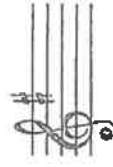


Key Signatures — The Sharp Keys

When writing the scales on page 44, you added sharp signs before the appropriate notes.

In the G scale, you added a sharp sign before each F; in the D scale, you added sharp signs before each F and C.

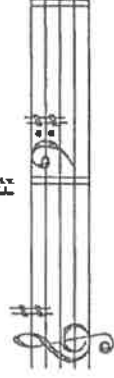
To make writing and reading music easier, you can place all of the sharps used in a scale or piece immediately after the clef sign. This is called the **KEY SIGNATURE**. It indicates the notes that will be sharpened each time they appear for the *entire* piece.



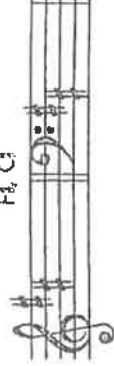
In this case, any F will always be played sharp (unless there is a natural sign before the F).

Sharps written in the key signature always appear in a specific order. Here are the sharp key signatures of the scales you know:

Key of G — 1 sharp:
F#



Key of D — 2 sharps:
F#, C#



The order of sharps in the key signature for up to two sharps is F, C.

Important!

To figure out the name of a major key from the key signature, go up a half step from the last sharp.

As an example: a key signature of F# would be the key of G major;

a key signature of F# and C# would be the key of D major.

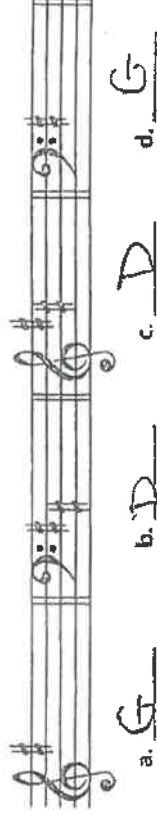
Exercises

- 1 Write the order of the first two sharps in a key signature.

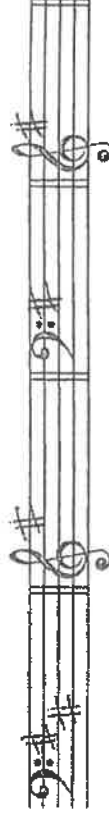
F# C#

- 2 If C# is the last sharp in the key signature, the major key name would be D.

- 3 Name the following major key signatures.



- 4 Write the following major key signatures.



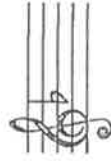
a. D major b. G major c. G major d. D major

Key Signatures — The Flat Keys

When writing the scales on page 45, you added flat signs before the appropriate notes.

In the F scale, you added a flat sign before each B; in the B $\flat$ scale, you added flat signs before each B and E.

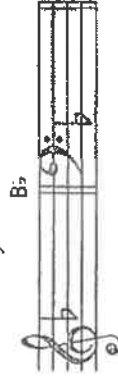
Just like sharp signs, you can place **all of the flats** used in a scale or piece in the **KEY SIGNATURE**. It indicates the notes that will be flattened each time they appear for the *entire* piece.



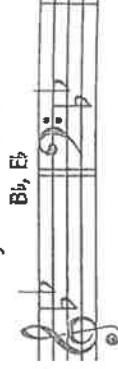
In this case, any B will always be played flat (unless there is a natural sign before the B).

Flats written in the key signature always appear in a specific order. Here are the flat key signatures of the scales you know:

Key of F — 1 flat:



Key of B $\flat$ — 2 flats:



The order of flats in the key signature for up to two flats is B E.

Important!

To figure out the name of a major key from the key signature, remember that one flat is the key of F; for two or more flats, the next-to-last flat is the name of the key. As an example, a key signature of B $\flat$ and E $\flat$ would be the key of B $\flat$ major.

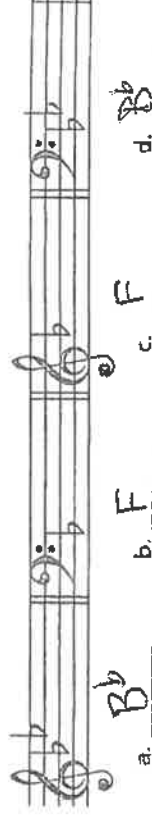
Exercises

1 Write the order of the first two flats in a key signature.

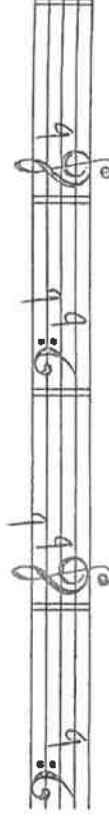
B $\flat$ E $\flat$

2 If B $\flat$ is the next-to-last flat in the key signature, the major key name would be B $\flat$.

3 Name the following major key signatures.



4 Write the following major key signatures.



REVIEW OF LESSONS 26-30

UNIT 7

49

17 Indicate whether the distance between each note is a whole step (W), semitone (ST), or half step (H).

ST T ST T ST T ST

18 The pattern of a tetrachord is whole step, whole step, half step, half step.

19 Write tetrachords below starting on the following notes. Remember to include the accidentals.

ST T ST T ST T ST

20 Draw a line to match each of the following:

The 2nd tetrachord of:
D major
G major
C major

Is the 1st tetrachord of:
D major
G major
A major

21 The major scale is made up of _____ tetrachords joined by a _____

22 How many notes are in a major scale? 8

23 In a major scale, half steps occur between the 3rd & 4th and 7th & 8th scale degrees.

24 Write major scales (without key signatures) a. beginning on the following notes using whole notes.

b.

25 Fill in the missing notes in the major scales and indicate with an H above the staff where the half steps occur.

a.

b.

26 Fill in the missing notes and note values in the major scales.

a.

b.

The Remaining Major Scales with Key Signatures

Once you are familiar with how to build tetrachords, it is easy to build any major scale. Altogether, there are 15 major scales: 7 sharp keys, 7 flat keys, and the key of C, which has no sharps or flats.

You are already familiar with the scales and key signatures of five of the 15: C, G (F $\sharp$), D (F $\sharp$, C $\sharp$), F (B $\flat$) and B $\flat$ (B $\flat$, E $\flat$). Here are the remaining 10.

A Major (3 $\sharp$ s: F $\sharp$, C $\sharp$, G $\sharp$)



E $\flat$ Major (3 $\flat$ s: B $\flat$, E $\flat$, A $\flat$)

E Major (4 $\sharp$ s: F $\sharp$, C $\sharp$, G $\sharp$, D $\sharp$)



A $\flat$ Major (4 $\flat$ s: B $\flat$, E $\flat$, A $\flat$, D $\flat$)

B Major (5 $\sharp$ s: F $\sharp$, C $\sharp$, G $\sharp$, D $\sharp$, A $\sharp$)



D $\flat$ Major (5 $\flat$ s: B $\flat$, E $\flat$, A $\flat$, D $\flat$, G $\flat$)

F $\sharp$ Major (6 $\sharp$ s: F $\sharp$, C $\sharp$, G $\sharp$, D $\sharp$, A $\sharp$, E $\sharp$)



G $\flat$ Major (6 $\flat$ s: B $\flat$, E $\flat$, A $\flat$, D $\flat$, G $\flat$, C $\flat$)

C $\sharp$ Major (7 $\sharp$ s: F $\sharp$, C $\sharp$, G $\sharp$, D $\sharp$, A $\sharp$, E $\sharp$, B $\sharp$)



D $\sharp$ Major (7 $\flat$ s: B $\flat$, E $\flat$, A $\flat$, D $\flat$, G $\flat$, C $\flat$, F $\flat$)

The complete order of sharps in the key signature is:

F C G D A E B.

A helpful reminder:

Fat Cats Go Down Alleys Eating Bread.

The complete order of flats in the key signature is:

B E A D G C F.

A helpful reminder: BEAD + G C F.

There are, however, only 12 unique *sounding* major scales. The following are **ENHARMONIC SCALES**; they *sound*

the same but are written differently:

B major sounds the same as C $\flat$ major

F $\sharp$ major sounds the same as G $\flat$ major

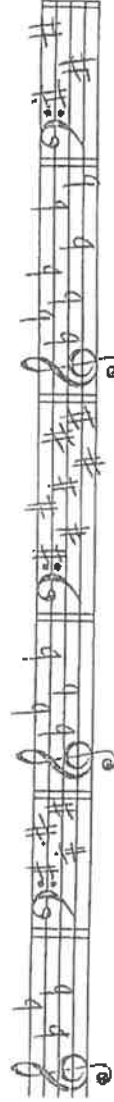
C $\sharp$ major sounds the same as D $\flat$ major

Exercises

1 Name the following major key signatures.



2 Write the following key signatures.



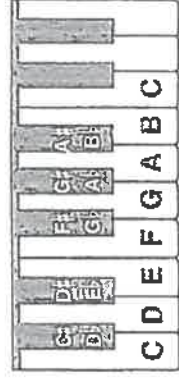
a. E $\flat$ major b. E major c. A $\flat$ major d. C $\sharp$ major e. C $\flat$ major f. A major

(c) (c)

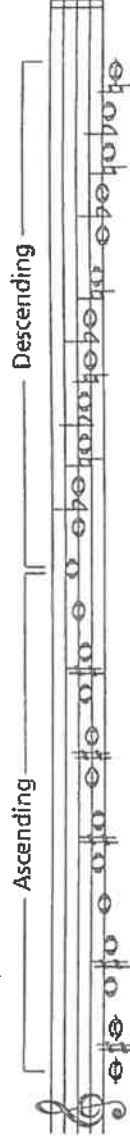
Chromatic Scale

The CHROMATIC SCALE is made up entirely of half steps in consecutive order. On a keyboard, therefore, it uses every key, black and white. When the scale goes up, it is called *ascending*; when the scale goes down, it is called *descending*.

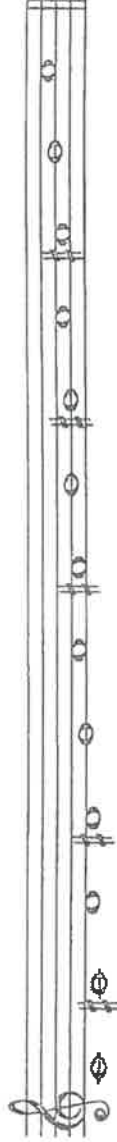
The chromatic scale may begin on any note. In a chromatic scale, there are 12 tones.



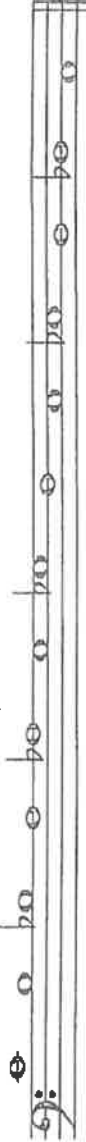
C Chromatic Scale



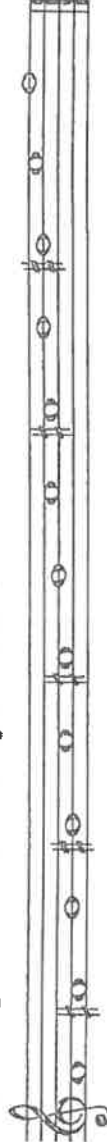
The ascending chromatic scale starting on C uses sharp signs.



The descending chromatic scale starting on C uses flat signs.



An ascending chromatic scale starting on F looks like this:



A descending chromatic scale starting on G looks like this:



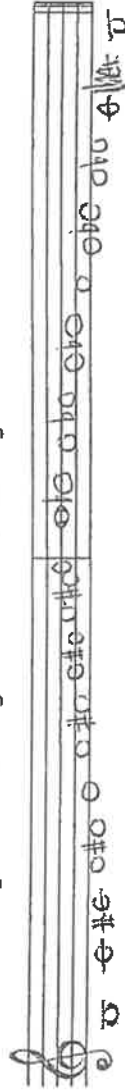
Exercises

1 What is the distance between each pitch in a chromatic scale? Semi tone

2 Write an ascending and descending chromatic scale starting on A.



3 Write an ascending and descending chromatic scale starting on B.

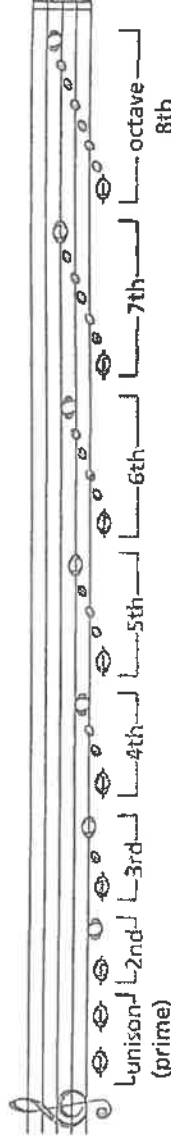


Intervals

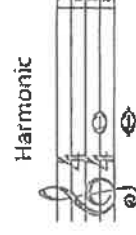
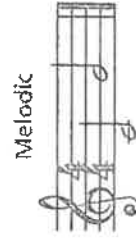
An **INTERVAL** in music is the distance in pitch between two notes. The interval is counted from the lower note to the higher one, with the lower note counted as 1.



Intervals are named by the number of the upper note (2nds, 3rds, etc.) with two exceptions. The interval between notes that are identical is called a **UNISON** (also called a **PRIME INTERVAL**); the interval of an 8th is called an **OCTAVE**. The intervals below are all written with C as the lower note.

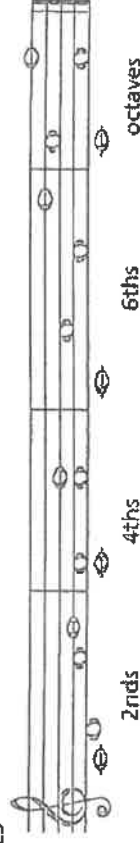


Intervals are called **MELODIC INTERVALS** when they are sounded separately and **HARMONIC INTERVALS** when they are sounded together.



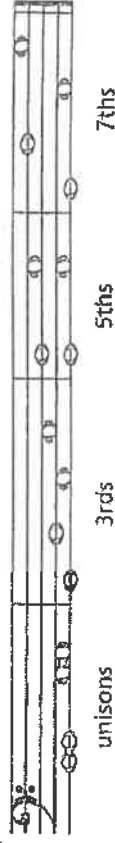
EVEN NUMBERED INTERVALS

of 2nds, 4ths, 6ths and octaves are written from line to space or space to line.



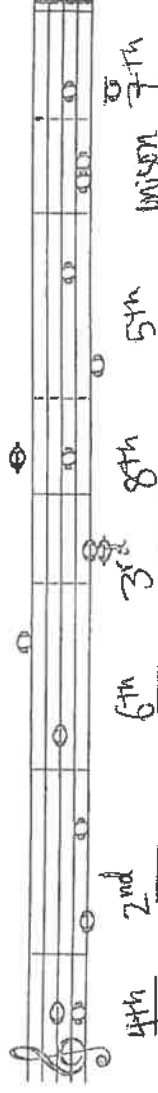
ODD NUMBERED INTERVALS

of unisons, 3rds, 5ths and 7ths are written from line to line or space to space.

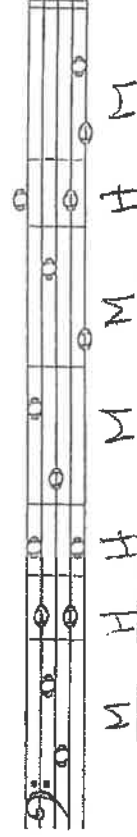


Exercises

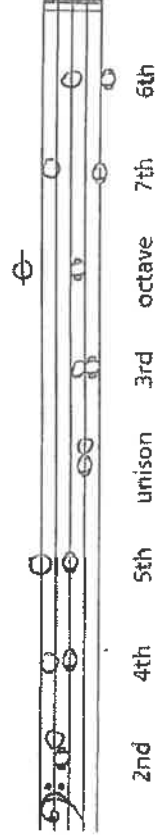
- 1 Name the intervals.



- 2 Indicate whether the following are melodic (M) or harmonic (H) intervals.



- 3 Write the harmonic interval indicated above the following notes.



Circle of Fifths

The CIRCLE OF FIFTHS is useful in understanding scales and key signatures. It shows the relationship of one key to another by the number of sharps or flats in the key signature and the order in which the sharps or flats occur.

SHARP KEYS

Start with C and go clockwise in ascending tetrachord order.

FLAT KEYS

Start with C and go counterclockwise in descending tetrachord order.

The sharp keys ascend by 5ths (W W H W);* the flat keys descend by 5ths (H W W W).

SHARP SCALES

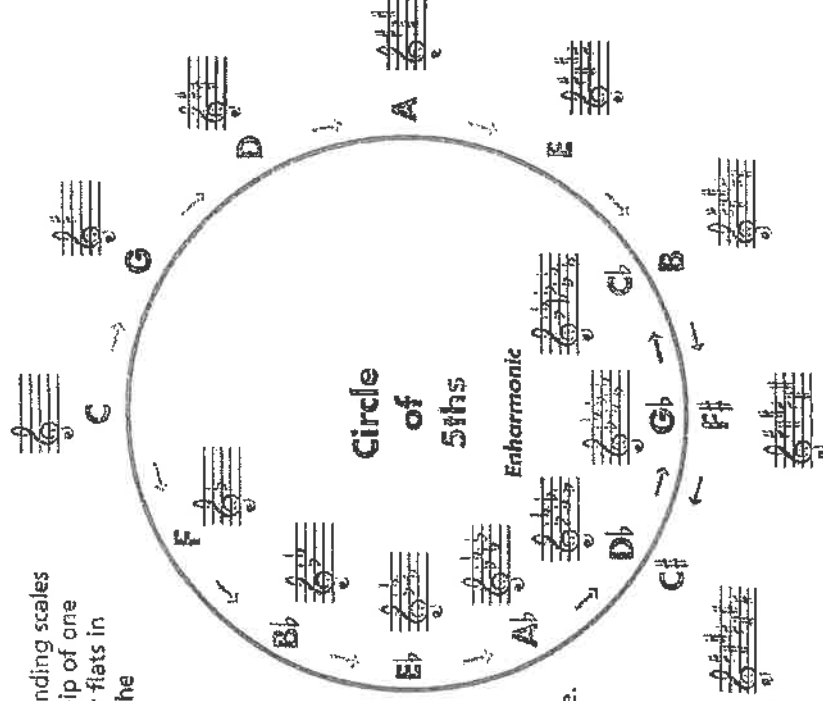
Starting with C, the 2nd tetrachord of the ascending major scale becomes the 1st tetrachord of the following ascending scale. The scale's name is derived from the 1st note of that tetrachord, and one sharp is added to the key signature.

FLAT SCALES

Starting with C, the 2nd tetrachord of the descending major scale becomes the 1st tetrachord of the following descending scale. The scale's name is derived from the 1st note of that descending tetrachord, and one flat is added to the key signature.

OPTIONAL

Another way to determine the order of the flat keys is to ascend by 4ths (W W H). Starting on C: C to F, F to B $\flat$, B $\flat$ to E $\flat$, etc.



The order of sharps in the key signature:

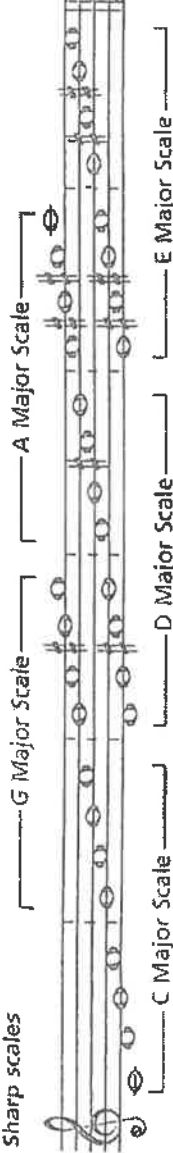
F C G D A E B.

The order of flats in the key signature:

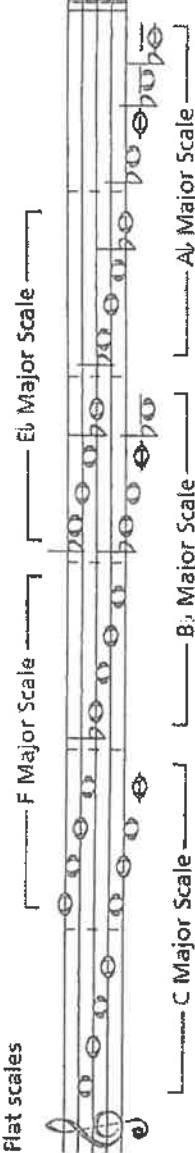
B E A D G C F.

OVERLAPPING TETRACHORD PATTERNS

Sharp scales



Flat scales



*W=Whole Step. H=Half Step.

REVIEW OF LESSONS 31-34

UNIT 8

55

- 11 What is the complete order of sharps in a key signature? F C G D A E B

- 12 Name the following major key signatures.

a. E

b. G

c. D

d. A

- 13 Write the following key signatures.

a. A major

b. G major

c. E major

d. D major

- 14 What is the complete order of flats in a key signature? B E A D G C F

- 15 Name the following major key signatures.

a. Bb

b. Ab

c. F

d. Eb

- 16 Write the following key signatures.

a. Eb major

b. Bb major

c. F major

d. Ab major

- 17 The Cb major scale sounds the same as which other major scale? B major

- 18 The Gb major scale sounds the same as which other major scale? F# major

- 19 The Db major scale sounds the same as which other major scale? C# major

- 20 The chromatic scale is made up entirely of semi tones in consecutive order.

- 21 Name the melodic intervals.

4th 2nd 8th 5th unison 3rd 7th 6th

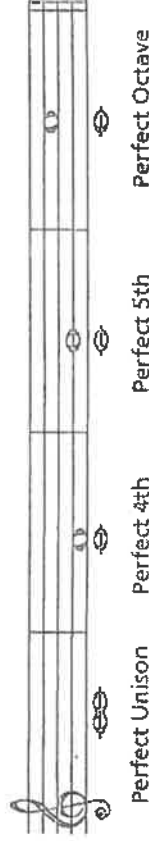
- 22 Write the indicated harmonic interval above the following notes.

2nd 6th 3rd octave 5th 7th 4th unison

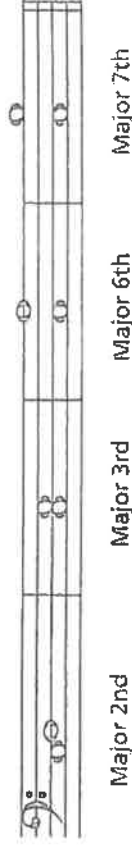
- 23 In the circle of fifths, go clockwise and ascend by 5ths for the Sharp keys, and counterclockwise and descend by 5ths for the Flat keys.

Perfect and Major Intervals

The interval between the keynote of a major scale and the unison, 4th, 5th or octave of that scale is called a **PERFECT INTERVAL**.

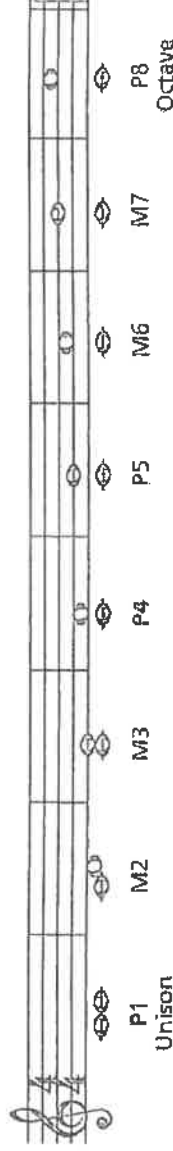


The interval between the keynote of a major scale and the 2nd, 3rd, 6th or 7th of that scale is called a **MAJOR INTERVAL**.



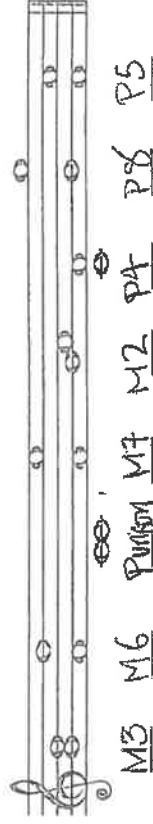
THE DIATONIC INTERVALS OF THE MAJOR SCALE

When the keynote and the upper note of an interval are from the same major scale, it is called a **DIATONIC INTERVAL**. All diatonic intervals in the major scale are either perfect (P) or major (M). The perfect intervals are the unison, 4th, 5th and octave; the major intervals are the 2nd, 3rd, 6th and 7th. This is true for all major scales. P1 indicates a perfect unison; P8 indicates a perfect octave.

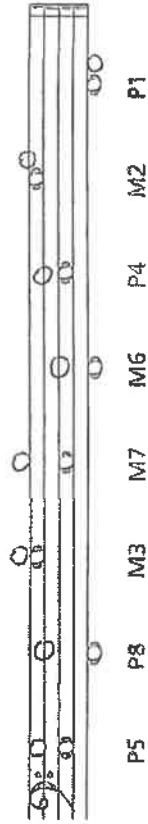


Exercises

- 1 Name the harmonic intervals and indicate whether they are perfect or major.



- 2 Write the note above the given note to complete the harmonic interval.



Minor Intervals

When the interval between the two notes of a major interval (2nd, 3rd, 6th or 7th) is decreased by a *half step* they become **MINOR INTERVALS**. For example, a major 3rd (M3) becomes a minor 3rd (m3) when decreased by a half step. A small letter "m" is used to signify a minor interval. Only major intervals may be made into minor intervals—perfect intervals may not.

How major intervals may be changed to minor intervals:

2nds

3rds

6ths

7ths

Exercises

1 Name the intervals.

2 Write the note above the given note to complete the harmonic interval.

3 Name the intervals, indicating whether they are perfect (P), major (M) or minor (m).

Augmented and Diminished Intervals

The word *augmented* means "made larger." When a perfect or major interval is made larger by a *half step*, it becomes an **AUGMENTED INTERVAL**. For example, a perfect 5th (P5) becomes an augmented 5th (aug 5). To raise a sharp note by a half step, use a **DOUBLE SHARP** ♯.

A musical staff in treble clef with a key signature of one sharp (F#). The notes are: C (aug 1), D (aug 2), E (aug 3), F# (aug 4), G# (aug 5), A (aug 6), B (aug 7), and C# (aug 8).

The word *diminished* means "made smaller." With the exception of the perfect unison, any perfect or minor interval that is made smaller by a *half step* becomes a **DIMINISHED INTERVAL**. For example, a perfect 4th (P4) becomes a diminished 4th (dim 4). To lower a flat note by a half step, use a **DOUBLE FLAT** ♭.

A musical staff in treble clef with a key signature of one flat (Bb). The notes are: C (dim 2), D (dim 3), Eb (dim 4), F (dim 5), G (dim 6), Ab (dim 7), and Bb (dim 8).

Since lowering either note of a perfect unison would actually increase its size, the perfect unison cannot be diminished, only augmented.

When the keynote and the upper note of an interval are *not* from the same major scale, it is called a **CHROMATIC INTERVAL**. Minor, diminished, and augmented intervals are always chromatic intervals in major keys.

Exercises

- 1 Name the augmented intervals.

A musical staff in bass clef with a key signature of one sharp (F#). The notes are: C (aug 5), D (aug 2), E (aug 3), F# (aug 6), G# (aug 7), and A (aug 8).

- 2 Write the note above the given note to complete the augmented harmonic interval.

A musical staff in treble clef with a key signature of one sharp (F#). The notes are: C (aug 1), D (aug 2), E (aug 3), F# (aug 4), G# (aug 5), A (aug 6), B (aug 7), and C# (aug 8).

- 3 Name the diminished intervals.

A musical staff in treble clef with a key signature of one flat (Bb). The notes are: C (dim 2), D (dim 3), Eb (dim 4), F (dim 5), G (dim 6), Ab (dim 7), and Bb (dim 8).

- 4 Write the note above the given note to complete the diminished harmonic interval.

A musical staff in bass clef with a key signature of one flat (Bb). The notes are: C (dim 2), D (dim 3), Eb (dim 4), F (dim 5), G (dim 6), Ab (dim 7), and Bb (dim 8).

C

REVIEW OF LESSONS 35-38

UNIT 9

67

1. A perfect interval is the distance between the root of a major scale and the 4th 8th, 5th 9th or 8th.

2. A major interval is the distance between the root of a major scale and the 2nd, 3rd, 6th or 7th.

3. The two types of diatonic intervals are perfect and major.

4. Name the intervals below and indicate whether they are major (M), perfect (P) or minor (m).

m3 m7 M3 P5 M2 P4 M6 P8 P1 M7 m2 m6

5. Write the notes above the given notes to complete the harmonic interval.

P4 m6 M3 P1 M6 m7 P8 M2 P5 M7 m2 m3

6. A diminished interval occurs when a perfect or minor interval is made: (circle one) larger smaller.

7. An augmented interval occurs when a major or perfect interval is made: (circle one) larger smaller.

8. Minor, diminished, and augmented intervals are called chromatic intervals.

9. Write the solfège syllable names under the notes of the following melody.

Joy to the World

10. Transposition is when a melody is rewritten in another

11. Transpose the following melody up a major 2nd and write the new key signature. Symphony in G, No. 94 ("The Surprise"), 2nd movement

Franz Joseph Haydn (1732-1809)

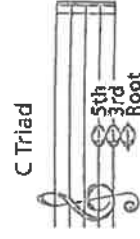
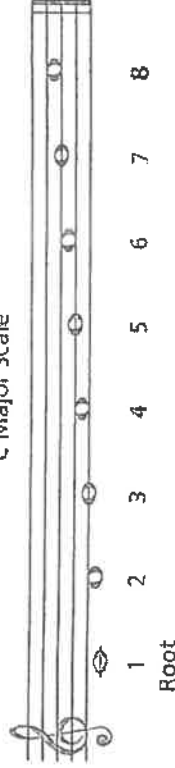
Triads

When three or more notes are sounded together, the combination is called a **CHORD**. When a 3-note chord consists of a **ROOT**, a **3rd** and a **5th**, it is called a **TRIAD**.

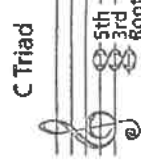
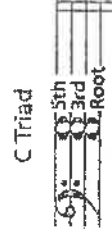


The root is the note from which the triad gets its name. To build a triad, measure the 3rd and the 5th upward from the root.

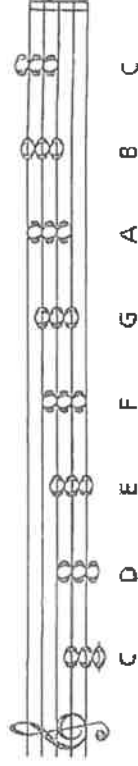
C Major Scale



The root of a C triad is C. When a triad is in **ROOT POSITION**, it will include every other note (C-E-G, D-F-A, E-G-B, etc.). *All* the notes will be on lines or *all* the notes will be in spaces.

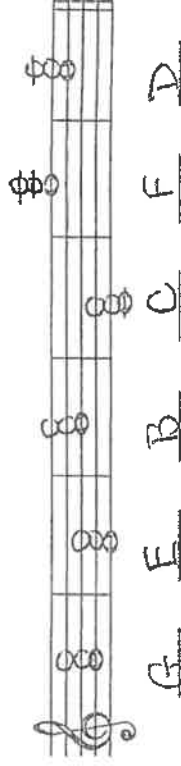


Triads may be built on any note of the scale. In the C major scale, the root position triads are:

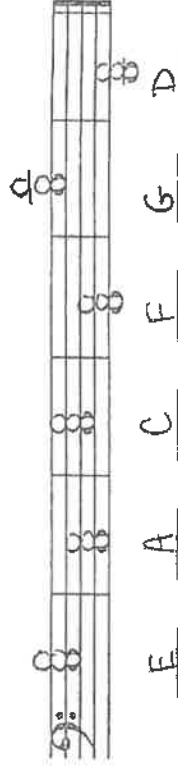


Exercises

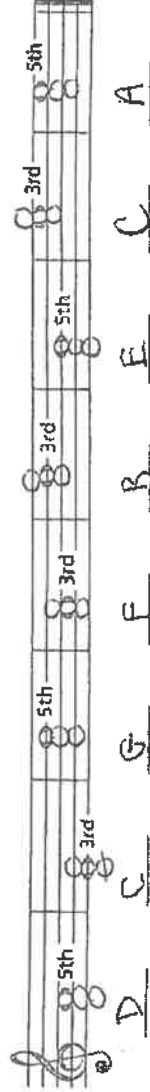
- 1** Build triads using each of the following line notes as the root. Name the root note.



- 2** Build triads using each of the following space notes as the root. Name the root note.



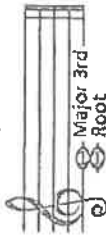
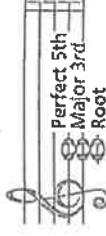
- 3** Add two notes (above or below) to create a triad in root position from the given 3rd or 5th. Name the root note.



Primary and Major Triads

The most important triads of a key are built on the 1st, 4th and 5th scale degrees of the major scale. They are called the **PRIMARY TRIADS** or **PRIMARY CHORDS** of the key and are identified by the **ROMAN NUMERALS** I (1), IV (4) and V (5). These three triads contain every tone in the major scale.

The primary triads are **MAJOR TRIADS** because they consist of the root, a major 3rd and a perfect 5th (see page 56).

Major 3rd	+	Perfect 5th	=	Major Triad
				

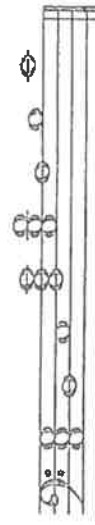
There are two other ways of forming a major triad:

1. select the 1st, 3rd and 5th notes of a major scale.
2. add the interval of a minor 3rd (see page 57) on top of a major 3rd.

In the key of C major, the

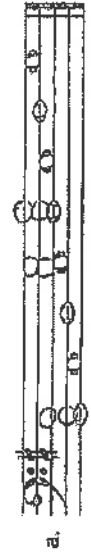
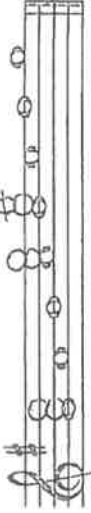
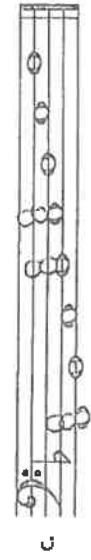
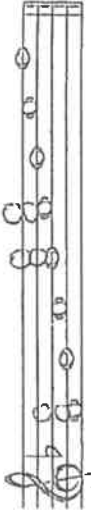
- I triad (or chord) is the C triad (C-E-G).
- IV triad (or chord) is the F triad (F-A-C).
- V triad (or chord) is the G triad (G-B-D).

The primary triads in the key of C major:

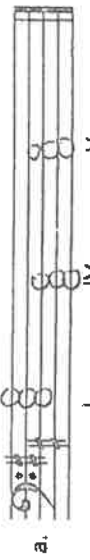
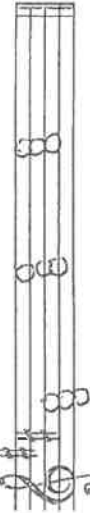
	
1 2 3 IV V 6 7 8 C Major F Major G Major	1 2 3 IV V 6 7 8 F Major G Major

Exercises

 Build the primary triads in root position for each scale by adding two notes to the 1st, 4th and 5th notes of each scale to complete the triad. Name each triad.

a. 	b. 
c. 	d. 

 Write the primary triads in root position for each key. Name each triad.

a. 	b. 
c. 	d. 

Scale Degree Names

Each tone of a scale can be identified by a name as well as by a numbered scale degree (see page 43). The most important scale degrees are the same as those on which the primary chords are built: 1, 4 and 5. The three most important scale degree names are the Tonic (I), Subdominant (IV) and Dominant (V).

TONIC (I)

The keynote of a scale is called the **TONIC**. It is the lowest and highest tone of the scale. Since the tonic is the 1st scale degree, it is given the Roman numeral I. In C major, C is the tonic note or chord.

DOMINANT (V) and SUBDOMINANT (IV)

The tone a 5th above the tonic is called the **DOMINANT**. Since the dominant is the 5th scale degree, it is given the Roman numeral V. In C major, G is the dominant note or chord.

The tone a 5th below the tonic is called the **SUBDOMINANT**. Since the subdominant is the 4th scale degree, it is given the Roman numeral IV. In C major, F is the subdominant note or chord. The prefix "sub" means under or below.

Important!

The names of scale degrees were derived from an arrangement in which the tonic was the central tone. The subdominant was given its name because it is the same distance below the tonic as the dominant is above the tonic. It is not called subdominant because it is just below the dominant. See bottom staff.

MEDIANT (iii) and SUBMEDIANT (vi)*

The tone a 3rd degree above the tonic (midway between the tonic and the dominant) is called the **MEDIANT** (a Latin word meaning "in the middle"). Since the mediant is the 3rd scale degree, it is given the Roman numeral iii. In C major, E is the mediant note or chord.

The tone a 3rd degree below the tonic (midway between the tonic and the subdominant) is called the **SUBMEDIANT**. Since the submediant is the 6th scale degree, it is given the Roman numeral vi. In C major, A is the submediant note or chord.

SUPERTONIC (ii) and LEADING TONE (vii)

The tone a 2nd degree above the tonic is called the **SUPERTONIC**. Since the supertonic is the 2nd scale degree, it is given the Roman numeral ii. In C major, D is the supertonic note or chord. The prefix "super" means over or above.

The tone a 2nd degree below the tonic is called the **LEADING TONE** - sometimes called the **SUBTONIC**. Leading tone is most often used since the note has a strong tendency to "lead" to the tonic, as it does in an ascending scale. Since the leading tone is the 7th scale degree, it is given the Roman numeral vii. In C major, B is the leading tone or chord.

In scale degree order, the name and Roman numeral of each scale tone is:

TONIC	SUPERTONIC	MEDIANT	SUBDOMINANT	DOMINANT	SUBMEDIANT	LEADING TONE	TONIC
I	ii	iii	IV	V	vi	vii	I

With the tonic being the central tone, the name and Roman numeral of each scale tone is:

SUBDOMINANT	SUBMEDIANT	LEADING TONE	TONIC	SUPERTONIC	MEDIANT	DOMINANT
IV	vi	vii	I	ii	iii	V

*The reason for upper and lower case Roman numerals is explained in Unit 14, Lesson 58.

The V7 (Dominant 7th) Chord

In many pieces, a V7 (dominant 7th) chord is used instead of a V (dominant) triad. To build a V7 chord, add a minor 7th above the root of the V triad (or a minor 3rd above the 5th). The V7 is a chord and not a triad because it has 4 notes rather than 3.

Dominant + minor 7th = Dominant 7th Dominant + minor 3rd = Dominant 7th

Often, the 5th of the V7 chord is omitted. The V7 chord then would have the same number of tones as the I and IV chords while still retaining the quality of a 7th chord. This also allows the music to be sung or performed by as few as three singers or instrumentalists.

The three primary chords are now I, IV and V7.

Exercises

- Write the V7 chord for each key. Write the key name and letter name of each chord.

Key of: C Major G Major F Major Bb Major D Major

- Fill in the missing notes in the following V7 chords. Which interval did you add? 5th

- Write the following V7 chords with the 5th omitted—include the accidentals.

REVIEW OF LESSONS 47-50

UNIT 12

79

- 1 A chord consists of 2 or more notes sounded together.

- 2 A triad consists of a root, a 3rd and a 5th.

- 3 If the root of a triad is D, the 5th is the note A.

- 4 If the 3rd of a triad is B, the root is the note G.

- 5 Primary triads are built on the following notes of the scale: (circle one)

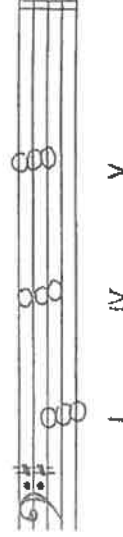
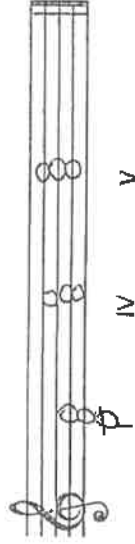
- a. I, II, V
b. I, IV, VI
c. I, IV, V
d. II, IV, VI

- 6 A major 3rd + a minor 3rd = a major triad.

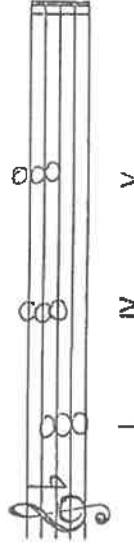
- 7 In a major key, primary triads are always Major triads.

- 8 Another way to form a major triad is by adding the interval of a Major 3rd on top of the interval of a Minor 3rd.

- 9 Write the primary triads in the keys of C and G major.



- 10 Write the primary triads in the keys of F and D major.



- 11 A I chord is also called the Tonic chord.

- 14 A II chord is also called the Supertonic chord.

- 16 A VI chord is also called the Submediant chord.

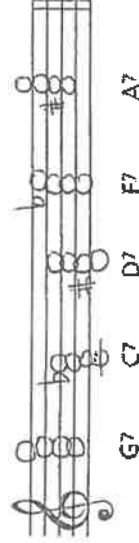
- 12 A V chord is also called the Dominant chord.

- 15 A III chord is also called the Mediant chord.

- 17 A VII chord is also called the Leading tone chord.

- 13 A IV chord is also called the Subdominant chord.

- 18 Write the following V7 chords. Include the accidentals.



GLOSSARY & INDEX OF TERMS & SYMBOLS

Includes all the terms and symbols used in Book 2 and the page on which they are first introduced.

ALLA BREVE see **CUT TIME**. (p. 65).

AUGMENTED INTERVAL When a perfect or major interval is made larger by one half step (p. 58).

CHORD 3 or more notes sounded together (p. 74).

CHROMATIC INTERVAL

When the keynote and the upper note of an interval are not from the same major scale. Minor, diminished and augmented intervals are always chromatic intervals in major keys (p. 58).

CHROMATIC SCALE



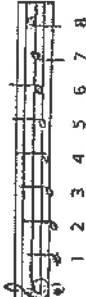
A scale made up entirely of half steps in consecutive order. On the keyboard it uses every key, black or white (p. 51).

CIRCLE OF FIFTHS Shows the relationship of one key to another by the number of sharps or flats in the key signature and the order in which the sharps or flats occur (p. 53).

COMMON TIME C Means the same as the time signature of $\frac{4}{4}$ (p. 65).

CUT TIME C cut in half to $\frac{2}{2}$. It indicates there are two beats per measure and the half note receives 1 beat (p. 65).

DEGREES The tones or steps of a scale. There are eight degrees in a major scale (p. 43).



DIATONIC INTERVAL When the keynote and the upper note of an interval are from the same major scale. All diatonic intervals in the major scale are either perfect or major (p. 56).

DIMINISHED INTERVAL When a perfect or minor interval is made smaller by one half step (p. 58).

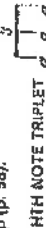
DOMINANT The tone a 5th above the tonic (p. 76).

DOMINANT 7th CHORD A chord built on the 5th scale degree consisting of a root, major 3rd, perfect 5th (sometimes omitted), minor 7th (V^7) (p. 77).

DOTTED EIGHTH NOTE $\text{♩}.$ In time signatures with 4 as the bottom number, it receives $\frac{3}{4}$ of a beat (p. 64).

DOUBLE FLAT bb Lowers a flat note by a half step (p. 58).

DOUBLE SHARP ## Raises a sharp note by a half step (p. 58).



EIGHTH NOTE TRIPLET When 3 8th notes are grouped together with a figure "3" above or below the notes (p. 70).

ENHARMONIC KEYS Keys and scales that sound the same but are written differently. The keys of $\text{C}\sharp$, $\text{F}\sharp$ and B sound the same as the keys of $\text{D}\flat$, $\text{G}\flat$ and $\text{C}\flat$ respectively (pp. 50 & 53).

EVEN NUMBERED INTERVALS (2nd, 4th, 6th and octave) Are written from line to space or space to line (p. 52).



HARMONIC INTERVAL

Two notes sounded together (p. 52).

INCOMPLETE MEASURE See **Pick-up Notes** (p. 71).

INTERVAL

The distance in pitch between two notes (p. 52).

KEYNOTE The note on which a scale begins and ends (p. 43).

KEY SIGNATURE Indicates the notes that will be sharped or flatted each time they appear. These are placed right after the clef sign (pp. 46 & 47).

LEADING TONE The 7th scale degree (vi^7) (p. 76).

MAJOR INTERVAL The interval between the keynote of a major scale and the 2nd, 3rd, 6th or 7th of that scale (p. 56).

MAJOR SCALE A scale made up of eight notes—two tetrachords joined by a whole step (p. 43).



MAJOR TRIAD Triad consisting of a root, major 3rd and perfect 5th (p. 75).

MEDIANT The 3rd scale degree (iii) (p. 76).

MELODIC INTERVAL

Two notes sounded separately (p. 52).

MINOR INTERVAL When the interval between the two notes of a major interval (2nd, 3rd, 6th or 7th) is decreased by a half step (p. 57).

MOVEABLE DO In Solfège, Moveable Do means the syllables apply to the same scale degrees, regardless of the key. For example, in the key of C, the keynote C is called "do". In the key of F, the keynote F is also called "do" (p. 59).

OCTAVE The interval of an 8th (p. 52).

ODD NUMBERED INTERVALS (unison, 3rd, 5th and 7th) Written from line to line or space to space (p. 52).



PERFECT INTERVAL The interval between the keynote of a major scale and the unison, 4th, 5th or octave of that scale (p. 56).

PICK-UP NOTES Some musical pieces begin with an incomplete measure. This note (or notes) is known as a pick-up note (p. 71).

PRIMARY TRIAD/CHORD

Triads built on the 1st, 4th or 5th notes of the major scale, identified by the Roman numerals I, IV and V (p. 75).

PRIME INTERVAL See **UNISON** (p. 52).

ROMAN NUMERALS Numbering system used to identify the scale degree on which the chord is built (p. 75).

ROOT The note from which the chord gets its name (p. 74).

ROOT POSITION A triad where the order of notes from lowest to highest are: root, 3rd, 5th (p. 74).

SIXTEENTH NOTE ♩ In time signatures with 4 as the bottom number, it receives $\frac{1}{8}$ beat (p. 62).

SIXTEENTH REST ♩ In time signatures with 4 as the bottom number, it receives $\frac{1}{8}$ beat of silence (p. 63).

SOLFÈGE A system of reading musical notes by assigning a different syllable to each note (p. 59).

SUBDOMINANT The 4th scale degree (iv) (p. 76).

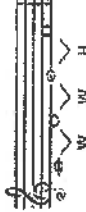
SUBMEDIANT The 6th scale degree (vi) (p. 76).

SUPERTONIC The 2nd scale degree (ii) (p. 76).

SYNCOPE When the accent in a musical passage falls on the weak beat (fg) rather than the strong beat (1, 2, etc.) (p. 71).

TETRA Four (p. 43).

TETRACHORD A series of four notes having a pattern of whole step, whole step, half step. The four notes of a tetrachord must be in alphabetical order (p. 43).



TIME SIGNATURE C or $\frac{4}{4}$ or $\frac{2}{2}$ or $\frac{3}{8}$ appears at the beginning of a piece of music after the clef sign. It contains two numbers. The upper number tells how many beats are in each measure and the lower number indicates what type of note receives 1 beat (pp. 65, 68, 69).

TONIC The first scale degree or keynote of a scale (I) (p. 76).

TRANSPPOSITION When a melody is rewritten with the exact same sequence of notes and intervals into another key (p. 59).

TRIAD A 3-note chord consisting of a root, 3rd and 5th (p. 74).

TRIPLET See 8th note triplet (p. 70).

UNISON The interval between two identical notes (p. 52).

Triads — 1st Inversion

Any root position triad may be changed by moving the root (bottom note) of the chord to another position. This is called an **INVERSION**—it means the notes are rearranged and a tone other than the root is the bottom note of the chord.

The first inversion can be made from a C triad by moving the root (C) to the top of the chord.

Root Position

1st Inversion

C E G becomes E G C

All letter names are the same, but the 3rd (E) is now on the bottom, and the root (C) is now on top. This is called **1st INVERSION**.

1st Inversion Triads in C major (3rd is on the bottom).

In 1st inversion, the 3rd is *always* the bottom note.

OPEN and CLOSE POSITIONS

When the notes of a chord are spaced within an octave, it is in **CLOSE POSITION**.

When the notes of a chord are spaced larger than an octave, it is in **OPEN POSITION**.

Close Position	Open Position	Close Position	Open Position
Root Position	1st Inversion	Root Position	1st Inversion

Exercises

1 Rewrite the following root position triads in open position.

2 Using the given notes as the root, add the 3rd and 5th *below* each note to make 1st inversion triads in the key of C.

3 Using the given notes as the 3rd, add the 5th and root *above* each note to make 1st inversion triads in the key of C (close position).

Triads — 2nd Inversion

Any 1st inversion triad may be inverted again by moving the lowest note (3rd) to the top.

1st Inversion 2nd Inversion

Root 3rd 5th Root 3rd 5th

EGC becomes GCE

The second inversion can be made from a 1st inversion C triad by moving the 3rd (E) to the top of the chord.

All letter names are the same, but the 5th (G) is now on the bottom, and the root (C) is now in the middle. This is called 2nd INVERSION.

2nd Inversion Triads in C Major
(5th is on the bottom).

In 2nd inversion, the 5th is always the bottom note.

Close Position Open Position

Root 3rd 5th Root 3rd 5th

2nd Inversion 2nd Inversion

Triads in all Positions (close).

Root Position 1st Inversion 2nd Inversion Root Position

Root position: root is on the bottom.

1st inversion: 3rd is on the bottom.

2nd inversion: 5th is on the bottom.

Both inversions: In close position, the root is always the upper note of the interval of a 4th.

1st Inversion 2nd Inversion

Exercises

1 Rewrite the following close position 2nd inversion triads in open position.

2 Rewrite the following root position triads in 2nd inversion (close position).

3 Using the given notes as the root, add the 5th below and the 3rd above to make 2nd inversion triads in the key of C.

V7 Chord—1st, 2nd and 3rd Inversions

The V7 chord can also be inverted. Since the V7 chord is a 4-note chord, it can be written in four different positions: root, 1st inversion, 2nd inversion and 3rd inversion (7th at the bottom).

Close Position

Root 3rd 5th

1st Inversion (3rd on bottom)

2nd Inversion (5th on bottom)

3rd Inversion (7th on bottom)

In 1st, 2nd and 3rd inversions in close position, the root is always the upper note of the interval of a 2nd.

Exercises

-  Write the 1st, 2nd and 3rd inversions for the following V7 chords in close position.

- 51** Indicate the inversion of the following V7 chords.

- 33** Write the following V7 chords in the given inversions. The bottom note is given. Add accidentals where needed.

Major Chord Progressions

Chords that move (or progress) from one to another are called a **CHORD PROGRESSION**. Because the I, IV and V chords contain all the notes of the major scale, they can be used to **ACCOMPANY** (play along with) most simple melodies. In many chord progressions, a V⁷ chord is used in place of the V chord.

When the IV and V (or V⁷) chords are in root position, the progression sounds choppy. To make it easier to play and sound smoother, the IV chord often is moved to the 2nd inversion, and the V (or V⁷) chord often is moved to the 1st inversion.

In the IV chord, the 5th (C) is moved down an octave.

In the V chord, the 3rd (B) and 5th (D) are moved down an octave.

In the V⁷ chord, the 3rd (B), 5th (D) and 7th (F) are moved down an octave.

The following positions are often used for smooth progressions. Notice there is a common tone between each chord.

Root Position	2nd Inversion	Root Position	1st Inversion	Root Position
I C4-E4-G4 Root	IV ² C4-E4-G4 Root	V ¹ B4-D5-F5 Root	V ⁷ B4-D5-F5-G5 Root	I C4-E4-G4 Root

Exercises

Write the chords in root position in the key of G major. Write the chord symbol for each above the staff.

Rewrite the above chord progression to make it sound smoother. Add chord symbols.

Write the chords in root position in the key of F major. Write the chord symbol for each above the staff.

Rewrite the above chord progression to make it sound smoother. Add chord symbols.

Minor Scales

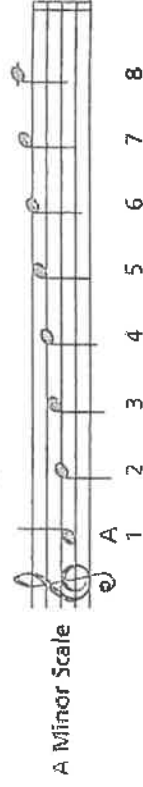
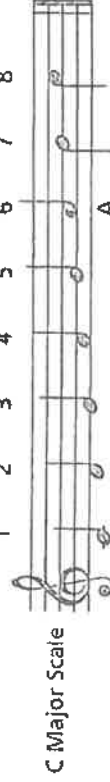
Remember, there are 15 major scales with unique key signatures—see Book 2, page 50.

For every major key, there is a **RELATIVE MINOR KEY** that has the *same* key signature.

Each relative minor scale begins on the 6th note of the **RELATIVE MAJOR SCALE**.

The 6th note is the keynote of the minor scale and the note from which the scale gets its name.

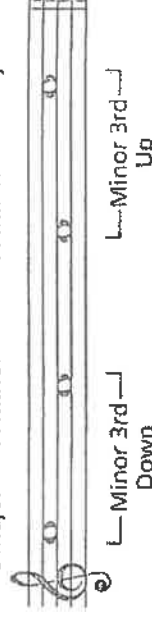
1 2 3 4 5 6 7 8



The keynote of a relative minor scale may also be found by *descending* a minor 3rd from the keynote of the major scale.

Conversely, the keynote of the relative major scale may be found by *ascending* a minor 3rd from the keynote of the minor scale.

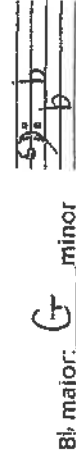
C Major A Minor C Major



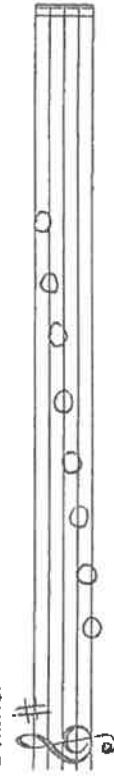
The keys of C major and A minor are relatives because they have the same key signature (no ♯s, no ♭s).

Exercises

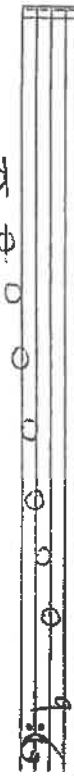
Write the relative minor key name and the key signature for each major key.



E minor



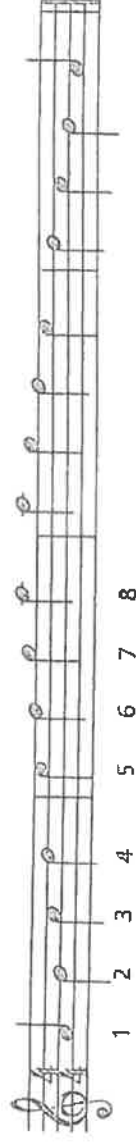
D minor



Write the following minor key signatures and scales.

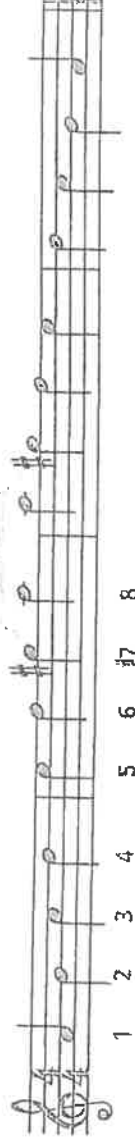
Natural, Harmonic and Melodic Minor Scales

There are three types of minor scales: the NATURAL, HARMONIC and MELODIC.
The NATURAL MINOR SCALE uses *only* the tones of the relative major scale.



The HARMONIC MINOR SCALE raises the 7th tone (G) by a half step ascending and descending.

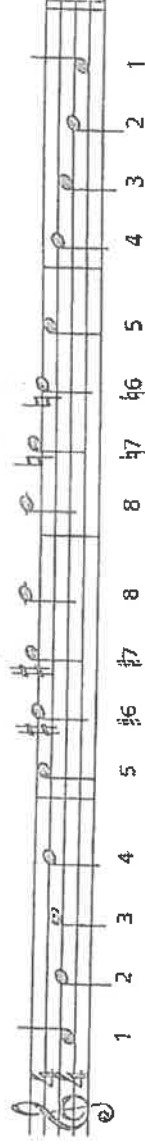
7th raised



The MELODIC MINOR SCALE raises the 6th (F) and 7th (G) tones by a half step ascending. It descends like the natural minor scale.

6th & 7th raised!

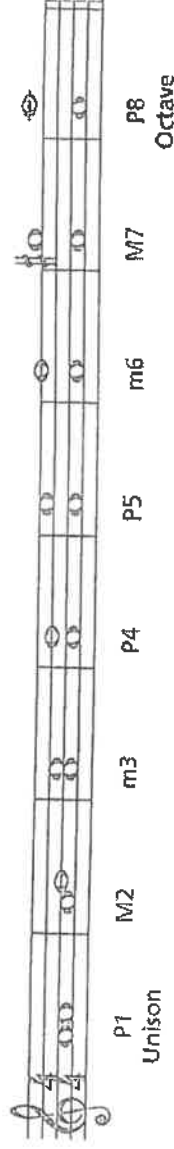
Same as in natural minor scale



The Harmonic Minor Scale is the most frequently used of the three minor scales.

THE DIATONIC INTERVALS OF THE HARMONIC MINOR SCALE

All diatonic intervals in the harmonic minor scale are either perfect (P), major (M) or minor (m). The perfect intervals are the unison, 4th, 5th and octave; the major intervals are the 2nd and 7th; the minor intervals are the 3rd and 6th. This is true for all harmonic minor scales. Compare with the major scale intervals in Book 2, page 56.



Exercises

1 Write the following harmonic minor scales with key signatures using quarter notes.

E Harmonic Minor

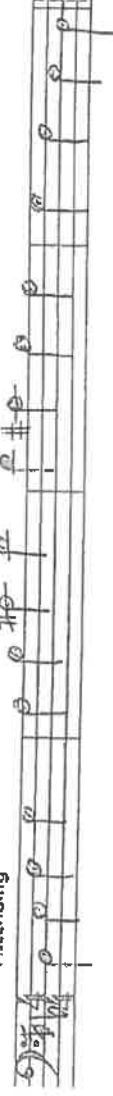
Ascending



Descending

D Harmonic Minor

Ascending

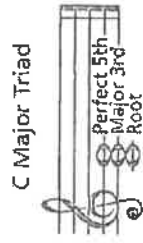


Descending

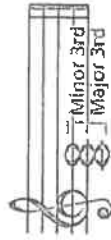
Minor Triads

Just as a major triad can be built from the 1st, 3rd and 5th scale degrees of a major scale, a MINOR TRIAD can be built from the 1st, 3rd and 5th scale degrees of a minor scale.

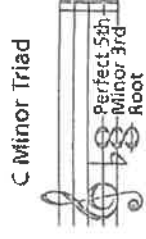
Major triads consist of a root, major 3rd and a perfect 5th.



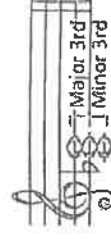
Build a major triad by adding a minor 3rd on top of a major 3rd.



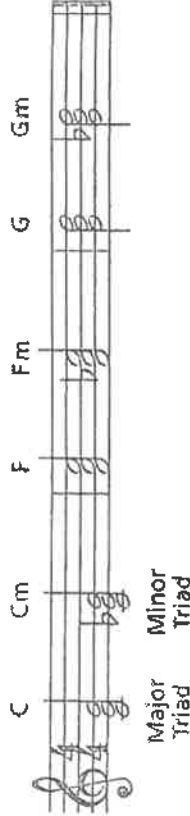
Minor triads consist of a root, minor 3rd and a perfect 5th.



Build a minor triad by adding a major 3rd on top of a minor 3rd.

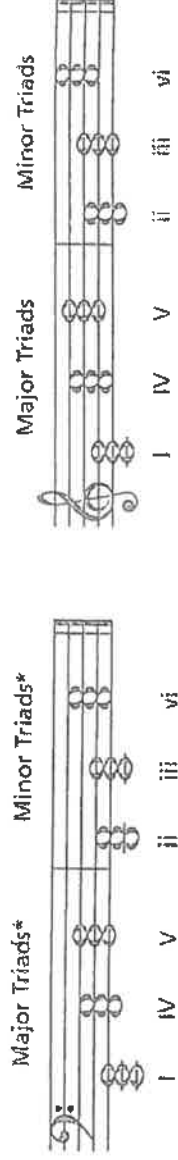


Any major triad may be changed to a minor triad by lowering the 3rd by 1/2 step.



MAJOR and MINOR TRIADS IN THE MAJOR SCALE

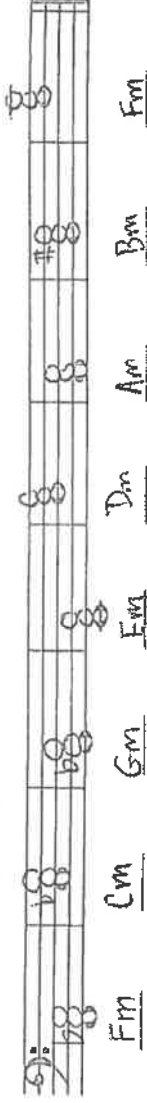
In a major scale, only triads with the root on the 1st, 4th and 5th scale degrees are *major triads*. Triads with the root on the 2nd, 3rd and 6th scale degrees are *minor triads*.



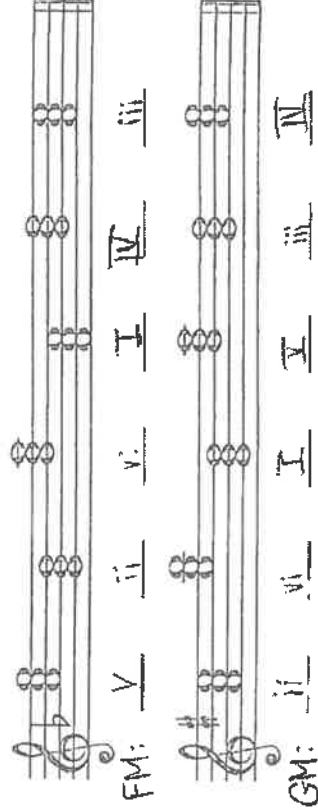
*Major triads are numbered with upper case Roman numerals (I), minor triads with lower case Roman numerals (ii).

Exercises

- Build minor triads (adding accidentals where necessary) using each of the following notes as the root. Name the triad.



- Label each triad in the keys of F and G major using upper and lower case Roman numerals.



The Primary Triads in Minor Keys

As in the major keys (see Book 2, page 75), the most important triads of a minor key are built on the 1st, 4th and 5th scale degrees of the minor scale. They are called the **PRIMARY TRIADS** or primary chords of the key and are identified by the Roman numerals *i*, *iv* and *v*. These three triads contain every note of the minor scale.

A Harmonic Minor

i 2 3 4 5 6 7 8

A minor D minor E Major (raised)

- Notice that the *i* and *iv* chords are minor chords because they consist of the root, a minor 3rd and a perfect 5th (see page 92).
- The *v* chord is a major triad, as in the major scale, because it consists of a root, major 3rd and perfect 5th. The G is sharpened because the A harmonic minor scale has the 7th raised a half step.

HARMONIC MINOR TRIAD SCALE

In the harmonic minor scale, triads built on the:

- 1st and 4th scale degrees are minor triads,
- 5th and 6th scale degrees are major triads,
- 2nd and 7th scale degrees are diminished triads (see page 93),
- 3rd scale degree is an augmented triad (see page 93).

Am B° C+ Dm E F G° Am

i *ii*° *III*+ *iv* *v* *VI* *vii*° *i*

Am B° C+ Dm E F G° Am

i *ii*° *III*+ *iv* *v* *VI* *vii*° *i*

Exercises

- 101** Build the primary triads for each minor scale by adding two notes to the 1st, 4th, and 5th notes of each scale to complete the triad. Use the harmonic minor scale (raised 7th). Name each triad.

E minor Em Am B iv v v

E minor Em *i* *iv* *v* *Am* *B* *v*

D minor Dm *i* *iv* *v* *Gm* *A* *v*

D minor Dm *i* *iv* *v* *Gm* *A* *v*

D minor Dm *i* *iv* *v* *Gm* *A* *v*

Minor Chord Progressions

Because the i, iv and V triads contain all the notes of the harmonic minor scale, they can be used to accompany most simple melodies in minor keys. In many chord progressions, the V7 chord is used instead of the V triad.

To make this minor chord progression sound smoother, the iv chord is moved to the 2nd inversion, and the V (or V7) chord is moved to the 1st inversion.

In the iv chord, the 5th (A) is moved down an octave.

2nd inversion
1 octave lower

In the V7 chord, the 3rd (G♯), 5th (E) and 7th (D) are moved down an octave.

1st inversion
1 octave lower

The following positions are often used for smooth progressions. Notice there is a common tone between each chord.

Root Position	2nd Inversion	Root Position	1st Inversion	Root Position
i 5th 3rd Root Root 5th	iv ² 3rd 5th Root	V 5th 3rd Root	V ¹ 3rd 5th Root	V7 5th 3rd Root

Remember, when a triad is not in root position (close position), the root is always the upper note of the interval of a 4th. When a V7 chord is not in root position (close position), the root is always the upper note of the interval of a 2nd.

Exercises

1 Write the chords in root position in the key of E minor. Write the chord symbols for each above the staff.

2 Rewrite the above chord progression to make it sound smoother. Add chord symbols.

3 Write the chords in root position in the key of D minor. Write the chord symbols for each above the staff.

4 Rewrite the above chord progression to make it sound smoother. Add chord symbols.

Modes Related to the Major Scale: Ionian, Mixolydian and Lydian

Just like a major or minor scale, a **MODE** is a scale of eight notes in alphabetical order. A mode can begin on any scale degree of a major scale using the key signature of the parent scale.

In the key of C, for example, a mode can begin and end on C (i), on D (ii), on E (iii), etc.—no sharps or flats would be used. There are seven modes altogether and each has a Greek name. In the key of C, the modes are:

Beginning on	C	→	Ionian mode (major scale)
	D	→	Dorian mode
	E	→	Phrygian mode
	F	→	Lydian mode
	G	→	Mixolydian mode
	A	→	Aeolian mode (natural minor scale)
	B	→	Locrian mode

To easily learn how to build any mode on a keynote, it is helpful to relate the keynote to a major or natural minor scale with slight alterations.

The following three modes relate to the major scale. (H = half step.)

IONIAN MODE—
a major scale.

C Ionian

MIXOLYDIAN MODE—
a major scale with the
7th lowered a half step.

C Mixolydian

LYDIAN MODE—
a major scale with the
4th raised a half step.

C Lydian

Exercises

1 Fill in the missing notes in the following Ionian modes.

G Ionian

a.

b.

2 Fill in the missing notes in the following Mixolydian modes.

G Mixolydian

a.

b.

3 Fill in the missing notes in the following Lydian modes.

G Lydian

a.

b.

Modes Related to the Minor Scale: Aeolian, Dorian, Phrygian and Locrian

The following four modes relate to the natural minor scale.

AEOLIAN MODE—
a natural minor scale.

A Aeolian

DORIAN MODE—
a natural minor scale with the 6th raised a half step.

A Dorian

PHRYGIAN MODE—
a natural minor scale with the 2nd lowered a half step.

A Phrygian

LOCRIAN MODE—
a natural minor scale with the 2nd and 5th lowered a half step. This mode was not used in ancient times and is only occasionally used in modern music.

A Locrian

Exercises

Fill in the missing notes in the following aeolian modes.

a.

b.

E Aeolian D Aeolian

Fill in the missing notes in the following dorian modes.

a.

b.

E Dorian D Dorian

Fill in the missing notes in the following phrygian modes.

a.

b.

E Phrygian D Phrygian

REVIEW OF LESSONS 60-63

UNIT 15

101

1 Write the primary chords in the keys of B and G harmonic minor in root position.

B minor



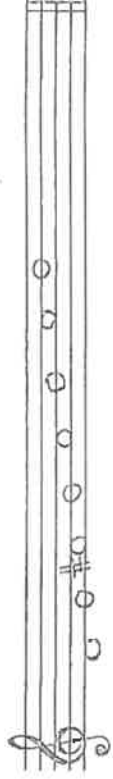
G minor



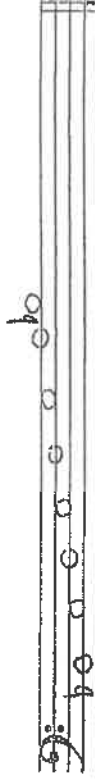
i iv V7

i iv V7

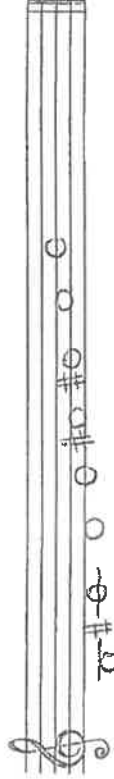
2 Write a D mixolydian mode.



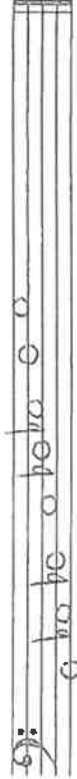
3 Write a Bb lydian mode.



4 Write a B dorian mode.



5 Write a G phrygian mode.



6 Word Search: Solve the clues, then circle the words which may appear across, down, diagonally or backwards in the puzzle. Words may overlap.

- Mode that is a natural minor scale. *Aeolian*
- Numbers to the right of *Figured bass* chord symbols—i.e. *Figured bass*
- Three note chord consisting of a root, 3rd, 5th. *Triad*
- I, IV, V7 = a chord *Progression*
- Major triad with the 5th raised a half step. *Augmented*
- Mode that is a major scale. *Ionian*
- Three or more notes sounded together: chord
- I, IV and V are the ___ triads in any key. *Primary*
- A G7 chord with the F in the bass = ___ inversion. *Third*
- Mode that is a major scale with the 7th lowered a half step. *Mixolydian*
- A ___ triad: root, minor 3rd, perfect 5th minor
- Mode that is a natural minor scale with the 6th raised a half step. *Dorian*
- Minor triad with the 5th lowered a half step. *Gymnion*
- Minor scale with the 7th raised a half step. *Mixolydian*
- Mode that is a natural minor scale with the 2nd lowered a half step. *Phrygian*
- When the root of a chord is not the bottom note. *Inverted*
- Mode that is a major scale with the 4th raised a half step. *Lydian*

