



Intervals 101 (In Less Than 15 Minutes)

Interval Basics

First let's lay out three basic points regarding intervals:

1. Intervals are **measurements of musical distance** like tones and semitones (whole steps and half steps). Intervals are simply a little more descriptive.
2. Interval names are **unrelated to scales**. The basic set of intervals are roughly named according to the **major scale** but, beyond that, ignore any relationship to scales.
3. Intervals are basically the **alphabet of music**. They are the letters of the language. Musical **phrases, scales, chords, arpeggios** and everything else can be described and built from intervals.

Intervals Of The Major Scale

The most common set of intervals are based on a **major scale**. Below we see a simple **C Major Scale**:

The image shows the C Major Scale in bass clef, 4/4 time. The scale is written on a staff with notes and fingerings. The notes are C, D, E, F, G, A, B, C. The fingerings are 3, 5, 2, 3, 5, 2, 4, 5, 4, 2, 5, 3, 2, 5, 3.

We can then **number** the notes of the scale:

1st 2nd 3rd 4th 5th 6th 7th 8th or 1st

Intervals also contain a **quality**. The intervals of the major scale contain the following qualities:

Perfect 1st Major 2nd Major 3rd Perfect 4th Perfect 5th Major 6th Major 7th Perfect Octave

Simply follow the principles:

- 1st, 4th and 5th are all **Perfect** Intervals
- All the rest are **Major**

Minor Intervals

To create a **Minor Interval** we simply take a **Major Interval** and drop the top note by a half step.

Here we see that from a root note of C, a **Major 3rd** is E and a **Minor 3rd** is Eb:

Major 3rd Minor 3rd

We can apply this principle to every Major interval and create Minor 2nd, Minor 3rd, Minor 6th and Minor 7th intervals:

The image shows four measures of music on a bass clef staff, each illustrating a different minor interval. The notes are half notes. Below the staff, the corresponding fingerings are indicated by numbers 1, 2, 3, and 4.

- Minor 2nd:** Notes G2 and A♭2. Fingering: 3 (G), 4 (A♭).
- Minor 3rd:** Notes G2 and B♭2. Fingering: 3 (G), 1 (B♭).
- Minor 6th:** Notes G2 and D♭3. Fingering: 3 (G), 1 (D♭).
- Minor 7th:** Notes G2 and F♭3. Fingering: 3 (G), 3 (F♭).

Minor Intervals tend to sound darker or ‘sadder’. By listening out for the **Emotive Quality** of each interval we can develop our musicianship, ear and musical vocabulary.

Augmented & Diminished Intervals

We generally create **Augmented** and **Diminished** intervals by raising or lowering the **Perfect Intervals** by a half step.

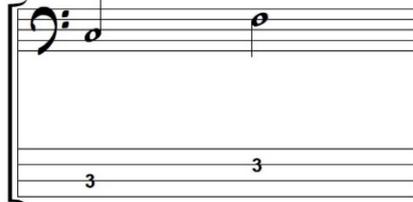
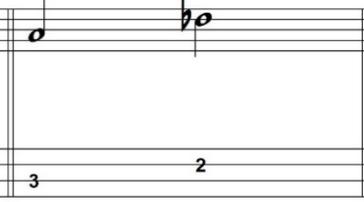
- An **Augmented Interval** is created by raising the top note of a **Perfect interval** by a half step
- A **Diminished Interval** is created by lowering the top note of a **Perfect interval** by a half step

Here we can see these intervals applied to the 5th:

The image shows three measures of music on a bass clef staff, each illustrating a different 5th interval. The notes are half notes. Below the staff, the corresponding fingerings are indicated by numbers 1, 2, 3, 4, and 5.

- Perfect 5th:** Notes G2 and D3. Fingering: 3 (G), 5 (D).
- Augmented 5th:** Notes G2 and D♯3. Fingering: 3 (G), 6 (D♯).
- Diminished 5th:** Notes G2 and D♭3. Fingering: 3 (G), 4 (D♭).

Here we can see these intervals applied to the 4th:

Perfect 4th	Augmented 4th	Diminished 4th
		

Enharmonic Equivalency

With a lot of augmented and diminished intervals we can find ourselves using the same pitch but with a different note name.

For example, the **Diminished 4th** from **C** is **Fb**. This could also be written as **C to E**. However, if we look at the notes **alphabetically**:

- D is the **2nd** note from C
- E is the **3rd** note from C
- F is the **4th** note from C etc.

Therefore, C to E is always a 3rd of some kind. C to F is always a 4th of some kind, regardless of the sharps or flats involved.

For this reason, **C to Fb** is a **Diminished 4th** and **C to E** is a **Major 3rd**. They are the same pitch and fret on the bass but the interval name is different because of their alphabetic placement.

This principle of 'same pitch – different note name' is called **Enharmonic Equivalency**.

More Augmented/Diminished Intervals!

As well as **augmented** and **diminished** intervals on the **1st**, **4th** and **5th** we can also have **augmented** and **diminished 2nd**, **3rd**, **6th** and **7th** intervals! These are much less common but still an important part of music theory.

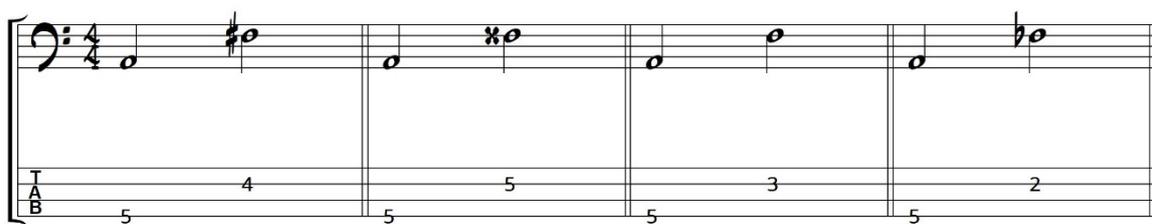
The augmented and diminished intervals lie above the major and below the minor:

- An **Augmented Interval** is created by raising the top note of a **Major interval** by a half step
- A **Diminished Interval** is created by lowering the top note of a **Minor interval** by a half step

So as some examples, on a root note of A we could have the following 6th intervals:

- A to F#: Major 6th
- A to F##: Augmented 6th
- A to F: Minor 6th
- A to Fb: Diminished 6th

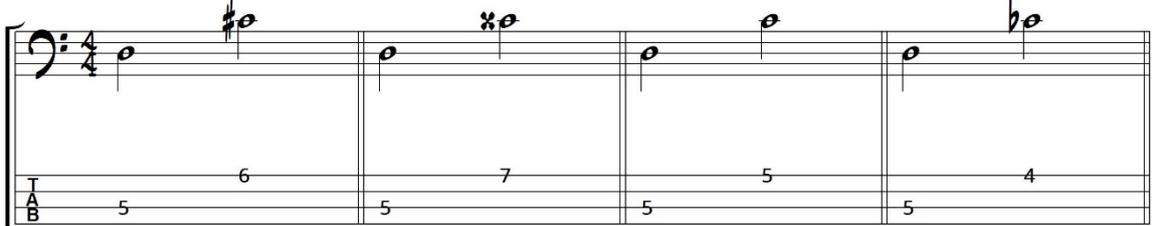
Major 6th	Aug 6th	Minor 6th	Dim 6th
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On a root note of D we could have the following 7th intervals:

- D to C#: Major 7th
- D to C##: Augmented 7th
- D to C: Minor 7th
- D to Cb: Diminished 7th

Major 7th	Aug 7th	Minor 7th	Dim 7th
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Beyond The Octave: Compound Intervals

So far, we've only looked at intervals within an octave. But we can also move to infinity and beyond by looking at **Compound Intervals**.

These are intervals beyond the octave and are easy to understand because they're exactly the same as the intervals we've already covered but they just have a higher number.

The **Octave** is an interval in its own right: the **perfect 8th**. Hence the name OCTave.

Beyond the 8th we can continue our set of intervals as the **9th, 10th, 11th, 12th, 13th, 14th** and the **15th** as the second octave.

These intervals correspond to the intervals in our first octave:

- **9th = 2nd**
- **10th = 3rd**
- **11th = 4th**
- **12 = 5th**
- **13th = 6th**
- **14th = 7th**
- **15th = 8th (octave)**

By applying the **interval quality**, we can see the set of intervals within the **major scale** as:

- **Perfect 8th (Octave)**
- **Major 9th**
- **Major 10th**
- **Perfect 11th**
- **Perfect 12th**
- **Major 13th**
- **Major 14th**
- **Perfect 15th**

The **compound intervals** in the second octave can be seen below from a **C note**. Remember, there are many different fingerings for any one interval. These are just an example:

Perfect Octave Major 9th Major 10th Perfect 11th

Perfect 12th Major 13th Major 14th Perfect 15th

These intervals can also be labelled by simply inserting the prefix '**compound**'. For example, the **Major 9th** may be written as **Compound Major 2nd** or the **Perfect 11th** would be the **Compound Perfect 4th**.

Interval Inversion

Lastly, we need to look at interval inversion. When we invert intervals we are basically measuring them in a **downward direction**. As an example:

- C **up** to B is a **Major 7th**
- C **down** to B is a **Major 2nd**

Major 7th Minor 2nd

This is **interval inversion**. We measure the same two notes but in the **opposite direction**.

The rules for interval inversion are as follows:.

- **2nd becomes 7th**
- **3rd becomes 6th**
- **4th becomes 5th**

And vice versa:

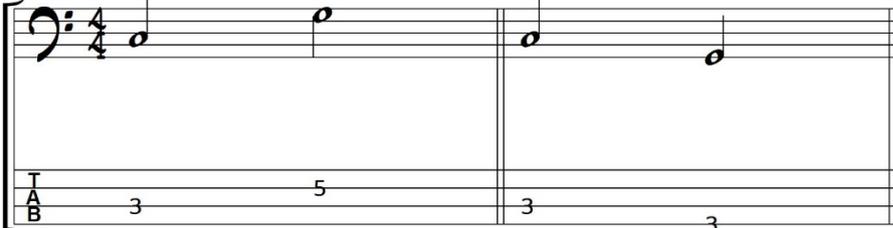
- **7th becomes 2nd.**
- **6th becomes 3rd**
- **5th becomes 4th.**

For the qualities:

- **Perfect Intervals stay the same**
- **Major Intervals become Minor** (and vice versa)
- **Augmented Intervals become Diminished** (and vice versa)

Here are some examples:

- C to G **ascending** is a **Perfect 5th**.
- C to G **descending** is a **Perfect 4th**

Perfect 5th	Perfect 4th
	

The image shows two musical examples in bass clef, 4/4 time. The first example, labeled 'Perfect 5th', shows a C note on the first line (middle C) and a G note on the second space (G4), with a '3' below the staff indicating a triad. The second example, labeled 'Perfect 4th', shows a G note on the second space (G4) and a C note on the first line (C4), with a '3' below the staff indicating a triad. The notes are connected by a brace on the left.

- D to F **ascending** is a **Minor 3rd**
- D to F **descending** is a **Major 6th**

Minor 3rd

Major 6th

The image shows two measures of music on a bass clef staff in 4/4 time. The first measure illustrates a Minor 3rd interval, with a whole note D on the second line and a whole note F on the third space. The second measure illustrates a Major 6th interval, with a whole note D on the second line and a whole note F on the sixth space. Below the staff, a tablature line shows the fret numbers for each note: 5 for D and 3 for F in the first measure, and 5 for D and 1 for F in the second measure. The letters T, A, and B are stacked vertically on the left side of the tablature line.

- A to D# **ascending** is an **Augmented 4th**
- A to D# **descending** is a **Diminished 5th**

Augmented 4th

Diminished 5th

The image shows two measures of music on a bass clef staff in 4/4 time. The first measure illustrates an Augmented 4th interval, with a whole note A on the second line and a whole note D# on the fourth space. The second measure illustrates a Diminished 5th interval, with a whole note A on the second line and a whole note D# on the sixth space. Below the staff, a tablature line shows the fret numbers for each note: 7 for A and 8 for D# in the first measure, and 7 for A and 6 for D# in the second measure. The letters T, A, and B are stacked vertically on the left side of the tablature line.