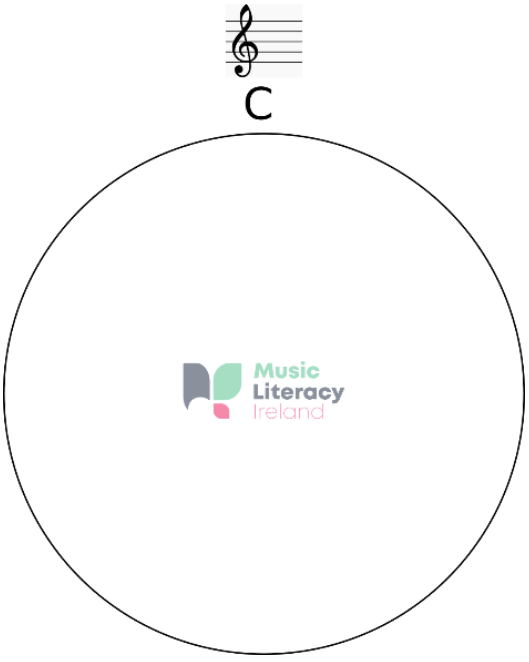
The circle of 5ths

Keys and key signatures are an important component in music and can be considered the foundations for understanding harmony. Ideally, they will be introduced to your student organically over time. However, the circle of 5ths is a useful tool for teaching and learning keys and key signatures as well a useful visual aid and point of reference.

The function of this document is to demonstrate how to build and navigate the circle of 5ths; it is not an exhaustive theory about keys and key signatures. Assumptions have been made about a basic level of music knowledge and terms such as key signatures [the accidentals at the start of a piece that tell us what key we are in], and the letter names used in music [A, B, C, D, E, F, G], while no reference will be made to sol-fa.

The name itself – circle of 5ths – gives insight into what is involved. [Please note that a printable circle of 5ths chart is available, amongst other things on the MLI resource page.] In brief, the interval [distance] between every move around the circle is a 5th. We will start on C, because it has a key signature of zero sharps and zero flats. Each point clockwise from C on the circle adds a sharp [♯], and each point anti-clockwise from C adds a flat [♭]. The letter name you land on is the key and the sharps or flats are the key signatures.
Here is our starting point:



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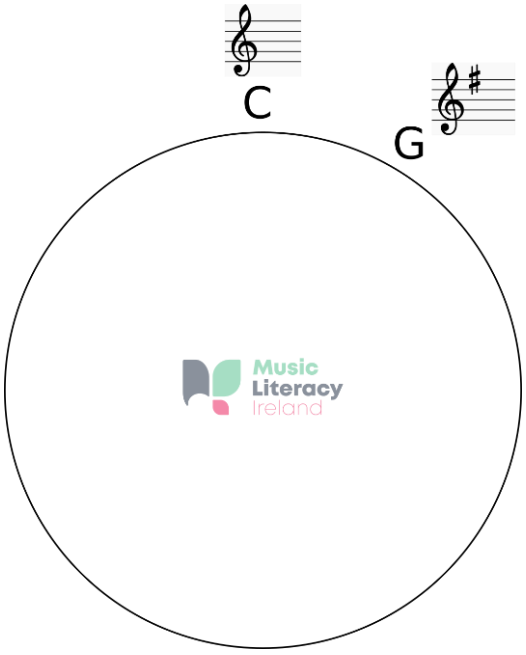
Moving clockwise, you're looking sharp ♯ 😊

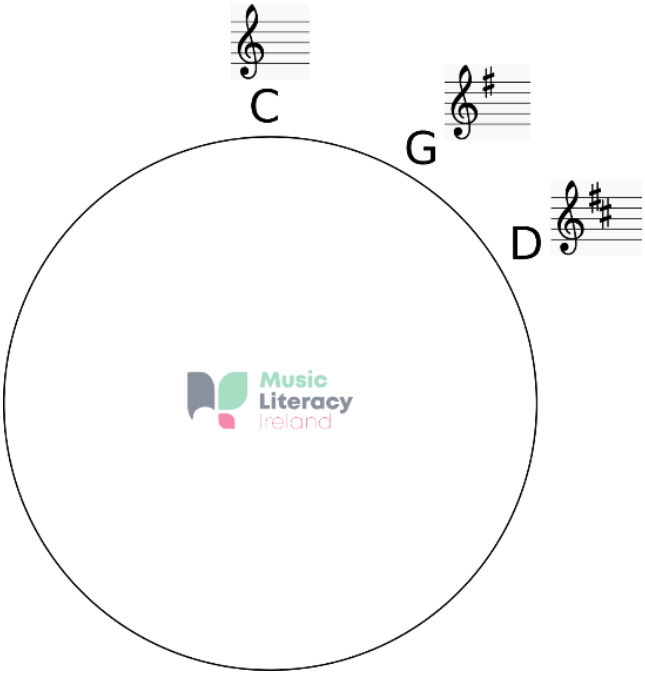
First let's move clockwise by counting up 5 notes/letter names and make sure that C is counted as the first note: C D E F G
1 2 3 4 5



As the 5th note is G, so too is our key. The moment we move from C in any direction, we will either acquire sharps or flats. As moving clockwise brings sharps, in this case then G will have 1 sharp [F♯]. We call this sharp the key signature of G because it's how we identify the key of G. This sharp is also the leading note of the key [7th degree/note of a key], so called because F♯ leads back to G.

Repeat the process, this time starting on G, while counting it as the first note: G A B C D
1 2 3 4 5

The 5th note is now D. At this point, we need to keep in mind that each time we move clockwise you not only acquire accidentals, you also retain them. This means that from our first move from C to G you keep the F♯ with you as you continue to D. Next, add your new sharp i.e. C♯. Similarly, in this context C♯ is the leading note of our new key, D, which will therefore have a key signature of 2 sharps, F♯ and C♯.



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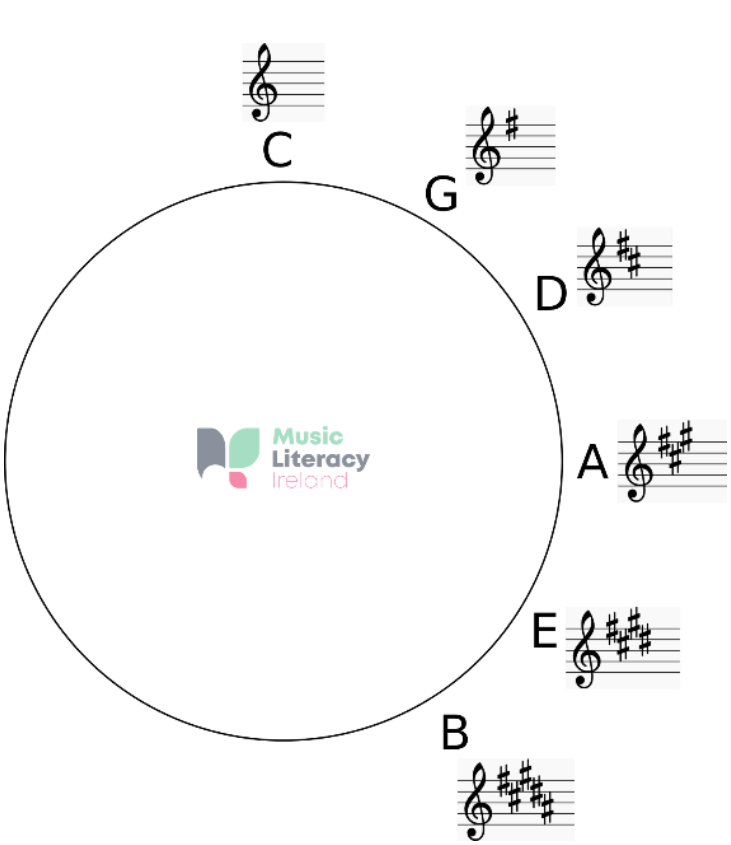
Mnemonic for sharps

There are many ways of figuring out the sharps and understanding why they appear as they do, but given that the circle of 5ths is an aid, let's introduce another one; a mnemonic to help remember the order of sharps. This is important because the sharps in the key signature must appear on the stave in a specific order and be thought of in the same way.

Father **C**harles **G**oes **D**own **A**nd **E**nds **B**attle

Remember the first sharp we encountered was F♯ in the key of G and in the key of D we added a further sharp, C♯? Look at the phrase above and note that the first two words begin with F and C. From this we can then conclude that our next move around the circle will bring us to the key that has a key signature of three sharps, F♯, C♯, G♯.



With this all of this in mind, let's assume we have moved around the circle three more times from D, which will bring us to the key of B with a key signature of 5 sharps, F♯, C♯, G♯, D♯, A♯.

So far, the process has been straightforward: you count 5 letter names. Each starting point was your previous new key. You add a sharp to the leading note while holding on to the ones you have already acquired. In doing so, it is assumed that you are thinking in the new key. The reason behind this is particularly apparent as we work our way around the circle from B. So, what happens?

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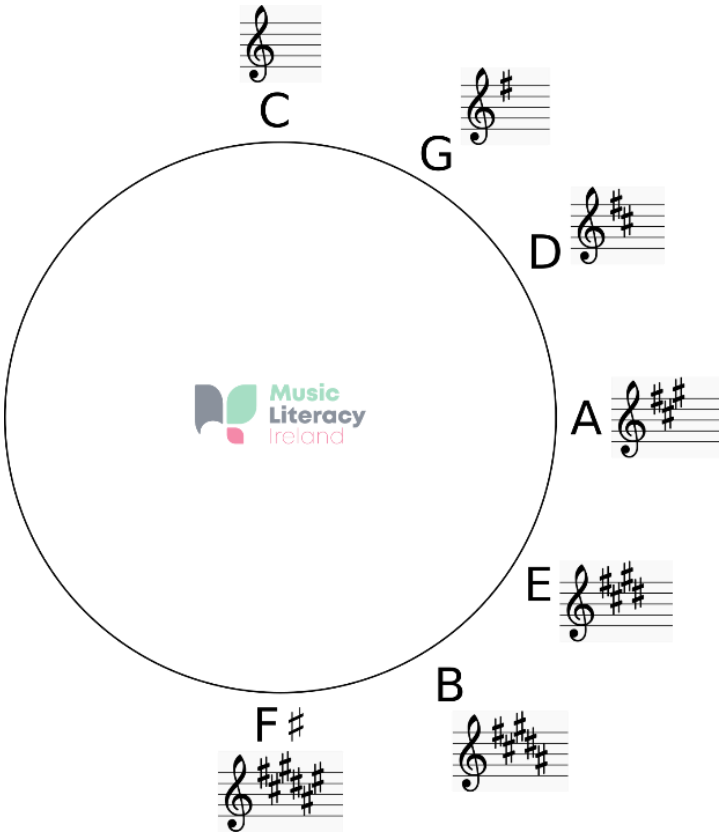
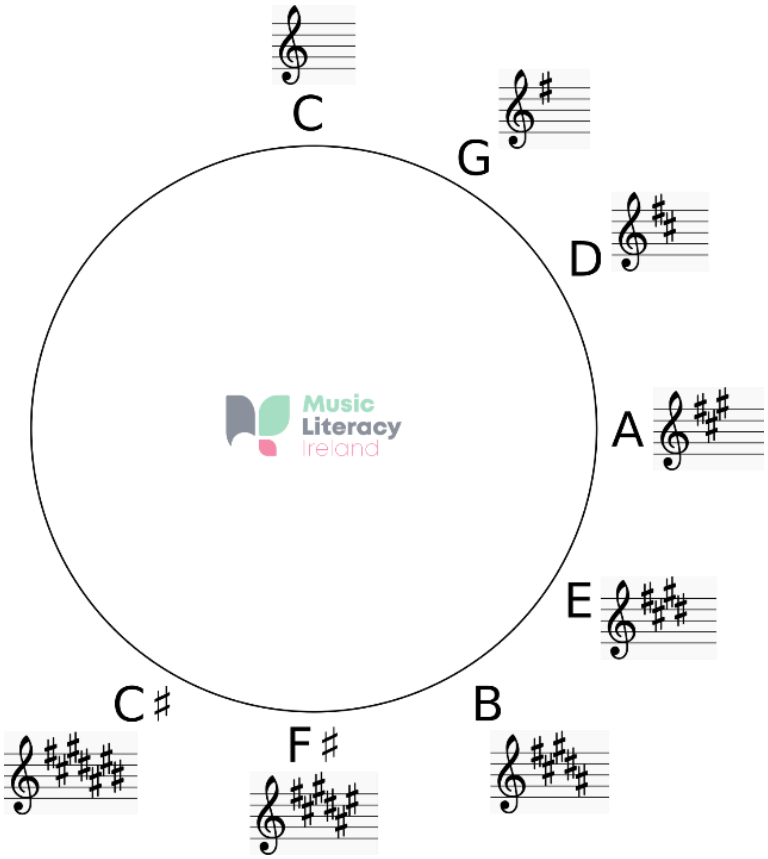
B C♯ D♯ E F♯
1 2 3 4 5

If B is counted as 1, and we are keeping all the sharps in the key signature in mind, then our 5th note is F♯. It is really important to call our new key F♯ and not F. It is very common for people to think in letter names and not to consider the key signature of the key you started with, which unfortunately leads to some of the most common but fundamental mistakes in understanding the circle of fifths and key relationships and key signatures.





Repeat this process one more time until you have exhausted the rhyme, bringing you up to all 7♯s and 7 corresponding keys.

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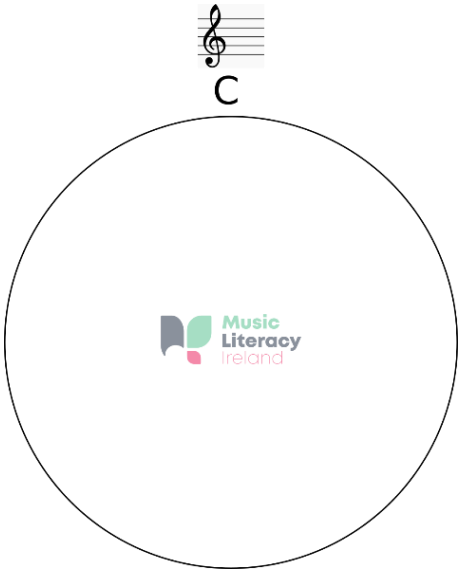
Moving Anti-clockwise – you're looking a little down (♭) 😉

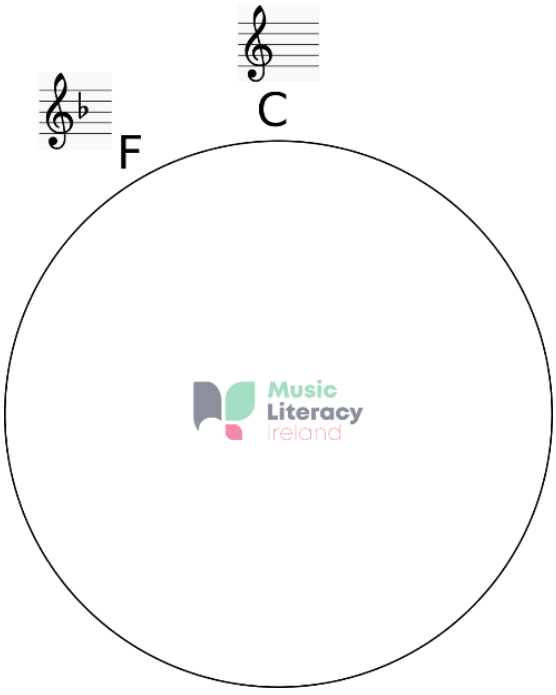
Other than counting letters in reverse and dealing with flats instead of sharps, the process is much the same. For example, return to the top of the circle to C.



Count 5 letters <u>anti-clockwise</u>, making sure that C is the first one:

C B A G F

1 2 3 4 5



Landing on F, it becomes our new key. It will have a key signature of one flat [B♭]. Be careful though: when adding sharps, it was always to the leading note of the key i.e. the 7th degree/note; this time the flats alter the subdominant [the 4th degree/ note] of the key.

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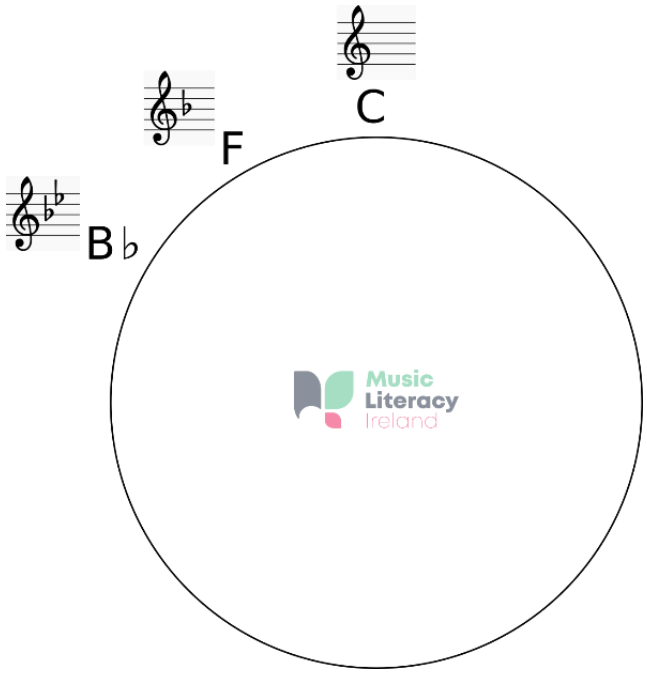
Let's proceed with F, this time as our first note. Remember to keep the key signature in mind: F E D C B♭
1 2 3 4 5



We land on B♭ [B♭ because it is the key signature of our previous key and we never get rid of the flats we acquire]. This means that the key of B♭ has a key signature of 2 flats, B♭ and E♭.

Mnemonic for flats

At this point, let's introduce the mnemonic to help remember the order of the flats, because like the sharps, they must appear in the key signature on the stave in a specific order.

Battle **E**nds **A**nd **D**own **G**oes **C**harles' **F**ather

Before we count up to find our key, from this we know that whatever the key is, its key signature will have three flats B♭, E♭, A♭.

Did you notice that it is the reverse order of the mnemonic for sharps?

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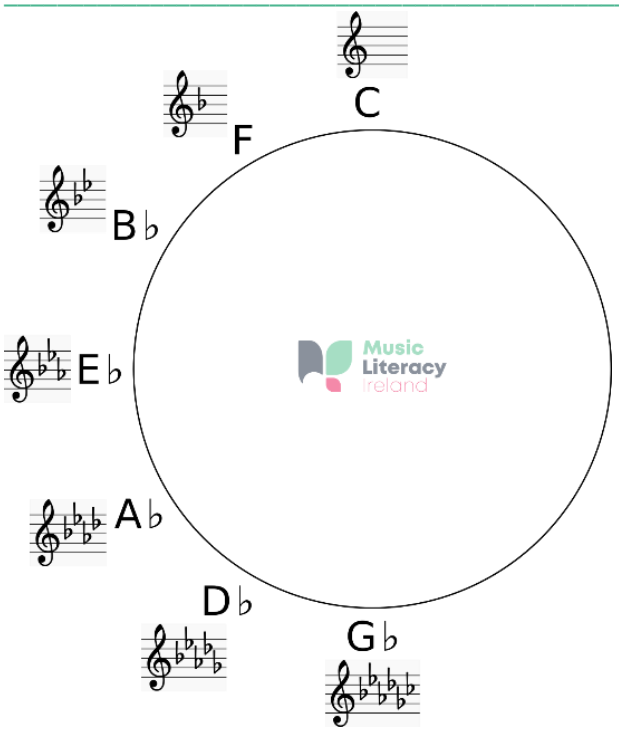
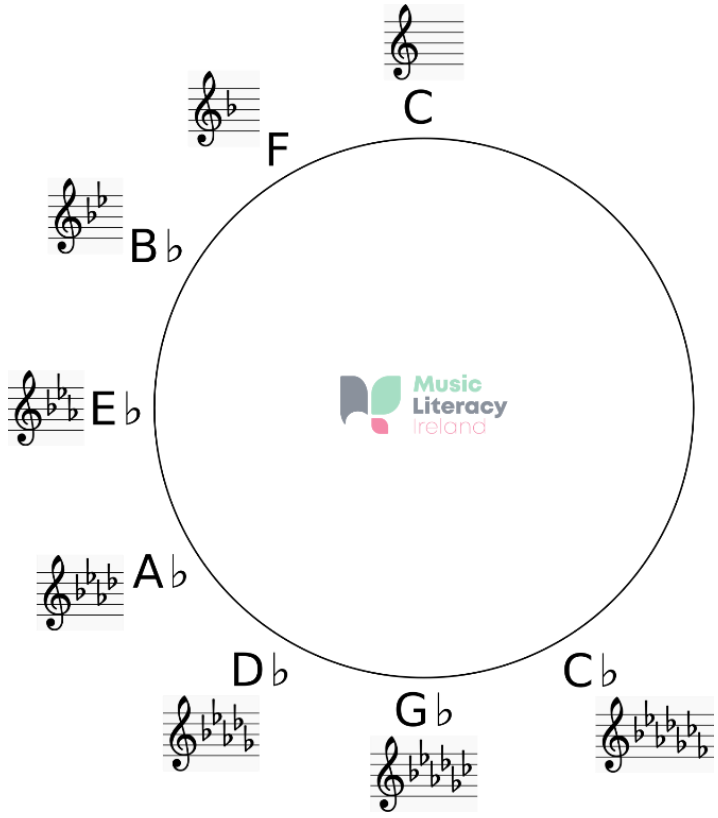


Assume we now have gone around the circle 4 more times from B♭. We will have acquired 6♭s and be in the key of G♭.

Now count back 5 notes: G♭ F E♭ D♭ C♭
1 2 3 4 5

We land on C♭, which has 7 flats, thereby using up the entire phrase **B**attle **E**nds **A**nd **D**own **G**oes **C**harles' **F**ather.



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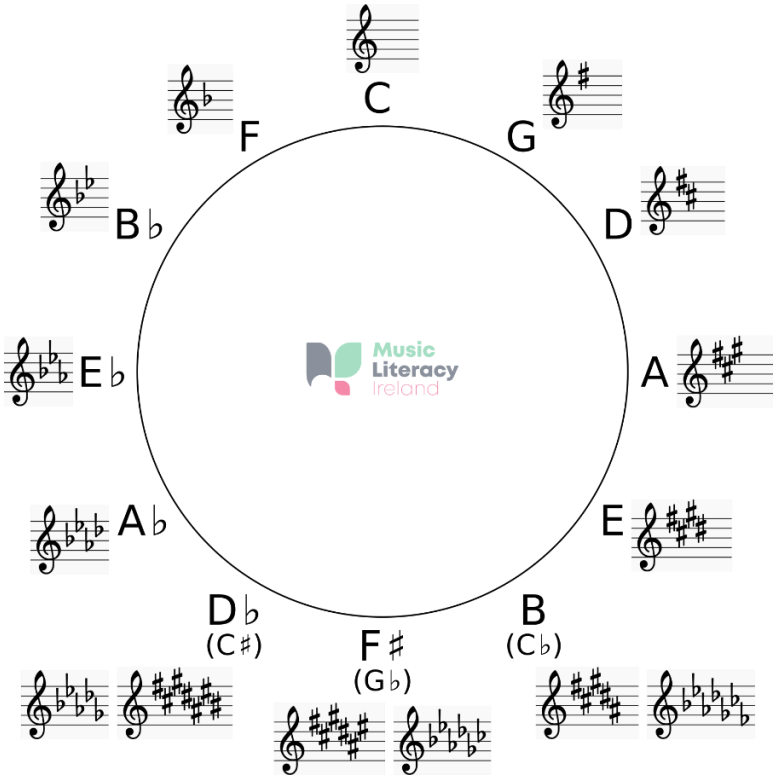
Order of accidentals: key signature vs scale

The order in which the sharps and flats appear in a key signature is important. The order in which they appear in the scale is equally important. Nevertheless, they are different. For example, if we were to play the scale of B major [B C♯ D♯ E F♯ G♯ A♯], you can see that C♯ would be the first sharp we encounter, while the following one would be D♯ etc. When thinking of the key signature of B though, we will write it as follows [F♯ C♯ G♯ D♯ A♯]. You must always write and refer to the key signature in the order of how the sharps (or flats) were introduced, say, in the circle of 5ths. The difference arises because for the scale to be major, a specific intervallic pattern is required, which cannot always accommodate the order of accidentals from the key signature depending on what note we start.

Enharmonic keys

Below is the completed chart showing all major keys with their corresponding key signatures.



Take note of the three keys at the bottom of the circle that overlap with others: [D♭ and C♯], [F♯ and G♭], [B and C♭]. They share the same sound but are spelt differently. I like to think of it in terms of identical twins. Such twins look alike but they have different names and identities. If you insisted on calling one twin by their sibling's name, they would be frustrated, but also, it would not be accurate. They might look alike but they are different people. Similarly, for enharmonic notes, they might sound alike but they are spelled differently, and have different functions depending on their context.

