

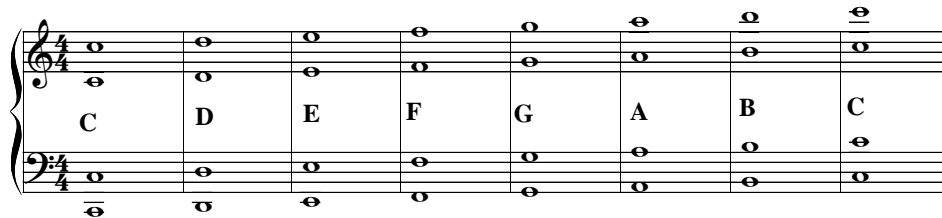
FUNDAMENTALS OF MUSIC THEORY

You can look at the word Fundamental in two ways. FUN-damental, or fundaMENTAL. That pretty well sums it up. They can be enjoyable in getting to grips with, but they might also drive you round the bend. Read on.

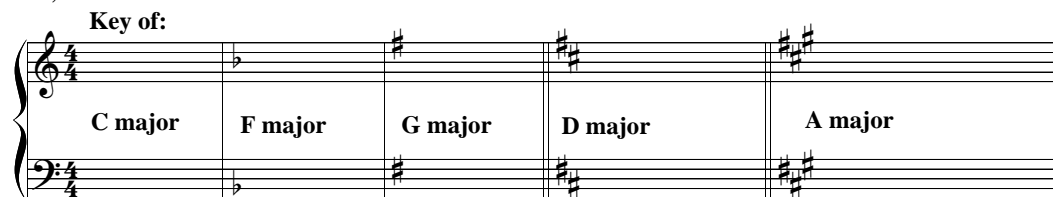
FUNDAMENTALS

A scale is the name given to the notes of a key played consecutively (from the lowest to the highest notes or vice versa).

The key of **C major** consists of all the white notes and the scale of C major is therefore: C D E F G A B C. In the treble and bass staves, this looks like this:



There are no sharps or flats in this key, otherwise they would be shown in the **key signature** to the right of the treble and bass clef signs. This saves having to repeat a sharp or flat sign each time the note in question comes up. In the key of F major, for instance, there is a flat sign for the B, meaning that all B's become Bb unless otherwise indicated by a natural sign. Similarly in the key of G major, there is a sharp sign for the F, making that note an F#. In the key of D major, there are two sharps: F# and D#, whereas in the key of A major there are three sharps: F#, C# and G#, thus:



Note that the intervals between notes in all the major keys remains the same:



Notice how the second half of the C major scale is the same as the first half of the G major scale.

If you look at the first illustration, you will see the **time signature**. This looks like a fraction. The lowest number refers to the type of note. 4 = a crotchet or quarter-note in America. The top number tells you how many of these there are to the bar. Thus, 4/4 means there are 4 crotchets to the bar - this is sometimes called *common time*, also shown by the symbol **C**, as it is the most common time signature.

3/4 means there are three crotchet beats to the bar. This is found in waltzes.

2/2 means that there are 2 minims to a bar (half-notes in the USA). This is also referred to as *cut common time* (**C**). This 2-beat style is found in a lot of older show tunes and marches. Think: **One** and **Two** and ...

6/8 means that there are 6 quavers to a bar. (These are grouped as 2 lots of 3 so there are also 2 beats to the bar). Think **One** and and **Two** and and...

12/8 means there are 12 quavers to a bar, grouped as 4 lots of 3. This is usually found in slow, bluesy pieces. Having so many notes in the bar can make it difficult to read so it is often written as 4/4 as there are similarly 4 beats to the bar, but to show that each beat is divided into 3 quavers you have to put round brackets over the notes and write 3 within the bracket. (This device is also used where there are other irregular sub-divisions of the beat, such as 5, 6 or 7.)

Where 3 crotchets are to be played over 2 beats, a rectangular brackets is used with the number 3. The following example should illustrate these points:



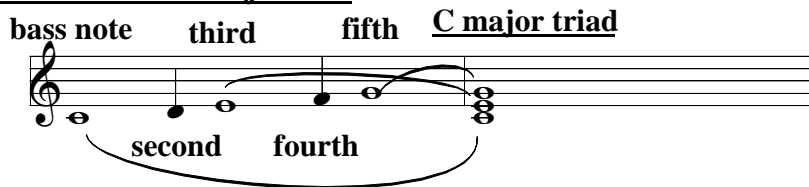
HARMONY

Chords are made up of 3 or more notes, played together or as an **arpeggio**.

The simplest chords which consist of just three notes are called **triads**.

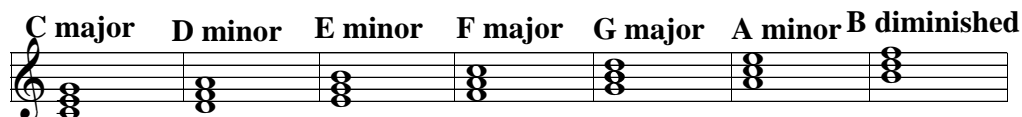
All chords are related to certain scales. So, if we take the C major scale and choose one of the notes as the bass note we can create a chord by omitting the next note in the scale, adding the next note, omitting the next and adding the next. Thus:

first few notes of C major scale



The interval or distance between the C and the E is 4 semitones. This interval is known as a *major 3rd*. The interval between the E and the G is 3 semitones. This interval is known as a *minor 3rd*. Therefore as you can see a major triad is made up of a major 3rd on top of which is a minor 3rd. (Incidentally, all major scales must have a major 3rd. If they had a minor 3rd they would be some kind of minor scale.

Now if we do the same process starting on other notes of the major scale we end up with these chords:



The last chord is a **diminished** chord, although diminished chords usually have one more note on top. If you count up the semitones, you will see that the intervals between the notes in this chord are minor 3rds. Add another minor third on top of these three notes and you get a true diminished chord.

Let us stick for a while with major and minor triads. Here they are in what is called the root position. There are two other positions for each triad - these are called inversions. To get an inversion what you have to do is to take away the bottom note and put in higher up in the chord.

C major triad
root position **1st inversion** **2nd inversion**

The image shows three C major triads on a single staff. The first is in root position (C-E-G), the second is in first inversion (E-G-C), and the third is in second inversion (G-C-E). Each triad is shown as a closed chord with three notes.

The chords above are shown in **closed position**, ie. as close as they can get. In practice, you will often find bigger versions of these chords. This can be done by doubling some of the notes or re-arranging them. This process is called **voicing**. How the chord is voiced depends upon the style of music, the instrument(s) it is played on and for a pianist/composer the particular style you like. These voicings below show how you can get different sounds by using just simple chords:

C major triad
root position **1st inversion** **2nd inversion**

The image shows three C major triads in root position, first inversion, and second inversion, each with multiple voicings across two staves. The first triad (root position) has three voicings: one with all three notes in the right hand, one with all three notes in the left hand, and one with two notes in the right hand and one in the left hand. The second triad (first inversion) has three voicings: one with all three notes in the right hand, one with all three notes in the left hand, and one with two notes in the right hand and one in the left hand. The third triad (second inversion) has three voicings: one with all three notes in the right hand, one with all three notes in the left hand, and one with two notes in the right hand and one in the left hand.

Note that you can use a lot of notes or just a few. There are some guidelines about voicing which we will deal with later. For now, just notice that the third note of the major chord is very rich sounding and shouldn't really be doubled in the first inversion unless it is unavoidable.

Inversions are very very useful for a pianist as you can go from one chord to another with much less effort than by repeating root positions all the time. It is also much more musical to use them. It may take a time to figure them out but it's well worth it. They should be played as chords and as arpeggios using one hand or two. Also try playing arpeggios in different rhythms and see what you come up with.