

THE MUSIC SCHOOL OF HARD ROCKS

Theory Overview

THE MAJOR SCALE

A scale is a series of notes played one after the other. Western music theory is based on the major scale. A major scale contains seven different notes. When writing or playing a major scale, it is standard practice to add the "eighth" note on to the end. This eighth note is the same note as the first note, but it creates a more complete sounding scale. The notes in a major scale follow a very specific pattern. That pattern is as follows:

Major Scale: 1 -w- 2 -w- 3 -h- 4 -w- 5 -w- 6 -w- 7 -h- 8

w = whole step

h = half step

Using this pattern, we can build a major scale built on any note. If we wanted to build a "C Major Scale," we would start on the note "C." If we go up two frets, we would come to the second note of the scale, which is a "D." If we go up two more frets from the second note, we come to the third note, which is an "E." We then go up one half step from the "E" to arrive at the "F" note -- the fourth note of the scale. If you continue following the major scale pattern, you would end up with this:

C Major Scale: C D E F G A B C
 1 -w- 2 -w- 3 -h- 4 -w- 5 -w- 6 -w- 7 -h- 8

Following the pattern and starting on the note "D," we would get the "D Major Scale."

D Major Scale: D E F# G A B C# D
 1 -w- 2 -w- 3 -h- 4 -w- 5 -w- 6 -w- 7 -h- 8

Notice that the notes are always alphabetical. In the "D Major Scale" example, the third note is an "F#." The note "Gb" is the same note as an "F#," but we use the "F#" because it preserves the alphabetical flow of notes. If we used a "Gb," we would end up with two notes that use the letter "G" and no note that uses the letter "F." Although they would still sound the same and be played exactly the same, it becomes confusing to talk about the notes in a scale unless they follow alphabetically.

CHORDS

Chords are two or more notes played at the same time.

Now that we know how to build a major scale, the next step in music theory is to learn how chords are built from this scale.

One of the basic chord forms is called a triad. It is composed of three notes. Like the major scale, they also follow a simple pattern. This table shows how to build the seven triads contained in the major scale.

Major Scale: 1 2 3 4 5 6 7 8

Chords: 1 3 5
2 4 6
3 5 7
4 6 1
5 7 2
6 1 3
7 2 4

Using this pattern for the C Major Scale, we would get the following triads:

C Major Scale: C D E F G A B C
1 2 3 4 5 6 7 8

Chords: 1 3 5 - C E G
2 4 6 - D F A
3 5 7 - E G B
4 6 1 - F A C
5 7 2 - G B D
6 1 3 - A C E
7 2 4 - B D F

The triad name also follows a pattern. The first chord in a major scale is always a major chord. The second chord is always minor, and so on following this pattern:

Chords: 1 3 5 - Major
2 4 6 - minor
3 5 7 - minor
4 6 1 - Major
5 7 2 - Major
6 1 3 - minor
7 2 4 - Diminished

These chords are then named by using the root note and then adding the type of triad that it is after the note name.

Chords: 1 3 5 - C E G - C Maj.
2 4 6 - D F A - D min.
3 5 7 - E G B - E min.
4 6 1 - F A C - F Maj.
5 7 2 - G B D - G Maj.
6 1 3 - A C E - A min.
7 2 4 - B D F - B Dim.

As a further example, I will write out the scale and triads for the key of F Major.

F Major Scale: F G A Bb C D E F
1 2 3 4 5 6 7 8

Chords: 1 3 5 - F A C - F Maj.
2 4 6 - G Bb D - G min.
3 5 7 - A C E - A min.
4 6 1 - Bb D F - Bb Maj.
5 7 2 - C E G - C Maj.
6 1 3 - D F A - D min.
7 2 4 - E G Bb - E Dim.

You should now be able to figure out the major scale and the seven chords associated with all twelve notes.

At this point, you now have the basics of music theory -- enough to make some sense of musical discussions. Once you have this information "under control," you can continue on with the following (which is the next step in understanding music theory). It is a little more complicated, but if you take your time, it shouldn't be too difficult.

INTERVALS

To really understand how chords are constructed, you need to know about musical intervals. An interval is the distance between two notes. The following chart explains the relationship between intervals and distances in steps.

Steps	Interval Name (with symbol in parenthesis)
0	Unison (U)
1/2	Minor Second (m2)
1	Major Second (M2)
1 1/2	Minor Third (m3)
2	Major Third (M3)
2 1/2	Perfect Fourth (P4)
3	Augmented Fourth (#4)/Diminished Fifth (b5)
3 1/2	Perfect Fifth (P5)
4	Minor Sixth (m6)
4 1/2	Major Sixth (M6)
5	Minor Seventh (m7)
5 1/2	Major Seventh (M7)
6	Octave (8va)

EXTENDED INTERVALS

There are intervals beyond the octave, but most beginner theory deals with the intervals up to and including the octave. The intervals continue to follow the major scale. In other words, after the octave (8va), the next note after the octave, in the major scale, would be a "Major Ninth" (the note itself corresponds to the M2 note). The third note after the octave would be a "Major Eleventh" (this note corresponds to the P4 note). The fifth note after the first octave would be the "Major Thirteenth" (this note corresponds to the M6 note).

The octave past the first one is called the "Second Octave" or "Double Octave." The third octave would (obviously) be the "Third Octave" or "Triple Octave."

As an example, I will use the C Major Scale with the interval symbols printed under the notes.

CM =	C	D	E	F	G	A	B	C	D	E	F	G	A	B	C
	U	M2	M3	P4	P5	M6	M7	8va	M9	M11	M13				

INTERVALIC INVERSION

An interval is called "inverted" if you change the sequence of the two notes. So, if you inverted "F" to "A," it would become "A" to "F." This will also change the interval between them (except in the case of unisons and octaves -- these stay the same interval because they are the same notes).

There are some basic rules that you can follow when inverting intervals.

- 1 - Major intervals become minor and vice versa.
- 2 - Augmented intervals become diminished and vice versa.
- 3 - Perfect intervals remain perfect.
- 4 - Seconds become sevenths, thirds become sixths, fourths become fifths and vice versa.

So as an example, following these rules, the following statements will hold true:

A m6 becomes a M3
A P4 becomes a P5
A M7 becomes a m2

CHORDS (CONTINUED)

The sound of a chord (and its name) depends on the intervals between the notes within the chord. We will discuss triads first. There are four kinds of triads: major, minor, augmented, and diminished.

MAJOR TRIAD

The major triad consists of a major third and a minor third stacked on top of each other. This results in a perfect fifth being created between the root note and the top note of the triad.

C Major Triad: C E G
 \ M3 / \ m3 /
 \ P5 /

MINOR TRIAD

The minor triad consists of a minor third and a major third stacked on top of each other. This will result in a perfect fifth being created between the root note and the top note.

C Minor Triad: C Eb G
 \ m3 / \ M3 /
 \ P5 /

AUGMENTED TRIAD

The augmented triad consists of two major thirds stacked on top of each other. This will result in an augmented fifth interval being created between the root note and the top note of the triad.

C Augmented Triad: C E G#
 \ M3 / \ M3 /
 \ #5 /

DIMINISHED TRIAD

The diminished triad consists of two minor thirds stacked on top of each other. This will result in an diminished fifth interval being created between the root note and the top note of the chord.

C Diminished Triad: C Eb Gb
 _{m3}/ _{m3}/
 _{b5}/

SEVENTH CHORDS

A seventh chord can be thought of as another third stacked on top of a basic triad chord. There are six types of seventh chords. Like the basic triads, the sound of a chord (and its name) depends on the intervals between the notes within the chord.

DOMINANT 7TH

A dominant seventh chord is a major triad with a minor third stacked on top of it.

C Dominant 7th: C E G Bb
 _{M3}/ _{m3}/ _{m3}/
 _{P5}/
 _{m7}/

MAJOR 7TH

A major seventh chord is a major triad with a major third stacked on top of it.

C Major 7th: C E G B
 _{M3}/ _{m3}/ _{M3}/
 _{P5}/
 _{M7}/

MINOR 7TH

A minor seventh chord is a minor triad with a minor third stacked on top of it.

C Minor 7th: C Eb G Bb
 _{m3}/ _{M3}/ _{m3}/
 _{P5}/
 _{m7}/

MINOR TRIAD MAJOR SEVENTH

A minor triad major seventh chord is a minor triad with a major third stacked on top of it.

C Minor Triad Major 7th: C Eb G B
 _{m3}/ _{M3}/ _{M3}/
 _{P5}/
 _{M7}/

HALF DIMINISHED 7TH

A half diminished seventh chord is a diminished triad with a major third stacked on top of it.

C Half Diminished 7th: C Eb Gb Bb
m3/ _m3_/ _M3_/
b5/
m7/

DIMINISHED 7TH

A diminished seventh chord is a diminished triad with a minor third stacked on top of it. (Note that the "Bbb" is the same note as an "A," but you use the "double flat" notation to keep it all alphabetical).

C Diminished 7th: C Eb Gb Bbb
m3/ _m3_/ _m3_/
b5/
M6/

NINTH CHORDS

A ninth chord can be thought of as a dominant seventh chord with a major third stacked on top of it. The "ninth" will always be a major ninth, unless specifically noted in the chord name.

C 9th: C E G Bb D
M3/ _m3_/ _m3_/ _M3_/
P5/
m7/
M9/

If the added ninth is not a M9, that must be noted with an alteration sign. For example:

C7b9: C E G Bb Db has a minor ninth
C7#9: C E G Bb D# has an augmented ninth