May 26, 2016

Dear AP Music Theory Student:

It is my pleasure to welcome you to AP Music Theory. It is important to note (get used to that pun) that this is not your typical music class. This is a fast paced, highly intensive course that will challenge you each day. If you are still up to the challenge however, it is also a course that will introduce and explain musical ideas and concepts you did not even know existed!

In order to ensure we are all on level ground at the beginning of the year, it is important to comply with our summer assignments. You will find portions of 3 introductory chapters to music theory. For some of you, this might be information you are already privy to. For others, it might be brand new information. The goal is for us to all have an understanding of music notation (notes, rhythms, octave identification, clefs), scales (major, natural minor, harmonic minor, melodic minor), key signatures (identifying them and understanding the circle of fifths) and intervals by the start of the school year. **Please read all of the information and complete the marked sections by Monday, August 15, 2016**.

If you have questions about the material, the course itself or anything else music related, PLEASE feel free to email me (email address below). As a band director, a good portion of my summer vacation takes place at Wesley Chapel High School (working, not vacationing), so it is also possible to meet up for tutoring if you need assistance.

I look forward to meeting you in August!

Mr. Hobbs
jhobbs@pasco.k12.fl.us

CHAPTER 1

Notation

Topics

Staff
Letter Names
Clefs
Treble Clef
Bass Clef
Grand Staff
Middle C
Ledger Lines
C Clef
Alto Clef
Tenor Clef
Soprano Clef
Mezzo Soprano Clef
Baritone Clef
Octave Identification
Accidentals
Sharp
Flat
Natural
Double Sharp
Double Flat
Intervals
Enharmonic Equivalents
Half-Step Motion
Notation of Duration
Breve and Rest
Whole Note and Rest
Half Note and Rest
Quarter Note and Rest
Eighth Note and Rest
Sixteenth Note and Rest
Thirty-Second Note and Rest
Sixty-Fourth Note and Rest
Tie
Dot
Second Dot
Irregular Divisions and Subdivisions
Rhythm
Meter
Meter Signatures
Simple Meter
Compound Meter
Asymmetrical Meter
Syncopation
Dynamic Markings
History of Notation
Neumatic Notation
Neumes
Mensural Notation
Present Notation
Manuscript Notation

Important Concepts

Musical notation is much more precise and complicated than written language. When we notate music, we use symbols that show three of the four properties of sound described in the introduction: pitch and duration are given accurately, and relative intensity is indicated. Furthermore, pitch and duration are shown simultaneously.

Notation of Pitch—The Staff

The *staff* consists of five horizontal lines that are spaced equal distances apart.

Figure 1.1

Five lines:

Letter Names

The various pitches are referred to by the first seven letters of the alphabet (A B C D E F G), as shown on the piano keyboard in figure 1.2.

Figure 1.2

The Clefs

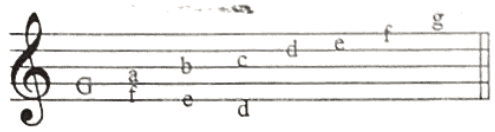
A *clef* is a symbol placed at the beginning of a line of music that establishes the letter names of the lines and spaces of the staff.

Treble Clef (G)

The *treble clef* or *G clef* is an ornate letter G. The curved line terminates at the second line of the staff, thus designating the letter name of a note on that line as G.

Figure 1.3

Staff with Treble or G Clef

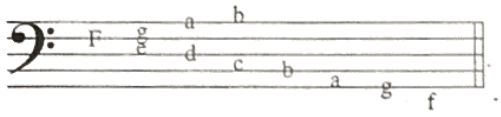


Bass Clef (F)

The *bass clef* is called the *F clef* because it was derived from the letter F. The dots are placed above and below the fourth line of the staff, designating that line as F.

Figure 1.4

Staff with Bass or F Clef

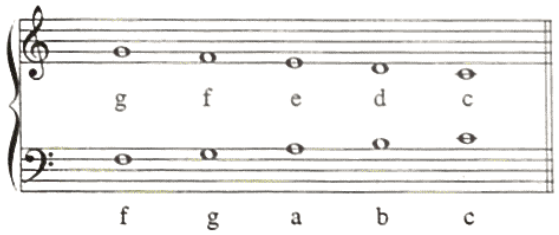


Grand Staff

Together, the treble and bass staves make up a *grand staff*. Figure 1.5 shows the point at which both clefs converge. The two C's are the same pitch: *middle C*.

Figure 1.5

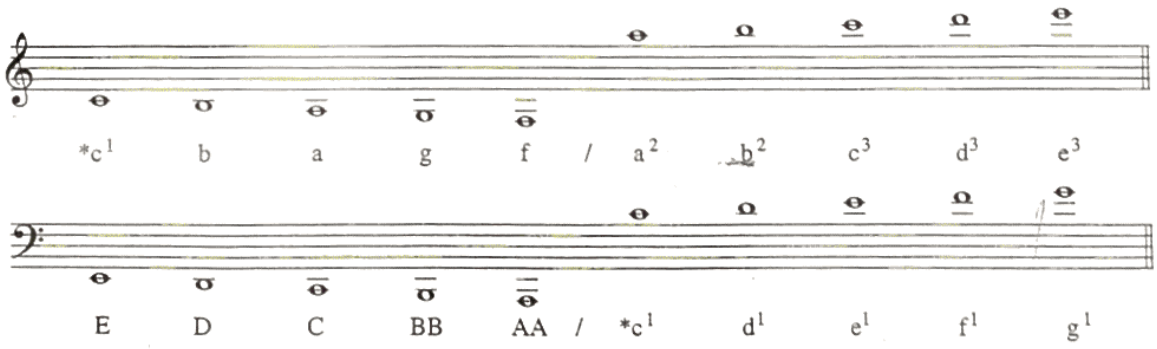
Grand Staff



Ledger Lines

Pitches that go beyond the limits of the staff are written by adding *ledger lines* above or below the staff. Ledger lines, which parallel the staff, accommodate only one note.

Figure 1.6

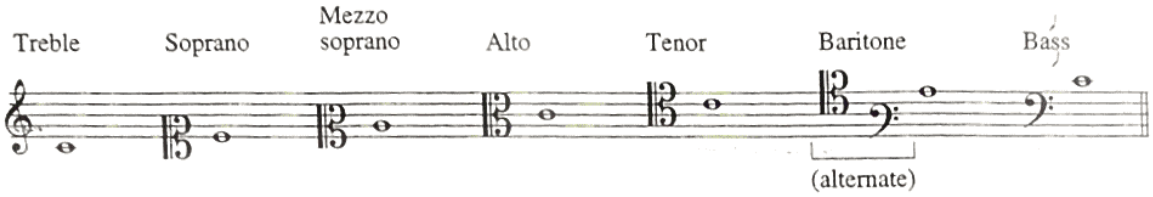


*Middle C.

C Clef

The *C clefs* are a set of movable clefs that designate middle C (see figure 1.7).

Figure 1.7



Alto Clef

The *alto clef* is a C clef that designates the third line of the staff as middle C. It is the standard clef used in music for viola.

Tenor Clef

The *tenor clef* is a C clef that designates the fourth line of the staff as middle C. The tenor clef is occasionally found in music written for cello, bassoon, or trombone.

Soprano, Mezzo Soprano, and Baritone Clefs

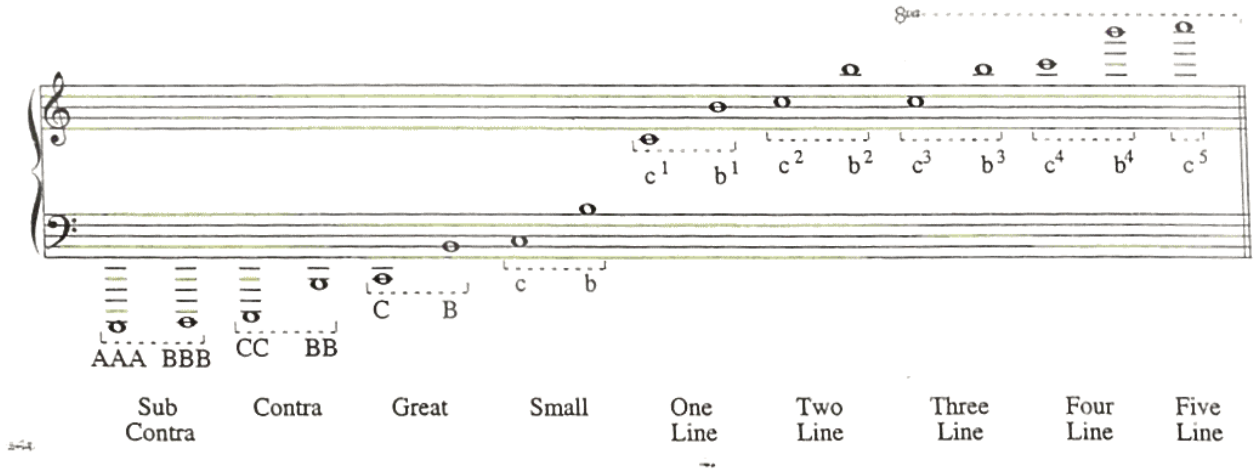
The *soprano, mezzo soprano,* and *baritone clefs* are used less often than the alto and tenor clefs. In each case the line indicated by the notch of the clef is designated as middle C.

(Assignments 1.1 and 1.2, page 19; Workbook/Anthology 1A)

Octave Identification

Since the pitch spectrum is so wide, it is often necessary to identify a specific note by the *octave* in which it appears. Thus, middle C is distinguished from any other C in the pitch spectrum by the written designation c^1 (see figure 1.8).

Figure 1.8

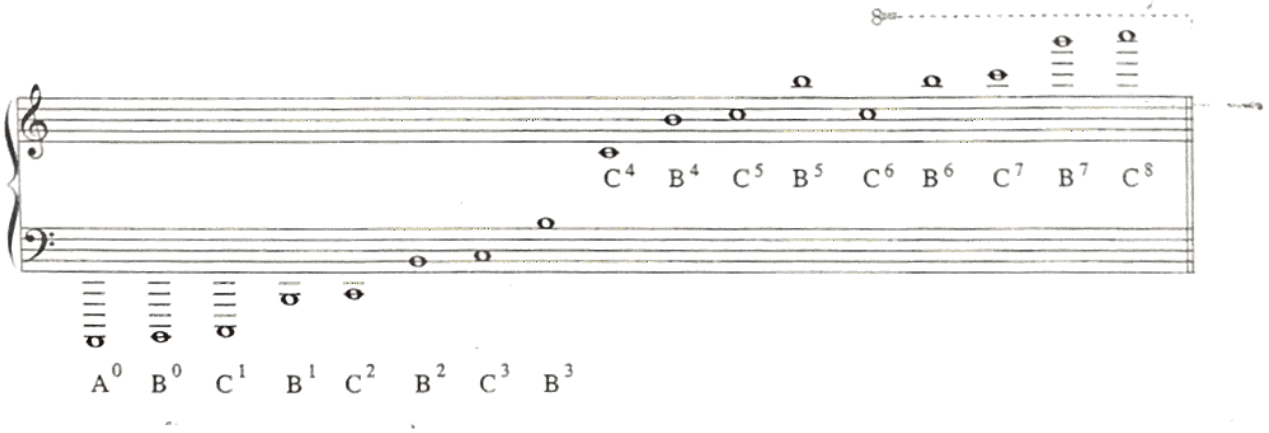


The 8*va* above the right portion of the treble staff in figure 1.8 means that the pitch is an octave above the written note.

An alternate system of octave identification, which is recommended by the International Acoustical Society and used in Braille music notation, is gaining increased acceptance. In this system each octave is numbered beginning with A^0 for the lowest three notes on the piano and extending to C^8 for the highest note on the piano. Although the

system shown in figure 1.8 is used throughout this book, your instructor may prefer the latter, which is shown in figure 1.9.

Figure 1.9



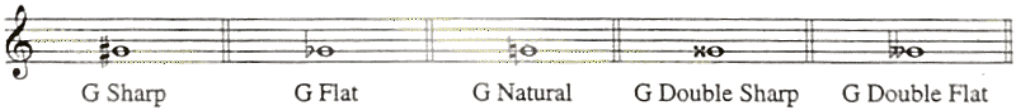
(Assignment 1.3, page 20; Workbook/Anthology 1B)

Accidentals

Accidentals are symbols that are placed to the left of the note heads to indicate the raising or lowering of a pitch.

Sharp (♯)—raises the pitch a half step.
Flat (♭)—lowers the pitch a half step.
Natural (♮)—cancels any previous sharp or flat and returns to the natural, or unaltered, pitch.
Double Sharp (𝄪)—raises the pitch two half steps.
Double Flat (𝄫)—lowers the pitch two half steps.

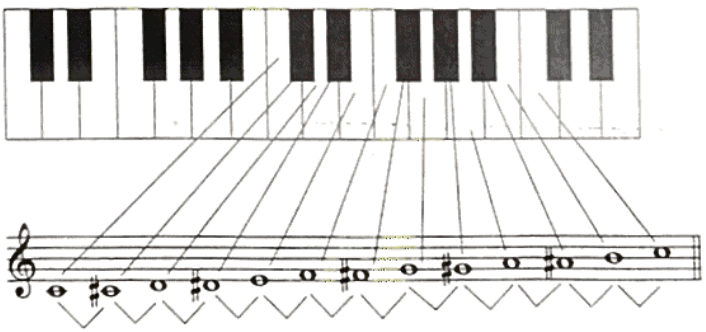
Figure 1.10



Intervals

An *interval* is the relationship between two tones. In Western music, the half step is the smallest interval used. It is the interval between any two adjacent keys on the keyboard.

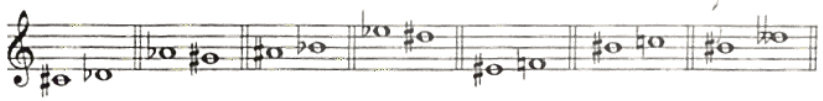
Figure 1.11



Enharmonic Equivalents

Enharmonic equivalents are tones that have the same pitch but different letter names.

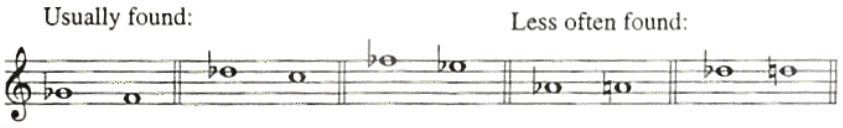
Figure 1.12



Half-Step Motion

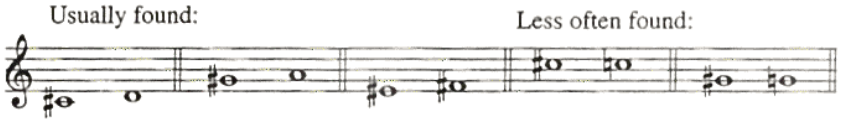
In passages of music involving *half-step motion,* flatted tones are most often followed by a tone with a different letter name a half step lower.

Figure 1.13



Sharped tones are most often followed by tones with a different letter name a half step higher in passages involving half-step motion.

Figure 1.14

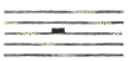
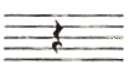


(Assignment 1.4, page 20; Workbook/Anthology 1C–ID)

Notation of Duration

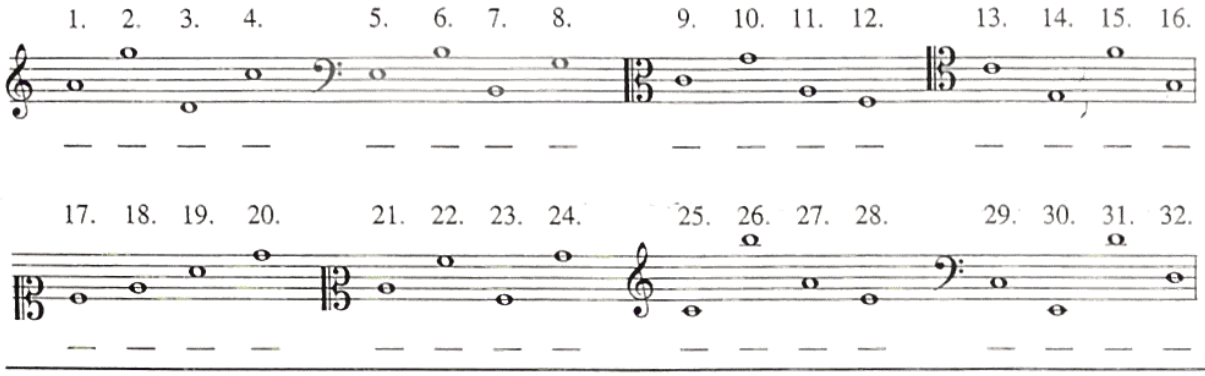
Notation of duration is illustrated in the following chart:

Figure 1.15

Name	Note	Rest	Equivalents
Breve (double whole note)	𝅜		Two Whole Notes
Whole Note	𝅝		Two Half Notes 
Half Note	𝅗𝅥		Two Quarter Notes 
Quarter Note	♩		Two Eighth Notes 

Assignment 1.1

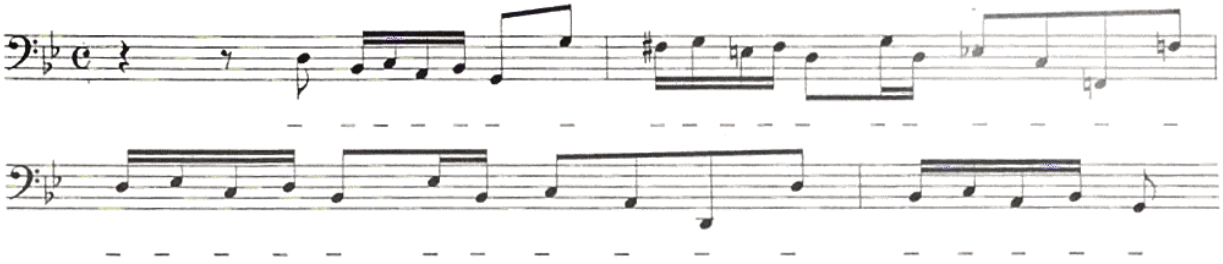
Write the letter name of each note in the blank below the staff.



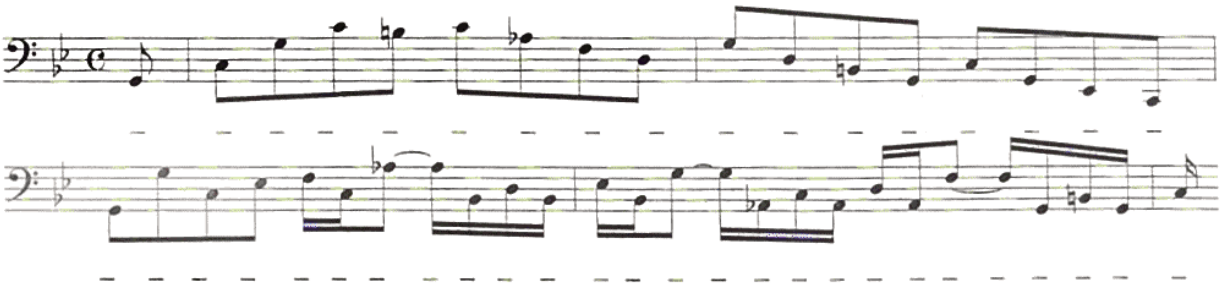
Assignment 1.2

Write the letter name of each note in the blank below the staff.

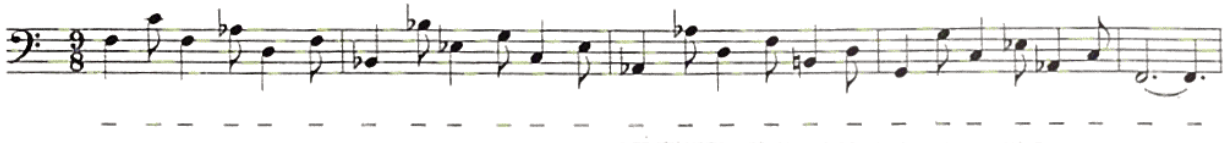
1. Bach: Fugue in G Minor, BWV 542, m. 29–32.



2. Bach: Fugue in G Minor, BWV 542, m. 71–75.

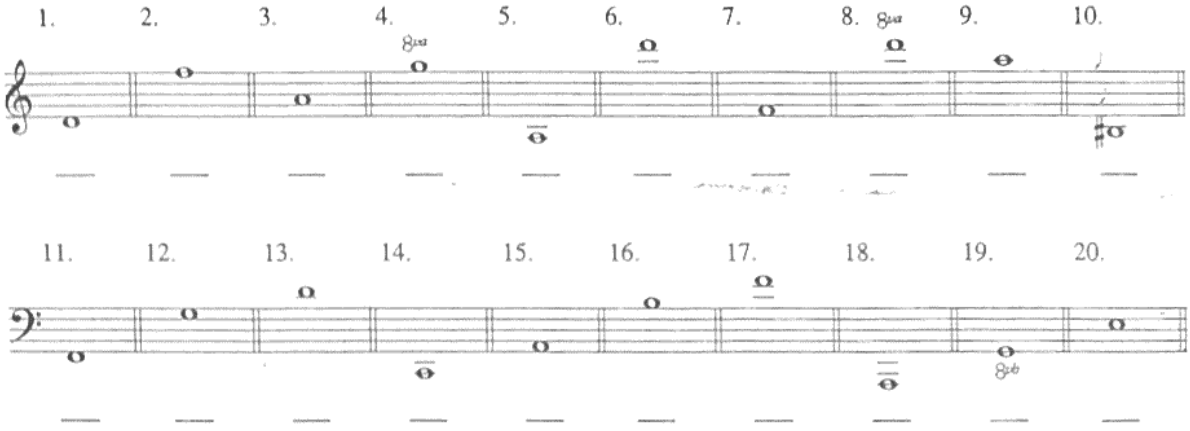


3. Bach: Prelude in C Major (Leipzig), BWV 547, m. 68–72.



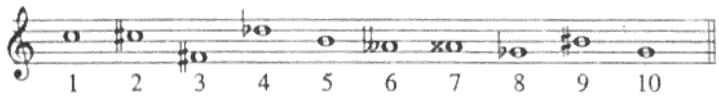
Assignment 1.3

Write the letter name for each note and indicate the octave identification. (USE FIGURE 1.9)



Assignment 1.4

Below are 10 notes. Among the 10 notes are five pairs of enharmonic equivalents (tones that have the same pitch but different letter names). Using the numbers below the staff, pair up the enharmonic equivalents.



No. _____ and No. _____ No. _____ and No. _____

No. _____ and No. _____ No. _____ and No. _____

No. _____ and No. _____

CHAPTER 2

Scales, Tonality, Key, Modes

Topics

Scale
Pitch Class
Diatonic Scale
Solfeggio
Major Scale
Transposition
Natural Minor Scale
Harmonic Minor Scale
Melodic Minor Scale
Scale Degree Names
Relative Relationship
Circle of Fifths
Parallel Relationship
Tonality
Key
Pentatonic Scale
Nondiatonic Scale
Chromatic Scale
Whole-Tone Scale
Blues Scale
Octatonic or Diminished Scale
Augmented Scale
Authentic Mode
Plagal Mode

Important Concepts

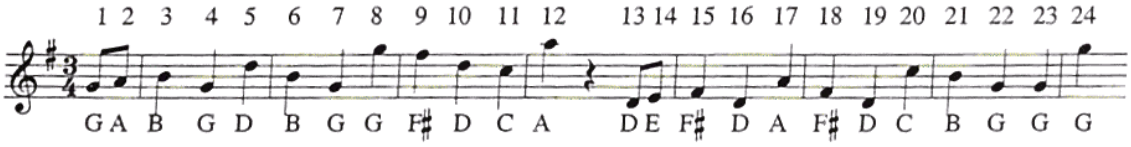
A *scale* is a collection of pitches in ascending and descending order. Musicians use a scale as a convenient way of displaying the notes used in a melody or harmony. In figure 2.1, the melody consists of 24 notes but only seven different pitch classes.

Scale

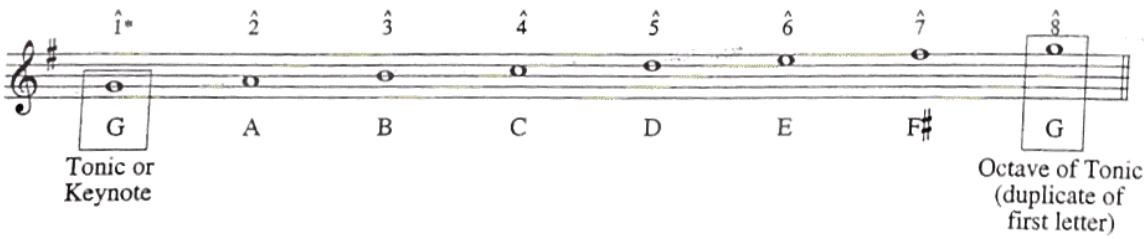
A *pitch class* contains all notes of the same name regardless of octave. These pitch classes are arranged in ascending order to form a scale.

Figure 2.1

Haydn: Symphony no. 94 (*Surprise*), Hob. I:94 in G Major, III (Menuetto), m. 1–8.

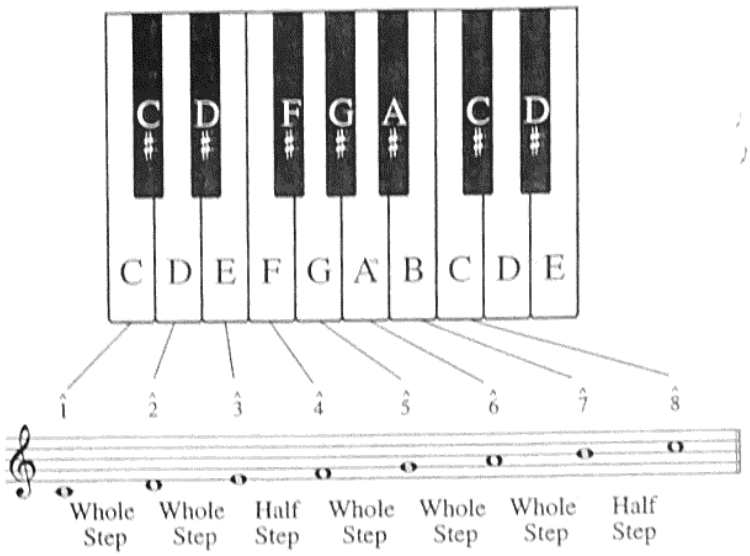


Notes of the melody arranged as a scale:



*The caret (^) indicates that the number refers to a scale degree.

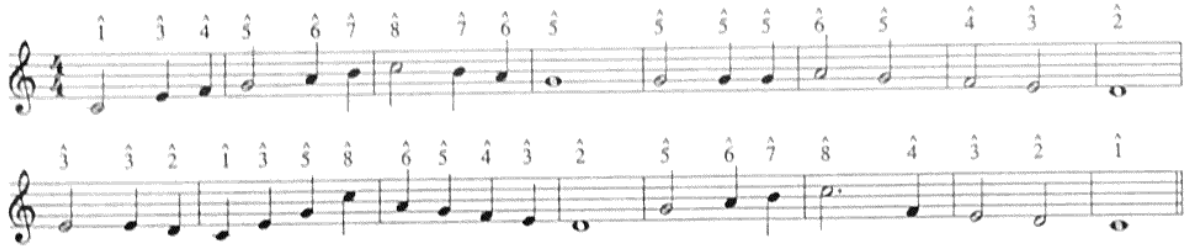
Figure 2.3



The melody in figure 2.4 utilizes the notes of the C major scale.

Figure 2.4

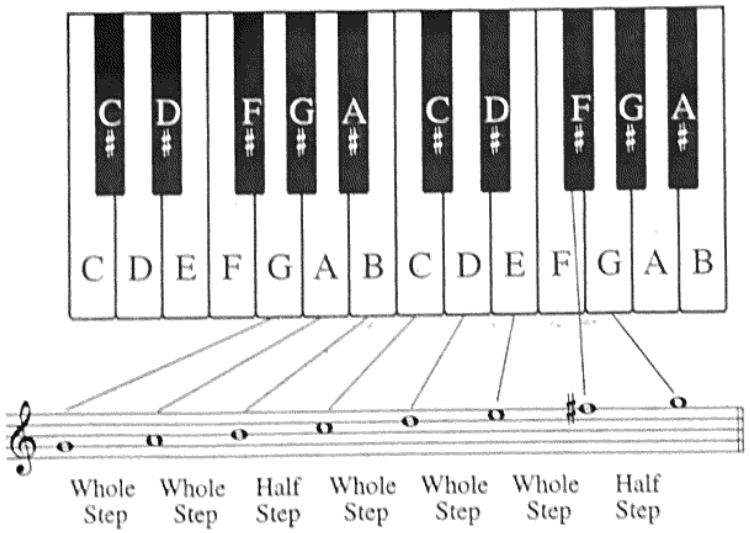
Hatton: "Duke Street."



Transposition

This same major scale pattern of half and whole steps can be duplicated at any pitch. Such rewriting is called *transposition.* In figure 2.5, the major scale is transposed so that its first tone is G. This is the G major scale.

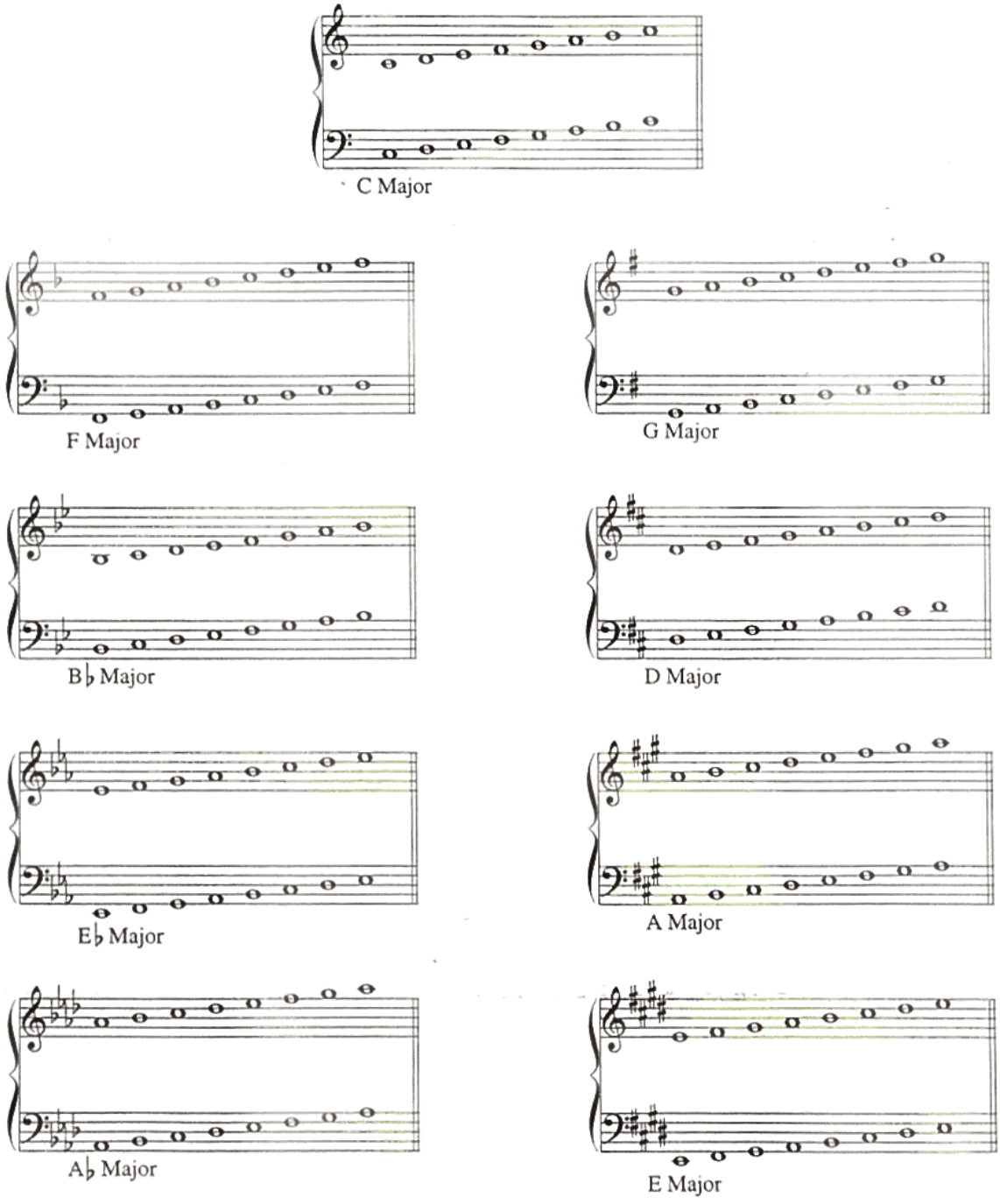
Figure 2.5

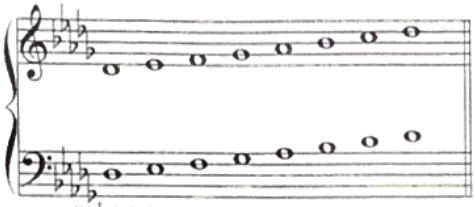


From figure 2.5 it can be seen that a sharp is necessary if the major scale pattern of half and whole steps is to be carried out in the transposition. The chart in figure 2.6 provides a convenient way to memorize the sharps or the flats needed when the scale begins on various pitches. The arrangement of the necessary sharps or flats is called a key signature and appears at the beginning of each staff in a composition. Notice that each successive tonic, or beginning note, is five scale degrees (called a perfect fifth) above or four scale degrees below the previous tonic. A new sharp is added to the key signature for each ascending perfect fifth (P5); in the flat signatures, a flat is dropped for each ascending P5 (see figure 2.18).

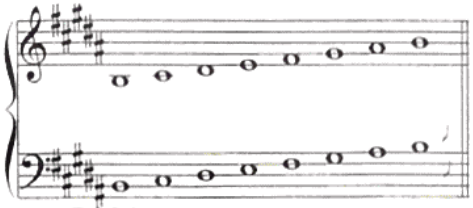
Figure 2.6

Major Key Signatures

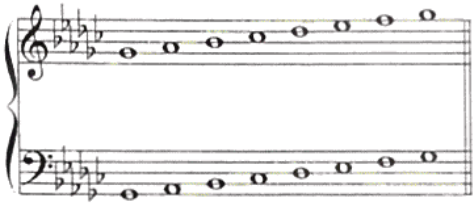




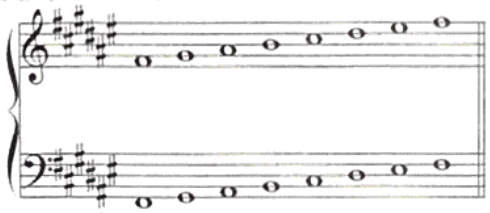
D♭ Major



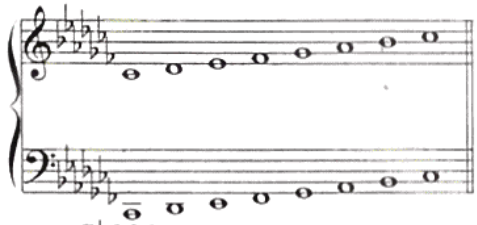
B Major



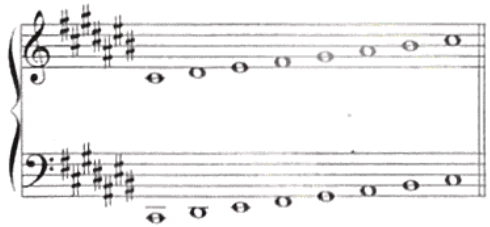
G♭ Major



F♯ Major



C♭ Major



C♯ Major

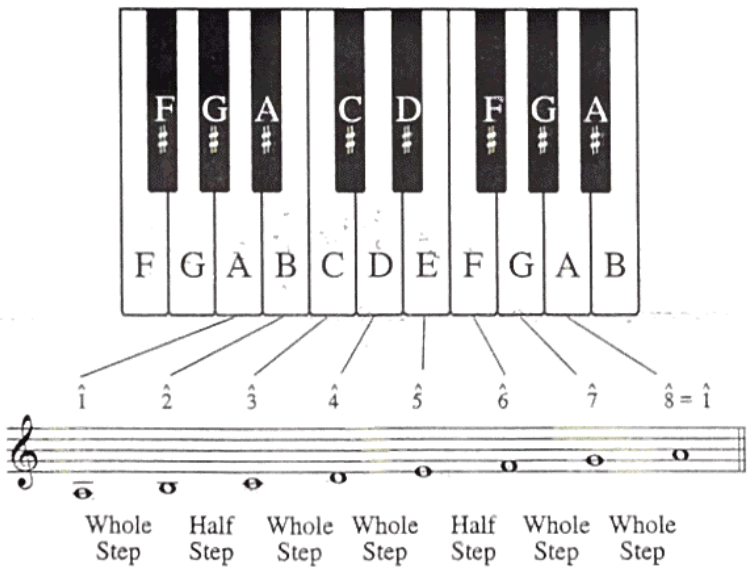
Minor Scale

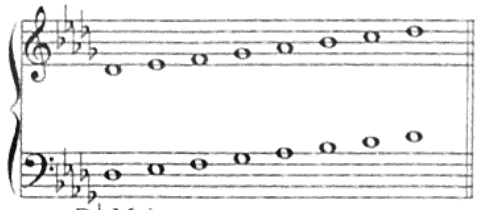
The *minor scale* is another common diatonic scale. It is more varied in pitch material, since there are two versions of both the sixth and seventh scale degrees. Traditionally, the minor scales have been described as having three distinct forms, but in practice, composers use all of the scale resources of the minor scale within a single composition. The three traditional forms of the minor scale are called *natural, harmonic,* and *melodic.*

Natural Form

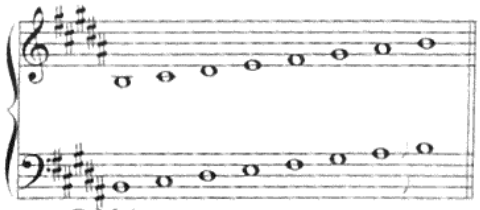
The *natural form* of the minor scale contains seven different pitches with whole steps separating adjacent tones except for half steps between the second and third degrees and between the fifth and sixth degrees. Its pitches are those of the white keys of the piano from A to A:

Figure 2.7

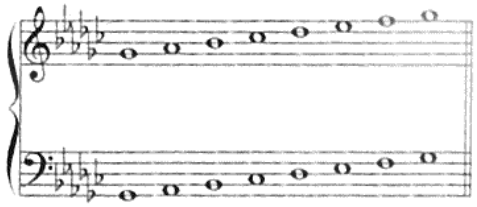




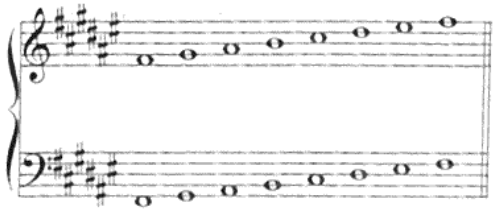
D♭ Major



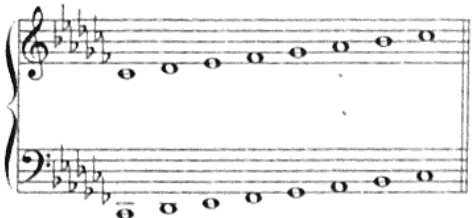
B Major



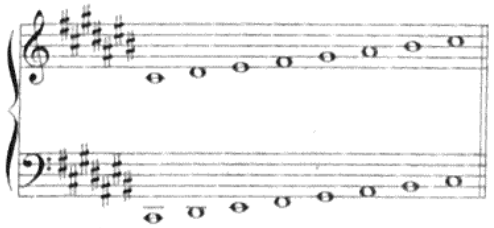
G♭ Major



F♯ Major



C♭ Major



C♯ Major

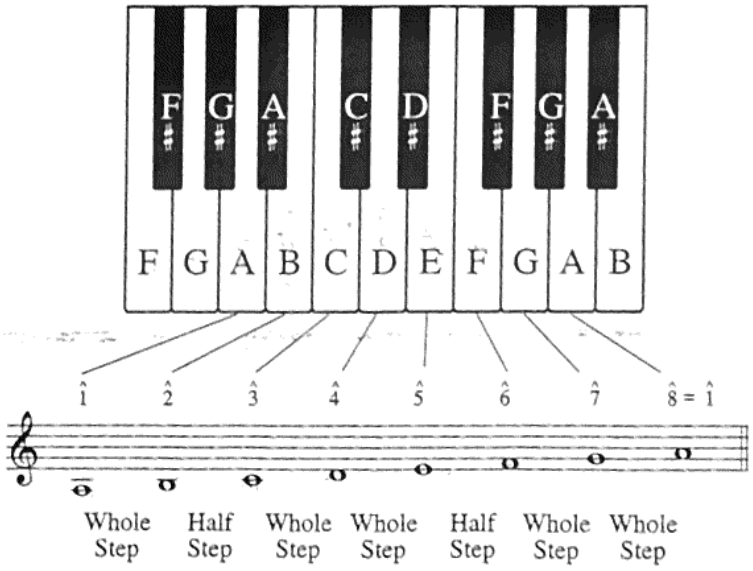
Minor Scale

The *minor scale* is another common diatonic scale. It is more varied in pitch material, since there are two versions of both the sixth and seventh scale degrees. Traditionally, the minor scales have been described as having three distinct forms, but in practice, composers use all of the scale resources of the minor scale within a single composition. The three traditional forms of the minor scale are called *natural, harmonic,* and *melodic.*

Natural Form

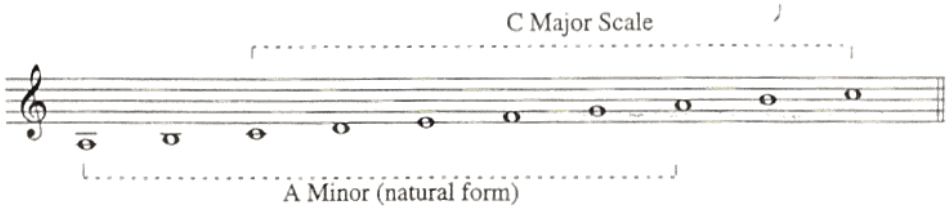
The *natural form* of the minor scale contains seven different pitches with whole steps separating adjacent tones except for half steps between the second and third degrees and between the fifth and sixth degrees. Its pitches are those of the white keys of the piano from A to A:

Figure 2.7



The natural form of the minor scale can be thought of as a major scale from the sixth to the sixth degree.

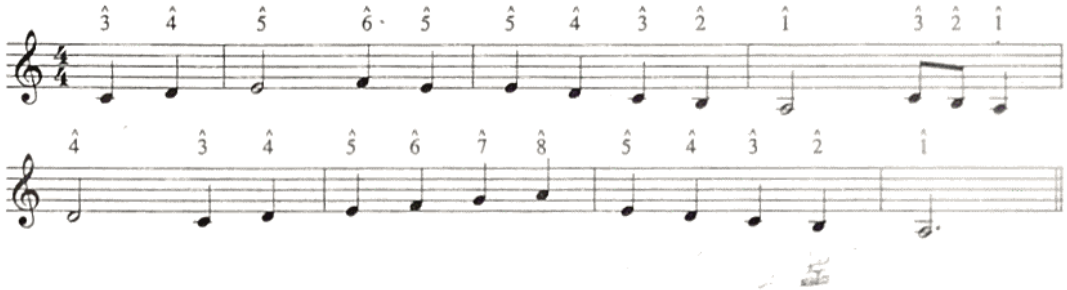
Figure 2.8



The excerpt from a familiar carol in figure 2.9 uses the natural form of the minor scale.

Figure 2.9

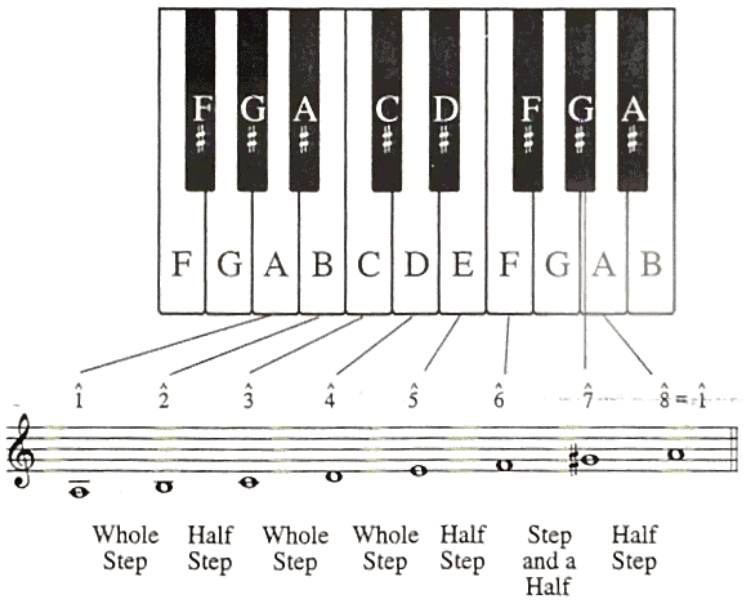
Carol: "God Rest Ye Merry, Gentlemen" (Refrain).



Harmonic Form

The *harmonic form* of the minor scale has a raised seventh degree. Raising the seventh degree creates a step and a half between the sixth and seventh degrees and a half step between the seventh and eighth degrees. Accidentals used to raise the seventh degree do not appear in the key signature. The pattern of half steps ($\hat{2}$–$\hat{3}$, $\hat{5}$–$\hat{6}$, $\hat{7}$–$\hat{8}$) is shown in figure 2.10.

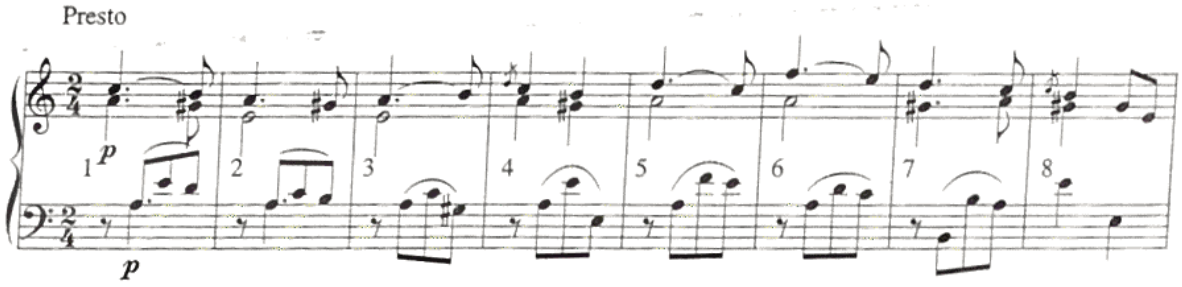
Figure 2.10



The Mozart excerpt in figure 2.11 utilizes the harmonic form of the minor scale. Notice the presence of G-sharps in every measure except 5 and 6.

Figure 2.11

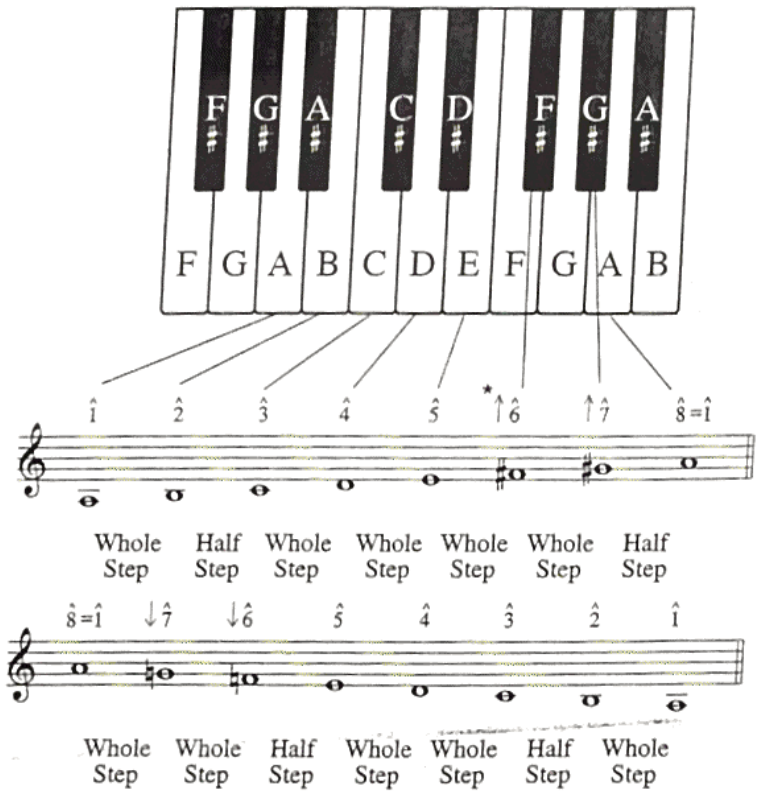
Mozart: Piano Sonata, K. 310 in A Minor. III. m. 1–8.



Melodic Form

The *melodic form* of the minor scale includes raised sixth and seventh scale degrees in the ascending form, producing half steps between the second and third and seventh and eighth degrees. The descending form is the same as the natural minor.

Figure 2.12

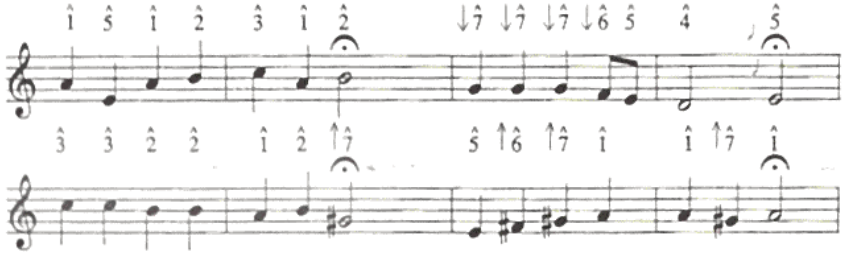


*Arrows are used to distinguish between the raised and lowered scale degrees in melodic minor.

The excerpt in figure 2.13 includes the ascending and descending forms of the melodic minor scale.

Figure 2.13

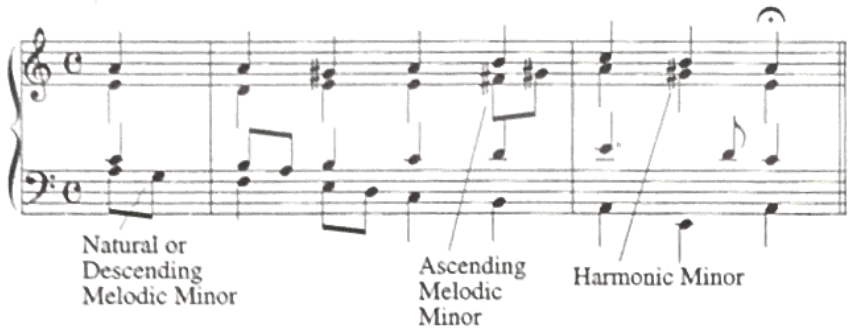
Schwing dich auf zu deinem Gott (Soar Upward to Thy God) m 5–12 (Transposed).

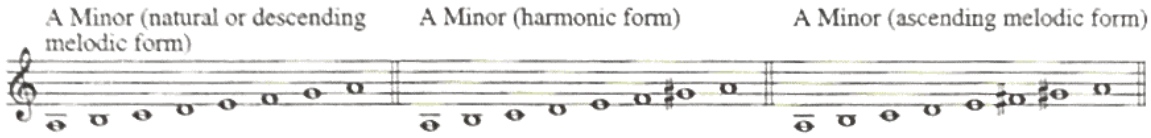


An examination of music literature, especially vocal and choral, reveals that composers consider the natural, harmonic, and melodic minor as arrangements of the same scale with each form to be used according to need. This excerpt, by Bach, utilizes the various forms of the A minor scale in a single phrase of music:

Figure 2.14

Bach: *Herr Jesu Christ, du höchstes Gut* (Lord Jesus Christ, Thou Highest Good) BWV 113, m 1–2 (Transposed).





(Assignments 2.1–2.4, pages 45–47; Workbook/Anthology 2A)

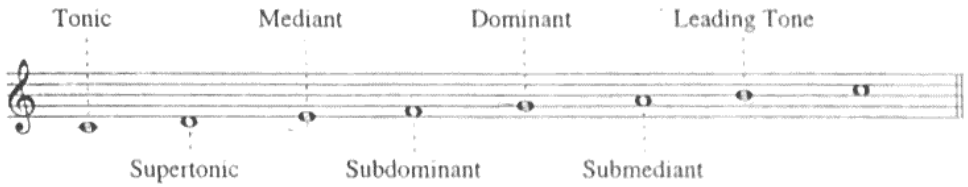
Scale Degree Names

Each degree of the seven-tone diatonic scale has a name that relates to its function. The major scale and all three forms of the minor scale share these terms.

Scale Degree	Name	Meaning
1st	Tonic	Tonal center, the final resolution tone.
2nd	Supertonic	One step above the tonic.
3rd	Mediant	Midway between tonic and dominant.

Scale Degree	Name	Meaning
4th	Subdominant	The lower dominant, the fifth tone down from the tonic (also the fourth tone up from the tonic).
5th	Dominant	So called because its function is next in importance to the tonic.
6th	Submediant	The lower mediant halfway between tonic and lower dominant (subdominant). The third tone down from the tonic (also the sixth tone up from the tonic).
7th	Leading tone	Strong affinity for and leads melodically to the tonic.
7th	Subtonic	Used only to designate the seventh degree of the natural minor scale (a whole step below the tonic).

Figure 2.15



(Assignment 2.5, page 47; Workbook/Anthology 2B–2C)

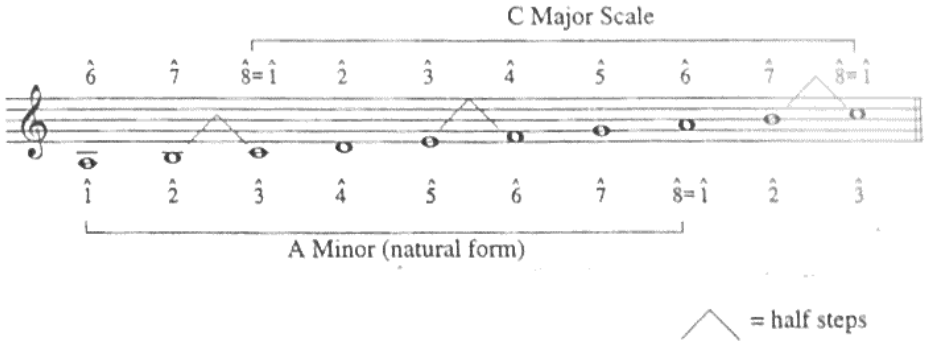
Scale Relationships

Two important relationships will be described between the major and the minor scales: the relative and the parallel relationships.

Relative Relationship

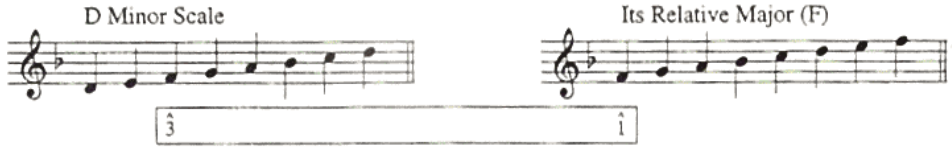
A major and a minor scale that have the same key signature are said to be in a *relative relationship*. To find the relative minor of any major scale, proceed to the sixth degree of that scale. This tone is the tonic of the relative minor.

Figure 2.16



To find the relative major of a minor key, proceed to the third degree of the minor scale. This tone is the tonic of the relative major key.

Figure 2.17

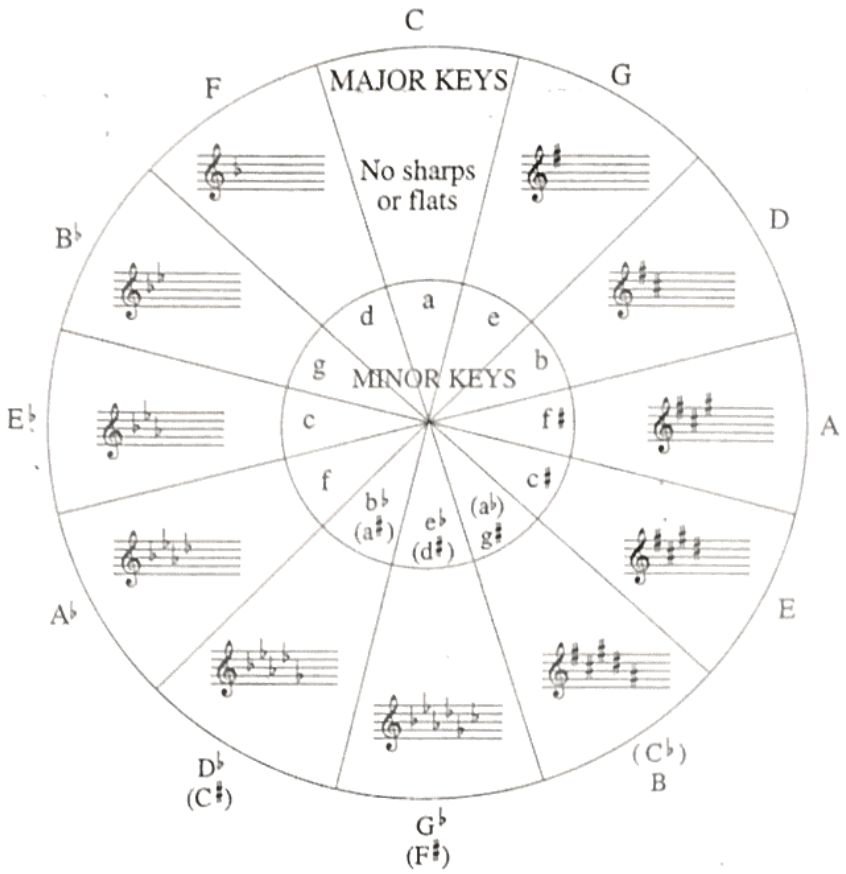


MAJOR/RELATIVE MINOR RELATIONSHIPS

Major Scale	Relative Minor Scale	Number of Sharps or Flats	Letter Names	Key Signatures and Key Notes (Major and Minor)
C	a	None		
G	e	1 Sharp	F♯	
D	b	2 Sharps	F♯, C♯	
A	f♯	3 Sharps	F♯, C♯, G♯	
E	c♯	4 Sharps	F♯, C♯, G♯, D♯	
B = C♭	g♯ = a♭	5 Sharps 7 Flats	F♯, C♯, G♯, D♯, A♯ B♭, E♭, A♭, D♭, G♭, C♭, F♭	=
F♯ = G♭	d♯ = e♭	6 Sharps 6 Flats	F♯, C♯, G♯, D♯, A♯, E♯ B♭, E♭, A♭, D♭, G♭, C♭	=
C♯ = D♭	a♯ = b♭	7 Sharps 5 Flats	F♯, C♯, G♯, D♯, A♯, E♯, B♯ B♭, E♭, A♭, D♭, G♭	=
A♭	f	4 Flats	B♭, E♭, A♭, D♭	
E♭	c	3 Flats	B♭, E♭, A♭	
B♭	g	2 Flats	B♭, E♭	
F	d	1 Flat	B♭	

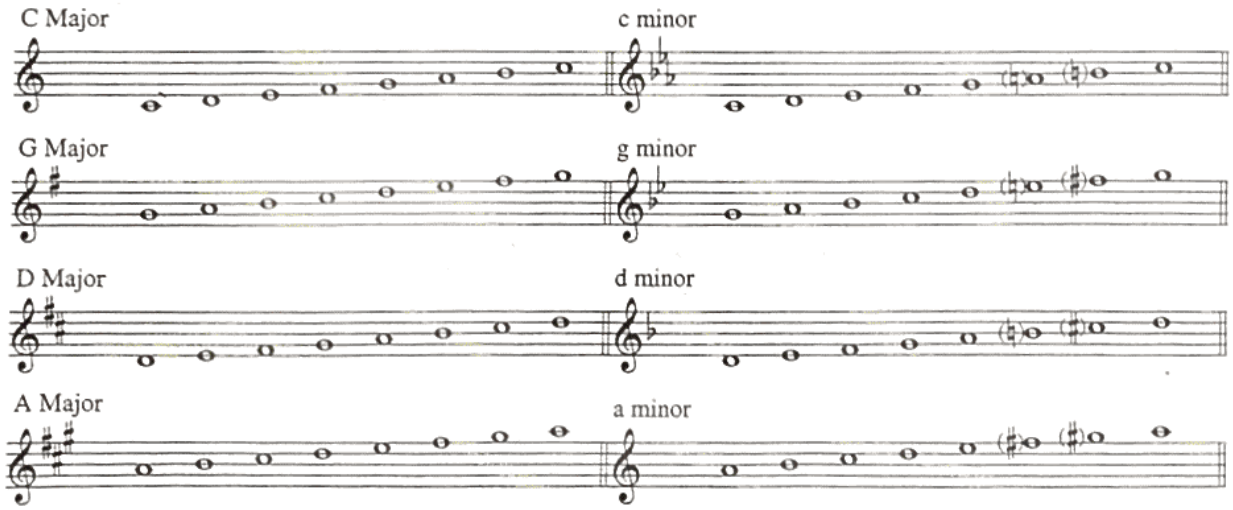
Another way to visualize the relationship between the major scales and their relative minors is with the *circle of fifths* (figure 2.18).

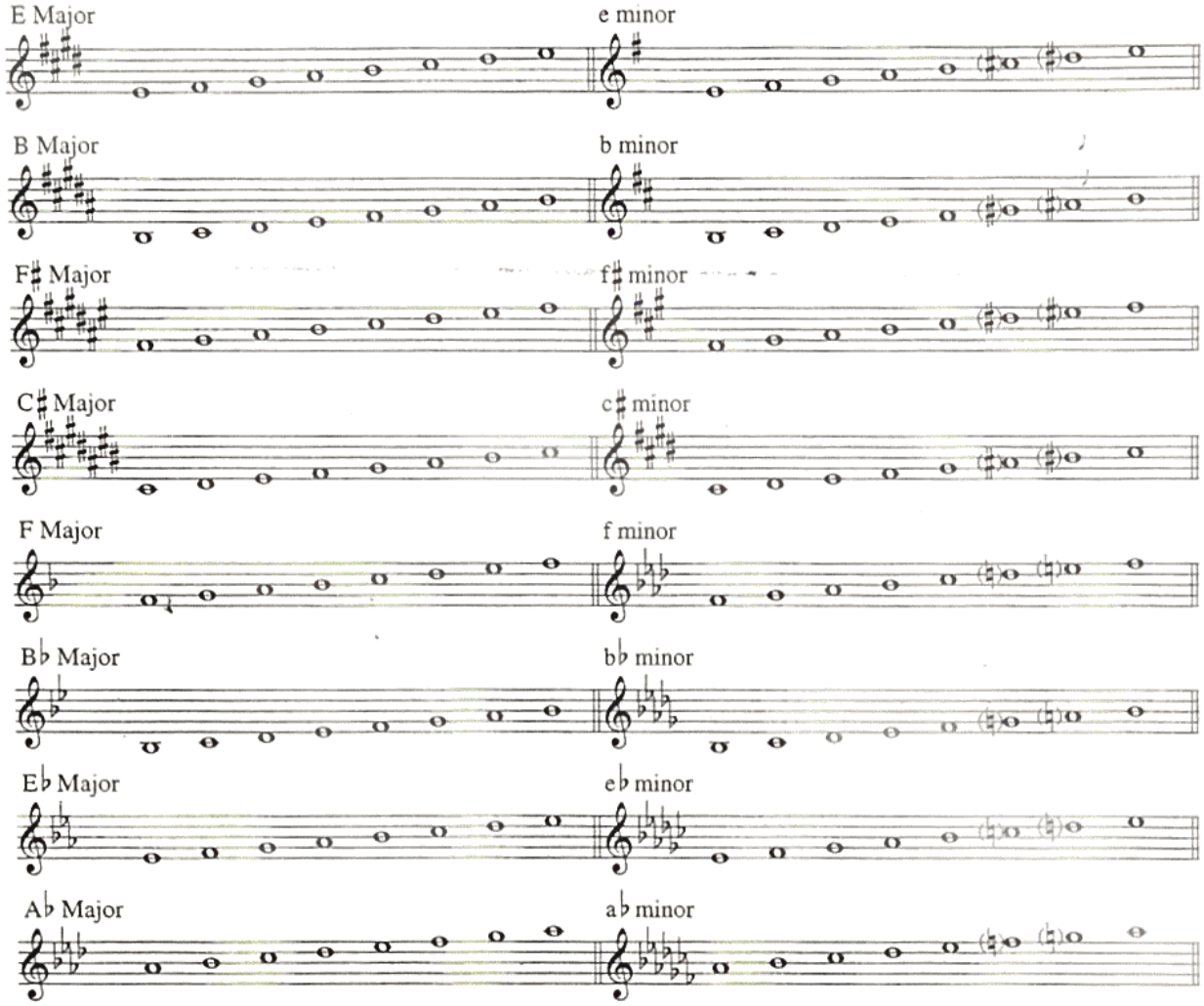
Figure 2.18 Circle of Fifths



Parallel Relationship A major and a minor scale that have the same tonic note are said to be in *parallel relationship*. Figure 2.19 shows the major scales and their parallel minors.

Figure 2.19





(Assignment 2.6, page 47; Workbook/Anthology 2D–2E)

Tonality

Tonality is an organized system of tones (e.g., the tones of a major or minor scale) in which one tone (the tonic) becomes the central point to which the remaining tones are related. In tonality, the tonic (tonal center) is the tone of complete relaxation, the target toward which other tones lead.

Key

The term *key* refers to the tonal system based on the major and minor scales. This system is by far the most common tonal system, but tonality can be present in music not based on the major and minor scales (see the later chapters of volume 2).

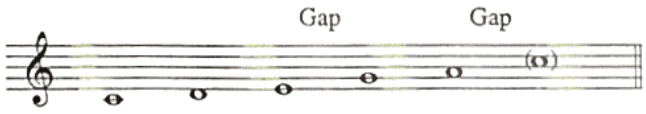
Other Scales

The great majority of western European music written from the seventeenth century through the nineteenth centuries uses the major and minor scales, but a number of other scales are found occasionally. Some of these are described below.

Pentatonic Scale

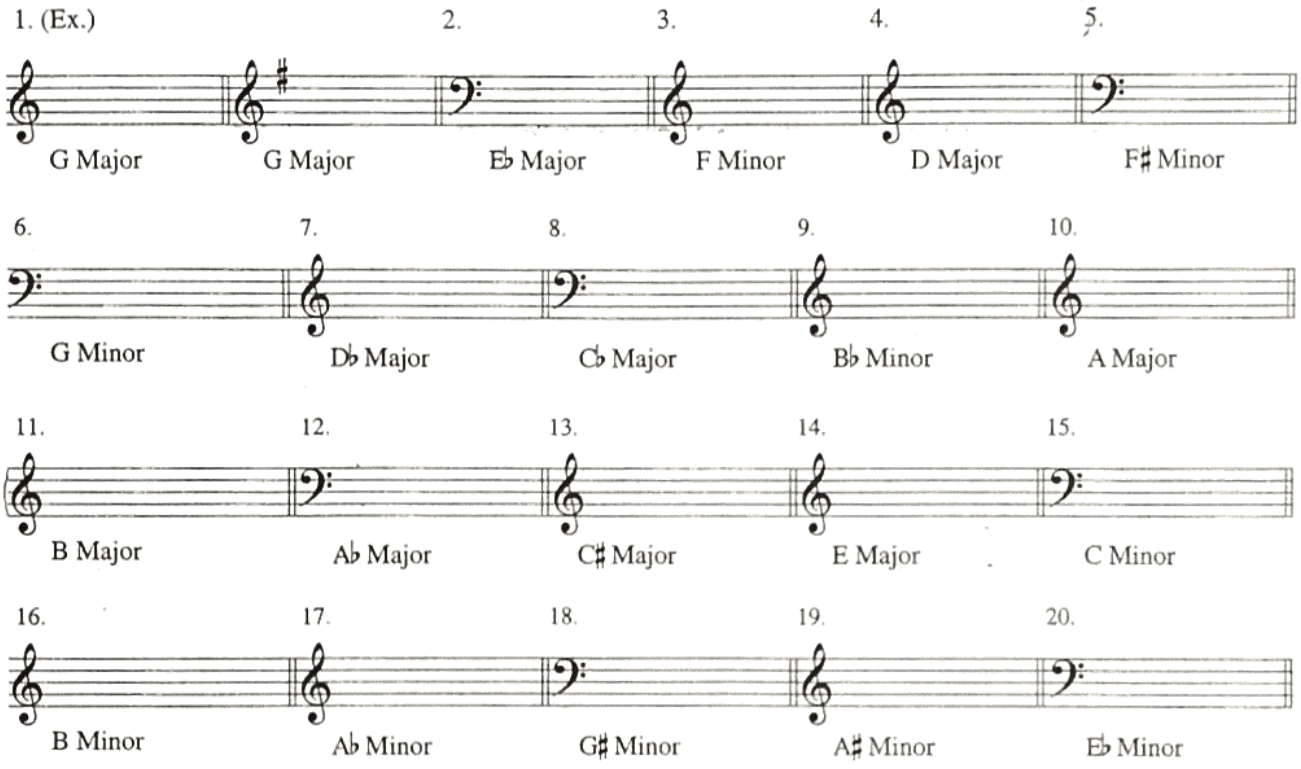
The *pentatonic scale* is a five-tone scale. It is an example of a gapped scale, one that contains intervals of more than a step between adjacent pitches. It is convenient to think of the common pentatonic scale as an incomplete major scale.

Figure 2.20



Assignment 2.2

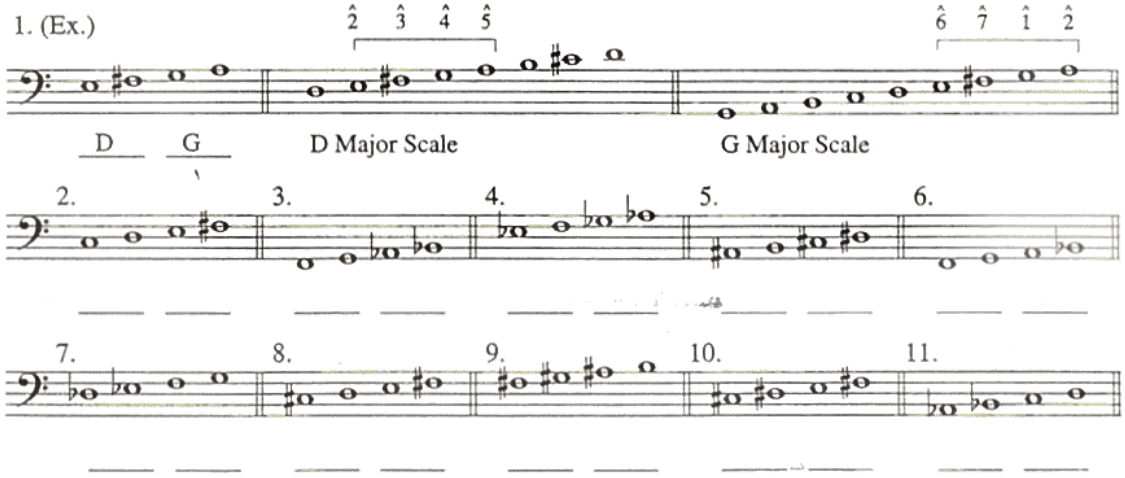
Write the key signature for each of the following major and minor scales.



Assignment 2.3

Below are groups of four successive notes of major scales. Most of these groups are part of two major scales, but three examples are part of only one major scale.

1. Write the scales of which each example is a part. (See the example for the pattern.)
2. Indicate the scale degrees with a caret as shown in the example.



CHAPTER 3

Intervals and Transposition

Topics

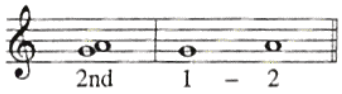
Interval Numbers
Octave
Unison
Perfect, Major, and Minor Intervals
Consonance and Dissonance
Augmented and Diminished Intervals
Enharmonic Intervals
Tritone
Inversion of Intervals
Compound Intervals
Simple Intervals
Pythagorean Tuning
Pure Fifths
Just Intonation
Unequal Temperaments
Equal Temperament
Interval Transposition
Clef Transposition
Tonal and Nontonal Transposition

Important Concepts

Intervals and Interval Numbers

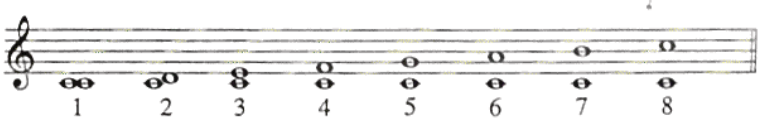
An *interval* is the relationship in pitch between two tones. Intervals are named by the number of diatonic notes (notes with different letter names) that can be contained within them. For example, the whole step G to A contains only two diatonic notes (G and A) and is called a second.

Figure 3.1



The following chart shows all the *interval numbers* within an octave:

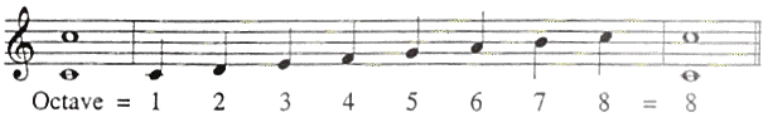
Figure 3.2



Notice that the interval numbers shown in figure 3.2 correspond to the scale degree numbers for the major scale.

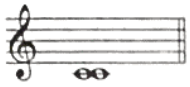
The term *octave* refers to the number 8 (its interval number).

Figure 3.3



The interval numbered "1" (two notes of the same pitch) is called a *unison.*

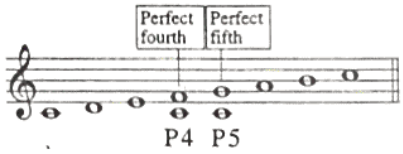
Figure 3.4



Perfect, Major, and Minor Intervals

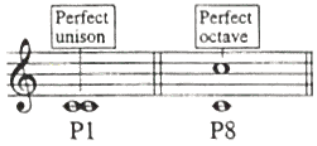
The intervals that include the tonic (keynote) and the fourth and fifth scale degrees of a major scale are called *perfect.*

Figure 3.5



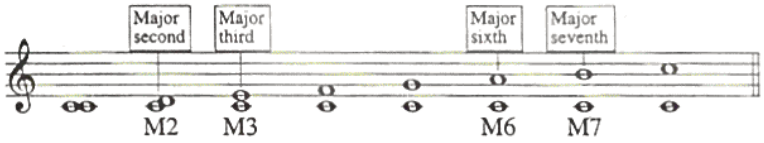
In addition, the unison and the octave are called *perfect.*

Figure 3.6



The intervals from the tonic (keynote) in an upward direction to the second, to the third, to the sixth, and to the seventh scale degrees of a major scale are called *major.*

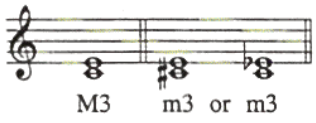
Figure 3.7



Notice the standard abbreviations for intervals in figures 3.5, 3.6, and 3.7. For example, P1 = perfect unison, M2 = major second.

When a major interval is made one-half step smaller, it becomes *minor.* This can be done either by raising the bottom note or lowering the top note.

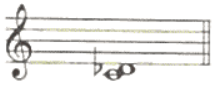
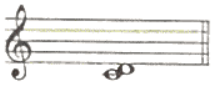
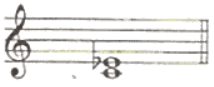
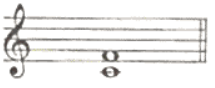
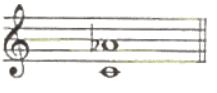
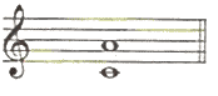
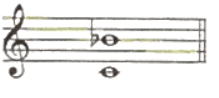
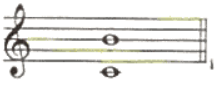
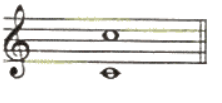
Figure 3.8



Notice the standard abbreviation for minor intervals: a lower case "m" followed by an interval number.

Major, minor, and perfect intervals are illustrated in figure 3.9.

Figure 3.9

Name	Illustration	Number of Half Steps	Convenient Example
Perfect Unison (also Prime)		0	
Minor 2nd (m2)		1	$\hat{7}$ – $\hat{8}$ of Major Scale
Major 2nd (M2)		2	$\hat{1}$ – $\hat{2}$ of Major Scale
Minor 3rd (m3)		3	$\hat{1}$ – $\hat{3}$ of Minor Scale
Major 3rd (M3)		4	$\hat{1}$ – $\hat{3}$ of Major Scale
Perfect 4th (P4)		5	$\hat{1}$ – $\hat{4}$ of Major or Minor Scale
Perfect 5th (P5)		7	$\hat{1}$ – $\hat{5}$ of Major or Minor Scale
Minor 6th (m6)		8	$\hat{1}$ – $\hat{6}$ of Minor Scale
Major 6th (M6)		9	$\hat{1}$ – $\hat{6}$ of Major Scale
Minor 7th (m7)		10	$\hat{1}$ – $\hat{7}$ of Natural Minor Scale
Major 7th (M7)		11	$\hat{1}$ – $\hat{7}$ of Major Scale
Perfect Octave		12	$\hat{1}$ – $\hat{8}$ of Major Scale

Consonance and Dissonance

The terms *consonance* and *dissonance* are defined in a variety of ways, depending on the context. In acoustics, the consonances are those intervals that are found as the lower members of the harmonic series (see page xiii). We will define the term consonance in a

Unequal Temperaments

By 1650 musicians had found a number of *unequal temperaments* that met their needs for playing in a variety of keys. These temperaments gave up the purity of the thirds and fifths, but distributed the error over enough intervals that most chords were acceptable. Many systems were used, but the best known are those of Andreas Werckmeister (1645–1706), whose treatise *Musikalische Temperatur* (1691) gave a number of unequal temperaments that are still in use today, particularly in pipe organs. It is certain that Bach's *Well-Tempered Clavier* (1722–1742) was composed for an instrument tuned to one of the unequal temperaments rather than equal temperament, as has sometimes been supposed.

Equal Temperament

Equal temperament divides the octave into 12 equal half steps, thus further compromising both pure fifths and pure thirds. Fretted string instruments were responsible for much of the early interest in equal temperament since the frets passed under all the strings, and this required that all the half steps be as equal as possible. During the later nineteenth and twentieth centuries, equal temperament became the standard system of tuning, and most modern instruments approximate this system as nearly as possible. A number of twentieth-century composers have experimented with tuning systems as the basis for new musical styles, and the interest in historically accurate performance has led to the construction of instruments employing various historical tunings.

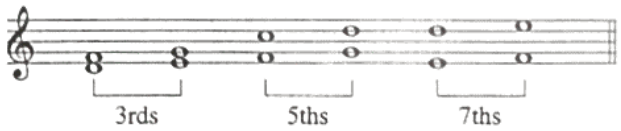
Applications

Fluency with Intervals

It is vital that you develop speed and accuracy in the identification and spelling of intervals. Much of your future work in music theory will require this ability. Many musicians use the following method to help them identify intervals more quickly.

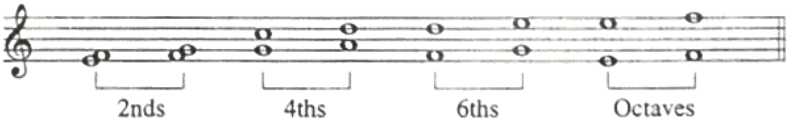
1. Notice that in writing thirds, fifths, and sevenths the two notes are either on lines or on spaces.

Figure 3.18



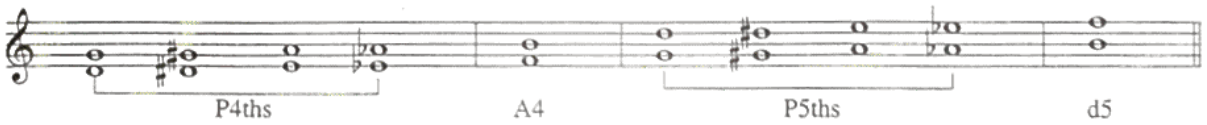
2. Seconds, fourths, sixths, and octaves involve a note on a line and a note on a space.

Figure 3.19



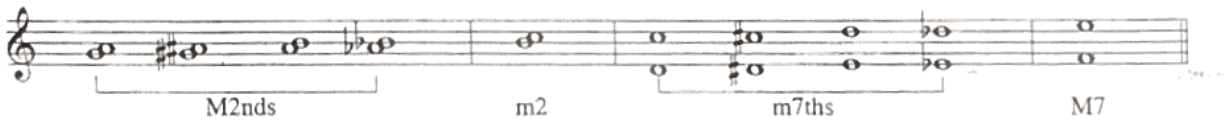
3. Fourths, fifths, and octaves are perfect if the accidentals are the same, except for the fourth and fifth involving B and F.

Figure 3.20



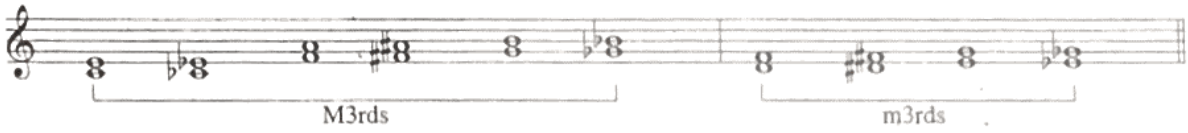
4. Seconds are major and sevenths are minor if the accidentals are the same, except for those involving E–F and B–C.

Figure 3.21



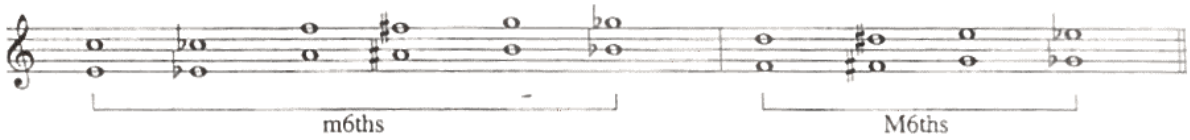
5. Thirds built on C, F, and G are major if the accidentals are the same. Thirds built on the remaining notes are minor if the accidentals are the same.

Figure 3.22



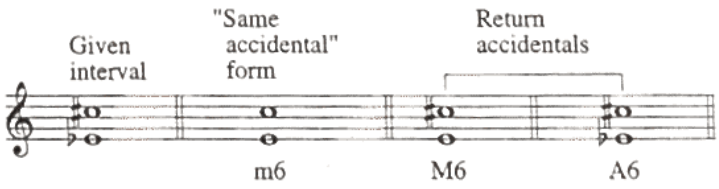
6. Sixths whose upper tones are C, F, or G are minor if the accidentals are the same. Sixths whose upper tones are any of the remaining notes are major if the accidentals are the same.

Figure 3.23



7. Other interval qualities may be quickly determined by reducing the interval to the "same accidental" form and then noting the effect on interval size when the accidental(s) are replaced.

Figure 3.24

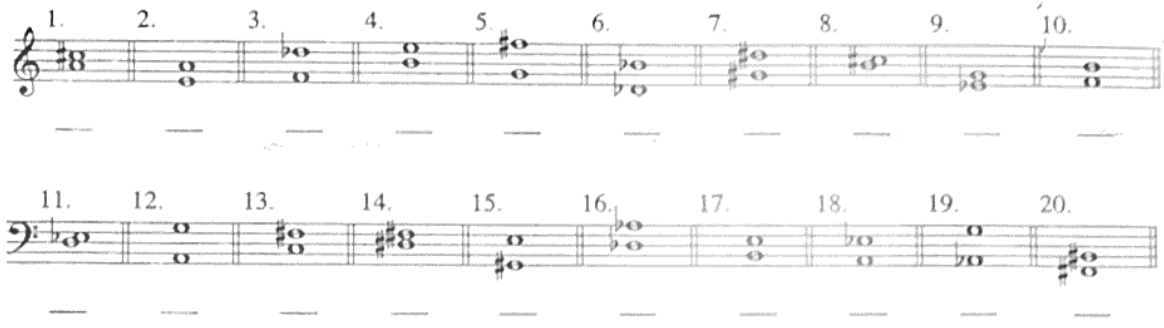


With sufficient practice determining the size of intervals will become automatic. In the assignments for this chapter, work first for accuracy and then try to develop speed.

(Assignments 3.1–3.8, pages 61–64; Workbook/Anthology 3A–3G)

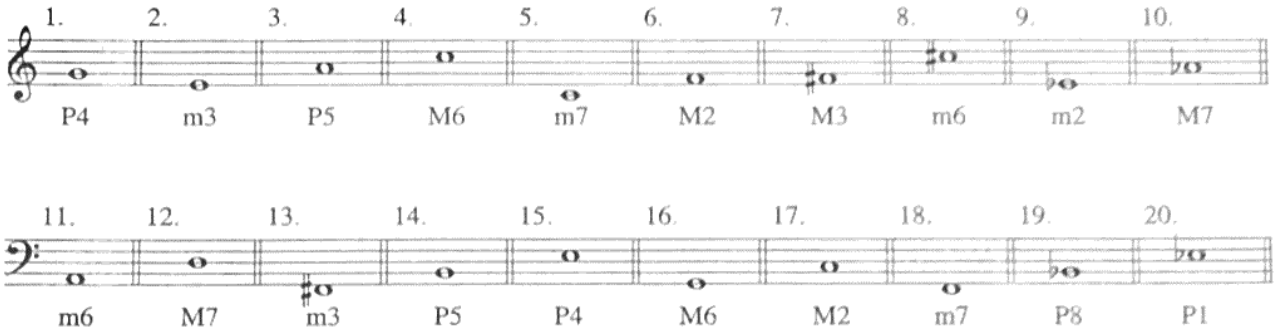
Assignment 3.1

Write the name of each interval on the blank provided.



Assignment 3.2

Write the interval requested above the given note.



Assignment 3.3

Write the interval requested below the given note.