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What is "Music Theory"?

When people hear the word "theory", they automatically assume its like something you would learn in a class at school. Its true that music is taught this way sometimes, but that's not the whole story!

So, to start with what is "music theory"?

The Musical See-Saw

Just because something is "theory", doesn't mean it has to be boring and taught by aging professors with grey hair and glasses! The "theory" of something is just the explanation of how and why it works, right? Imagine you had a see-saw, you sit on one end, and your friend sits on the other. Now, if you jump up, pulling the see-saw with you, your friend will go downwards. When your friend gets to the ground they'll jump up and you'll come down.

I'm sure you're familiar with the situation! What I've just described is the "practical" side of things. I could also describe it to you as "see-saw theory". For example: the see-saw is balanced over a point directly in the middle of both of you. When you jump up, you're taking your weight off of the end you're sitting on. This causes your end to rise, and the other to fall across the pivot point (i.e. the stand in the middle). When your weight is re-applied, and their weight is removed (they jump up), the reverse happens and you come down.

If you've ever used a see-saw before, you would already know all of this. In fact, you're probably perfectly capable of describing the "see-saw theory" in your own words, and you probably could have done as a kid as well. Did knowing how a see-saw works mean you enjoyed it any less? No? Actually, you might have enjoyed it even more (because you knew better how to control it and use it).

The Music Theory

Well, guess what? The same thing applies to music theory!

No, I'm not talking about physics and weights this time, but sounds instead. Music theory is what we use to describe how music works, just like with the see-saw example, and just as with the see-saw, knowing how it works will not spoil how much you enjoy it. Music theory does not destroy your creativity anymore than understanding how the see-saw works destroys a child's ability to ride it!

With music theory, we're more concerned with things like "Which chords go together, and why?", or "Which scales go with which chords?". If you think about it, the only alternative would be: these are noises, you can make them with a guitar or a bass. Go.

If that was how music worked, this would be a very small website indeed!
How does it help?

How does music theory help you? Well, just the same way that knowing how to construct a sentence or form words helps you to talk to people. Otherwise you're kinda stuck with random grunts. Sure, every now and then you may grunt something intelligible, just like if you didn't understand any music theory you can still compose good music!

You don't have to understand everything about music theory, either. Just enough to do what you do, or just as much as you're interested in using. For example, you wouldn't learn Greek if you had no Greek friends or relatives, and you had no interest in the language. What would be the point? Just stick to English (or whichever is your first language). Same goes for music theory, there's no need to learn the modes of the melodic minor if you don't like the sound of the scale and don't play jazz. Just at least learn the pentatonic scale, and maybe the major scale.

So, my advice is: don't be afraid of "music theory". It can only help you out!
How to read Guitar Tab

Tablature, or "tab", is a system of musical notation that focuses on where you place your fingers, rather than the actual musical pitches. You've probably heard of "guitar tab" on the interwebs, but "tab" is not something specific to the guitar (tabs also exist for banjo, harmonica, lute, harp, organ...and even piano), nor is tab a recent invention!

Guitar Tab for Beginners

Guitar tab is generally very similar to the above, with vertical lines representing the strings, and numbers telling us which fret to play on that string. Because tab doesn't show you the pitches, but where to put your fingers, the tuning of each string is normally written just before it (reading from left to right).

Here is an example of some guitar tab:

```
 e --------------
 B --------------
 G --------------
 D -----5------5-
 A -----3------3-
 E -0-0---0-0----
```

As you can see, there are six vertical lines, each one represents a guitar string. They are labelled according to their tuning (with the capital "E" being the thickest string, and the small "e" being the thinnest). If you're unsure about standard guitar tuning, please refer to my post on how to tune your guitar.

How to Read Guitar Tab

Each number represents a fret (which are numbered from the head of the guitar up to the body), and the line that the number is on tells you which string to play. For example, in the above guitar tab the first note you play is the open low (thickest) E string (reading from left to right), twice. You can tell it's the thickest string because it's on the lowest line, and you can tell that it's an open string (i.e. no fingers on it) because it's an "0".

Next, the tab is telling you to play the 3rd fret on the A string, and the 5th fret on the D string together (together because they are stacked).
**Common Mistakes**

Remember that you read the tab from left to right, and ALL strings at the same time. So if you have something like this:

```
e -θ- 2- 3-- 2- θ------
B ------------ 4---
G ----------------
D ----------------
A -θ----- 2---
E -3- 2- θ-----------
```

...you would start by playing the open "high e" (thinnest string) and the third fret on the "low E" (thickest string) at the same time.

Also, notice that the lowest line in the tab represents the thickest string on the guitar. This may seem backwards at first, and you should be wary of playing the whole tab upside-down! Just remember that it's as if the tab was the right way up on your lap. The nearest string to you on the tab (the bottom one) would be the nearest string when you hold the guitar (the thickest one).

**Guitar Pro**

the program that I recommend for reading and writing guitar (and bass) tab is Guitar Pro. If you want something better than the text based tab I've used in this post, then you really must have a dedicated program to display it.

Now, we're going to go a little more in-depth and look at some of the other symbols you'll find on a tab (most of these symbols refer to the tabs you'll find on the Internet).

**Picking Direction**

The direction you pick is usually represented by the letter "D" for down (towards the ground), and "U" for up (towards the sky), but is often left off altogether.

**Slides**
Slides are normally written either with "/" (for a slide up in pitch) and "/" (for a slide down). For example:

```
e ---------------------
B ---------------------
G -----5---------------
D -5/7 - - - 7 \ 5- - - -
A ---------------------
E ---------------------
```

Here, you would play the 5th fret on the D string, slide up to the 7th fret then play the 5th fret on the G string. Next, pick the 7th fret on the D string and slide the note down to the 5th fret (only picking the string once for each slide!).

**Stringbends**

These are when you bend a note up or down to change it's pitch. Usually notated with "b". So, for example "5b(7)" would mean you play the 5th fret, and then bend the string so that it sounds the same as the pitch of the 7th fret. The 7 is in brackets because you don't re-pick the note.

Other variations include:

- **(7)b5** which would be the reverse of the above example. Bend the 5th fret up to the pitch of the 7th BEFORE playing it, then pick it and return it to it's normal pitch. Sometimes also written as "pb" for "pre-bend", "r" for "release" (as in "(7)r5"), or "bd" for "bend down".

- **5b(7)--(7)** which means you need to play the 5th fret, bend it up to the 7th fret, hold it, then re-pick the 7th fret. Sometimes this is written with "rp" for "re-pick".

You may also see "5b1/4" which means to bend the pitch up by half a fret (used a lot in blues) creating a quarter-tone bend (as each fret is a semitone).

**Vibrato**

Vibrato is when you "wobble" the note, usually by bending it up and down continuously by a small amount (not usually as much as a whole fret). Usually notated in tab by "~", it comes it three main forms: standard (just "~" over a note); "wide", and with the whammy bar (written with "~" and "w/bar").

**Tremolo Picking**

Something that confuses a lot of people is that "Tremolo" is not technically a technique in itself, but a musical effect- the effect of playing one note multiple times, very rapidly, for a "shimmering"
effect. In electric guitar circles, you'll hear it referred to as "tremolo picking" because the notes are usually alternate picked (down and up picking), but tremolo can be done on any instrument.

Notes that are tremolo picked would be notated with "tp" above (for "tremolo picking").

**Legato**

Legato, or hammer-on's and pull-off's, is written with either "h" for "hammer", "p" for "pull off" or "T" for right hand tapping. For example:

```
e ---------------
B ---------------
G ---------------
D -5h7t10p7p5----
A ---------------
E ---------------
```

May just look like a bit of a mess, but let's decode it! Here you play the 5th fret on the D string then hammer a finger from your right hand onto the 7th fret (to sound it without picking it).

Next, hammer a finger from your picking hand onto the 10th fret on the same string without picking (notated by the "t") and "pull off" back to the 7th fret (notated by the "p").

Lastly, you need to pull the finger off of the 7th fret to sound the note on the 5th (which you're still holding down). I recommend using your first finger for the 5th fret, your third for the 7th, and whichever you like for the 10th (on the other hand, of course).

There is also something called a "trill", notated with "tr". This means you rapidly alternate between the two notes by hammering on and pulling off. For example: 5tr(7) means trill between the 5th and 7th frets (the "tr" may also be written above).

**Muting**

Any notes that are supposed to sound muted are written with an "x" instead of a number (muted with the fretting hand), or with "P.M." written above (short for "palm muting", muted with the picking hand).

That should just about cover the main techniques that you'll find notated in guitar tab.
The Major Scale

So we're starting our look at guitar scales with the major scale. Why? Because it's the basis for most modern music theory! Sure, it started out life as the "Ionian Mode" (under an ancient Greek system of music theory), but it has moved on since then and turned into the famous scale that we know and (sometimes) love.

If you want to hear what this scale sounds like (in case you didn't know already), just play the white notes of a keyboard from "C" to "C", or failing that here is the pattern for the guitar:

```
e -------------------------------
B -------------------------------
G -----------------2--4--5-------
D --------2--3--5---------------
A --3--5-------------------------
E -------------------------------
```

Again, the example above is from "C" to "C" and contains the notes: C D E F G A B C. If you were to play it along one string, it would look like this:

```
A --3--5--7--8--10--12--14--15
```

Here you can see the pattern of intervals (or "distances between the notes") that make up a major scale. You can start on any note in the world, and (if you follow this pattern) you'll create a major scale. If we take a closer look at the distances (in frets) we have this:

```
A --3--5--7--8--10--12--14--15
----|+2|+2|+1|+2||+2||+2||+1|
```

Remember that pattern! Musically, a distance of two frets is a "tone", and a distance of one fret is a "semitone" (half a "tone"). So, you could say that the pattern of intervals in a major scale is: tone, tone, semitone, tone, tone, tone, semitone. Sounds really "theoretical" huh? All it's saying is that to find the notes of any major scale, follow the pattern of fret distances above.

Harmonising the Major Scale

One of the very special things about the major scale is that when we create chords with it, they're all in a "major key". For example, if you write a song using only the notes in the C major scale above, your song will be in the "key" of C. In order to do this, both the melody and chords need to be made out of these notes.

How to make a Chord

Chords are basically made of a 1, 3 and a 5. What does that mean? Well, say we use the scale above:
C D E F G A B C

Now, those are the only notes we're allowed to use if we want to stay in the key of C. Let's start at the first note: "C", This becomes "1" in our chord. We also need to find 3 and 5. So, if C is one we count D as 2 (going along the scale), so E is three. Therefore we have C and E in our chord.

Following this pattern, G is 5. So our chord of 1, 3 and 5 becomes C, E and G. These are the notes in a C major chord (and that's how a chord is born).

We wont get into the whole process just yet (see the next chapter), but if you follow the pattern from each note, you'll end up with these chords:

C major (C E G), D minor (D F A), E minor (E G B), F major (F A C), G major (G B D), A minor (A C E), B diminished (B D F)

Remember: the pattern of notes repeats when you get to C again.

**Using the Major Scale**

All of the above chords are in the key of C, and the pattern of major, minor and diminished is the same for every major scale (just the notes all move up or down depending on which key you're in). I may do a post in the future about harmonising scales (because it's quite an important concept for knowing which key you're in!).

This has been quite a long post, but I'll end it by summing up the most interesting points about the major scale, they are:

- It is used to create the Major Key
- The major third (distance between first and third notes) gives it a "bright", or "happy" sound
- The 5th chord (the G major in the key of C, above), can turn into a dominant 7 chord for a stronger, V7 - I cadence (resolution)
- It's probably the most important scale you'll learn about (even if you don't choose to use it...)

**Harmonising a Scale**
Have you ever wondered where all these guitar chords come from? Or how to tell if something is in a particular key? Why do certain scales work over certain chords, and not others? I'm going to create this post as a reference point (to refer back to in future) where I'll answer all these commonly asked questions.

**The Major Scale**

Let's look at the C major scale as an example, here are its notes:

C D E F G A B

Now, there are two ways to think about this scale: melodically (as in, soloing and writing tunes), or harmonically (as in the chords that fit with it). If we look at the scale purely melodically, it makes sense to number the notes from 1 to 7:

1 2 3 4 5 6 7

Now we can talk about the scale degrees as numbers (for example, you could say: "The third note of the C major scale is an E", and I might say "Yes, it's a major third (four frets) above C"). The distances in frets (or intervals) are important here too, but we'll get to that later...

**Thinking Harmonically**

In order to make chords that fit with this scale, they need to be made from the notes of the scale. So, all our chords are going to be made from some combination of: C's, D's, E's, F's, G's, A's or B's. Let's look at those scale numbers again:

1 2 3 4 5 6 7

Do you know what the definition of a chord is? It's "a combination of three or more notes that blend harmoniously when sounded together" (that definition thanks to my dictionary). So for each chord, we need at least three notes. The very first chord in C major is going to start on the very first note (makes sense, huh?)- so the first note of our first chord is a "C". The first note of any chord is called the "root note", and it's what gives the chord its letter name (although the "first note" doesn't always mean the lowest in pitch, just the note that gives the chord its name).

Next, we need a "5th", which works as a kind of "thickener" to the chord (and doesn't change much about the way the chord sounds, but makes it "fuller"). We get this from- you guessed it- the 5th note up from our root. Count up the scale:

1 2 3 4 5
C D E F G

The fifth note up from our root is a "G". So that'll be the next note in our chord.

Now we add one of the most important notes: the 3rd. The third will either be a major third, or a minor third and it lives (can you guess?) three notes up the scale from our root note. In this case it's an "E". Importantly, "E" is four frets up from "C", which makes it a major third in our chord. Here is that distance in guitar tab (on just the A string):

A --3------7---

Any two notes that are this far apart are a "major third" apart. The chord we have made is a "C Major" which means it has a "C" root note, and a note that's a major third above that (the fifth isn't interesting enough to add to the name!) hence: C MAJOR.

Moving up the Scale

The next chord from this scale starts on the second note, "D". So now we have to re-number the scale with "D" as 1.

D E F G A B C

We use the same process again to find our chord: take a 1, 3 and 5. This time we get the notes: D, F and A. So the root note is "D" (giving us some kind of "D" chord) and this time the third is three frets up from the root:

A --5------8---

This is a minor third (because it's slightly smaller than a major third). So the chord is called "D Minor" (D root note, minor third). If you follow this process up the scale you'll find the chords in a C major scale to be:

C major, D minor, E minor, F major, G major, A minor, B diminished (i.e. minor third with a flat 5th instead of a 5th)

The pattern of major and minor chords is the same for every major scale- so if you have a song with these notes in, it'll be in the "key of C major" or the "key of C". A good place to check is if the song has two major chords a tone apart (because these'll probably be the 4th and 5th chords of a major scale). From there you can work out what key something is in.
Roman Numerals

In music, you'll sometimes see things like: "V7 - I", "ii - V - I" or "I - IV - V". Just what do they mean?!

Well, let's look back at how our scales are numbered:

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

For some reason, musicians like to use Roman Numerals instead of the usual Arabic ones to represent the chords built off each note in the scale, so that gives us:

I II III IV V VI VII
C D- -E- F- G A- -B-

...but that's only half the information! We don't anything about the types of chords we're looking at. That's why we use capital letters for major chords, and small letters for minor chords. This makes our major scale look like this:

I ii iii IV v VI vii°
C D- -E- F- G A- -B-

Capital numbers are major chords, and small numbers are minor chords. The little "°" signifies a diminished chord.

WHY?!

This system is good because we can talk about chords and chord progressions without actually having to refer to a particular key. For example, if we talk about a "ii - V - I", in C those chords will be: Dm, G and C...but we could also apply it to the key of G (Am, D and G) or A (Bm, E and A) or any key we wanted to, because we have all the information there except which key it's in (making it more useful for talking "in general" about chords or keys).
The Notes of Chords

So, which notes are in which chords, again?

Now, I have written about this one before, but sometimes its good to look at things from a slightly different angle. You see, last time we looked at harmony and chords we took it from a guitar fretboard perspective. This is sometimes great when it relates directly to getting the right sounds from a guitar...

...but, the layout of a guitar fretboard can seem pretty random if you're not used to it! Check out the website for a diagram of the notes of the fretboard and you'll see what I mean. Sure, there are patterns there, but this isn't the most straightforward way to see it when trying to grasp the theory!

So...which instrument is laid out in a more straightforward way?

The Notes of a Piano

Yup. I wouldn't normally suggest looking at another (seemingly unrelated) instrument when learning guitar, but the piano- or any keyboard instrument- literally has the notes in a line from lowest to highest. On a piano there are no duplicate notes, no sideways "string skipping" or anything like that. The notes are just ordered from lowest to highest. Simple.

So, here is our keyboard:

![Keyboard Image]

The key with a little square on it is known as "middle C". This is the note that is roughly in the middle of the keyboard and is a "C" note (I told you this was more straightforward!). Take note of it's position- there are two black notes directly to the right of it. This is true of every "C" on the keyboard.

Each of the white keys on a keyboard has a different note letter (the black keys are sharps and flats, more on those later). For example, here is our octave of notes:
This also happens to be a C major scale on the piano, which is a very useful coincidence because now we can look at harmonising this scale into chords using just the white keys of the piano!

**The Major Chord**

If you've already read about how to create chords, you'll know that you need: a root note (which gives the chord it's letter name), a third (which tells us if the chord is major or minor), and a 5th (which just kinda acts as a "thickener" note).

You should also be aware that these notes are found by counting up from the root note. For example, if you want to find the notes of a "C major" chord, you can count up with "C" as one, "D" as two...etc...

On a keyboard this becomes even easier to see than on guitar. Here is a C major chord on a keyboard (in red):

Because the notes on a keyboard are arranged in order of pitch, you're literally just playing one note, missing the next, playing the third note, missing the next and playing the 5th note. So, if we look back at which notes these are, we get "C, E and G"- which are the notes that make up a C chord.

The problem with guitar is that these notes don't appear in such an easy order, which is why we get the different shapes for a C chord that we have on guitar. There are still only C's, E's and G's in the chord (which makes it a C chord)...but they're in different positions all over the neck on a guitar.
Minor Chords

Lets move up one letter, to D. If we build a chord starting on a D note and using only the white keys (same as we did before), we get this:

...and our notes are: "D, F, and A". Simple, right? This is how chords are constructed...but look closely. If we're only looking at the white keys, then these two chords are the same. However, if we include all the notes (the black keys too), you might notice a difference.

In our C chord, the distance between the first and second notes of the chord (the root note and the third) is four notes in total (including black keys), but in the D chord, its only 3 notes in total. This is because the D chord here is actually a "D minor". The difference between a major and minor chord is in the distance between the root note and the third of a chord. The D minor chord has a "minor third", whereas the C chord has a "major third" in it.

If you were to take the C chord from above and move the third down one note (so its now on a black key), you would have created a C minor chord. The third in a C minor chord is an "E flat" note, because, to get it, we've moved an E note down by one (as opposed to moving a D note up by one, which would be "D sharp" even though its the same key...).

...and for Guitar?

As I mentioned, the theory behind guitar chords follows this exact same logic, but- unfortunately-the notes aren't in such a straightforward order. This can sometimes be a major stumbling block for guitarists beginning to learn some music theory.

If this way of looking at things has just made sense to you, then I suggest you go over to a keyboard (or draw one out on a bit of paper) and try to work out the notes in other major or minor chords. Be careful to take note of the distance between the root note and the third!
Understanding Key Signatures

How do you know if a singer is at the door? Because they can't find the key and don't know when to come in...

OK, seriously, we have it pretty easy on guitar when it comes to playing in different keys- just use a "moveable shape" (such as a barre chord, or scale pattern) and move it to the right part of the fretboard. You may not be aware of this, but: its not so easy on other instruments!

Other instrumentalist have to memorise which notes are in which keys- which means how many sharps or flats you have in a certain key. This information will usually be shown at the start of a piece of music.

So, how do you show what key a piece of music is in? There is no real way of doing this in tab (other than writing at the start "this is in..." etc.), but in standard notation we can use something called a "key signature".

How a Key Signature works

OK, first we're going to have a look at the major scale (not because of how it works for guitar, but because it works for this example). Its important to understand a bit about how keys work, before we get on to key signatures. Eventually this should start to make sense.

The C major scale has no sharps or flats. That means to say that all the notes are pure letter names (a.k.a. "natural" notes). So, something in the "key of C" will have no sharps or flats, and will only use these notes:

\[ C \ D \ E \ F \ G \ B \ A \ C \]

The next scale in the sequence, has one sharp, and it happens to be G major:

\[ G \ A \ B \ C \ D \ E \ F# \ G \]

Notice that we've gone five letters along (C D E F G = 5 letters) to find our new root note, and then sharpened the 7th note (the F in this case, becomes an F#). If we follow the same pattern again, we get D major (G A B C D = 5 letters). Then we sharpen the 7th note (the C becomes a C# this time), and we keep the previous F sharp.

\[ D \ E \ F# \ G \ A \ B \ C# \]

Those are the notes in a D major scale. We can continue this pattern until we reach the key of C sharp, which looks like this:

\[ C# \ D# \ E# \ F# \ G# \ A# \ B# \ C# \]
Obviously we can't sharpen any more notes here. The important part to realise is the order that the sharps are added. We started with F, then C, then it would have been G (for A major). The full order looks like this:

F C G D A E B

...and the reason this is important is because this is the order that we show the sharps in at the beginning of a piece of music. There are several rhymes to help you remember this, I like to use: Father Charles Goes Down And Ends Battle, but feel free to make up your own!

Once you know how many sharps (or flats) are in a piece of music, you'll be able to work out the key. From our examples, if you were shown one sharp at the start of a song, you should be able to tell that it was in G major (because that's the only key with one sharp). If you were shown two sharps, you could assume the piece was in D major, as that's the only key that has two sharps.

Here is an example of something in D major:

Notice the two sharp symbols at the start, they're on the F and the C lines of the stave, and they're telling you that its in D major (or its relative minor, but that's another lesson...). The trick you need to learn here is that we're always sharpening the 7th note of each scale as we go along. Therefore, the last sharp written in the key signature at the beginning of a piece will be the 7th note that we've just sharpened.

Therefore, if you can work out that the last sharp written is a C# (as in our example), you know the key is going to be D (i.e. the next note up).

So, if you saw this:

...which- at first glance- just looks like a load of sharp symbols that's impossible to decipher! All you need to remember is that you look at where the last sharp symbol is, and then go one note higher. The last sharp symbol here is on the "A" line, and so we can assume this piece is in B major. B major has five sharps- and so following the pattern earlier you can already work out that the sharps are: F# C# G# D# A# without even reading it (because that's the order that sharps always appear). Simple when you know how.
Sharps and Flats

As well as sharps, we also have flats. Now these follow a different order, but they are no more difficult to work out! We'll start out with C major again:

C D E F G A B C

The next scale, which has one flat, is F major:

F G A Bb C D E F

The pattern has changed slightly here- we're going up only 4 letters to find our new root note, and we're flattening the 4th note of the scale. Following this pattern again we go up another four letters to Bb:

Bb C D Eb G A B C Bb

It has to be a "B flat" because we've already flattened the B in the sequence...but look what's happening! If we continue to the next scale in the sequence, from the fourth note of B flat major, we're going to end up with E flat major:

Eb F G Ab Bb C D Eb

What's happening is: in each scale we're flattening the note that starts the next scale in the sequence. The next scale, if we were to continue the pattern, would be A flat major- i.e. starting from the note that we've just flattened to create E flat major.

Therefore, when you see flats in the key signature:

![Key Signature]

You know that the second to last flat will give you your key. The example above is in G flat major, because the second to last flat is on the G line.

The flats always appear in this order, too:

B E A D G C F

...which is exactly the opposite way around to the sharps! To remember this, you just need to reverse the rhyme from earlier, so it becomes: Battle Ends And Down Goes Charles' Father.

We've covered a lot in this post today, but its always good to know when you're playing in a key what the notes are in that key! Notice I'm NOT just talking about fretboard patterns, but actual note names here!
Chord Inversions

It's all very well and good knowing your basic open chords, and if you can extend each of the CAGED shapes up the neck to form barre chords, that's even better...but you're still kinda limited by those shapes. I mean, do you ever listen to rhythm players and just wonder how they're pulling all of these sophisticated sounds out of their guitar? Well, it could be that they are using chord inversions.

Now, in order to understand what I'm going to explain next, you'll need to have a basic concept of chord construction under your belt. If you already understand how chords are made, then this is for you. Read on!

What are Inversions?

Have you ever used MS paint (or any similar image editing software)? After you open up an image with these programs you'll have an option somewhere that says "invert colours" (or "colors" if you're American). When you click it, it'll turn the picture that you have into what looks like a photo negative (if your camera has film then you'll know what I mean).

...wait...I'm going off on a random tangent here, right?

Wrong! Because when you "invert" the colours of an image you basically reverse them. That's what a photo negative is- the reverse of the original image.

Do you see how the negative image looks the same, but also very different to the original? That's what we're going to do to our chords to create interest.

Inverting Chords

So, lets track back to our chord construction. In a basic chord you have the root, the third, and the fifth, right? Generally, the notes are played in that order: the root is the lowest note, the third is above it, and the fifth is the highest note. The important note here is the lowest note, and each one of our CAGED chord shapes has the root as the lowest note.

...but that's kinda boring...

So the basic idea of inversions is that we kinda mess with the order the notes appear (from lowest to highest).

Examples

We could use any CAGED shape as an example here, but I've chosen the "C" shape because the
order of notes in it happen to be (from lowest to highest): "root" - "third" - "fifth" - "root" - "third".

With the root as the lowest note, it's known as "root position".

```
   e --0--
   B --1--
   G --0--
   D --2--
   A --3--
   E -----  
```

If we, instead, play the third as the lowest note, we get what is called the "first inversion".

```
   e --0--
   B --1--
   G --0--
   D --2--
   A ----
   E -----  
```

Play this and you can probably hear a slight difference, if not try moving the shape around to different frets.

```
   e --5--
   B --6--
   G --5--
   D --7--
   A ----
   E -----  
```

This next shape is also possible:

```
   e --0--
   B --1--
   G --0--
   D --2--
   A --3--
   E --0--  
```

So, that's the "first inversion"...if we play the fifth as the lowest note it's known as (you guessed it) the "second inversion". Here is an example of a C shape in second inversion.

```
   e --0--
   B --1--
   G --0--
   D --0--
   A ----
   E -----  
```
...or this one...

e -- 0 --
B -- 1 --
G -- 0 --
D -- 2 --
A -- 3 --
E -- 3 --

**Using Inversions**

It's a pretty basic concept- just changing the lowest note of the chord around, but it does require a knowledge of the notes in a chord and where they are on the fretboard. Once you've mastered these concepts it allows you to come up with some interesting chord variations.

For example, here is a G major second inversion:

e -- 7 --
B -- 8 --
G -- 7 --
D -- 0 --
A ------
E ------
The Guitar Chord Key Transposer

Here's a little chart that I developed that will enable you to change into any key you wish...provided you know the one you're currently in...

Basically, the numbers of the chords are written across the top in Roman numerals, with the root note in the left column.

A few important things to note from a theory perspective, here. Firstly, every major scale has major and minor chords in the same places- i.e. harmonised from the same scale degrees. For example, if you look down the "V" column, you'll see that every chord is a major chord, but if you look down the "ii" column, every chord is minor.

The second point to note is that there are things like "E sharp", or "C flat" written out in the chart. This is because, for each key, you have to use all the letters in order (its less confusing in the long run, trust me). This makes the C major scale- "C D E F G A B C", and the C sharp major scale- "C# D# E# F# G# A# B# C#"- instantly looking at the second scale you can see that its the same scale, just sharpened. It wouldn't be so easy to read if it was written like: "C# Eb F Gb G# Bb C C#" (this one just looks like a jumbled mess, but its all the same notes in the same order). That's why we write it the way we do in music- its just clearer.

One last thing, the table below is written out in order of increasing sharps (so, C through to C#) and then the same thing with decreasing flats (Ab through to Bb). This is because then keys that are closer together are closer harmonically (and so you're more likely to want to change between them)- also remember that C sharp is the same as D flat, and so the same pattern continues down the chart. Just in case you were wondering about the order.

<table>
<thead>
<tr>
<th>Root Note</th>
<th>ii</th>
<th>iii</th>
<th>IV</th>
<th>V</th>
<th>vi</th>
<th>vii</th>
</tr>
</thead>
<tbody>
<tr>
<td>C</td>
<td>Dm</td>
<td>Em</td>
<td>F</td>
<td>G/Db</td>
<td>Am</td>
<td>Bdim</td>
</tr>
<tr>
<td>G</td>
<td>Am</td>
<td>Bm</td>
<td>C</td>
<td>D</td>
<td>Em</td>
<td>F#dim</td>
</tr>
<tr>
<td>D</td>
<td>Em</td>
<td>F#m</td>
<td>G</td>
<td>A</td>
<td>Bm</td>
<td>C#dim</td>
</tr>
<tr>
<td>A</td>
<td>Bm</td>
<td>Cm</td>
<td>D</td>
<td>E</td>
<td>F#m</td>
<td>G#dim</td>
</tr>
<tr>
<td>E</td>
<td>F#m</td>
<td>G#m</td>
<td>A</td>
<td>B</td>
<td>C#</td>
<td>D#dim</td>
</tr>
<tr>
<td>B</td>
<td>C#m</td>
<td>D#m</td>
<td>E</td>
<td>F#</td>
<td>G#m</td>
<td>A#dim</td>
</tr>
<tr>
<td>F#</td>
<td>G#m</td>
<td>A#m</td>
<td>B</td>
<td>C#</td>
<td>D#m</td>
<td>E#dim</td>
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<tr>
<td>C#</td>
<td>D#m</td>
<td>E#m</td>
<td>F#</td>
<td>G#</td>
<td>A#m</td>
<td>B#dim</td>
</tr>
<tr>
<td>Ab</td>
<td>Bbm</td>
<td>Cm</td>
<td>D</td>
<td>Eb</td>
<td>Fm</td>
<td>Gdim</td>
</tr>
<tr>
<td>Eb</td>
<td>Fm</td>
<td>Gm</td>
<td>A</td>
<td>Bb</td>
<td>Cm</td>
<td>Ddim</td>
</tr>
<tr>
<td>Bb</td>
<td>Cm</td>
<td>Dm</td>
<td>E</td>
<td>F</td>
<td>Gm</td>
<td>Adim</td>
</tr>
</tbody>
</table>

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Writing your own Songs

How, exactly, do you write a song? It's a question that gets asked a lot by beginner guitarists...and I just thought it was about time to start to give an answer!

I only say "start to give an answer" because songwriting can be a very complicated process, and it's one of those things that can get pretty "in depth". The idea of this article is to get you started with your own three chord songs- and you can then develop your own skills from there.

Roman Numerals

In every major key, we find exactly the same order of major and minor chords. This is the same order as is written across the top of the Guitar Chord Transposer. That order is:

Major - Minor - Minor - Major - Major - Minor - Diminished

...and in Roman numerals, that becomes:

I - ii - iii - IV - V - vi - viiø

(the "ø" means "half-diminished", but we'll get to that in another post)

This is the same order for every single major scale. So, if I wanted to find the chords that fit A major (which has three sharps- C#, F# and G#), I would know that they were:

A major, B minor, C# minor, D major, E minor, F# minor and G# diminished

This same method works with every major key, provided you have the correct sharps or flats in the key.

Chord Progressions

Next, we need to take those chords and create something called a "chord progression". A chord progression is basically just a set of chords that we play in a certain order. Common chord progressions include: I - IV - V; ii - V - I; iv - V - I; IV - vi - I or ii - IV - I.

Let me give you an example of each in the key of A major. Remember: using the Roman numeral system, we can theoretically change these progressions into literally any key!

The I - IV - V progression
A very good example of this type of progression is the 12 Bar Blues, which is very famous and used in many songs. In Roman numerals, it goes like this:

\[
\text{I} - \text{I} - \text{I} - \text{I} \\
\text{IV} - \text{IV} - \text{I} - \text{I} \\
\text{V} - \text{IV} - \text{I} - \text{I}
\]

...and in A major, that would make it:

\[
\text{A} - \text{A} - \text{A} - \text{A} \\
\text{D} - \text{D} - \text{A} - \text{A} \\
\text{E} - \text{D} - \text{A} - \text{A}
\]

In fact, chords I, IV and V are great ones to use because they are the three major chords in each major key. This is why they are known as the "primary triads".

**The ii - V - I**

This progression is used a lot more in jazz, where several of these progressions are strung together. An example of a "2 5 1" progression in A would be: Bm - E - A. Its also a very common, three chord progression.

**The iv - V - I**

Very similar sounding to the "ii - V - I", but less "jazz". This progression is based on the "2 5 1", but the iv chord has been substituted for the ii. If you've read about harmonising a scale, you might already be able to see why this works- chord 2, B minor in the key of A, is made of the notes: B, D and F#...and chord 6, which would be F#minor, is made of F#, A and C#. Both chords have an F# in them...but that's not all! If you make the B minor chord a "Bm7" instead, it will have the notes: B, D, F# and A - which would make it even more similar to the F#minor. This makes it a great substitution.

Actually, chord substitution is how we got from "IV - V - I" to "ii - V - I", because chord 4 (D in the key of A - notes D, F# and A), and chord ii (B minor, again- notes B, D and F#) already share very similar notes and so they are interchangeable.

**Creating your own Chord Progressions**

You know what to do now? Yup, its your turn to make up your own chord progressions! You can start with the ones mentioned here, or you can try and make up your own. Don't stick to A major either, try different keys. One way to start is to pick three numbers from one to seven and then translating those into chords in a certain key- you decide the key.
If you find any good ones, be sure to write them down!