

# Music Theory Primer

In studying **music theory** we seek to gain a greater understanding of the practice and possibilities that exist within music.

**Music** is constructed of various elements or **parameters**. Think of these **parameters** as the atoms or building blocks of music. We will dive more into these **parameters** as the course moves forward, but here is a brief introduction to various **parameters**:

**Pitch:** How high or low a note is, measured in Hertz (440 Hz)

**Texture:** How the music is layered. Monophonic, Polyphonic or Homophonic.

**Timbre:** The tone color, why instruments and voices are able to be distinguished from each other. More specifically, the amplitude of the overtones of a fundamental pitch.

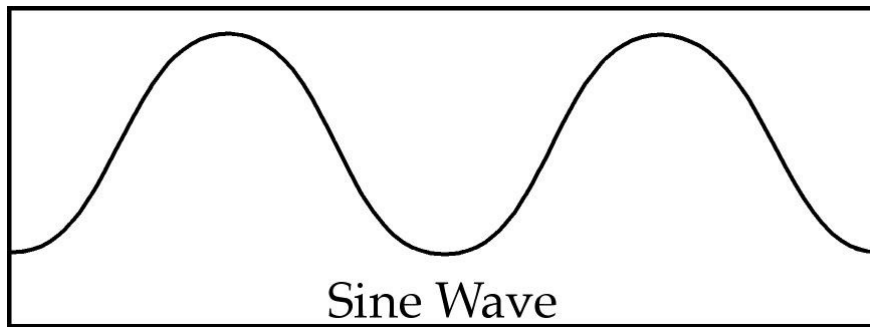
**Dynamics:** How loud or soft the music is (forte, piano etc..).

**Duration:** How long the music is performed. How long should a note, phrase, section or composition last?

**Form:** How the music is divided into sections. For example, Strophic, Binary, Ternary, Through Composed, and Rondo forms.

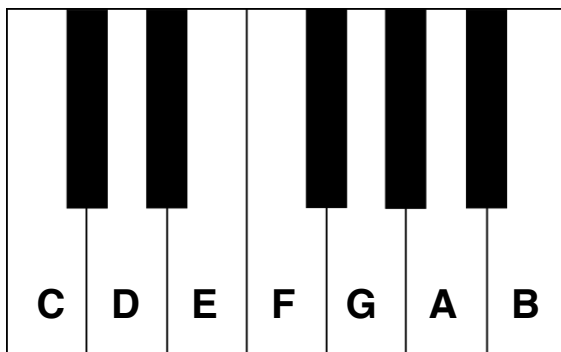
Let us begin by exploring **pitch**.

# Music Theory Primer



**Pitch:** How high or low that a note sounds. A single pitch can move in three possible directions, **UP**, **DOWN** and **SAME**. Pitch is commonly measured in Hertz (cycles per second, named after German Physicist Heinrich Hertz). Middle C on the piano vibrates at around 256 Hertz. In 1936 the American Standards Association recommended for the A above middle C to be tuned 440 Hertz. The vast majority of the music community adheres to A 440 standard, but some musicians prefer a different standard.

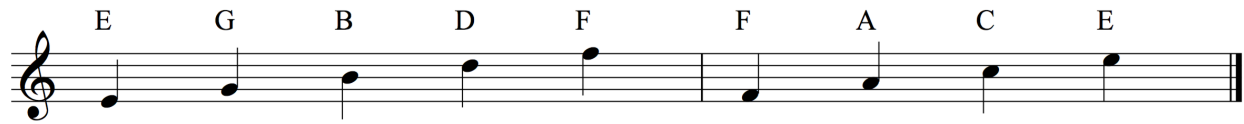
**The Musical Alphabet:** Consists of 7 Letters. A, B, C, D, E, F, G, then the cycle repeats. For example A, B, C, D, E, F, G, A, B, C etc.... You may also travel backwards through the musical alphabet. G, F, E, D, C, B, A, G, F, E, D etc... The distance between one letter to the next same later is called an **octave**, we'll talk about this more later on.



The **Register** is a term used to describe the range that an instrument or group of instruments occupy. In voice, Soprano, Alto, Tenor or Bass are used to describe different **vocal registers** or ranges.

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Pitch is indicated in standard notation by its position on the **musical staff**.



The **Treble clef** is signified by the treble clef sign. The Treble clef is also referred to as the “G clef” because the Treble clef symbol curls around the line for the G note.

Practice drawing the treble clef below:



Practice writing in the note names in the following treble clef systems:

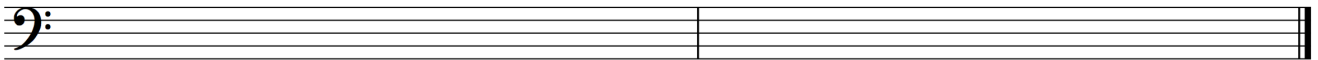


# Music Theory Primer

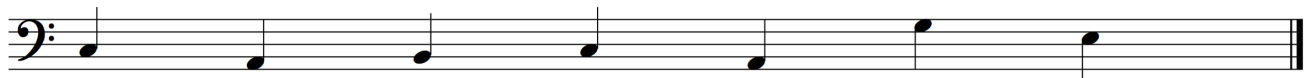
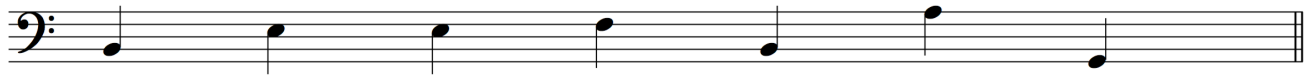
Another common clef is the **bass clef**. The bass clef is also called the “F clef” because it originates and wraps around the line for the F note.



Practice drawing the **bass clef** below:

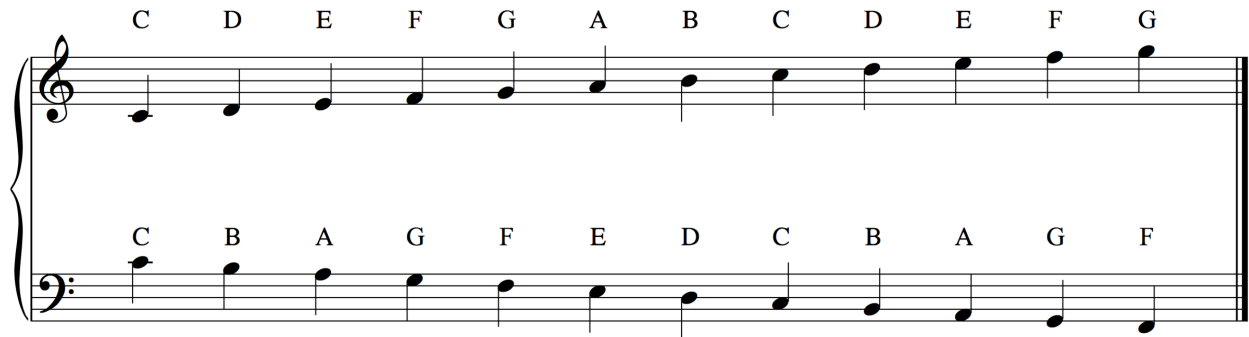


Can you name the notes in the **bass clef**?

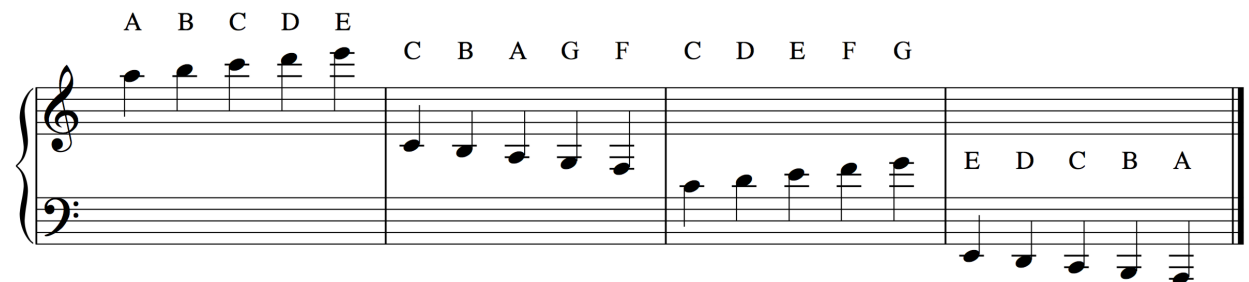


# Music Theory Primer

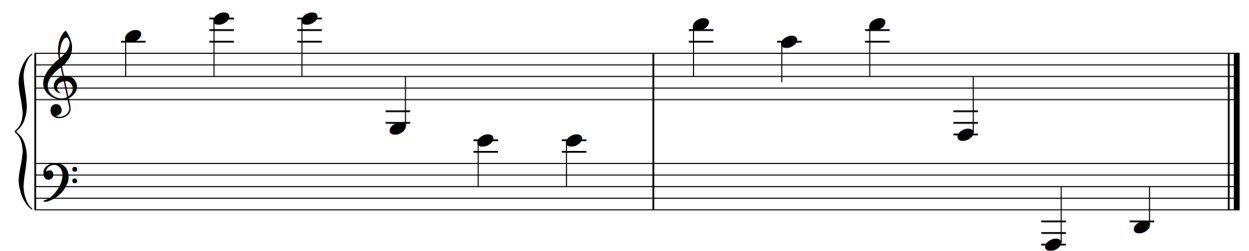
**The Grand staff:** Two staves joined by a brace. Commonly used in piano sheet music.



**Ledger Lines:** Are lines that position notes that are outside the normal range of the staff.



Can you name the following notes?



# Music Theory Primer

## Harmonic

When two or more notes are played at once.

## Melodic

When two or more notes are played sequentially.

## Half and Whole Steps


A common unit of measurement between adjacent pitches in the musical alphabet are **half steps** and **whole steps**.


A **half step** is the smallest unit of measurement in the **chromatic scale**. (From one fret to the next fret on a guitar or one piano key to the next).


A **whole step** is two half steps.

**Accidentals** act upon a note. You have seen these on the musical staff. They raise, lower or indicate a note to it's "natural" pitch.

Accidentals are always notated **BEFORE** the note.

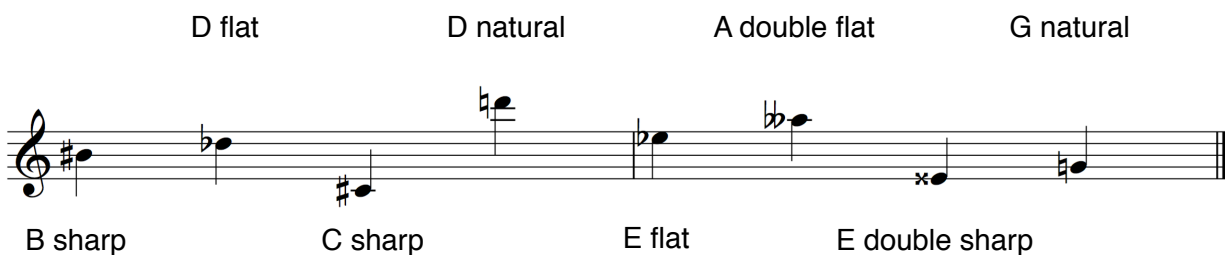
Sharp  - Raises a half step

Flat  - Lowers a half step

Natural  - Cancels a sharp or flat from previous **accidental** or key signature.

# Music Theory Primer

Here are some examples of accidentals in use on the staff:



Two notes are said to be **enharmonic** if the two pitches sound the same, but are spelled in different ways. For example, C# and Db are **enharmonic** equivalents. **Enharmonic** notes do not always have to contain **accidentals**. For example, C and B# are also considered to be **enharmonic**.

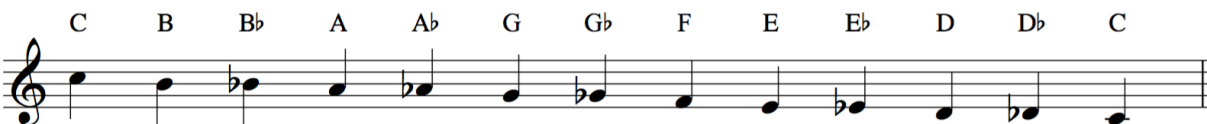
## Chromatic Scale

The **chromatic scale** consists of all **half steps** from one **octave** to the next. There are **12 separate tones** in a **chromatic scale**.

When moving up the **chromatic scale** we use **sharps**.



When moving down the **chromatic scale** we use **flats**.



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The word **chromatic** comes from the greek word “chroma” meaning “color”.

For now and through the rest of this course our study of music is going to center around the chromatic scale and other scales derived from its “colorful” 12 tones.

Let us now begin to explore how individual pitches may be combined. We will also learn how to define their **intervallic** relationship between each tone.

**Intervals** define the relationship between two notes. Incidentally, If you play a string instrument you already have some experience with intervals as they are often tuned in perfect 4ths or perfect 5ths.

An **interval** can be defined using **generic** or **specific** criteria.

The **generic** categorization of the **interval** indicates the **generic** relationship of one letter of the musical alphabet to the next.

**Unison, 2nd, 3rd, 4th, 5th, 6th, 7th** and **Octave** are used to indicate the **generic** component of simple **intervals**.

For example G to G, Gb to G, G to G# are all types of Unisons.

When we count the distance of the **generic** we always include the original starting letter.

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



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Here we can see that starting on C we can identify the **generic** of the **interval** by counting up through the musical alphabet.

C to the same C is a Unison  
C up to D is a 2nd  
C up to E is a 3rd  
C up to F is a 4th  
C up to G is a 5th  
C up to A is a 6th  
C up to B is a 7th  
C up to the higher C is an 8th or **Octave**

This works no matter what note we are starting on.

D to the same D is a Unison  
D up to E is a 2nd  
D up to F is a 3rd  
D up to G is a 4th  
D up to A is a 5th  
D up to B is a 6th  
D up to C is a 7th  
D up to the higher D is an 8th or **Octave**

When determining the **generic interval** we can also move backwards through the musical alphabet. We will start on the letter D again.

D down to C is a 2nd  
D down to B is a 3rd  
D down to A is a 4th  
D down to G is a 5th  
D down to F is a 6th  
D down to E is a 7th  
D down to the lower D is an 8th or **Octave**

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As its name suggests, the **generic** classification of an interval does not tell the whole story of the relationship between two notes. To further narrow in on the relationship of two notes, intervals are also classified by the **specific**. You may have heard **specifics** before, terms such as **Major, Minor, Perfect, Augmented and Diminished** are used to indicate the **specific**. We'll get into further detail about these later on during this course.

When the **generic** and **specific** are combined, we now finally have an exact measurement of the relationship between two notes. Perfect 5th, Major 3rd, Minor 7th, Diminished 5th, and Augmented 2nd are all examples of intervals being described by both its **generic** and **specific** classification.

## Perfect Intervals

**Perfect** intervals are the **perfect** place for us to start. Historically **perfect** intervals were referred to as **perfect** because they were considered to sound the most pleasing when played harmonically.

A **perfect unison** consists of the same pitch. C4 and C4 have an intervalic relationship of **perfect unison**.

A **perfect octave** is **12 half steps** up or down from a starting note. For example, C up to the higher C is a **perfect octave**. C down to the lower C is also a **perfect octave**.

A **perfect 4th** is **5 half steps** up or down. C up to F or D up to G.

D down to A is also an example of a **perfect 4th**.

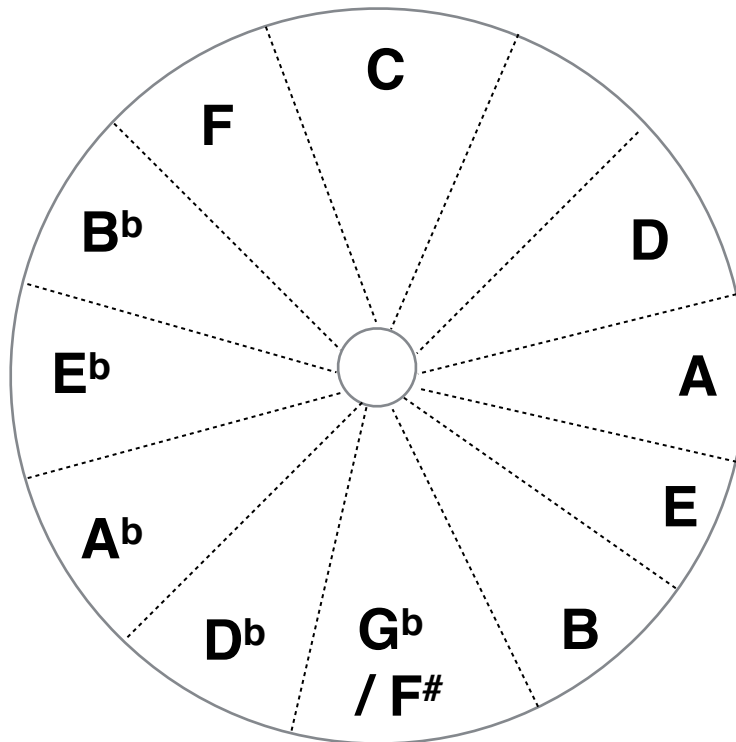
A **perfect 5th** is the distance of **7 half steps**. For example, C up to G, and F up to C.

D down to G and E down to A are also distances of a **perfect 5th**.

# Music Theory Primer

This brings us to our final topic for this week the **circle of 5ths**.

## The Circle of 5ths



As we move clockwise around the **circle of fifths** we progress up through **perfect 5ths**. When we travel counter clockwise through the **circle of 5ths** it shows the order of descending **perfect 5ths**.

The **circle of 5ths** has many uses. As we'll find out later the **circle of fifths** is used to help remember the order of **key signatures**, to **build chords** and even as a tool for **developing musicianship**.

# Music Theory Primer

## Major Scales

The **major scale** is one of the most used scales in popular and common era music. Anyone who has heard Julie Andrews sing *Do-Re-Mi* in **The Sound of Music** will be instantly familiar with it.

All **major scales** have a starting note. This note is called the **Tonic**.

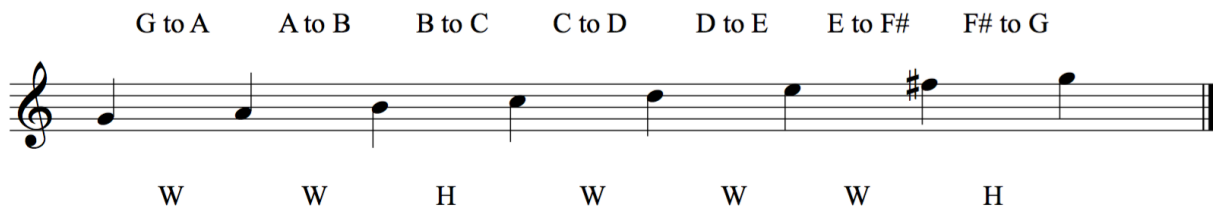
To play a **major scale** you just need to remember the formula:

**W, W, H, W, W, W, H**

**W = Whole Step**

**H = Half Step**

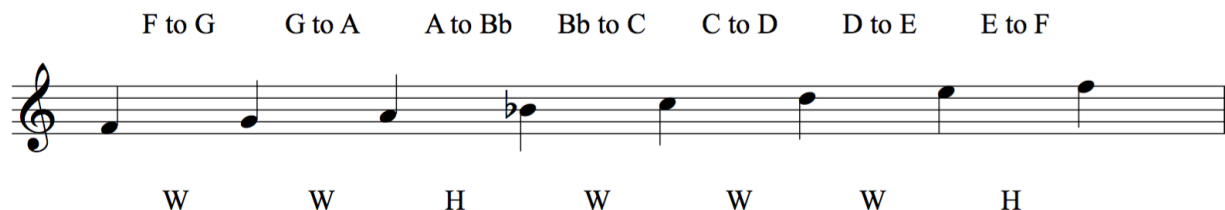
### G Major Scale



In order to **correctly** spell a **major scale**, the next degree of the scale must contain the **next letter name** of the **musical alphabet**. This is really important!!!

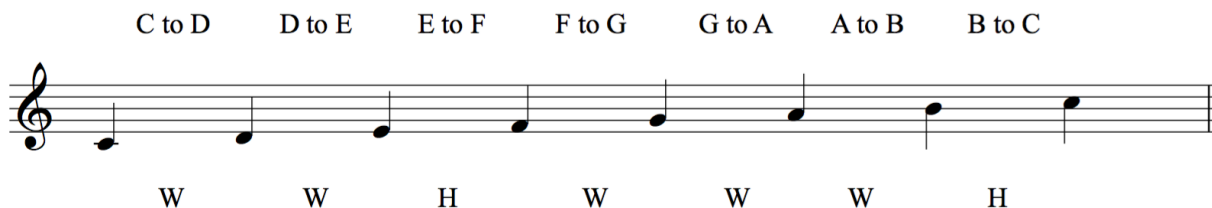
# Music Theory Primer

## F Major Scale



Using this logic we can now see why some **Major Scales** use **flats** and others use **sharps**. Additionally, a **Major Scale** will only contain **sharps** or **flats**, but never both in the same scale. The exception being the key of C major which contains **no sharps** and **no flats**.

## C Major Scale



The following are **major scales** that contain **sharps**:

G Major = 1 Sharp (F#)

D Major = 2 Sharps (F# C#)

A Major = 3 Sharps (F# C# G#)

E Major = 4 Sharps (F# C# G# D#)

B Major = 5 Sharps (F# C# G# D# A#)

F# Major = 6 Sharps (F# C# G# D# A# E#)

C# Major = 7 Sharps (F# C# G# D# A# E# B#)

# Music Theory Primer

The following are **major scales** that contain **flats**:

F Major = 1 Flat (Bb)

Bb Major = 2 Flats (Bb Eb)

Eb Major = 3 Flats (Bb Eb Ab)

Ab Major = 4 Flats (Bb Eb Ab Db)

Db Major = 5 Flats (Bb Eb Ab Db Gb)

Gb Major = 6 Flats (Bb Eb Ab Db Gb Cb)

Cb Major = 7 Flats (Bb Eb Ab Db Gb Cb Fb)

## Major Intervals

As we further explore the major scale we'll make some new friends along the way. We previously spoke about **perfect intervals** we'll now be introduced to the **major intervals**.

Ascending from the **tonic** degree The Major scale consists of only Perfect and Major Intervals.

## C major

Perfect Unison	Major 2nd	Major 3rd	Perfect 4th	Perfect 5th	Major 6th	Major 7th	Perfect Octave
<b>C</b>	<b>D</b>	<b>E</b>	<b>F</b>	<b>G</b>	<b>A</b>	<b>B</b>	<b>C</b>
<b>0</b>	<b>2 Half Steps</b>	<b>4 Half Steps</b>	<b>5 Half Steps</b>	<b>7 Half Steps</b>	<b>9 Half Steps</b>	<b>11 Half Steps</b>	<b>12 Half Steps</b>

# Music Theory Primer

Please fill out the following charts to determine the notes for all the **major scales** that contain sharps.

## G major

Perfect Unison	Major 2nd	Major 3rd	Perfect 4th	Perfect 5th	Major 6th	Major 7th	Perfect Octave
<b>G</b>							
<b>0</b>	2 Half Steps	4 Half Steps	5 Half Steps	7 Half Steps	9 Half Steps	11 Half Steps	12 Half Steps

## D major

Perfect Unison	Major 2nd	Major 3rd	Perfect 4th	Perfect 5th	Major 6th	Major 7th	Perfect Octave
<b>D</b>							
<b>0</b>	2 Half Steps	4 Half Steps	5 Half Steps	7 Half Steps	9 Half Steps	11 Half Steps	12 Half Steps

## A major

Perfect Unison	Major 2nd	Major 3rd	Perfect 4th	Perfect 5th	Major 6th	Major 7th	Perfect Octave
<b>A</b>							
<b>0</b>	2 Half Steps	4 Half Steps	5 Half Steps	7 Half Steps	9 Half Steps	11 Half Steps	12 Half Steps

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## E major

Perfect Unison	Major 2nd	Major 3rd	Perfect 4th	Perfect 5th	Major 6th	Major 7th	Perfect Octave
<b>E</b>							
<b>0</b>	2 Half Steps	4 Half Steps	5 Half Steps	7 Half Steps	9 Half Steps	11 Half Steps	12 Half Steps

## B major

Perfect Unison	Major 2nd	Major 3rd	Perfect 4th	Perfect 5th	Major 6th	Major 7th	Perfect Octave
<b>B</b>							
<b>0</b>	2 Half Steps	4 Half Steps	5 Half Steps	7 Half Steps	9 Half Steps	11 Half Steps	12 Half Steps

## F# Major

Perfect Unison	Major 2nd	Major 3rd	Perfect 4th	Perfect 5th	Major 6th	Major 7th	Perfect Octave
<b>F#</b>							
<b>0</b>	2 Half Steps	4 Half Steps	5 Half Steps	7 Half Steps	9 Half Steps	11 Half Steps	12 Half Steps



# Music Theory Primer

## C# Major

Perfect Unison	Major 2nd	Major 3rd	Perfect 4th	Perfect 5th	Major 6th	Major 7th	Perfect Octave
<b>C#</b>							
<b>0</b>	<b>2 Half Steps</b>	<b>4 Half Steps</b>	<b>5 Half Steps</b>	<b>7 Half Steps</b>	<b>9 Half Steps</b>	<b>11 Half Steps</b>	<b>12 Half Steps</b>

Please fill out the following charts to determine the notes for all the **major scales** that contain flats.

## F Major

Perfect Unison	Major 2nd	Major 3rd	Perfect 4th	Perfect 5th	Major 6th	Major 7th	Perfect Octave
<b>F</b>							
<b>0</b>	<b>2 Half Steps</b>	<b>4 Half Steps</b>	<b>5 Half Steps</b>	<b>7 Half Steps</b>	<b>9 Half Steps</b>	<b>11 Half Steps</b>	<b>12 Half Steps</b>

## Bb Major

Perfect Unison	Major 2nd	Major 3rd	Perfect 4th	Perfect 5th	Major 6th	Major 7th	Perfect Octave
<b>Bb</b>							
<b>0</b>	<b>2 Half Steps</b>	<b>4 Half Steps</b>	<b>5 Half Steps</b>	<b>7 Half Steps</b>	<b>9 Half Steps</b>	<b>11 Half Steps</b>	<b>12 Half Steps</b>

# Music Theory Primer

## Eb Major

Perfect Unison	Major 2nd	Major 3rd	Perfect 4th	Perfect 5th	Major 6th	Major 7th	Perfect Octave
<b>Eb</b>							
<b>0</b>	<b>2 Half Steps</b>	<b>4 Half Steps</b>	<b>5 Half Steps</b>	<b>7 Half Steps</b>	<b>9 Half Steps</b>	<b>11 Half Steps</b>	<b>12 Half Steps</b>

## Ab Major

Perfect Unison	Major 2nd	Major 3rd	Perfect 4th	Perfect 5th	Major 6th	Major 7th	Perfect Octave
<b>Ab</b>							
<b>0</b>	<b>2 Half Steps</b>	<b>4 Half Steps</b>	<b>5 Half Steps</b>	<b>7 Half Steps</b>	<b>9 Half Steps</b>	<b>11 Half Steps</b>	<b>12 Half Steps</b>

## Db Major

Perfect Unison	Major 2nd	Major 3rd	Perfect 4th	Perfect 5th	Major 6th	Major 7th	Perfect Octave
<b>Db</b>							
<b>0</b>	<b>2 Half Steps</b>	<b>4 Half Steps</b>	<b>5 Half Steps</b>	<b>7 Half Steps</b>	<b>9 Half Steps</b>	<b>11 Half Steps</b>	<b>12 Half Steps</b>

# Music Theory Primer

## Gb Major

Perfect Unison	Major 2nd	Major 3rd	Perfect 4th	Perfect 5th	Major 6th	Major 7th	Perfect Octave
<b>Gb</b>							
<b>0</b>	<b>2 Half Steps</b>	<b>4 Half Steps</b>	<b>5 Half Steps</b>	<b>7 Half Steps</b>	<b>9 Half Steps</b>	<b>11 Half Steps</b>	<b>12 Half Steps</b>

## Cb Major

Perfect Unison	Major 2nd	Major 3rd	Perfect 4th	Perfect 5th	Major 6th	Major 7th	Perfect Octave
<b>Cb</b>							
<b>0</b>	<b>2 Half Steps</b>	<b>4 Half Steps</b>	<b>5 Half Steps</b>	<b>7 Half Steps</b>	<b>9 Half Steps</b>	<b>11 Half Steps</b>	<b>12 Half Steps</b>

# Music Theory Primer

## Key Signatures

During the **Common Era Practice** (1650 - 1900) music had to be written out by hand. This was a time consuming process that was performed by skilled individuals. As you can see from the following charts, many **Major Keys** contained numerous **accidentals**. Manually writing these accidentals by hand would be tedious and require greater amounts of ink. **Key signatures** created a more efficient method for indicating the key center of music.

### A Major



Here we can see instead of writing the accidentals out on each individual note the key signature indicates that the accidentals are to be applied universally throughout its influence.

# Music Theory Primer

## Order of Sharps



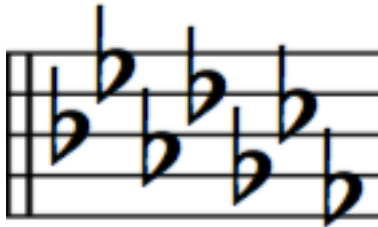
The order of sharps appear in the order of 5ths (F# C# G# D# A# E# B#)

**TIP:** You can also quickly determine the **Major Key Signature** by looking at the last sharp appearing in the key signature and moving a **minor 2nd** up.

For example, if D# appears last in the key signature, you are in the key of E Major.

# Music Theory Primer

## Order of Sharps



The order of flats appear in the order of 4ths ( $B^b$   $E^b$   $A^b$   $D^b$   $G^b$   $C^b$   $F^b$ )

**TIP:** You can also quickly determine the **Major Key Signature** by looking at the second to last flat appearing in the key signature, this will be the key center. There is only one exception to this rule, when only  $B^b$  appears in the key signature you are in the key of F major

# Music Theory Primer

## Natural Minor Scales

The **natural minor scale** is also one of the most used scales in popular and common era music. The **natural minor scale** has a less self confident sound than the **major scale** and is often used by composers to evoke reflective or somber emotional feelings.

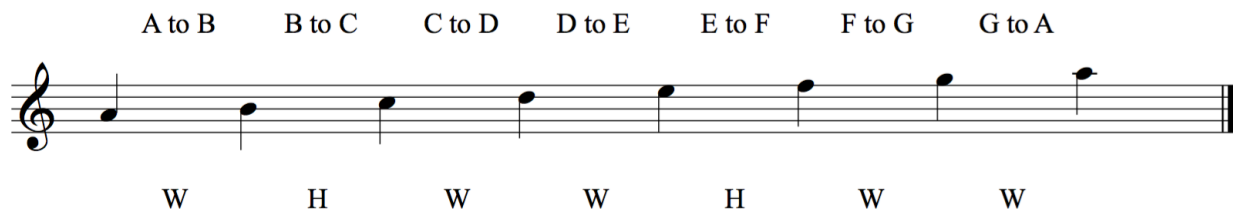
To play a **natural minor scale** you just need to remember the formula:

**W, H, W, W, H, W, W**

**W = Whole Step**

**H = Half Step**

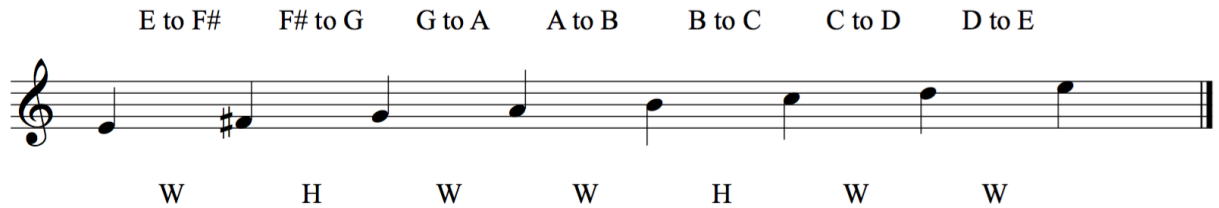
### A Natural Minor Scale



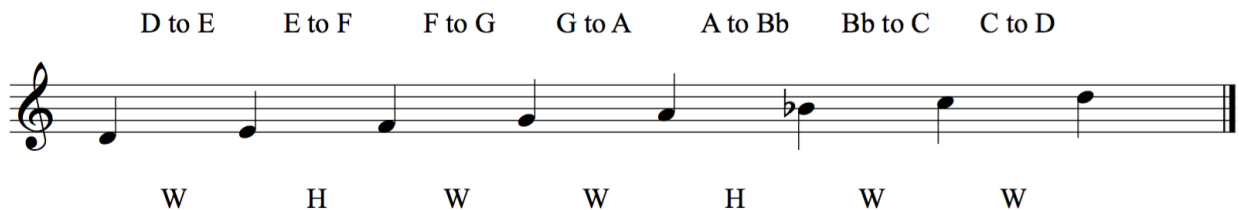
In order to **correctly** spell a **natural minor scale**, the next degree (note) of the scale must contain the **next letter name** of the **musical alphabet**. This is really important!!!

# Music Theory Primer

## E Minor Scale



## D Minor Scale



The following are **natural minor scales** that contain **sharps**:

E Minor = 1 Sharp (F#)

B Minor = 2 Sharps (F# C#)

F# Minor = 3 Sharps (F# C# G#)

C# Minor = 4 Sharps (F# C# G# D#)

G# Minor = 5 Sharps (F# C# G# D# A#)

D# Minor = 6 Sharps (F# C# G# D# A# E#)

A# Minor = 7 Sharps (F# C# G# D# A# E# B#)



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The following are **natural minor scales** that contain **flats**:

D Minor = 1 Flat (Bb)

G Minor = 2 Flats (Bb Eb)

C Minor = 3 Flats (Bb Eb Ab)

F Minor = 4 Flats (Bb Eb Ab Db)

Bb Minor = 5 Flats (Bb Eb Ab Db Gb)

Eb Minor = 6 Flats (Bb Eb Ab Db Gb Cb)

Ab Minor = 7 Flats (Bb Eb Ab Db Gb Cb Fb)

## Minor Intervals

As we further explore the **natural minor** scale we'll make some new friends along the way (the **Minor 3rd**, **Minor 6th** and **Minor 7th**).

When you lower a **major interval** by a half step it becomes a **minor interval**.

## A Minor

Perfect Unison	Major 2nd	Minor 3rd	Perfect 4th	Perfect 5th	Minor 6th	Minor 7th	Perfect Octave
<b>A</b>	<b>B</b>	<b>C</b>	<b>F</b>	<b>G</b>	<b>A</b>	<b>B</b>	<b>C</b>
<b>0</b>	<b>2 Half Steps</b>	<b>3 Half Steps</b>	<b>5 Half Steps</b>	<b>7 Half Steps</b>	<b>8 Half Steps</b>	<b>10 Half Steps</b>	<b>12 Half Steps</b>

# Music Theory Primer

Please fill out the following charts to determine the notes for all the **natural minor scales** that contain sharps.

## E Minor

Perfect Unison	Major 2nd	Minor 3rd	Perfect 4th	Perfect 5th	Minor 6th	Minor 7th	Perfect Octave
<b>E</b>							
<b>0</b>	2 Half Steps	3 Half Steps	5 Half Steps	7 Half Steps	8 Half Steps	10 Half Steps	12 Half Steps

## B Minor

Perfect Unison	Major 2nd	Minor 3rd	Perfect 4th	Perfect 5th	Minor 6th	Minor 7th	Perfect Octave
<b>B</b>							
<b>0</b>	2 Half Steps	3 Half Steps	5 Half Steps	7 Half Steps	8 Half Steps	10 Half Steps	12 Half Steps

## F# Minor

Perfect Unison	Major 2nd	Minor 3rd	Perfect 4th	Perfect 5th	Minor 6th	Minor 7th	Perfect Octave
<b>F#</b>							
<b>0</b>	2 Half Steps	3 Half Steps	5 Half Steps	7 Half Steps	8 Half Steps	10 Half Steps	12 Half Steps

# Music Theory Primer

## C# Minor

Perfect Unison	Major 2nd	Minor 3rd	Perfect 4th	Perfect 5th	Minor 6th	Minor 7th	Perfect Octave
<b>C#</b>							
<b>0</b>	<b>2 Half Steps</b>	<b>3 Half Steps</b>	<b>5 Half Steps</b>	<b>7 Half Steps</b>	<b>8 Half Steps</b>	<b>10 Half Steps</b>	<b>12 Half Steps</b>

## G# Minor

Perfect Unison	Major 2nd	Minor 3rd	Perfect 4th	Perfect 5th	Minor 6th	Minor 7th	Perfect Octave
<b>G#</b>							
<b>0</b>	<b>2 Half Steps</b>	<b>3 Half Steps</b>	<b>5 Half Steps</b>	<b>7 Half Steps</b>	<b>8 Half Steps</b>	<b>10 Half Steps</b>	<b>12 Half Steps</b>

## D# Minor

Perfect Unison	Major 2nd	Minor 3rd	Perfect 4th	Perfect 5th	Minor 6th	Minor 7th	Perfect Octave
<b>D#</b>							
<b>0</b>	<b>2 Half Steps</b>	<b>3 Half Steps</b>	<b>5 Half Steps</b>	<b>7 Half Steps</b>	<b>8 Half Steps</b>	<b>10 Half Steps</b>	<b>12 Half Steps</b>

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## A# Minor

Perfect Unison	Major 2nd	Minor 3rd	Perfect 4th	Perfect 5th	Minor 6th	Minor 7th	Perfect Octave
<b>A#</b>							
<b>0</b>	<b>2 Half Steps</b>	<b>3 Half Steps</b>	<b>5 Half Steps</b>	<b>7 Half Steps</b>	<b>8 Half Steps</b>	<b>10 Half Steps</b>	<b>12 Half Steps</b>

Please fill out the following charts to determine the notes for all the **natural minor scales** that contain flats.

## D Minor

Perfect Unison	Major 2nd	Minor 3rd	Perfect 4th	Perfect 5th	Minor 6th	Minor 7th	Perfect Octave
<b>D</b>							
<b>0</b>	<b>2 Half Steps</b>	<b>3 Half Steps</b>	<b>5 Half Steps</b>	<b>7 Half Steps</b>	<b>8 Half Steps</b>	<b>10 Half Steps</b>	<b>12 Half Steps</b>

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## G Minor

Perfect Unison	Major 2nd	Minor 3rd	Perfect 4th	Perfect 5th	Minor 6th	Minor 7th	Perfect Octave
<b>G</b>							
<b>0</b>	<b>2 Half Steps</b>	<b>3 Half Steps</b>	<b>5 Half Steps</b>	<b>7 Half Steps</b>	<b>8 Half Steps</b>	<b>10 Half Steps</b>	<b>12 Half Steps</b>

## C Minor

Perfect Unison	Major 2nd	Minor 3rd	Perfect 4th	Perfect 5th	Minor 6th	Minor 7th	Perfect Octave
<b>C</b>							
<b>0</b>	<b>2 Half Steps</b>	<b>3 Half Steps</b>	<b>5 Half Steps</b>	<b>7 Half Steps</b>	<b>8 Half Steps</b>	<b>10 Half Steps</b>	<b>12 Half Steps</b>

## F Minor

Perfect Unison	Major 2nd	Minor 3rd	Perfect 4th	Perfect 5th	Minor 6th	Minor 7th	Perfect Octave
<b>F</b>							
<b>0</b>	<b>2 Half Steps</b>	<b>3 Half Steps</b>	<b>5 Half Steps</b>	<b>7 Half Steps</b>	<b>8 Half Steps</b>	<b>10 Half Steps</b>	<b>12 Half Steps</b>

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## Bb Minor

Perfect Unison	Major 2nd	Minor 3rd	Perfect 4th	Perfect 5th	Minor 6th	Minor 7th	Perfect Octave
<b>Bb</b>							
<b>0</b>	<b>2 Half Steps</b>	<b>3 Half Steps</b>	<b>5 Half Steps</b>	<b>7 Half Steps</b>	<b>8 Half Steps</b>	<b>10 Half Steps</b>	<b>12 Half Steps</b>

## Eb Minor

Perfect Unison	Major 2nd	Minor 3rd	Perfect 4th	Perfect 5th	Minor 6th	Minor 7th	Perfect Octave
<b>Eb</b>							
<b>0</b>	<b>2 Half Steps</b>	<b>3 Half Steps</b>	<b>5 Half Steps</b>	<b>7 Half Steps</b>	<b>8 Half Steps</b>	<b>10 Half Steps</b>	<b>12 Half Steps</b>

## Ab Minor

Perfect Unison	Major 2nd	Minor 3rd	Perfect 4th	Perfect 5th	Minor 6th	Minor 7th	Perfect Octave
<b>Ab</b>							
<b>0</b>	<b>2 Half Steps</b>	<b>3 Half Steps</b>	<b>5 Half Steps</b>	<b>7 Half Steps</b>	<b>8 Half Steps</b>	<b>10 Half Steps</b>	<b>12 Half Steps</b>

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## Relative Keys

You may have noticed that the **natural minor keys** share some of the same **key signatures** as the **major keys**. For example, both C major and A minor have no sharps and no flats. Or E minor and G major both contain only F# in the key signature.

When a natural minor and major scale share the same key signature they are known as **Relative Keys**.

Key Signature	Major Key	Minor Key
Bb, Eb, Ab, Db, Cb, Gb, Fb	Cb Major	Ab minor
Bb, Eb, Ab, Db, Cb, Gb	Gb Major	Eb Minor
Bb, Eb, Ab, Db, Cb	Db Major	Bb Minor
Bb, Eb, Ab, Db	Ab Major	F Minor
Bb, Eb, Ab	Eb Major	C Minor
Bb, Eb	Bb Major	G Minor
Bb	F Major	D Minor
	C Major	A Minor
F#	G Major	E Minor
F#, C#	D Major	B Minor
F#, C#, G#	A Major	F# Minor
F#, C#, G#, D#	E Major	C# Minor
F#, C#, G#, D#, A#	B Major	G# Minor
F#, C#, G#, D#, A#, E#	F# Major	D# Minor
F#, C#, G#, D#, A#, E#, B#	C# Major	G# Minor

# Music Theory Primer

## Harmony and Minor Scales Variants

Our previous studies have focused mainly on two note relationships (intervals). Now we will begin to explore the world of chords.

A **chord** is a group of 3 or more notes sounding together, as a basis of harmony.

Let us build some triad chords. Triad = 3 note chords.

We'll start by writing out a scale, for instance **G major**.



Above each degree of scale place an interval of a third.



Lastly place a 5th above the lowest note.





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The **chords** that we get from harmonizing the **major scale** are.

**Major Triad** = Root, Major Third, Perfect 5th

**Minor Triad** = Root, Minor Third, Perfect 5th

**Diminished Triad** = Root, Minor Third, Diminished 5th.



There exists only 1 more triad, the **augmented triad**. The **augmented triad** does not exist from Harmonizing the Major scale.

**Augmented Triad** = Root, Major Third, Augmented 5th.



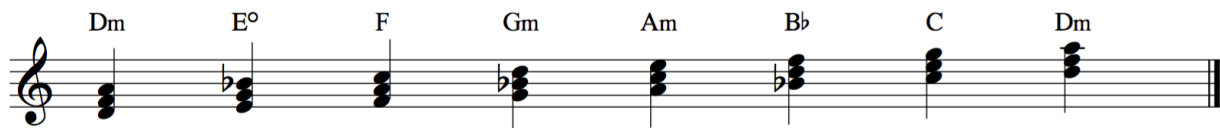
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Now to **harmonize the minor scale** lets repeat the process.

Write out a **minor scale** of your choice. In this case **D minor**.

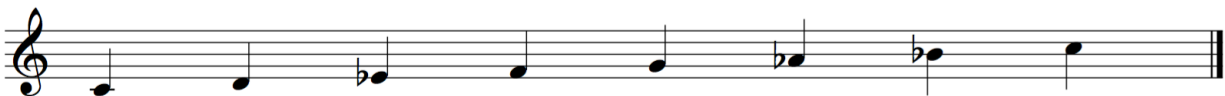


Add the intervals of a 3rd and 5th above.



Variations of the **minor scale**.

The **Natural Minor Scale** comes from the greek mode Aeolian. This is the form of the minor scale that we are most familiar with.



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**Harmonic minor scale.** This scale was to enhance minor harmony by adding a leading tone. This leading tone gave the minor scale a major triad on the 5th degree. The interval of an augmented 2nd between the 6th and 7th degrees give this scale an exotic sound.



Because this exotic sound was not considered suitable for “western melodies”, composers found a compromise. The **melodic minor scale** contains the leading tone and a major 6th degree.



Notice how the melodic minor scale is different depending on ascending or descending movement. When descending the melodic minor scale contains the same notes as the natural minor scale.