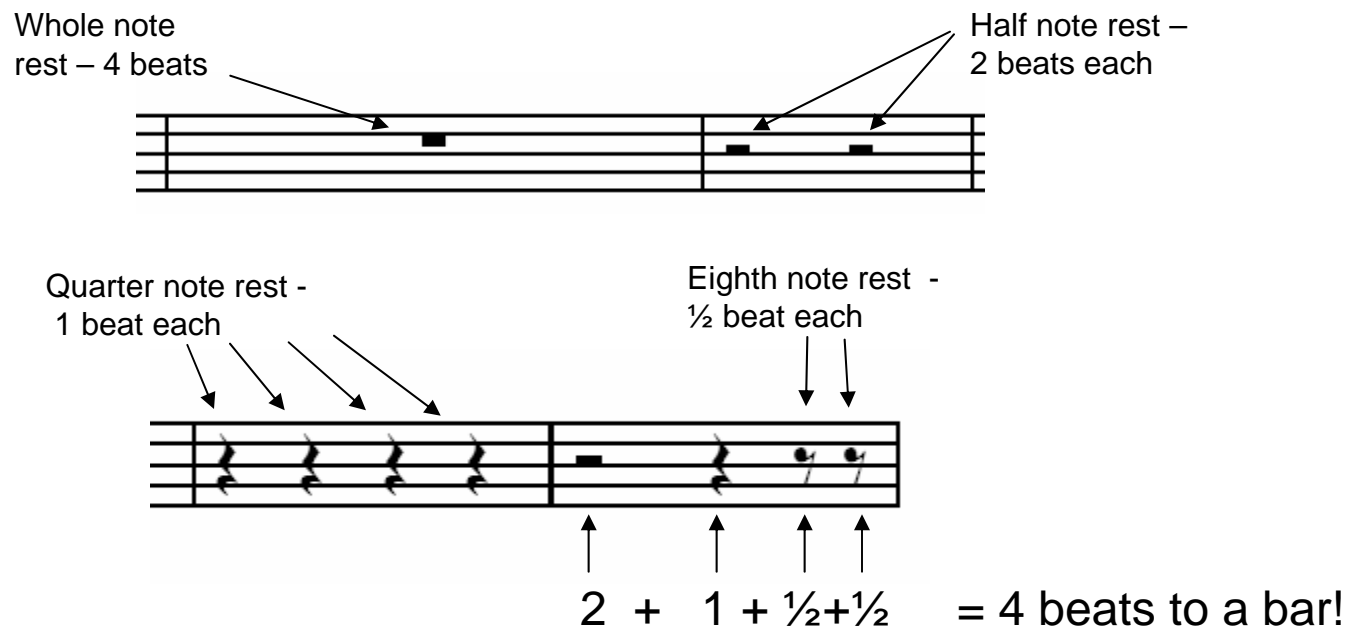
Dotted eighth note – 3/4 beat

Same as:



# 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 aren't any dots or ties to confuse things.



Whole note rest – 4 beats

Half note rest – 2 beats each

Quarter note rest - 1 beat each

Eighth note rest -  $\frac{1}{2}$  beat each

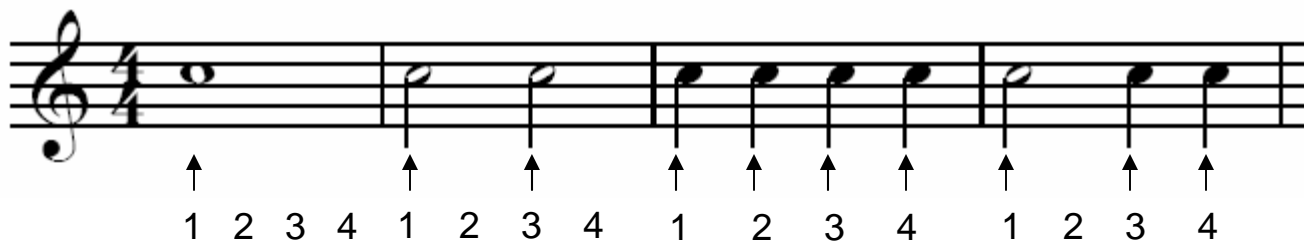
$2 + 1 + \frac{1}{2} + \frac{1}{2} = 4$  beats to a bar!

# 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.....

1 and 2 and 3 and 4 and 1 and 2 and 3 and 4 and 1 and 2 and 3 and 4 and 1 and 2 and 3 and 4 and

1 and 2 and 3 and 4 and 1 and 2 and 3 and 4 and

# 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 tuplets. 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    tri - pl - et    tri - pl - et    tri - pl - et

The image shows a musical staff with two systems. The first system contains two quarter note triplets, each with a bracket above it labeled '3'. Below the staff, arrows point to the first and third notes of each triplet, with the numbers '1' and '3' written below them. The second system contains three eighth note triplets, each with a bracket above it labeled '3'. Below the staff, arrows point to the first, second, and third notes of each triplet, with the numbers '1', '2', and '3' written below them. A final arrow points to the fourth note of the staff, with the number '4' written below it.

# 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 displays two musical staves. The top staff, labeled with a '5' above the first note, shows a sequence of notes: a quarter note, an eighth note, another eighth note, a quarter note, a pair of beamed sixteenth notes, a quarter note, another eighth note, and a final eighth note. The stems of the eighth notes point in alternating directions (up, down, up, down). The bottom staff, labeled with a '7' above the first note, shows the same sequence of notes but with all stems pointing upwards. The beamed sixteenth notes are also present. Below the bottom staff, the numbers 1, 2, 3, 4 are placed under the first four notes, and 1, 2, 3, 4 are placed under the last four notes, indicating the fingering for each note.

# 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 chart consists of three staves of musical notation in treble clef, 4/4 time. Each staff contains a sequence of notes with their corresponding fingering numbers written below them. Dashed lines connect notes that are an octave apart.

Staff 1 (Notes 1-7):  
1,2,3 (F#), 1,3 (G), 2,3 (A), 1,2 (B), 1 (C), 2 (D), 0 (E)

Staff 2 (Notes 8-14):  
1,2,3 (F#), 1,3 (G), 2,3 (A), 1,2 (B), 1 (C), 2 (D), 0 (E), 1,2,3 (F#), 1,3 (G), 2,3 (A)

Staff 3 (Notes 15-19):  
1 (B), 2 (C), 0 (D), 1 (E), 2 (F), 0 (G), 2,3 (A), 1,2 (B), 1 (C), 2 (D), 0 (E), 19 (F#)

# 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 1 2 0 X X X  
8 1,2 1 2 0 X 1,2 1 2 0 1,2  
15 1 2 0 1 2 0 1 1,2 1 2 0 20

## 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=1<sup>st</sup> valve (the one closest to you), 2=2<sup>nd</sup> (middle) valve, and 1,2 means 1<sup>st</sup> and 2<sup>nd</sup> valve. If you are using a "G" bugle, 1=valve, 2=rotor and 1,2 means both.

The image shows two staves of musical notation for the tune "Mary Had a Little Lamb" in 4/4 time. The first staff contains the first 12 notes, and the second staff contains the remaining 12 notes. Each note is accompanied by its letter name and a number or combination of numbers indicating the valve or rotor setting. The notes are: B, A, G, A, B, B, B, A, A, A, B, D, D, B, A, G, A, B, B, B, B, A, A, B, A, G.

B	A	G	A	B	B	B	A	A	A	B	D	D	B	A	G	A	B	B	B	B	A	A	B	A	G
2	1,2	0	1,2	2	2	2	1,2	1,2	1,2	2	1	1	2	1,2	0	1,2	2	2	2	2	1,2	1,2	2	1,2	0

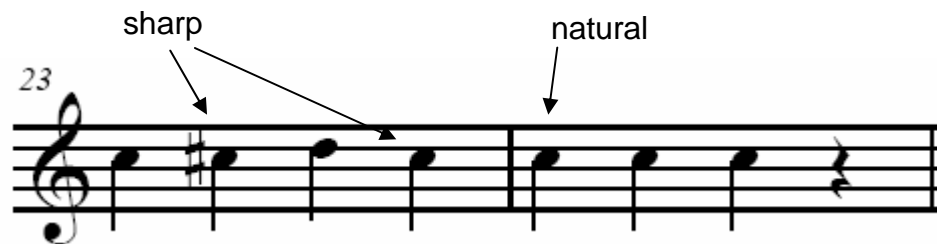
# Key Signatures

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.

Oh yeah, almost forgot. If there is an accidental (sharp, flat or natural) in a bar, then that applies to **every** occurrence of that note in that bar, not just the first one. 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 second 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.

<b>Key</b>	<b>No. of</b>	<b>Affected</b>	<b>Key</b>	<b>No. of</b>	<b>Affected</b>
<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





# 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



## D Major – 2 sharps



# Key Signatures - Flats

## F Major – 1 flat

28



32



Musical notation for F Major (1 flat) in treble clef. The first staff (measures 28-31) shows a sequence of notes: F4, G4, A4, Bb4, C5, Bb4, A4, G4, F4. The second staff (measures 32-35) shows a sequence of notes: F4, G4, A4, Bb4, C5, Bb4, A4, G4, F4.

## Bb Major – 2 flats

37



41



Musical notation for Bb Major (2 flats) in treble clef. The first staff (measures 37-40) shows a sequence of notes: Bb4, C5, D5, Eb5, F5, Eb5, D5, C5, Bb4. The second staff (measures 41-44) shows a sequence of notes: Bb4, C5, D5, Eb5, F5, Eb5, D5, C5, Bb4.

# 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 1<sup>st</sup> and 2<sup>nd</sup> 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

The image shows a single staff of music in treble clef. The first two bars are marked with a repeat sign (two vertical lines with two dots in between). The first bar contains a quarter note G4, a quarter note A4, and a quarter note B4. The second bar contains a quarter note C5, a quarter note B4, and a quarter note A4. The third bar contains a quarter note G4, a quarter note F4, and a quarter note E4. The fourth bar contains a quarter note D4, a quarter note C4, and a quarter note B3. The fifth bar contains a quarter note A3, a quarter note G3, and a quarter note F3. The sixth bar contains a quarter note E3, a quarter note D3, and a quarter note C3. The seventh bar contains a quarter note B2, a quarter note A2, and a quarter note G2. The eighth bar contains a quarter note F2, a quarter note E2, and a quarter note D2. The music ends with a repeat sign. Arrows point from the text labels to the beginning and end of the repeat sign.

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 1<sup>st</sup> and 2<sup>nd</sup> endings.

1<sup>st</sup> 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 2<sup>nd</sup> ending”

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

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

Begin Repeat sign

1 2 3 4 5 6

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 1<sup>st</sup> 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 1<sup>st</sup> ending, so at the end of bar 2, jump to the beginning of the 2<sup>nd</sup> 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 lullabye?

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)



*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!