

# Scales: Learning Pages 1

## Organizing Principles for Tonal Music

(Use this page as a template/reference for all 15 keys)

JimO

1. Begin with the scale. Here is the standard C major scale.  
 Note-names and fingering suggestions for R.H. and L.H.

2. The half-step (1) whole-step (2) formula. Tonic-2-2-1-2-2-2-1.  
 Notice the slightly uneven pattern of the notes.

5

The "Do-Re-Mi" notes are called Solfege. See how they form the tones of the major scale.

3. We now have 4 ways to describe the major scale:

1. Note-Names of a given key.
2. Simple numbers (1-8)
3. The Half-step/Whole-step formula and
4. Solfege moveable "Do" system.

9

1(Whole) 1(Whole) 1/2(Half) 1(Whole) 1(Whole) 1(Whole) 1/2(Half)

Tonic 2 - 2 - 1 - 2 - 2 - 2 - 1  
 Do Re Mi Fa So(l) La Ti Do

4. Each of these learning/numbering/naming systems are used by musicians for various purposes. They help us "pick-out" the scales on the piano. The numbers are used in chord building and harmonizing. Solfege is used in voice-training. The half-whole math formula helps explain the underlying structure of our basic reference scale for Western tonal Music. Whew!!! Lots of words!

5. Starting with the "Tonic" or "Keytone" place an ascending scale next to a Tonic "partner." These are the "Tonal Dyads" for the key. That means they are "in the key" or "Diatonic" Notice the different names.

13

Musical notation showing eight pairs of notes (dyads) on a grand staff. The notes are: Unison, Maj2, Maj3, Perfect4, Perfect5, Maj6, Maj7, and Per.Octave. Below the staff, the corresponding interval names are listed: Tonic/Root, M2, M3, P4th, P5th, M6, M7, and Octave.

6. These "Intervals" are more correctly called "**Dyads**", or 2-Note chords. Sometimes also called "**partials**" or "**Shells**". Two-Part chords are beginning to show up on musical scores with the following names. They are not fully standardized yet.

17

Musical notation showing eight pairs of notes (dyads) on a grand staff, labeled C, C2, C3, C4, C5, C6, C7, and C. The notes are: Unison, Maj2, Maj3, Perfect4, Perfect5, Maj6, Maj7, and Per.Octave. Below the staff, the corresponding interval names are listed: C, C2, C3, C4, C5, C6, C7, and C.

7. This second group of Dyads are the "**Non-Diatonic Variation**" Dyads.

They play very important roles in creating melodic interest and variety, and in adding sonic color to chords. Here are their names. Play them and listen.

21

Musical notation showing eight pairs of notes (dyads) on a grand staff. The notes are: Unison, minor2nd, minor3rd, Aug.4th, Dim.5th, Aug.5th, minor6th, and minor7th. Below the staff, the corresponding interval names are listed: Unison, minor2nd, minor3rd, Aug.4th, Dim.5th, Aug.5th, minor6th, and minor7th.

8 The Major Scale uses 2 "Resolving Patterns". They are called **Tetrachords**--4-Note scale fragments.

They give a feeling of resolving, or completing a phrase. Listen to the opening phrase of the Adam's Family Theme.

25

Musical notation showing two tetrachords on a grand staff. The first tetrachord is labeled "Root 2 2 1" and the second is labeled "Root 2 2 1". Between them is the instruction "Move up 2 semi-tones."

These are the MAJOR Tetrachords, and they give a balanced and pleasing sound to the seven tones of the Ionian mode.

8. Here are four Major Scales. See how they are constructed by connecting Major Tetrachords.

29

Musical notation showing four major scales on a grand staff, each constructed by connecting two major tetrachords. The scales are labeled "Major + Major".

33

Major + Major Major + Major

37

### 9 Tetrachords. Master Grid.

Major Tetrachord Minor Tetrachord Phrygian Tetrachord Lydian Tetrachord

These Tetrachords are the building blocks for all of the standard HEPTATONIC Scales. They also form melodic "motifs" or "phrases" for many songs.

41

Harmonic Tetrachord Diminished Tetrachord Blues Tetrachord 1 Blues Tetrachord 2

10. Now the fun begins. Each Major Scale generates 7 scales. Starting from each scale tone in order, here they are with their "real" names. Examples below in keys of C, G and F Major. These scales are called MODES. They are constructed with the Tetrachords listed across the lower staves.

45

Ionian (Major) Key of C Dorian (Minor) Phrygian (Minor) Lydian (Major)

Major +Major Minor +Minor Phrygian +Phrygian Lydian +Major

49

Mixolydian (Major) Aeolian (Relative Minor)\* Locrian (Diminished) Ionian (Major)

Major +Minor Minor +Phrygian Phrygian +Lydian Major +Major

53 Ionian (Major) Key of G A Dorian B Phrygian C Lydian

57 D Mixolydian E Aeolian F# Locrian G Ionian

61 Ionian (Major) Key of F G Dorian A Phrygian Bb Lydian

65 C Mixolydian D Aeolian E Locrian F Ionian

11. Now the REAL fun begins. Here are the seven Modes of Major built from one root-tone. This is the best way to visualize the modal variations. Most Contemporary Musicians use a simple Arabic number system to learn these patterns.

69

1 2 3 4 5 6 7 1  
Ionian mode

1 2 b3 4 5 6 b7 1  
Dorian mode

73

1 b2 b3 4 5 b6 b7 1 1 2 3 #4 5 6 7 1

Phrygian mode Lydian mode

77

1 2 3 4 5 6 b7 1 1 2 b3 4 5 b6 b7 1

Mixolydian mode Aeolian mode

81

1 b2 b3 b5 b6 b7 1 1 2 3 4 5 6 7 1

Locrian mode Ionian mode

**12. Additional "Altered" scales used in Classical and Contemporary music.**

85

Melodic minor (Classical form)

Descending Aeolian mode

1 2 b3 4 5 6 7 1 1 b7 b6 5 4 b3 2 1

89

13. Melodic minor (Contemporary form)

Descending Melodic minor

1 2 b3 4 5 6 7 1 1 7 6 5 4 b3 2 1

14. Harmonic minor

Musical notation for the Harmonic minor scale in treble clef. The scale is written across four measures. The notes are: 1 (C), 2 (D), b3 (E-flat), 4 (F), 5 (G), b6 (A-flat), b7 (B-flat), 1 (C). The fingering is indicated by numbers 1-5 and flats for the 3rd, 6th, and 7th degrees. The bass line is empty.