

Scales and Dyads and Tetrachords: ScLP1

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.

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

5 4 3 2 1 3 2 1

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

Tonic 2 2 1 2 2 2 1
Do Re mi fa sol la ti do

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.

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

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

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.

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

Unison Maj2 Maj3 Perfect4 Perfect5 Maj6 Maj7 Per.Octave

Tonic/Root M2 M3 P4th P5th M6 M7 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

Unison Maj2 Maj3 Perfect4 Perfect5 Maj6 Maj7 Per.Octave

C C2 C3 C4 C5 C6 C7 C

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

Notice they give us a whole new set of Dyads with different names and functions
Line 1 shows the classical names, while Line 2 shows their Harmonic functional names.
Play them and listen,.

21

Unison minor2nd minor3rd Aug.4th Dim.5th Aug.5th minor6th minor7th

Root b2/b9 b3 #11 b5 #5 b6 b7

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.

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Root 2 2 1 Move up 2 semi-tones. Root 2 2 1

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

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

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Major + Major Major + Major Major

33

37

10 Tetrachords. Master Grid.

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

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11. 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

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

57 D Mixolydian E Aeolian F# Locrian G Ionian

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

65 C Mixolydian D Aeolian E Locrian F Ionian

14. Now the REAL fun begins. Here are the seven "PARALLEL" 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.

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1 2 3 4 5 6 7 1 1 2 b3 4 5 6 b7 1

Ionian mode Dorian mode

73

Phrygian mode: 1 b2 b3 4 5 b6 b7 1

Lydian mode: 1 2 3 #4 5 6 7 1

The image shows two musical staves. The top staff is in treble clef and contains two measures of music. The first measure is labeled 'Phrygian mode' and contains the notes 1, b2, b3, 4, 5, b6, b7, 1. The second measure is labeled 'Lydian mode' and contains the notes 1, 2, 3, #4, 5, 6, 7, 1. The bottom staff is in bass clef and contains two measures of whole rests.

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Mixolydian mode: 1 2 3 4 5 6 b7 1

Aeolian mode: 1 2 b3 4 5 b6 b7 1

The image shows two musical staves. The top staff is in treble clef and contains two measures of music. The first measure is labeled 'Mixolydian mode' and contains the notes 1, 2, 3, 4, 5, 6, b7, 1. The second measure is labeled 'Aeolian mode' and contains the notes 1, 2, b3, 4, 5, b6, b7, 1. The bottom staff is in bass clef and contains two measures of whole rests.

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Locrian mode: 1 b2 b3 b5 b6 b7 1

Ionian mode: 1 2 3 4 5 6 7 1

The image shows two musical staves. The top staff is in treble clef and contains two measures of music. The first measure is labeled 'Locrian mode' and contains the notes 1, b2, b3, b5, b6, b7, 1. The second measure is labeled 'Ionian mode' and contains the notes 1, 2, 3, 4, 5, 6, 7, 1. The bottom staff is in bass clef and contains two measures of whole rests.

15. Additional "Altered or Synthetic" scales used in Classical and Contemporary music.

85

Melodic minor (Classical form)

Descending Aeolian mode

Melodic minor (Classical form): 1 2 b3 4 5 6 7 1

Descending Aeolian mode: 1 b7 b6 5 4 b3 2 1

The image shows two musical staves. The top staff is in treble clef and contains two measures of music. The first measure is labeled 'Melodic minor (Classical form)' and contains the notes 1, 2, b3, 4, 5, 6, 7, 1. The second measure is labeled 'Descending Aeolian mode' and contains the notes 1, b7, b6, 5, 4, b3, 2, 1. The bottom staff is in bass clef and contains two measures of whole rests.

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13. Melodic minor (Contemporary form)

Descending Melodic minor

Melodic minor (Contemporary form): 1 2 b3 4 5 6 7 1

Descending Melodic minor: 1 7 6 5 4 b3 2 1

The image shows two musical staves. The top staff is in treble clef and contains two measures of music. The first measure is labeled '13. Melodic minor (Contemporary form)' and contains the notes 1, 2, b3, 4, 5, 6, 7, 1. The second measure is labeled 'Descending Melodic minor' and contains the notes 1, 7, 6, 5, 4, b3, 2, 1. The bottom staff is in bass clef and contains two measures of whole rests.

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.