


## The Chromatic Scale (all half steps)

C C# D D# E F F# G G# A A# B C


C C# D D# E F F# G G# A A# B C



OR:

C Db D Eb E F Gb G Ab A Bb B C

C Db D Eb E F Gb G Ab A Bb B C



## The Major Scale

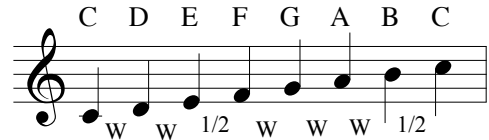
The formula for the major scale is:

w w 1/2 w w w 1/2

### C Scale

C D E F G A B C

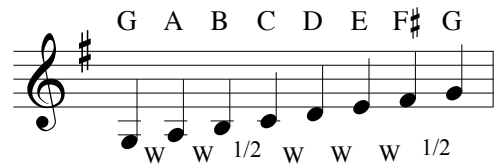
w w 1/2 w w w 1/2



### G Scale

G A B C D E F# G

w w 1/2 w w w 1/2



### D Scale

D E F# G A B C# D

w w 1/2 w w w 1/2



## Minor Scales

There are several minor scales, but bluegrass primarily uses two. The Aeolian minor scale, which can be derived from playing the major scale notes starting on the 6th note, often referred to as the 6th degree.

A minor (Aeolian Mode) built from the 6th degree of the C major scale

A B C D E F G A

w 1/2 w w 1/2 w w

Also used, but less common than the Aeolian is the Dorian minor, which can be derived from playing the major scale notes start on the 2nd degree of the major scale.

D minor (Dorian mode) built from the 2nd degree of the C major scale

D E F G A B C D

w 1/2 w w 1/2 w

Here is the G minor scale in each mode. Note the difference in the 6th degree.

G Minor Aeolian: This scale is derived from the Bb scale

G    A Bb    C    D Eb    F    G  
 w   1/2   w    w   1/2   w    w

Because this scale is derived from the Bb major scale, you might expect to see a mix of Gm and Bb chords in a tune using this scale, such as Cheyenne.

G Minor Dorian: This scale is derived from the F scale

G    A Bb    C    D    E F    G  
 w   1/2   w    w    w   1/2   w

Because this scale is derived from the F major scale, you might expect to see a mix of Gm and F chords in a tune using this scale, such as Kentucky Mandolin.

### Mixolydian Mode

A very common mode in bluegrass is the mixolydian mode, which is the scale based on the 5th degree of the major scale. Here the 7th degree of the scale is a half step lower.

G    A    B C    D    E F    G  
 w    w   1/2   w    w   1/2   w

Tunes like Old Joe Clark and Little Maggie use this mode

### Intervals

Intervals are the distance between two notes. Being able to play by ear assumes that one can recognize how far away a second note is from the first note. While it isn't important to be able to name the interval, it is important to be able to play it on your instrument.

Each note of the scale has its own unique "color". One should relate to these by the numbered position in the scale. This allows one to think of melody without being specific to a key.

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

If a note is not a scale tone, but one of the in-between notes such as a Bb in the key of C, it can be thought of as an altered note of the scale, in this case a flatted 7th note.

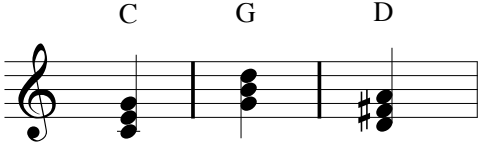
Interval	Type	Distance
C to Db	minor 2nd	1 fret
<b>C to D</b>	<b>major 2nd</b>	<b>2 frets</b>
C to Eb	minor 3rd	3 frets
<b>C to E</b>	<b>major 3rd</b>	<b>4 frets</b>
<b>C to F</b>	<b>perfect 4th</b>	<b>5 frets</b>
C to F#	diminished 5th	6 frets
<b>C to G</b>	<b>perfect 5th</b>	<b>7 frets</b>
C to Ab	minor 6th	8 frets
<b>C to A</b>	<b>major 6th</b>	<b>9 frets</b>
C to Bb	minor 7th	10 frets
<b>C to B</b>	<b>major 7th</b>	<b>11 frets</b>
<b>C to C</b>	<b>octave</b>	<b>12 frets</b>

# Chord Construction Theory

Chords are built from the notes of the scale of the root of the chord.

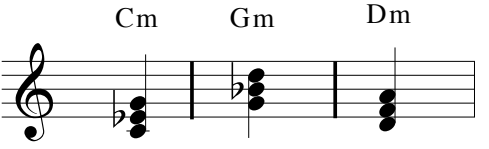
A **major** chord would be built on the 1st, 3rd and 5th notes of the scale as shown.

	1	3	5						
C major chord	C	D	E	F	G	A	B	C	C E G
G major chord	G	A	B	C	D	E	F#	G	G B D
D major chord	D	E	F#	G	A	B	C#	D	D F# A



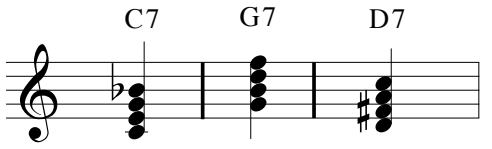
A **minor** chord would be built on the 1st, flatted 3rd and 5th notes of the scale as shown.

	1	b3	5						
C minor chord	C	D	E $\flat$	F	G	A	B	C	C E $\flat$ G
G minor chord	G	A	B $\flat$	C	D	E	F#	G	G B $\flat$ D
D minor chord	D	E	F	G	A	B	C#	D	D F A



A **7th** chord would be built on the 1st, 3rd, 5th and flatted 7th notes of the scale as shown.

	1	3	5	b7					
C7 chord	C	D	E	F	G	A	B $\flat$	C	C E G B $\flat$
G7 chord	G	A	B	C	D	E	F	G	G B D F
D7 chord	D	E	F#	G	A	B	C	D	D F# A C




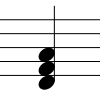
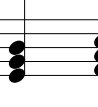
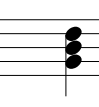
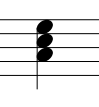
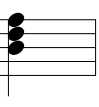



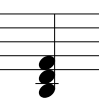
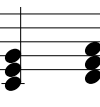
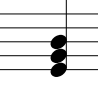
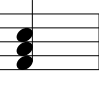

# Chord Progression Theory

The sequence of chords in a song is called the Chord Progression. To find which chords fit together from a music theory perspective, we look at the harmonized scale.

## Harmonized Scale

Building chords by harmonizing the scale with the 3rd and 5th gives the naturally occurring chords for any given key. Here are the C and G harmonized scales and the resulting chords. By referring to their number position in the scale, we can talk about chords irrespective of the key. It is customary to use Roman numerals for this when written, with the major chords capitalized.

The most common chords progressions in bluegrass are comprised of I, IV and V chords. These are the only naturally occurring major chords in the harmonized scale. The minor chords are infrequently used in bluegrass.

C							G						
C	dm	em	F	G	am	bdim	G	am	bm	C	D	em	f#dim
													
I	ii	iii	IV	V	vi	vii	I	ii	iii	IV	V	vi	vii

Traditional bluegrass differs from most music styles in that we most often use major chords. So we will find the A major chord (the II major chord) in the key of G more often than A minor. We also use a Flatted 7th chord (b7) frequently, which falls outside the harmonized scale concept. In the key of G, this would be an F chord. Some songs use the 6 major chord, which would be E, in the key of G. As bluegrass has progressed through the years, we find more songs using the minor chords from the harmonized scale.

Here are the most common chords often used in traditional bluegrass in the eight standard keys :

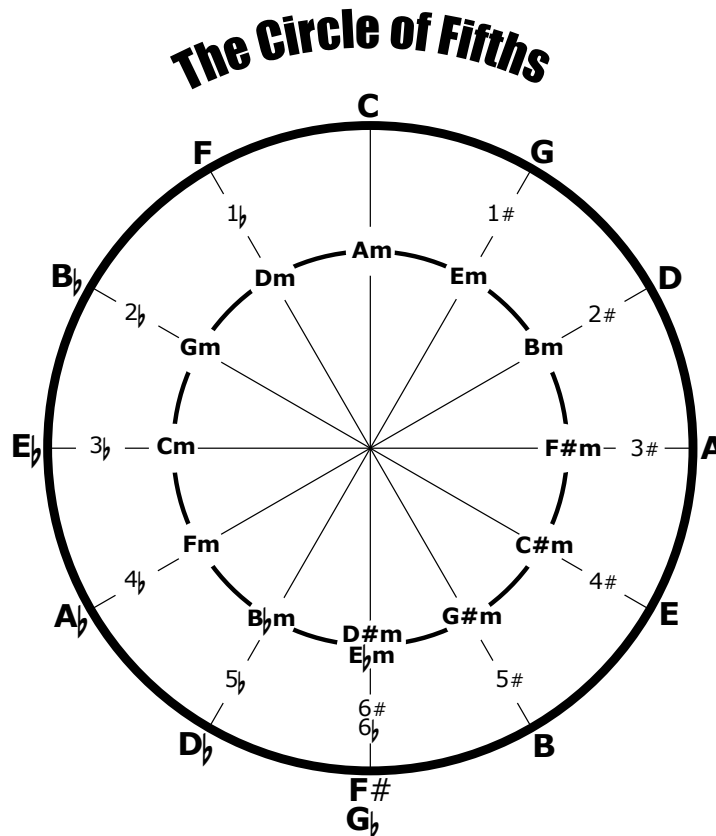
The three common major chords

Key	I	IV	V
G	G	C	D
A	A	D	E
Bb	Bb	Eb	F
B	B	E	F#
C	C	F	G
D	D	G	A
E	E	A	B
F	F	Bb	C

Often used other major chords

Key	II	b7	VI
G	A	F	E
A	B	G	F#
Bb	C	Ab	G
B	C#	B	G#
C	D	Bb	A
D	E	C	B
E	F#	D	C#
F	G	Eb	D

The Circle of 5ths can be used to determine which chords are likely to occur in any key. Choose a key center, and the IV chord will be on the counter-clockwise side and the V chord will be on the clockwise side. The flat 7 chord will be counter-clockwise two positions and the II (major) chord will be 2 positions to the clockwise side. Likely minor chords will be those nearest to the key center.



## Harmony Singing

The standard way to harmonize a melody in bluegrass is to add a baritone part underneath the melody and a tenor part above. When the melody note lands on a chord tone, the baritone would be the closest chord tone underneath, and the tenor would be the closest harmony above. Because the baritone part is underneath the melody, the note a 5th above the melody is shown here one octave lower, so that it now resembles a bluegrass baritone part.

G scale

When the melody is passing through non-chord tones, the harmonized scale can be useful for determining the correct harmonies. The overriding factor when choosing harmonies is always the song's chord progression. If a lead singer is singing a D note, for instance, the harmony notes would depend on the chord that accompanies it. Shown below are the melody (enlarged) and the harmony choices for a G chord versus a D chord.

Here is the verse to I'll Fly Away harmonized with a standard trio. Here we can see the combination of thirds, which are noteheads touch each other, and fourths, which have a small gap between the noteheads.

## I'll Fly Away

Sometimes voices are stacked in a non-standard fashion, such as when the baritone part is sung above the melody (called high baritone) so the lead is on the bottom. Also, sometimes the tenor part is placed below the baritone (called low tenor) so the lead is on top. In four-part bluegrass singing, (usually gospel songs) a bass part is added. Usually the bass will sing the root of the chord and occasionally walk similar to a string bass run.

# Beyond Melody: Concepts for Improvisation

## Flowing Scales:

To make scales flow naturally requires careful placement of the notes. The notes that fall on the beats should generally be chord tones, with the other scale notes falling between the beats. We can accomplish this by skipping the 7th scale note, resulting in alternating chord and non-chord tone sequences like this:

As chords change, the flowing scales need to adjust to the new chord:

## Arpeggios:

A mix of arpeggios with scales is very common. It's very important to know how to arpeggiate over any chord. Here is an example of mixing arpeggios with scales:

## Scale Patterns:

Sometimes we can use scale manipulations in various patterns such as this guitar example:

## Blues:

Blues is a fundamental part of bluegrass. Rather than practicing a textbook blues scale, I find it's best to learn a sequence I refer to as "blues moves" as shown here:

blues scale sequence: G A B $\flat$  A G F E D C B $\flat$  A G. Fingering: b3, 3, 1, b7, 5, b5, 4, b3, 3, 1, b7, 5, b5, 4, b3, 3, 1.

As is shown here, a b3, b5 and b7 are added notes. Rather than replacing the natural 3rd, the b3 often resolves to the 3rd, as shown above. The b5 is most often played as part of a chromatic passage connecting the 4 and the 5. Often the 2nd and 6th degree scale notes are left out of blues passages. Here is a typical melodic blues passage as played on a banjo:

blues passage on banjo. Chords: G, D, G. Fingering: b5, 4, b3, 4, 1, b3, 1, b7, b3, 1, b7, 5, b5, 5, 4, b3, 5, 1. Tablature: 11 10 11 10 8 6 8 6 0 0 1 0 0 6 6 1 3 0.

## Chromatics:

Chromatic passages are a progressive way of soloing where the notes in between the scale are included, giving a jazzier sound than traditional bluegrass. It has been popularized by people like fiddler Vassar Clements, guitarist Tony Rice and mandolinist Adam Steffey.

chromatic passage. Chords: G, C.

## Licks:

Many improvisors rely upon an assortment of identifiable licks that they can insert at the proper place. Most often this would be during the 4th line of a bluegrass song, when it's less common to play the melody. Here is a mandolin example:

mandolin lick. Chords: G, D, G. Fingering: 4, 1, 1, 2, 2. Tablature: 5 3 3 3 6 7 3 1 5 4 3 1 2 5 5 4 (0) 7 (0) 3 4 5.