

FRETBOARD TOOLBOX 
COMPLETE MANDOLIN
E-BOOK 2nd Ed.

**A Quick-Reference
Guide to the
Music Theory
that Matters Most.**

*See the chords &
scales that make-up
all 14 Major, minor,
and Blues keys.*

**FREE
PREVIEW
PAGES!**

by Scott Sharp



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Complete Mandolin ~ E-Book 2nd Ed.



ABOUT FRETBOARD TOOLBOXES- I've had so much fun during my 20+ year musical journey, but for over half of those years I was held back because I was missing SOME REALLY BIG musical ideas. In countless lessons I would hear teachers talk about mysterious music theory ideas like "triads", "scale degrees", "Major pentatonic scales", "I, IV, & V chords", etc., but I had no clue what they were talking about and I couldn't find anyone who could explain them to me. Enough mentioned those ideas that I knew they must be important, but I just needed a way to SEE them, in every key, all over my instrument. Once I laid these ideas out in my "Fretboard Toolbox Complete Guitar Edition", I created books for lots of the other instruments I'd always wanted to play. Since the rules of music are the same for all instruments, and my books are set up identically, when you understand how one Toolbox works, you understand them all! Making these books has let me meet so many wonderful people all over the world who were searching for those same ideas. I hope you find them useful too! -Scott



Making music with my friends Tim (drum) & Chad (banjo) while my daughter Taylor plays.

Major Key	Number of sharps (#'s) or flats (b's) in key	Relative minor key	Page #	CAPO CORNER
Toolbox Instructions	Standard Pages Instructions		2-4	Use chord shapes from key ↓ Put capo on this fret # ↙
	Blues Pages Instructions		5-7	
	Standard Notation Jig		8	
G Major (G Blues)	1 sharp	E minor	9-10	E3, D5, C7
Ab Major (Ab Blues)	4 flats	F minor	11-12	G1, E4, D6
A Major (A Blues)	3 sharps	F# minor	13-14	G2, E5, D7
Bb Major (Bb Blues)	2 flats	G minor	15-16	A1, G3, E6
B Major (B Blues)	5 sharps	G# minor	17-18	A2, G4, E7
C Major (C Blues)	0 sharps / 0 flats	A minor	19-20	A3, G5
C# Major (C# Blues)	7 sharps	A# minor	21-22	C1, A4, G6
Db Major (Db Blues)	5 flats	Bb minor	23-24	C1, A4, G6
D Major (D Blues)	2 sharps	B minor	25-26	C2, A5, G7
Eb Major (Eb Blues)	3 flats	C minor	27-28	D1, C3, A6
E Major (E Blues)	4 sharps	C# minor	29-30	D2, C4, A7
F Major (F Blues)	1 flat	D minor	31-32	E1, D3, C5
F# Major (F# Blues)	6 sharps	D# minor	33-34	E2, D4, C6
Gb Major (Gb Blues)	6 flats	Eb minor	35-36	E2, D4, C6
More Tools	Chord Toolbox		37-38	
	Circle of Fifths Decoded		39	

Purchase this edition to access all of these keys.

ABOUT COMPLETE EDITIONS- Each page is decidedly dense with information to give you "3-D glasses", which will let you SEE the chords & scales that make up all 14 Major, relative minor, & blues keys, *all in one place*. It lets you see Major and minor chord triads, common scales (including Major, natural minor & pentatonic scales) and so much more.

The ultimate goal is learning to think in musical keys so you can figure out chords & solos "on the fly"!

CAPO CORNER- This column shows capo positions used to play in any key using chord shapes from common keys, up to the 7th fret. For example, a guitarist playing in G Major can put a capo on fret #3 with chord shapes played from the key of E Major (shown in this column as E3). The key of G Major can be also be played with a capo on fret #5, using chord shapes from the key of D Major (shown as D5). The "Capo Corner" shows capo positions up to the 7th fret.



Standard Chord & Scale Jigs Explained

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What are Fretboard Toolbox "Standard Pages"?

Each of the 14 Major & relative minor keys are combined into "Standard Pages" (the odd-numbered pages, 9-35), and they're used to play in many musical styles, including rock, folk, bluegrass, country, pop, and more. Blues and bluesy-rock keys are covered on the "Blues Pages" (the even-numbered pages, 10-36).

One of the best parts about Fretboard Toolboxes is that they are one of the few books that let you see how chords are built by using and/or modifying Major scales. See how Major scales and chords are built in the "Chord Toolbox", on pages 37-38.

Five Ideas Worth Learning in Every Key

1 Which chords sound good together in each key, and what are the Roman numerals of each chord? Each Major & relative minor key has 6 main diatonic chords that all sound good together (shown with arrows below) made of combinations of the 7 diatonic notes of the Major & natural minor scales. (Diatonic means the notes & chords that make up the key.) In both Major & minor keys, chords have special Roman numerals. The Chord & Scale Jig below shows 2 Roman numerals for each chord: The 1st (in bold) is for the Major key. The 2nd (not bold) is for the relative minor key.

G Major Key Chords

- I G MAJOR
- ii A minor
- iii B minor
- IV C MAJOR
- V D MAJOR
- vi E minor

E minor Key Chords

- i E minor
- bII F MAJOR (common variant)*
- III G MAJOR
- iv A minor
- v B minor
- VI C MAJOR
- VII D MAJOR

bVII F MAJOR (common variant)
vii° / ii° F# diminished (rarely played, so not shown)

2 Which scales are most important to know in each key? The Major and natural minor scales are the backbone of songs in Major and minor keys, respectively.

	G Major Scale							E natural minor scale						
Columns:	1	2	3	4	5	6	7	1	2	b3	4	5	b6	b7
Notes:	G	A	B	C	D	E	F#	E	F#	G	A	B	C	D

3 Which notes make up the Major and relative minor pentatonic scales? Major & minor pentatonic scales simply leave out 2 notes and can make nice solos. (Pentatonic notes are underlined in Fretboard Toolboxes.)

	G Major pentatonic						E minor pentatonic					
Columns:	1	2	3	5	6		1	b3	4	5	b7	
Notes:	<u>G</u>	<u>A</u>	<u>B</u>	<u>D</u>	<u>E</u>		<u>E</u>	<u>G</u>	<u>A</u>	<u>B</u>	<u>D</u>	

4 Which notes are needed to make common chords? "Triads" are simply three note chords. Major triads are made of notes in the 1, 3, and 5 columns. Minor triads use notes in the 1, b3 ("flat-3"), and 5 columns. Dominant 7 (7) and minor 7 (m7) chords just add the note from the b7 ("flat-7") column to the Major and minor triads, respectively. Here are some examples:

G Major = G, B, D	G7 = G, B, D, F
B minor = B, D, F#	Bm7 = B, D, F#, A
C Major = C, E, G	C7 = C, E, G, Bb
E minor = E, G, B	Em7 = E, G, B, D

5 Which notes outside of the Major and relative minor scales are commonly used? Diatonic notes & chords are shown in bold font in Fretboard Toolboxes, while commonly used notes & chords from outside these keys appear in italics. "Rule-breaking chords" include playing the ii, iii, and/or vi chords as Major chords, or playing the IV chord as a minor chord. "Rule-breaking notes" include the bluesy flat-3 (b3) and flat-7 (b7) notes.

CHORD & SCALE JIG

Chord Names and Roman Numerals below:
Major / relative minor key

- Notes in white boxes show the diatonic chords and scales.
- Notes in italics are commonly used notes outside of the key.

	1	2	b3	3	4	5	b6	6	b7	7
→ G MAJOR → I / III	G	A	<i>Bb</i>	B	C	D		E	F	F#
→ A minor → ii / iv	A		C	<i>C#</i>		E			G	
→ B minor → iii / v	B		D	<i>D#</i>		F#			A	
→ C MAJOR → IV / VI	C		<i>Eb</i>	E		G			<i>Bb</i>	
→ D MAJOR → V / VII	D		F	F#		A			C	
→ E minor → vi / i	E	F#	G	G#	A	B	C		D	
<i>F MAJOR</i> <i>bVII / bII</i>	<i>F</i>		<i>Ab</i>	A		C			<i>Eb</i>	

Chords & Scales

Chord Type: 4 Use notes in columns:

Major-----1, 3, 5
7, dom 7-----1, 3, 5, b7
minor-----1, b3, 5
min 7, m7-----1, b3, 5, b7

Scale Type: 2 Use notes in columns:

Major-----1, 2, 3, 4, 5, 6, 7
Major pentatonic--1, 2, 3, 5, 6
nat. min.---1, 2, b3, 4, 5, b6, b7
min. pentatonic-1, b3, 4, 5, b7



Chord Progressions & Fretboard Layout

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Chord Progressions Boxes- See pp. 9-35 (odd pages) for same progressions in each Major & relative minor key.

① All of the chord progressions in "Box 1" are **diatonic** in the Key of G Major, which means they include only chords that make up the key- *and that each chord is made up entirely of notes from the G Major scale!* Capitalized Roman numerals represent Major chords and lower-case Roman numerals represent minor chords. These are all common progressions, so learn them well!

200+ Free Jam Tracks, including these progressions.
At www.fretboard-toolbox.com/200-free-jam-tracks.html, access free Jam Tracks featuring all of these progressions played in 6 Major & minor keys, at four tempos each!

② This box includes some chord progressions that use chords from *outside* of each progression's key. These "non-diatonic" chords are shown in italics in this book and add some great, intriguing flavor to songs. Learn the Roman numerals for the diatonic and non-diatonic (*italicized*) chords in these progressions and you'll train your ear to figure out progressions on the fly!

③ This box shows some common minor key chord progressions. Play these and you'll notice that songs in minor keys have "sadder" sounds than songs in Major keys. Note that in minor keys, the "v" chord (minor) can also be played as a "V" chord (Major). For songs with a "V" chord, try the harmonic minor scale (see page 4)!

① **Some G Major Chord Progressions**

I-V-I	G-D-G
I-IV-V	G-C-D
I-V-IV	G-D-C
I-vi-IV-V	G-Em-C-D
I-vi-ii-V	G-Em-Am-D
I-ii-IV-V	G-Am-C-D
V-IV-I	D-C-G

② **More G Major Chord Progressions**

I-iii-ii-V	G-Bm-Am-D
ii-V-I	Am-D-G
I-bVII-IV-V	G-F-C-D
I-II-IV-V	G-A-C-D
I-III-IV-iv	G-B-C-Cm
I-III7-VI7-II7-V7	
G-B7-E7-A7-D7	

③ **Some E minor Chord Progressions**

i-v-i	Em-Bm-Em
i-VII-v	Em-D-Bm
i-VII-i	Em-D-Em
i-V-i	Em-B-Em
i-iv-V	Em-Am-B
i-VII-VI-V	Em-D-C-B
i-iv-VI-V	Em-Am-C-B

Fretboard Layout- To play chords & scales all over your fretboard, it's helpful to know which notes make up the chords & scales, and where those notes are found all over the neck. Fretboard Toolboxes show those note locations for all 14 Major, relative minor, and blues keys, up to the 17th fret. *Note the same fret can have different note names depending on the key that you're playing in.*

Memorizing the Fretboard- The C Major and A minor pentatonic scale notes are shown in white boxes below, (the notes C, D, E, G, and A). If you learn those five notes all over the fretboard, then **any other note you need is no more than one fret from a note you know!** *Note: The "open" strings are to the left of the nut, which is represented by the striped bar to the left of Fret #1.*

Fretboard Layout (Fret Markers at Frets 5, 7, 10, 12, & 15)

Fret #:	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	
1	E	F	F# Gb	G	G# Ab	A	A# Bb	B	C	C# Db	D	D# Eb	E	F	F# Gb	G	G# Ab	A
2	A	A# Bb	B	C	C# Db	D	D# Eb	E	F	F# Gb	G	G# Ab	A	A# Bb	B	C	C# Db	D
3	D	D# Eb	E	F	F# Gb	G	G# Ab	A	A# Bb	B	C	C# Db	D	D# Eb	E	F	F# Gb	G
4	G	G# Ab	A	A# Bb	B	C	C# Db	D	D# Eb	E	F	F# Gb	G	G# Ab	A	A# Bb	B	C



Standard Fretboard Jigs Explained

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SCALES FOR SONGS IN G MAJOR	1	2	<i>b3</i>	3	4	5	6	<i>b7</i>	7	8(1)
Complete G Major scale	<u>G</u>	<u>A</u>		<u>B</u>	<u>C</u>	<u>D</u>	<u>E</u>		<u>F#</u>	<u>G</u>
G Major pentatonic scale	<u>G</u>	<u>A</u>		<u>B</u>	X	<u>D</u>	<u>E</u>		X	<u>G</u>

SCALES FOR SONGS IN E MINOR	1	2	<i>b3</i>	3	4	5	<i>b6</i>	6	<i>b7</i>	7	8(1)
E natural minor scale	<u>E</u>	<u>F#</u>	<u>G</u>		<u>A</u>	<u>B</u>	<u>C</u>		<u>D</u>		<u>E</u>
E minor pentatonic scale	<u>E</u>	X	<u>G</u>		<u>A</u>	<u>B</u>	X		<u>D</u>		<u>E</u>
E harmonic minor scale	<u>E</u>	<u>F#</u>	<u>G</u>		<u>A</u>	<u>B</u>	<u>C</u>		X	<u>D#</u>	<u>E</u>

BUILDING MAJOR SCALES- (see chart above)

Major scale- These diatonic notes are in **white boxes**, in columns 1, 2, 3, 4, 5, 6, and 7. The note in the 8(1) column is called the "octave", and is the same note as column 1, an octave higher-pitched.

-This scale is the backbone of Western music!

Major pentatonic scale- These notes are underlined, and are found in columns 1, 2, 3, 5, and 6.

-This is great "go-to" scale for songs in Major keys.

BUILDING MINOR SCALES-

natural minor scale- These diatonic notes are also in **white boxes**, in columns 1, 2, *b3*, 4, 5, *b6*, and 7.

The note in the 8(1) column is also the same as the 1.

minor pentatonic scale- These notes are underlined, and are found in columns 1, *b3*, 4, 5, and *b7*.

-This is great "go-to" scale for songs in minor keys.

BUILDING MINOR SCALES (continued)-

harmonic minor scale- This scale is just like the natural minor, except the note in the *b7* column is replaced by the note in the 7 column. This scale works great with minor key songs that have a *Major V* chord.

Note that every Major scale has what's called a "relative minor" scale that uses the same notes and chords, just with a different root note and chord.

What are Standard Fretboard Jigs? (see below)

The Standard Fretboard Jigs (located on odd numbered pages 9-35), show the notes of the Major, minor, and pentatonic scales above, which can be used for solos. These same notes are also the notes that are used to make the **chords** that make up both Major and relative minor keys. They also include italicized *b3* and *b7* notes, which are used in bluesy, Major key solos, and to make 7 chords such as G7.

Standard Fretboard Jig ~ G Major & E minor

Fret #:	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1	<u>E</u>	<i>F</i>	<u>F#</u>	<u>G</u>	<u>A</u>	<i>Bb</i>	<u>B</u>	<u>C</u>		<u>D</u>	<u>E</u>	<i>F</i>	<u>F#</u>	<u>G</u>		<u>A</u>	
2	<u>A</u>	<i>Bb</i>	<u>B</u>	<u>C</u>	<u>D</u>		<u>E</u>	<i>F</i>	<u>F#</u>	<u>G</u>	<u>A</u>	<i>Bb</i>	<u>B</u>	<u>C</u>		<u>D</u>	
3	<u>D</u>	<u>E</u>	<i>F</i>	<u>F#</u>	<u>G</u>		<u>A</u>	<i>Bb</i>	<u>B</u>	<u>C</u>		<u>D</u>	<u>E</u>	<i>F</i>	<u>F#</u>	<u>G</u>	
4	<u>G</u>	<u>A</u>	<i>Bb</i>	<u>B</u>	<u>C</u>		<u>D</u>		<u>E</u>	<i>F</i>	<u>F#</u>	<u>G</u>	<u>A</u>	<i>Bb</i>	<u>B</u>	<u>C</u>	

G Major & E natural minor scales: White boxes
G Major & E minor pentatonic: Underlined notes
b3 (Bb) & b7 (F) notes from G Major: Italicized

Key of G Major Root Notes

G

Key of E minor Root Notes

E



Blues Chord & Scale Jigs Explained

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What are Fretboard Toolbox “Blues Pages”?

“Bluesy music” often has a tension that at first is hard to understand, but one of the secrets is that the tension you’re hearing is Major key chord progressions *played alongside minor key soloing scales!* For example, if a song is in the key of G Major, you’ll often use G Major chord progressions combined with *G minor soloing scales*. What makes it even more interesting is that you can combine scales like the G Major pentatonic scale with the *G minor pentatonic* for even more flavorful sounds. The “Blues Pages” (10-36, even) show Major, Major pentatonic, & minor pentatonic notes in each key.

Four Bluesy Ideas Worth Learning in Every Key (using the G Blues Chord & Scale Jig below):

① Which chords sound “bluesy” together in each key, and what are the Roman numerals in each key? Bluesy chord progressions typically focus on the I, IV, & V chords- **G Major (I), C Major (IV), & D Major (V)** chords in the key of G Major. Lots of “bluesy rock” songs often add the *bIII “flat-3”* chord (a *Bb MAJOR* chord in the key of G Major) and/or the *bVII “flat-7”* chord (an *F MAJOR* chord in the key of G Major) to the I, IV, & V chords. **Notice that these five chords are simply the minor pentatonic notes played as Major chords!** See page 6 to learn how the Chord Progressions Boxes show common ways to combine these chords in any key. Remember that in the Blues Key pages of this book (the even-numbered pages 10-36), chords in bold font are “diatonic”, which means that they are made of notes that make up the Major scale. Remember that the *b3 (flat-3)* & *b7 (flat-7)* notes and the *bIII “flat-3”* & *bVII “flat-7”* chords (*all shown in italics*) are not diatonic, but they sound good in the key because of their “bluesy” tension.

② Which notes are the most important in the key of G Major? The notes in the **G MAJOR (I)** chord row show the G Major scale notes in bold in the columns 1-7. The G Major pentatonic scale notes are underlined. The 3 other notes to know in blues scales are the *b3 “flat-3”*, *b5 “flat-5”* (shown with an asterisk “*” in this book), and the *b7 “flat-7”*. The G minor pentatonic notes are in white boxes. The *italicized* notes are not diatonic.

③ Which notes make up common chords? Circle 4 on p. 2 shows how common chords are built.

④ Which scales are most important in bluesy music? Blues and bluesy rock songs can often have simple chord progressions, but the soloing can often be quite complex. This is because so many different scales “work” (sound good) over these progressions. The easiest way to get started with bluesy soloing is to use the **minor pentatonic scale** over the entire chord progression, which gives a much darker, “bluesier” sound than the Major pentatonic scale. These minor pentatonic notes are the notes shown in **white boxes** on the Blues Chord & Scale Jigs and on the Fretboard Layout of the Blues pages (even-numbered pages 10-36). However, over many bluesy chord progressions in the key of G Major, you can also use the G Major pentatonic scale (the underlined notes) to make sweeter, “happier” sounding solos. Both the G Major (underlined) & G minor (white boxes) pentatonic scales are shown on the **G MAJOR** chord row of the Blues Chord & Scale Jig. Learning how to mix the Major and minor pentatonic scales adds lots of cool sounds to your solos! Note that for the *bIII* and *bVII* chords, the notes in white boxes are from the G minor pentatonic scale and the bold notes are from the G Major scale. See page 7 to learn lots more about how these “bluesy” scales are built.

BLUES CHORD & SCALE JIG		- Notes in bold make up the G Major scale. - Underlined notes make up the G Major pentatonic scale. - Notes in white boxes show the G minor pentatonic scale.										
Chord Names and Roman Numerals below:		1	2	<i>b3</i>	3	4	<i>b5</i>	5	6	<i>b7</i>	7	
G MAJOR (1) I	<u>G</u> (2)	<u>A</u>	<i>Bb</i>	<u>B</u>	<u>C</u>	*	<u>D</u>	<u>E</u>	<u>F</u>	<u>F#</u>		
<i>Bb MAJOR</i> <i>bIII</i>	<i>Bb</i>			D			F		<i>Ab</i>			
C MAJOR IV	C			E			G		<i>Bb</i>			
D MAJOR V	D			F#			A		C			
<i>F MAJOR</i> <i>bVII</i>	<i>F</i>			A			C		<i>Eb</i>			

Chords & Scales

Chord Type: ③ Use notes in columns:

Major-----1, 3, 5
7, dom 7-----1, 3, 5, b7

Scale Type: ④ Use notes in columns:

Major-----1, 2, 3, 4, 5, 6, 7
Major pentatonic--1, 2, 3, 5, 6
Mixolydian---1, 2, 3, 4, 5, 6, b7
min. pentatonic-1, b3, 4, 5, b7
Blues-----1, b3, 4, b5 (*), 5, b7



Bluesy Progressions & Fretboard Layout

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Chord Progressions Boxes- See pp. 10-36 (even pages) for the same progressions in all 14 “bluesy” keys.

① Play the chord changes from this box to train your ear to recognize the classic 12 bar blues chord progression. The chords I, IV, and V can be played as all simple Major chords (G, C, and D), dominant 7 chords (G7, C7, and D7), or combinations of both. Each time the chord is written, it counts as one bar (counted one and two and three and four) for a total of 12 bars.

200+ Free Jam Tracks, including these progressions.

At www.fretboard-toolbox.com/200-free-jam-tracks.html, access free Jam Tracks featuring all of these progressions in six common keys, played at four tempos each!

② Box 2 in the middle is just like Box 1 (far left), but the second bar replaces the I (or I7) chord with a IV (or IV7) chord, which is called a “quick-change”. Using the chord changes from the left or middle boxes, you can play an amazing number of blues songs!

③ The cool sounds of many bluesy-rock progressions come from the fact that they take the notes from the bluesy sounding minor pentatonic scale, and then turn each of those notes into Major chords. e.g. The G minor pentatonic scale is G, Bb, C, D, and F. The G, C, and D notes are shared with the G Major scale, but the flat-3 (Bb) and the flat-7 (F) notes from the G minor pentatonic scale also sound cool played as Major chords!

① Simple 12 Bar Blues in G

I(7) - I(7) - I(7) - I(7)
 IV(7) - IV(7) - I(7) - I(7)
 V(7) - IV(7) - I(7) - V(7)

G(7) - G(7) - G(7) - G(7)
 C(7) - C(7) - G(7) - G(7)
 D(7) - C(7) - G(7) - D(7)

② Quick-change 12 Bar Blues in G

I(7) - IV(7) - I(7) - I(7)
 IV(7) - IV(7) - I(7) - I(7)
 V(7) - IV(7) - I(7) - V(7)

G(7) - C(7) - G(7) - G(7)
 C(7) - C(7) - G(7) - G(7)
 D(7) - C(7) - G(7) - D(7)

③ Some G Major Rock Progressions

V-IV-I	D-C-G
I-bIII-I	G-Bb-G
I-bIII-IV	G-Bb-C
I-bVII-I	G-F-G
I-bVII-IV	G-F-C
I-bIII-bVII-IV	G-Bb-F-C
I-V-IV-bIII	G-D-C-Bb

Fretboard Layout- This is the same Fretboard Layout from page 3, which shows the C Major and A minor pentatonic scale. The thing to note here is that the notes in white boxes are the same notes shown on the A Blues Fretboard Layout, shown on page 14. So remember that the backbone of the primary bluesy scale for music in the Key of A Blues is the A minor pentatonic scale!

A note on flat-7 (bVII) chords- In Major keys, the “real” diatonic seventh chord is called a “diminished” chord, but it rarely gets played. e.g. F# diminished is the vii° chord in the key of G Major, but F MAJOR is the flat-7 (bVII.) The flat-7 chord is one of the most common chords played outside of a given key and it gets played in both Major & bluesy keys, in all sorts of genres from rock to bluegrass!

Fretboard Layout (Fret Markers at Frets 5, 7, 10, 12, & 15)

Fret #:	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	
1	E	F	F# Gb	G	G# Ab	A	A# Bb	B	C	C# Db	D	D# Eb	E	F	F# Gb	G	G# Ab	A
2	A	A# Bb	B	C	C# Db	D	D# Eb	E	F	F# Gb	G	G# Ab	A	A# Bb	B	C	C# Db	D
3	D	D# Eb	E	F	F# Gb	G	G# Ab	A	A# Bb	B	C	C# Db	D	D# Eb	E	F	F# Gb	G
4	G	G# Ab	A	A# Bb	B	C	C# Db	D	D# Eb	E	F	F# Gb	G	G# Ab	A	A# Bb	B	C



Blues Fretboard Jigs Explained

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SCALES FOR SONGS IN G MAJOR	1	2	b3	3	4	b5	5	6	b7	7	8(1)
Complete G Major scale (bold)	G	A		B	C		D	E		F#	G
G Major pent. scale (underlined)	<u>G</u>	<u>A</u>		<u>B</u>	X		<u>D</u>	<u>E</u>		X	<u>G</u>
G Mixolydian mode (Major + b7)	<u>G</u>	<u>A</u>		<u>B</u>	<u>C</u>		<u>D</u>	<u>E</u>	<u>F</u>	X	<u>G</u>
G minor pentatonic (white boxes)	<u>G</u>		<u>Bb</u>		<u>C</u>		<u>D</u>		<u>F</u>		<u>G</u>
G Blues (white boxes + b5 "*")	<u>G</u>		<u>Bb</u>		<u>C</u>	*	<u>D</u>		<u>F</u>		<u>G</u>

BUILDING SCALES IN BLUES KEYS-

Complete Major scale- These are the notes in **bold font**, found in these columns: 1, 2, 3, 4, 5, 6, and 7. The 8 column note (the octave) is same as column 1.

Major pentatonic scale- These notes are underlined, and are found in these columns: 1, 2, 3, 5, and 6.

This makes "sweeter" sounding blues solos!

Mixolydian mode- This mode (modified Major scale) is just like the G Major scale, except the 7 note (F#) is replaced with the more bluesy b7 (flat-7) note (F).

G Mixolydian sounds great played over a G7 chord!

The minor pentatonic & blues scales below are great "go-to" scales for bluesy solos!

minor pentatonic scale- These notes are in the **white boxes** found in these columns: 1, b3, 4, 5, and b7.

Blues scale- This is just like the minor pentatonic, but adds the *flat-5 "b5"* (Db in G Major), shown with an asterisk "*". These are in columns 1, b3, 4, b5, 5, & b7.

Seeing Chords & Scales on Blues Fretboard Jigs-

In the Blues Fretboard Jig below, some of the notes you need for playing the chords & scales you want are shown in white boxes, and some are in gray boxes.

This is because the Blues pages highlight the minor pentatonic notes in white boxes, and shows the Major scale in bold and the Major pentatonic with underlines.

To best see the "bluesy" minor pentatonic scales, focus on the white boxes of the Blues pages (even-numbered pp. 10-36). To best see Major & Major pentatonic scales, focus on the white boxes of the Standard pages (odd-numbered pp. 9-35).

Do you use one scale over all chords in a song? For basic soloing, you can play the Major and/or Major pentatonic over the entire progression for most Major key songs, and play the minor pentatonic and/or Blues scale over all chords for bluesy songs, which often sounds nice. Later, you may start to focus on targeting the scales and/or chord notes of individual chords.

Blues Fretboard Jig ~ G Blues

Fret #:	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	
1	E	F	F#	G		A	Bb	B	C	*	D		E	F	F#	G	A	
2	A	Bb	B	C	*	D		E	F	F#	G		A	Bb	B	C	*	D
3	D		E	F	F#	G		A	Bb	B	C	*	D		E	F	F#	G
4	G		A	Bb	B	C	*	D		E	F	F#	G		A	Bb	B	C

G Major scale: Notes in **bold font**
 G Major pentatonic scale: Underlined notes
 G minor pentatonic scale: Notes in white boxes

Key of G Blues Root Notes **G**

G Blues flat-5 (b5) note: (Db) *



Standard Notation Jig

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1. The 4 strings on the mandolin are tuned to **G3** on the piano. The 3 strings are tuned to **D4** (a whole-step above piano's Middle C), the 2 strings to **A4**, and the 1 strings to **E5**. Notice how the colors of the Treble Clef notes, the Piano Layout, and the Color-Coded Fretboard Jig all match, and all represent the notes that are in the same octaves.

2. The range of the mandolin from the "open" 4 strings to the 17th fret of the 1 strings goes from the piano's **G3** note to **A6**. For comparison, the range of the guitar from the open low E string to the 17th fret of the high E string is from **E2** to **A5**.

3. The big difference between stringed instruments and the piano is that on stringed instruments, notes in the same octave are often found repeated in multiple string/fret combinations. Remember, all repeated notes (notes in the same octave) have the same color.

4. To know which notes are sharp (#) or flat (b) in each key, look at the notes in white boxes on the odd-numbered pages (pp. 9-35) on this Fretboard Toolbox book.

Color-Coded Fretboard Jig (Seeing Mandolin on the Piano)

Fret #:	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	
1	E	F	F# Gb	G	G# Ab	A	A# Bb	B	C	C# Db	D	D# Eb	E	F	F# Gb	G	G# Ab	A
2	A	A# Bb	B	C	C# Db	D	D# Eb	E	F	F# Gb	G	G# Ab	A	A# Bb	B	C	C# Db	D
3	D	D# Eb	E	F	F# Gb	G	G# Ab	A	A# Bb	B	C	C# Db	D	D# Eb	E	F	F# Gb	G
4	G	G# Ab	A	A# Bb	B	C	C# Db	D	D# Eb	E	F	F# Gb	G	G# Ab	A	A# Bb	B	C

C Middle C on Piano



Keys of G Major and E minor (1 sharp)

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CHORD & SCALE JIG		- Notes in white boxes show the diatonic chords and scales. - Notes in <i>italics</i> are commonly used notes outside of the key.									
Chord Names and Roman Numerals below: Major / relative minor key		1	2	<i>b3</i>	3	4	5	<i>b6</i>	6	<i>b7</i>	7
G MAJOR	I / III	G	A	<i>Bb</i>	B	C	D	E	F	F#	
A minor	ii / iv	A	C	<i>C#</i>	E	G	B	D	F#	A	
B minor	iii / v	B	D	<i>D#</i>	F#	A	C	E	G	B	
C MAJOR	IV / VI	C	E	<i>Eb</i>	G	A	B	D	F	F#	
D MAJOR	V / VII	D	F	<i>F#</i>	A	C	E	G	B	D	
E minor	vi / i	E	G	<i>G#</i>	A	C	D	F	F#	A	
F MAJOR	bVII / bli	F	A	<i>Ab</i>	C	E	G	B	D	F	

Chords & Scales	
Chord Type:	Use notes in columns:
Major-----	1, 3, 5
7, dom 7-----	1, 3, 5, b7
minor-----	1, b3, 5
min 7, m7-----	1, b3, 5, b7
Scale Type:	Use notes in columns:
Major-----	1, 2, 3, 4, 5, 6, 7
Major pentatonic--	1, 2, 3, 5, 6
nat. min.---	1, 2, b3, 4, 5, b6, b7
min. pentatonic--	1, b3, 4, 5, b7

Some G Major Chord Progressions	
I-V-I	G-D-G
I-IV-V	G-C-D
I-V-IV	G-D-C
I-vi-IV-V	G-Em-C-D
I-vi-ii-V	G-Em-Am-D
I-ii-IV-V	G-Am-C-D
V-IV-I	D-C-G

More G Major Chord Progressions	
I-iii-ii-V	G-Bm-Am-D
ii-V-I	Am-D-G
I-bVII-IV-V	G-F-C-D
I-II-IV-V	G-A-C-D
I-III-IV-iv	G-B-C-Cm
I-III7-VI7-II7-V7	G-B7-E7-A7-D7

Some E minor Chord Progressions	
i-v-i	Em-Bm-Em
i-VII-v	Em-D-Bm
i-VII-i	Em-D-Em
i-V-i	Em-B-Em
i-iv-V	Em-Am-B
i-VII-VI-V	Em-D-C-B
i-iv-VI-V	Em-Am-C-B

Standard Fretboard Jig ~ G Major & E minor

Fret #:	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1	E	<i>F</i>	<i>F#</i>	G	A	<i>Bb</i>	B	C	D	E	<i>F</i>	<i>F#</i>	G	A			
2	A	<i>Bb</i>	B	C	D	E	<i>F</i>	<i>F#</i>	G	A	<i>Bb</i>	B	C	D			
3	D	E	<i>F</i>	<i>F#</i>	G	A	<i>Bb</i>	B	C	D	E	<i>F</i>	<i>F#</i>	G			
4	G	A	<i>Bb</i>	B	C	D	E	<i>F</i>	<i>F#</i>	G	A	<i>Bb</i>	B	C			

G Major & E natural minor scales: White boxes
 G Major & E minor pentatonic: Underlined notes
b3 (Bb) & b7 (F) notes from G Major: Italicized

Key of G Major Root Notes **G**
 Key of E minor Root Notes **E**



G Blues (1 sharp)

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BLUES CHORD & SCALE JIG		- Notes in bold make up the G Major scale. - <u>Underlined</u> notes make up the G Major pentatonic scale. - Notes in white boxes show the G minor pentatonic scale.										
Chord Names and Roman Numerals below:		1	2	b3	3	4	b5	5	6	b7	7	
G MAJOR	I	<u>G</u>	<u>A</u>	<u>Bb</u>	<u>B</u>	<u>C</u>	*	<u>D</u>	<u>E</u>	<u>F</u>	<u>F#</u>	
<i>Bb MAJOR</i>	<i>bIII</i>	<i>Bb</i>			<u>D</u>			<u>F</u>		<i>Ab</i>		
C MAJOR	IV	<u>C</u>			<u>E</u>			<u>G</u>		<i>Bb</i>		
D MAJOR	V	<u>D</u>			<u>F#</u>			<u>A</u>		<u>C</u>		
<i>F MAJOR</i>	<i>bVII</i>	<i>F</i>			<u>A</u>			<u>C</u>		<i>Eb</i>		

Chords & Scales	
Chord Type:	Use notes in columns:
Major-----	1, 3, 5
7, dom 7-----	1, 3, 5, b7
Scale Type:	Use notes in columns:
Major-----	1, 2, 3, 4, 5, 6, 7
Major pentatonic--	1, 2, 3, 5, 6
Mixolydian---	1, 2, 3, 4, 5, 6, b7
min. pentatonic-	1, b3, 4, 5, b7
Blues-----	1, b3, 4, b5 (*), 5, b7

Simple 12 Bar Blues in G
I(7) - I(7) - I(7) - I(7)
IV(7) - IV(7) - I(7) - I(7)
V(7) - IV(7) - I(7) - V(7)
G(7) - G(7) - G(7) - G(7)
C(7) - C(7) - G(7) - G(7)
D(7) - C(7) - G(7) - D(7)

Quick-change 12 Bar Blues in G
I(7) - IV(7) - I(7) - I(7)
IV(7) - IV(7) - I(7) - I(7)
V(7) - IV(7) - I(7) - V(7)
G(7) - C(7) - G(7) - G(7)
C(7) - C(7) - G(7) - G(7)
D(7) - C(7) - G(7) - D(7)

Some G Major Rock Progressions	
V-IV-I	D-C-G
I-bIII-I	G-Bb-G
I-bIII-IV	G-Bb-C
I-bVII-I	G-F-G
I-bVII-IV	G-F-C
I-bIII-bVII-IV	G-Bb-F-C
I-V-IV-bIII	G-D-C-Bb

Blues Fretboard Jig ~ G Blues

Fret #:	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	
1	<u>E</u>	F	F#	<u>G</u>	<u>A</u>	<i>Bb</i>	<u>B</u>	C	*	<u>D</u>		<u>E</u>	F	F#	<u>G</u>		<u>A</u>	
2	<u>A</u>	<i>Bb</i>	<u>B</u>	C	*	<u>D</u>		<u>E</u>	F	F#	<u>G</u>	<u>A</u>	<i>Bb</i>	<u>B</u>	C	*	<u>D</u>	
3	<u>D</u>		<u>E</u>	F	F#	<u>G</u>		<u>A</u>	<i>Bb</i>	<u>B</u>	C	*	<u>D</u>		<u>E</u>	F	F#	<u>G</u>
4	<u>G</u>		<u>A</u>	<i>Bb</i>	<u>B</u>	C	*	<u>D</u>		<u>E</u>	F	F#	<u>G</u>	<u>A</u>	<i>Bb</i>	<u>B</u>	C	

G Major scale: Notes in **bold font**
 G Major pentatonic scale: Underlined notes
 G minor pentatonic scale: Notes in white boxes

Key of G Blues Root Notes **G**
 G Blues flat-5 (b5) note: (*Db*) *



Chord Toolbox

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FRET #	0	1	2	3	4	5	6	7	8	9	10	11	12
Major Scale	1		2		3	4		5		6		7	8
Notes	G	G# Ab	A	A# Bb	B	C	C# Db	D	D# Eb	E	E# F	F#	G
		↖ Whole-step		↖ Whole-step		↖ Half-step		↖ Whole-step		↖ Whole-step		↖ Whole-step	

BUILDING MAJOR SCALES (see above)- All Major scales are built using the following formula: whole-step, whole-step, half-step, whole-step, whole-step, whole-step, and then a half-step back to the note you started on, the “octave” (the 8th diatonic note you come to). A whole-step means you have to skip one fret in between the two notes, while a half-step means you play the note right next to the fret you’re on. All of the notes from the G Major scale are shown in white boxes in the “Notes” row (G, A, B, C, D, E, F#, and back to G).

The “**FRET #**” row above shows all of the frets between the “open” G note (open means string is played without any fret), all the way up to the next G note, an octave up on the 12th fret. In this book, all of the notes from the Major key are written in bold letters inside white boxes. You can see Major scales for 21 different root notes on the MAJOR SCALE JIG on the next page.

BUILDING “G” CHORDS (see below)- The table below shows the **scale degrees**, relative to the G Major scale, that are used/alterd to play many types of “G” chords. Chords are just groups of notes played at the same time, so it’s really helpful to know which notes you need to build any chords you want to play. Chords can be made entirely of notes found within the Major scale of the chord (these are called diatonic chords), but you often have to make one or more notes flat (b) or sharp (#). Any note with a “b” (flat) in the Scale Degrees column is played one fret lower-pitched (a half-step lower). Notes with a “#” (sharp) are played one fret higher-pitched (a half-step higher). Any notes outside of the key are *italicized*.

Whether you make a note flat or sharp, notice that the **letter of the note always stays the same**. Since the 3 note in the G Major scale is a “B” note, then the *b3* (flat-3) note needed for a G minor chord (1, *b3*, 5) is a “Bb”. “A#” notes are on the same frets as “Bb” notes, but a *b3* note has to have the **same letter** as a 3 note.

Building “G” Chords		1	<i>b2</i> #1	2 (9)	<i>b3</i>	3	4 (11)	<i>b5</i>	5	#5	6 (13) <i>bb7</i>	<i>b7</i>	7	Chord Uses the Following Notes:
Chord Type	Scale Degrees	G	G# Ab	A	A# Bb	B	C	C# Db	D	D# Eb	E	F	F#	
G Major	1, 3, 5	G				B			D					G, B, D
GMaj7	1, 3, 5, 7	G				B			D				F#	G, B, D, F#
G7 (Gdom7)	1, 3, 5, <i>b7</i>	G				B			D			F		G, B, D, F
Gadd9	1, 2 (9), 3, 5	G		A		B			D					G, A, B, D
Gsus4	1, 4, 5	G					C		D					G, C, D
G5	1, 5	G							D					G, D
G6	1, 3, 5, 6	G				B			D		E			G, B, D, E
Gaug (G+)	1, 3, #5	G				B				D#				G, B, D#
G minor	1, <i>b3</i> , 5	G			<i>Bb</i>				D					G, Bb, D
Gmin7	1, <i>b3</i> , 5, <i>b7</i>	G			<i>Bb</i>				D			F		G, Bb, D, F
Gm7b5	1, <i>b3</i> , <i>b5</i> , <i>b7</i>	G			<i>Bb</i>			<i>Db</i>				F		G, Bb, Db, F
Gm7#5	1, <i>b3</i> , #5, <i>b7</i>	G			<i>Bb</i>					D#		F		G, Bb, D#, F
Gdim7	1, <i>b3</i> , <i>b5</i> , <i>bb7</i>	G			<i>Bb</i>			<i>Db</i>			<i>Fb</i>			G, Bb, Db, Fb



Chord Toolbox (continued)

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MAJOR SCALE JIG- The figure below shows the Major scales of 21 different root notes. The “1” columns show the root notes of each scale.

The 14 Major scales of the keys found in this book are shown in rows with white boxes. Dotted lines separate equivalent notes that have different names.

MAJOR SCALE JIG – Scale Degrees for Building Chords																				
1	2	3	4	5	6	7	1	2	3	4	5	6	7	1	2	3	4	5	6	7
	(9)		(11)		(13)			(9)		(11)		(13)			(9)		(11)		(13)	
A	B	C#	D	E	F#	G#	C#	D#	E#	F#	G#	A#	B#	E#	F##	G##	A#	B#	C##	D##
A#	B#	C##	D#	E#	F##	G##	Db	Eb	F	Gb	Ab	Bb	C	F	G	A	Bb	C	D	E
Bb	C	D	Eb	F	G	A	D	E	F#	G	A	B	C#	F#	G#	A#	B	C#	D#	E#
B	C#	D#	E	F#	G#	A#	D#	E#	F##	G#	A#	B#	C##	Gb	Ab	Bb	Cb	Db	Eb	F
Cb	Db	Eb	Fb	Gb	Ab	Bb	Eb	F	G	Ab	Bb	C	D	G	A	B	C	D	E	F#
B#	C##	D##	E#	F##	G##	A##	E	F#	G#	A	B	C#	D#	G#	A#	B#	C#	D#	E#	F##
C	D	E	F	G	A	B	Fb	Gb	Ab	Bbb	Cb	Db	Eb	Ab	Bb	C	Db	Eb	F	G

CHORD BUILDER- Chords are built by using and/or altering notes from the Major scale of the desired chord. The figure below shows the scale degrees you’ll need to make TONS of different chord types. Use/alter notes from the MAJOR SCALE JIG above using the Scale Degrees shown below.

Any notes that need to be altered from the Major scale are *italicized*, and have a flat “b” or sharp “#” symbol next to the scale degree. e.g. “b3” or “#5”.

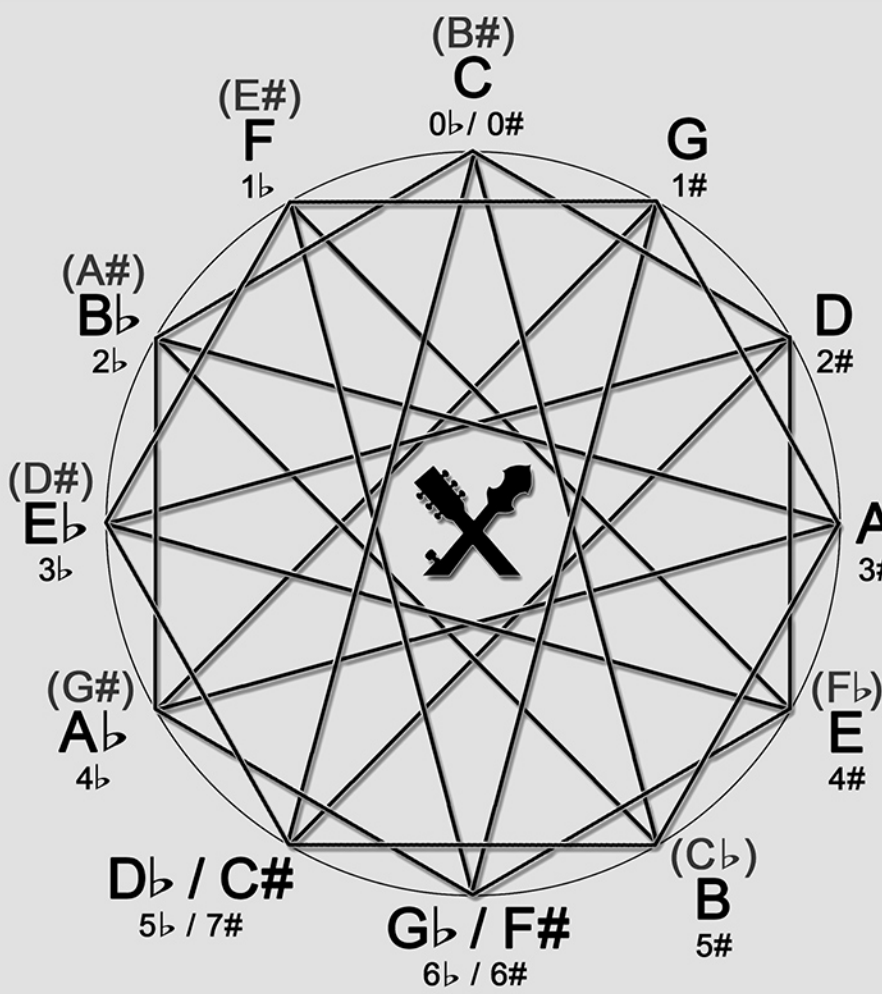
The Building “G” Chords table on page 37 shows how to use/alter the G Major scale to make lots of G Major, G minor, and G diminished chords.

CHORD BUILDER					
Lots of Major Chords		Even More Major Chords		minor/diminished chords	
Chord Type	Scale Degrees	Chord Type	Scale Degrees	Chord Type	Scale Degrees
Maj	1, 3, 5	6	1, 3, 5, 6	min	1, b3, 5
Dom7	1, 3, 5, b7	6add9	1, 3, 5, 6, 9	min7	1, b3, 5, b7
Maj7	1, 3, 5, 7	9	1, 3, 5, b7, 9	min/Maj7	1, b3, 5, 7
add2(9)	1, 2(9), 3, 5	Maj9	1, 3, 5, 7, 9	m7b5	1, b3, b5, b7
sus2	1, 2, 5	7b9	1, 3, 5, b7, b9	m7#5	1, b3, #5, b7
7sus2	1, 2, 5, b7	7#9	1, 3, 5, b7, #9	min6	1, b3, 5, 6
add4(11)	1, 3, 4(11), 5	9b5	1, 3, b5, b7, 9	min6add9	1, b3, 5, 6, 9
sus4	1, 4, 5	11	1, 3, 5, b7, 9, 11	min9	1, b3, 5, b7, 9
7sus4	1, 4, 5, b7	Maj11	1, 3, 5, 7, 9, 11	min/Maj9	1, b3, 5, 7, 9
sus2sus4	1, 2, 4, 5	13	1, 3, 5, b7, 9, 13	min11	1, b3, 5, b7, 9, 11
7b5 (7-5)	1, 3, b5, b7	Maj13	1, 3, 5, 7, 9, 13	min13	1, b3, 5, b7, 9, 11, 13
5	1, 5	Slash Chords: (e.g. G/B) play “G” chord with a “B” note as bass note (the lowest tone in the chord).		dim	1, b3, b5
aug (+)	1, 3, #5			½ dim	1, b3, b5, b7
7#5 (7+5)	1, 3, #5, b7			dim7	1, b3, b5, bb7



Circle of Fifths Decoded

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Cool things to notice on this circle:

- When you move *clockwise* on the circle, the next note is a *fifth* away from the previous note.
 - e.g. The 5th note in the Key of C is a "G", the 5th note in the Key of G is a "D", and the 5th note in the Key of D is an "A", etc.
- When you move *counter-clockwise* on the circle, the next note is a *fourth* away from the previous note.
 - e.g. The 4th note in the Key of A is a "D", the 4th note in the Key of D is a "G", and the 4th note in the Key of G is a "C", etc.
- The Key of C Major has 0 flats (b) and 0 sharps (#). As you go *clockwise* from C, each key has one additional sharp (#) note.
- As you go *counter-clockwise* from the Key of C, each key has one additional flat (b) note.
- NOTE: All of the keys we play in have 7 or fewer b or # notes!

Some more cool things to notice on this circle:

- Some keys use the exact same frets or piano keys, but can be considered flat OR sharp keys.
 - e.g. The Key of Db has 5 b notes, while the Key of C# has 7 # notes. The Keys of Gb and F# both have 6 b notes and 6 # notes, respectively.
- The Key of B has 5 # notes, but the Key of Cb (which is sometimes used) would have 7 b notes.
- An interesting thing I noticed about this is that for any location on this circle, the corresponding number of b and # notes always adds up to 12!
 - e.g. The Key of Ab has 4 b notes, but the Key of G# would have 8 # notes. (Notice how the 4 b notes of the Key of Ab plus the 8 # notes of the theoretical Key of G# would add up to 12.) Eight #'s is much harder to think of than 4 b's, which is why we play in the Key of Ab, and not G#!

Even more cool things to notice on this circle:

- The six main diatonic chords that make up each key are *right next to each other* on the circle.
 - e.g. In the Key of G Major, the 3 Major chords are G (I), C (IV), & D (V), and the 3 minor chords are Am (ii), Bm (iii), & Em (vi). The IV chord is *counter-clockwise* to the I chord, and the V chord is *clockwise* to the I chord, IN EVERY MAJOR KEY!
- In Major keys, the ii, iii, & vi chords are also next to each other, *clockwise* from the I, IV, & V chords!
- This cool circle happened one day while I was daydreaming during a meeting and wondered what would happen if I drew lines connecting all of the notes of the C Major scale. When I did this to the other 13 Major scales, this cool pattern emerged!
- Learn more about this unique circle of fifths at: www.fretboard-toolbox/circle-of-fifths-decoded.html