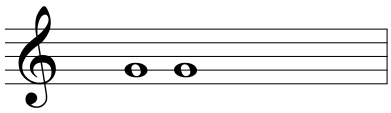
# Unit 6 ~ Intervals

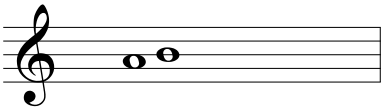
Now that we know about major scales and keys signatures, we can talk about intervals. Intervals describe the distance between two notes.

When two voices are singing the same note, we call this a 'unison'.



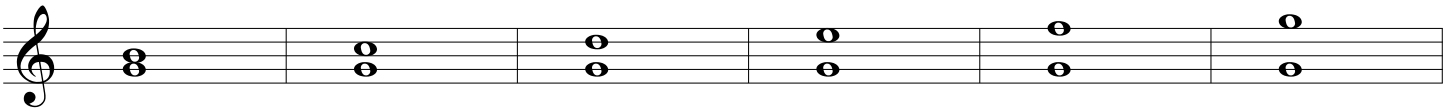
This is a unison

If two notes are a next to each other in a scale, i.e. they have consecutive note names like A and B, the interval is a 2nd



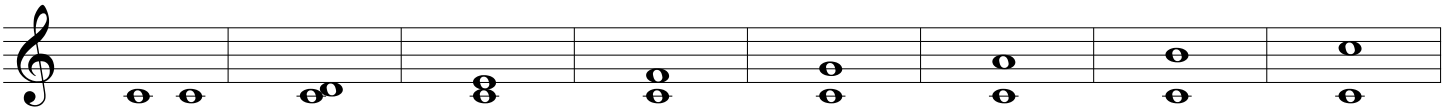
This is a 2nd. **Notice that we starting counting intervals by counting the bottom note as 1 (not 0). So in the 2nd on the left, we count "1" for A and "2" for B, giving us a 2nd**

Here are some more intervals:



3rd 4th 5th 6th 7th 8ve (octave)

So, intervals have sizes. They also have a **type** or a **quality** that helps define the size of an interval. Types include **'Perfect'** and **'Major'.** If we create intervals above a given note using the notes of a major scale, we get either major or perfect intervals. Here we have built intervals above C, using the notes of C major:

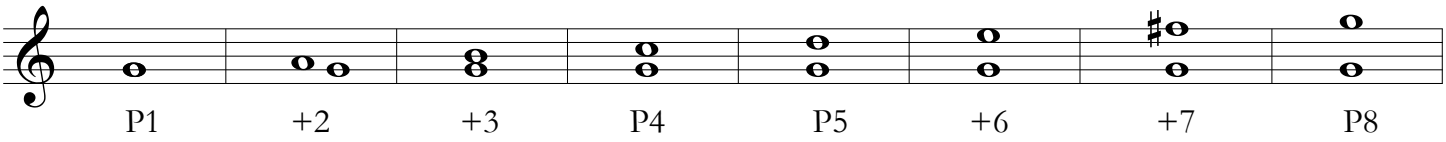


Perfect unison Major 2nd Major 3rd Perfect 4th Perfect 5th Major 6th Major 7th Perfect 8ve

So as you can see, when you build intervals above the tonic note of a major scale, using notes of that major scale, we create perfect and major intervals. The unison, 4th, 5th and octave (8ve) are perfect, and the 2nd, 3rd, 6th and 7th are major. This is true for every major scale.

"Perfect" can be abbreviated to "P", and "Major" to "Maj" or "M" or "+".
"Unison" can be abbreviated to "1"

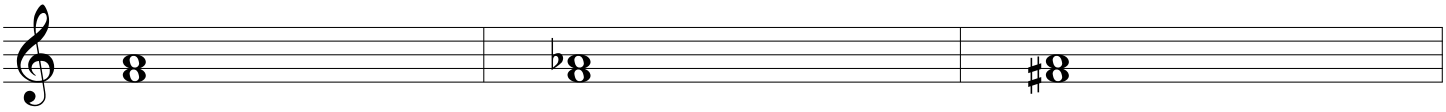
Here is another set of intervals, built using the notes of G major scale built above G. Notice how the intervals are exactly the same as the ones on the previous page that were built with C major:




**Note that unisons, 4ths, 5th and octaves are never 'major' or 'minor', and that 2nds, 3rds, 6ths and 7ths are never 'perfect'.**

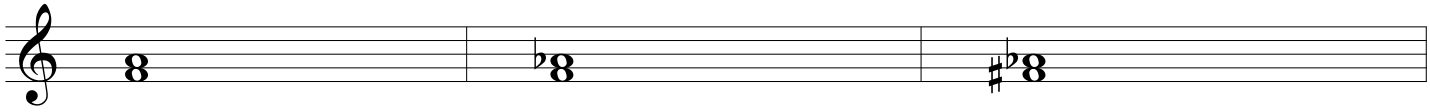
There are 3 more types, or qualities, or interval: **'Minor', 'Diminished'** and **'Augmented'**

If you make a major interval one semitone smaller, it becomes a **minor interval**



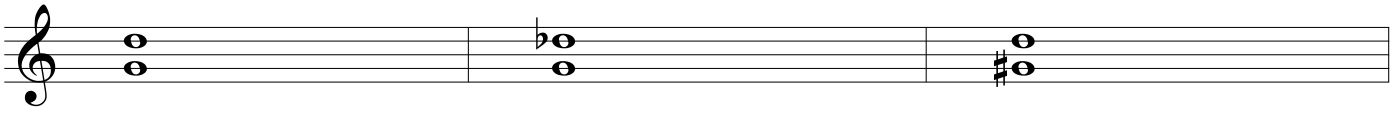
Major 3rd | Minor 3rd (1 semitone smaller) | Also a minor 3rd

If you make a minor interval a semitone smaller, that interval becomes a **diminished interva**l



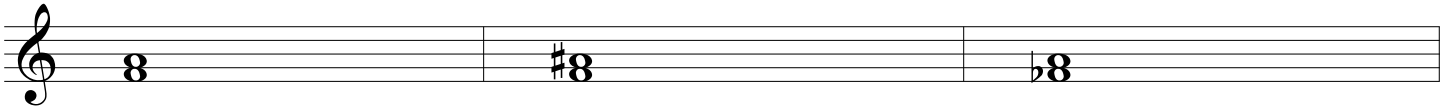
Major 3rd | Minor 3rd (1 semitone smaller) than the major 3rd | Diminished 3rd (semitone smaller than the minor 3rd

If you make a perfect interval a semitone smaller, that interval also becomes **diminished**



Perfect 5th | Diminished 5 (a semitone smaller than the perfect 5th) | Diminished 5th

If you make a major interval a semitone larger, you get an **augmented interval**:

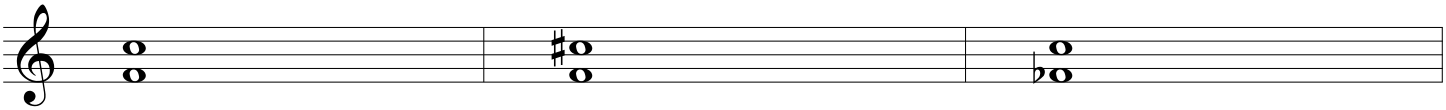


A major 3rd

An augmented 3rd (1 semitone larger than the major 3rd

An augmented 3rd

If you make a perfect interval a semitone larger, you also get an **augmented interval**:



A perfect 5th

An augmented 5th (1 semitone larger than a perfect 5th)

An augmented 5th

**Here is a summary of the possible types:**

**Unisons can be:** **Perfect or Augmented**

**2nds, 3rds, 6ths and 7ths can be:** **Major, Minor, Diminished or Augmented**

**4ths, 5ths and octaves can be:** **Perfect, Diminished, or Augmented**

Notice that there is no 'diminished unison'. This is because the perfect unison is already as small as possible, with zero distance between the notes. There is no way to make this smaller.

**Compound Intervals**

Compound intervals are intervals that are larger than an octave: 9ths, 10ths, 11ths, etc.

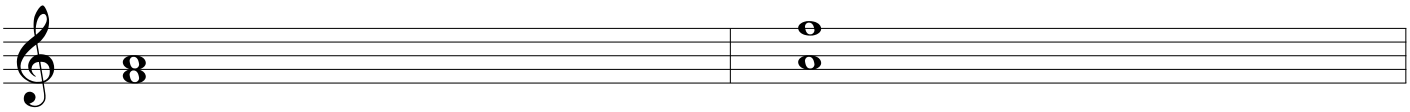
These have exactly the same type, or quality, as the non-compound version. For example, C to D is a major 2nd. C to D with an octave in-between is therefore a MAJOR 9th:

Major 2nd

Major 9th (same two notes, but with an added octave between them)

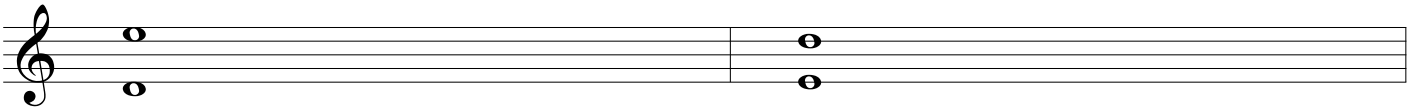
Inverting Intervals

A useful skill is to be able to invert intervals. This is very simple. When you invert an interval, you switch the notes, so that whichever note was on the top is now on the bottom.



A major 3rd

The major 3rd inverted. The F, which was on bottom, is now on top. This is now a minor 6th



A major 9th

The major 9th inverted: now a minor 7th

When you invert intervals, the following things happen:

Major intervals become minor
Minor intervals become major
Augmented intervals become diminished
Diminished intervals become augmented
Perfect intervals stay perfect

If the original interval is less than an octave, then the original and the inverted interval always add up to 9. You can see this in the example above, where the 3rd becomes a 6th. 3+ 6 = 9.
If you inverted a 2nd, it would become a 7th. 2 + 7 = 9

Can you find a similar rule for intervals greater than an octave?

Solving intervals

To solve intervals, you need to know the following really well:

- The intervals found in major scales (see page 1)
- All the key signatures.

If you know those two things, solving intervals is simple. Let's solve the interval below. Here's the procedure:

1. Name the bottom note. In this case, it's F

2. Recall and mentally note the key signature of F major; it's one flat, B flat.

3. Count the interval. In this case we have F to E, so it's some sort of 7th. What kind?

4. Ask yourself, what kind of E is in F major scale? Since you have recalled and noted the key signature of F, you know that F major contains an E natural.

5. Calculate THAT interval: because you know that the 7th note of a major scale is a major 7th from the tonic, then you know that F up to E is a major 7th.

6. Now the question has an E flat, not an E natural. This is a semitone lower than E natural and therefore the interval is a semitone smaller. The answer is a minor 7th, because you know that when you make a major interval 1 semitone smaller, you get a minor one.