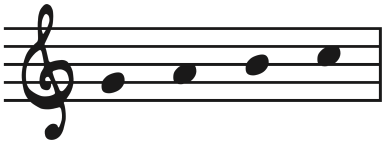
Intervals on the Guitar

An interval is the distance in pitch between two notes. This lesson covers intervals up to the octave – what they are, and how to play them on the guitar. We'll begin with 2nds.

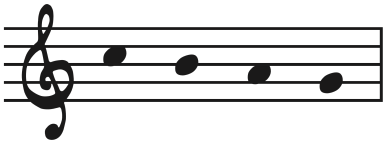
Intervals – 2nds

In standard music notation, the interval of a 2nd is simply the next note up or down the staff. 2nds are also called **steps**.

Ascending 2nds (steps)



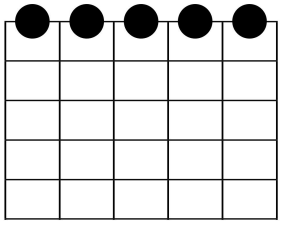
Descending 2nds (steps)



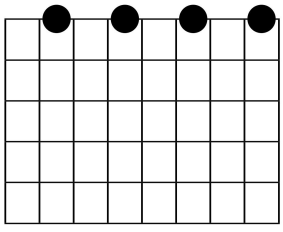
You can further define steps as half steps and whole steps. On the guitar, a half step is the distance of one fret, and a whole step is the distance of two frets.

Whole steps and half steps have other names. A whole step is also called a major 2nd, and a half step is a minor 2nd.

Half Steps (Minor 2nds)



Whole Steps (Major 2nds)

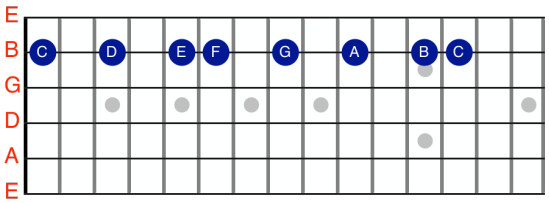


2nds and Scale Construction

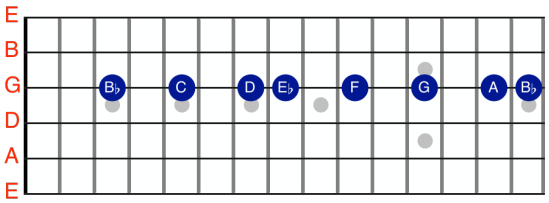
Most scales are made of patterns of half steps and whole steps. For example, any given major scale is made up of the same series of whole steps and half steps, which is WWHWWWH (W=Whole Step, H=Half Step).

Plotting a C major scale on one string makes it easier to see the whole steps (major 2nds) and half steps (minor 2nds). If you plot a Bb major scale on one string, the notes are different, but the whole step/half step pattern is the same. This WWHWWWH pattern applies to all major scales.

C Major Scale



Bb Major Scale

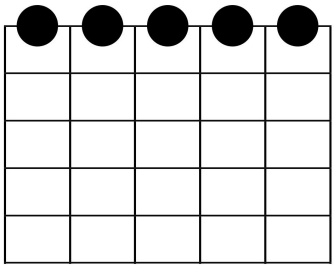


Playing Minor 2nds and Major 2nds on the Guitar

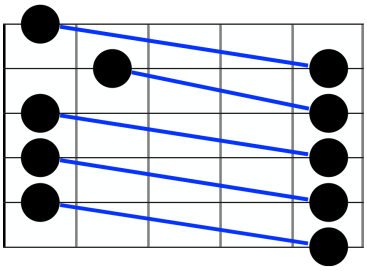
To play scales and melodies efficiently, you need to be able to find whole steps and half steps along the same string and moving from one string to the next.

Minor 2nds (Half Steps) on the Fretboard

Half Steps (Minor 2nds) along one string

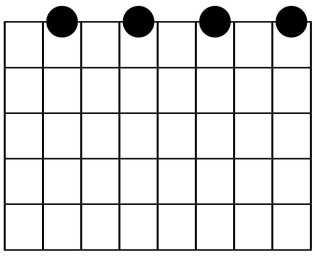


Half Steps (Minor 2nds) moving from one string to the next

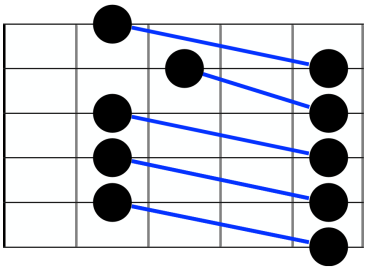


Major 2nds (Whole Steps) on the Fretboard

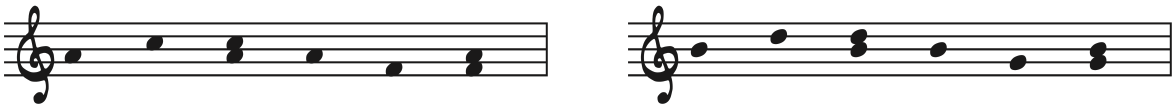
Whole Steps (Major 2nds) along one string



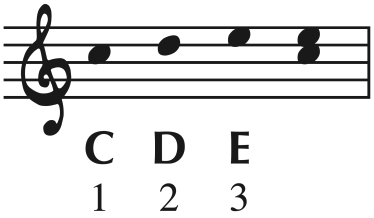
Whole Steps (Major 2nds) moving from one string to the next



Intervals – 3rds



In the music staff, if a note is in a space, the note in the next space up or down is a 3rd higher or lower. If a note is on a line, the next line up or down is a 3rd higher or lower.



When counting intervals, your starting note is "one." For example C-D-E, 1-2-3: C and E are a 3rd apart.

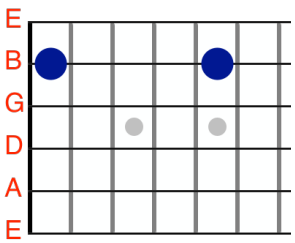
Major and Minor 3rds

You can further define 3rds as major 3rds and minor 3rds.

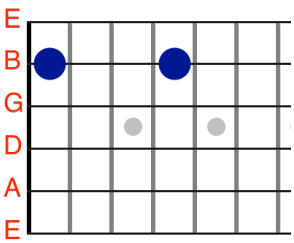
On the guitar, a major 3rd is the distance of four frets, (two whole steps) and a minor 3rd is the distance of three frets, or (a whole step and a half step).

A minor interval is always one half step smaller than its corresponding major interval.

Major 3rd: 4 Frets



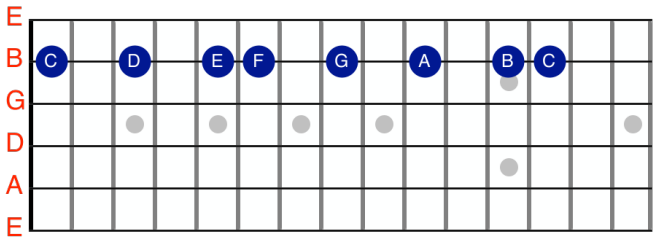
Minor 3rd: 3 Frets



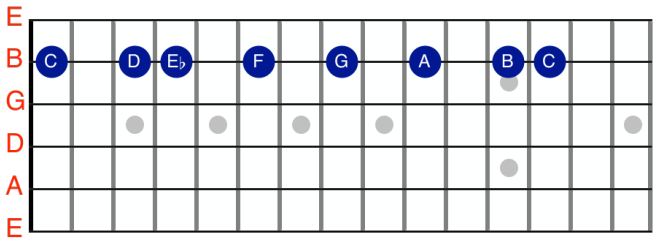
Determining Interval Quality (Major 3rd or Minor 3rd)

You can use the major scale to determine if a 3rd is major or minor. To do this, build a major scale from the lower note of the interval. If the upper note of the interval belongs in that major scale, it is a major interval. If it is a half step lower than the 3rd note of that scale, it is a minor 3rd.

For example, the notes C and E are a 3rd apart. To determine if E is a major or minor 3rd higher, construct a major scale from the lower note of the interval (C). The C major scale is spelled C-D-E-F-G-A-B-C. The note “E” belongs in the C major scale, so C up to E is a major 3rd.

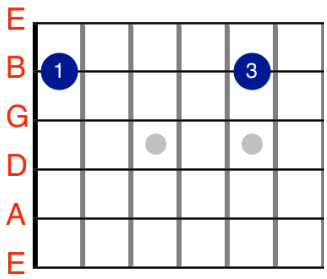


If the upper note is an Eb, which is a half step lower than E, the interval is a minor 3rd.

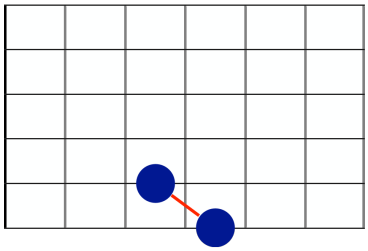


Playing Major 3rds on the Guitar

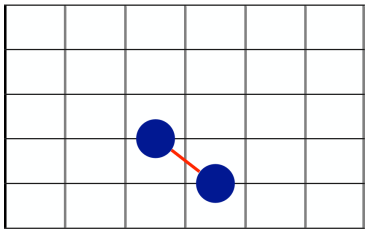
Major 3rd on one string: 4 frets distance



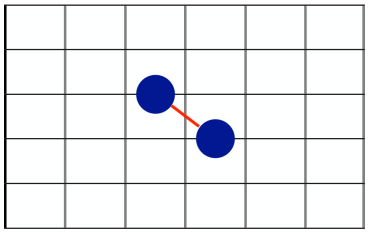
Major 3rd between Strings 5 and 6



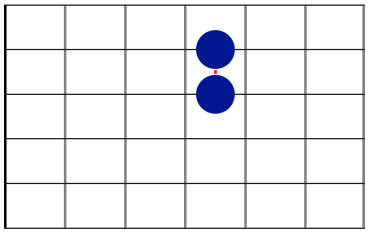
Major 3rd between Strings 4 and 5



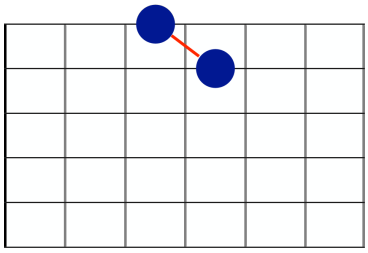
Major 3rd between Strings 3 and 4



Major 3rd between Strings 2 and 3

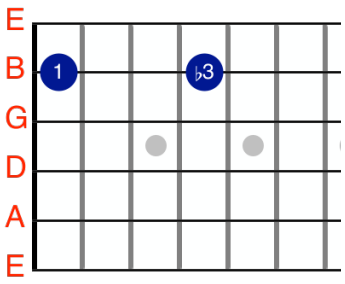


Major 3rd between Strings 1 and 2

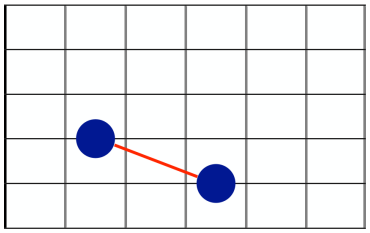


Playing Minor 3rds on the Guitar

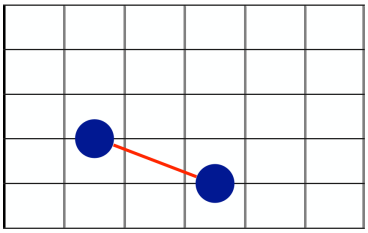
Minor 3rd on one string:
3 frets distance



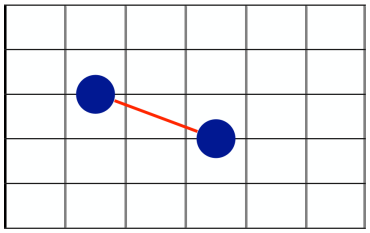
Minor 3rd between
Strings 5 and 6



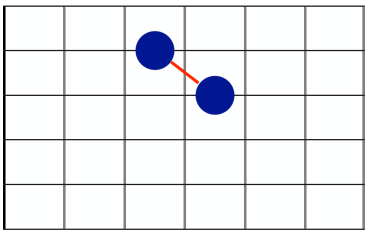
Minor 3rd between
Strings 4 and 5



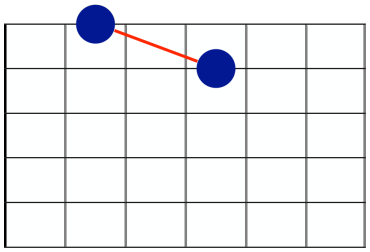
Minor 3rd between
Strings 3 and 4



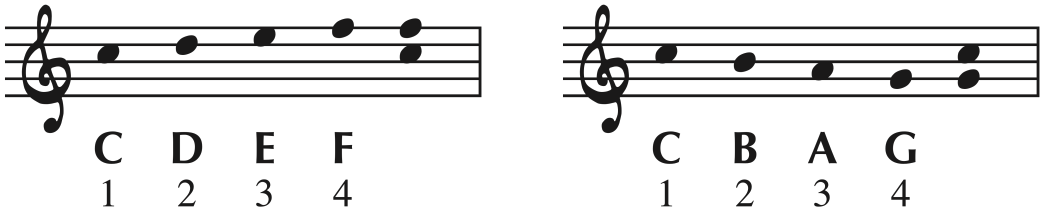
Minor 3rd between
Strings 2 and 3



Minor 3rd between
Strings 1 and 2



Intervals – 4ths



In the music staff, a 4th is four steps distance: C-D-E-F, 1-2-3-4. C and F are a 4th apart. You can also count down from the higher note: C-B-A-G, 1-2-3-4. C and G are also a 4th apart.

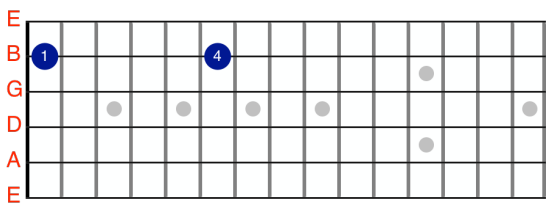
Perfect and Augmented 4ths

You can further define 4ths as perfect 4ths and augmented 4ths.

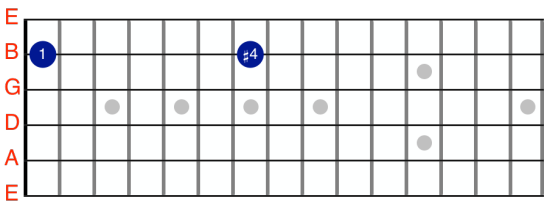
On the guitar, a perfect 4th is the distance of five frets (two whole steps and half step), and an augmented 4th is the distance of six frets (three whole steps).

An augmented interval is one half step larger than its corresponding perfect interval.

Perfect 4th:
5 frets • two whole steps
and one half step



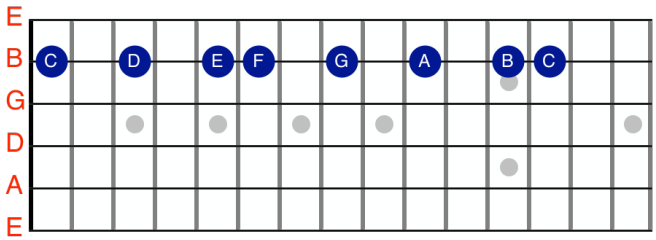
Augmented 4th:
6 frets • three whole steps



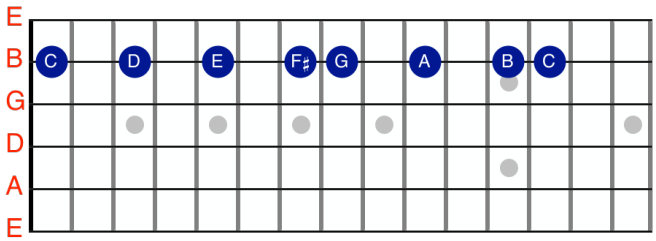
Determining Interval Quality (Perfect 4th or Augmented 4th)

You can use the major scale to determine if a 4th is perfect or augmented. To do this, build a major scale from the lower note of the interval. If the upper note of the 4th belongs in that major scale, it is a perfect 4th. If it is a half step higher than the 4th note of that scale, it is a perfect 4th.

For example, the notes C and F are a 4th apart. To determine if F is a perfect or augmented 4th higher, construct a major scale from the lower note of the interval (C). The C major scale is spelled C-D-E-F-G-A-B-C. The note “F” belongs in the C major scale, so C up to F is a perfect 4th.

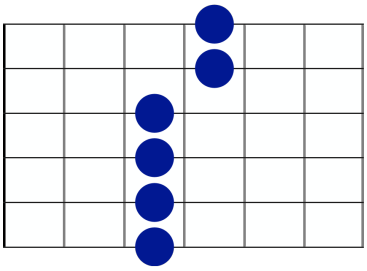


If the upper note is an F#, which is a half step higher than F, the interval is an augmented 4th.

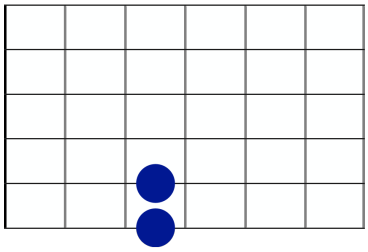


Playing Perfect 4ths on the Guitar

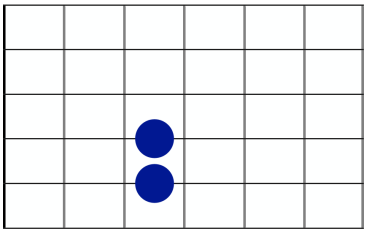
Series of Perfect 4ths
Strings 1-6



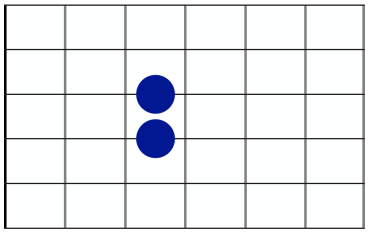
Perfect 4th between
Strings 5 and 6



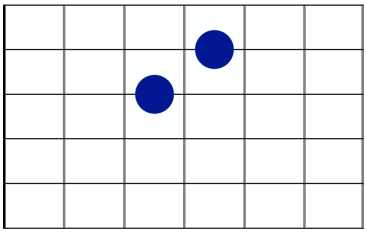
Perfect 4th between
Strings 4 and 5



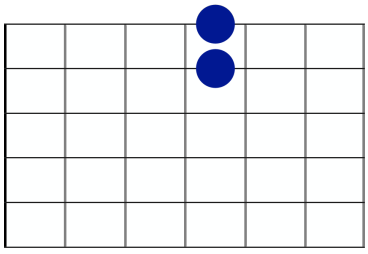
Perfect 4th between
Strings 3 and 4



Perfect 4th between
Strings 2 and 3

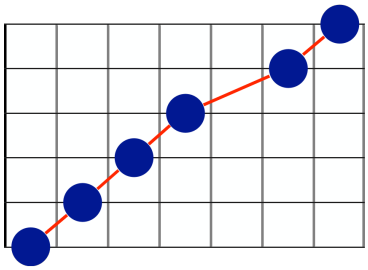


Perfect 4th between
Strings 1 and 2

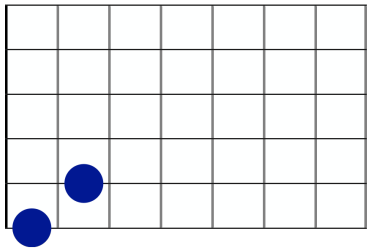


Playing Augmented 4ths on the Guitar

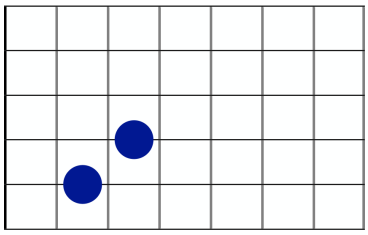
Series of Augmented 4ths
Strings 1-6



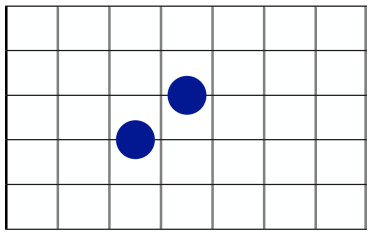
Augmented 4th between
Strings 5 and 6



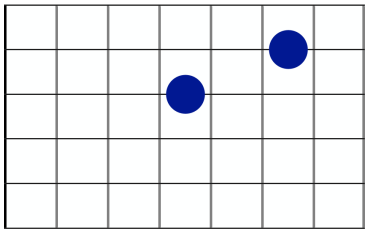
Augmented 4th between
Strings 4 and 5



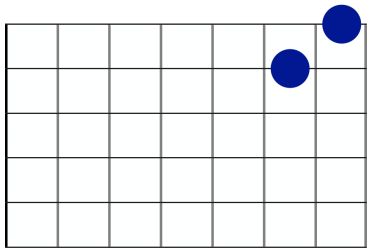
Augmented 4th between
Strings 3 and 4



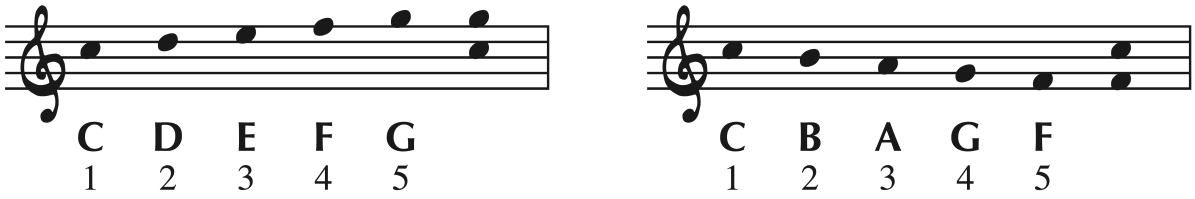
Augmented 4th between
Strings 2 and 3



Augmented 4th between
Strings 1 and 2



Intervals – 5ths



In the music staff, a 5th is five steps distance. C-D-E-F-G, 1-2-3-4-5. C and G are a 5th apart. You can also count down from the higher note. C-B-A-G-F, 1-2-3-4-5. F is a 5th lower than C.

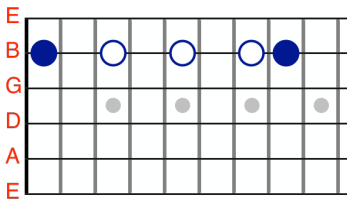
Perfect, Diminished, and Augmented 5ths

You can further define 5ths as perfect, diminished, or augmented.

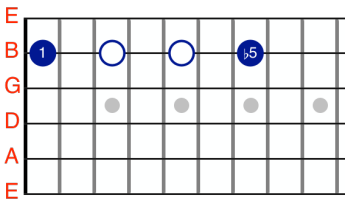
On the guitar, a perfect 5th is the distance of seven frets, (three whole steps and half step), a diminished 5th is the distance of six frets (three whole steps), and an augmented 5th is the distance of eight frets (four whole steps).

A diminished interval is one half step smaller than its corresponding perfect interval, and an augmented interval is one half step larger than its corresponding perfect interval.

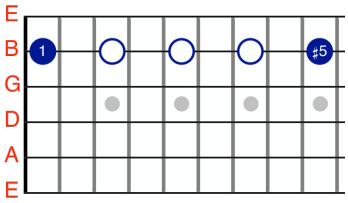
Perfect 5th



Diminished 5th



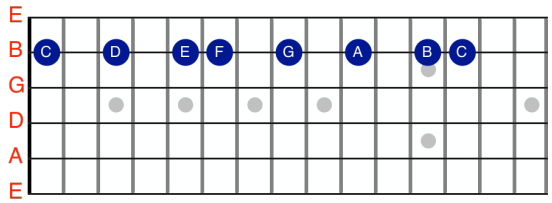
Augmented 5th



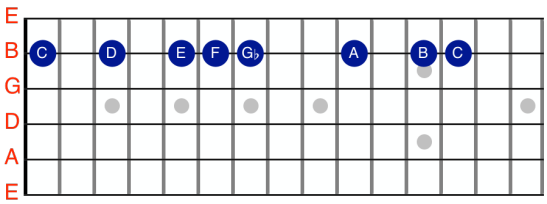
Determining Interval Quality (Perfect, Diminished, or Augmented 5th)

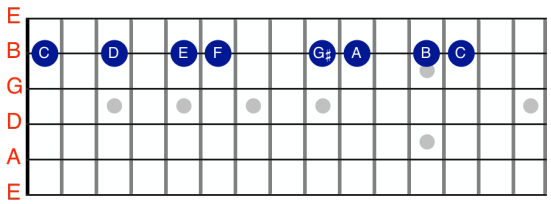
You can use the major scale to determine if a 5th is perfect, augmented, or diminished. To do this, build a major scale from the lower note of the interval. If the upper note of the 5th belongs in that major scale, it is a perfect 5th. If it is a half step lower than the 5th note of that scale, it is a diminished 5th. If it is a half step higher than the 5th note of that scale, it is a perfect 5th.

For example, the notes C and G are a 5th apart. To determine if G is a perfect, diminished, or augmented 5th higher, construct a major scale from the lower note of the interval (C). The C major scale is spelled C-D-E-F-G-A-B-C. The note “G” belongs in the C major scale, so C up to G is a perfect 5th.



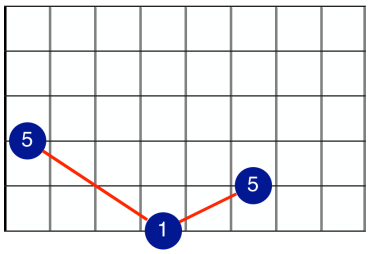
If the upper note is a Gb, which is a half step lower than G, the interval is a diminished 5th, and if the upper note is a G#, the interval is an augmented 5th.



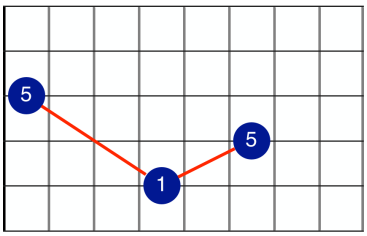


Playing Perfect 5ths on the Guitar

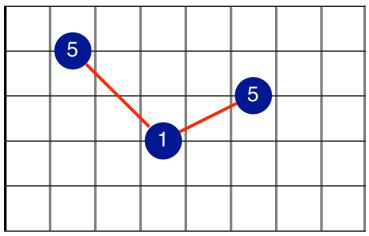
Perfect 5th between Strings 6-5 and Strings 6-4



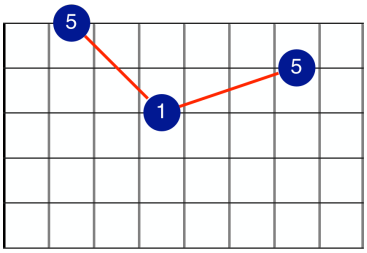
Perfect 5th between Strings 5-4 and Strings 5-3



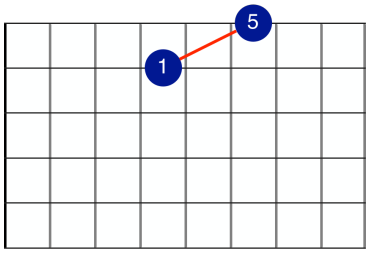
Perfect 5th between Strings 4-3 and Strings 4-2



Perfect 5th between Strings 3-2 and Strings 3-1

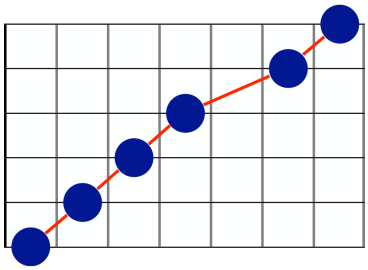


Perfect 5th between Strings 2-1

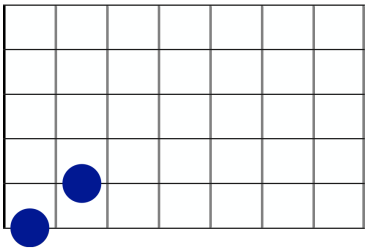


Playing Diminished 5ths on the Guitar

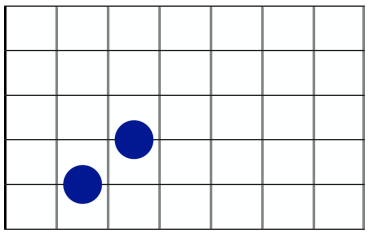
Series of Diminished 5ths
Strings 1-6



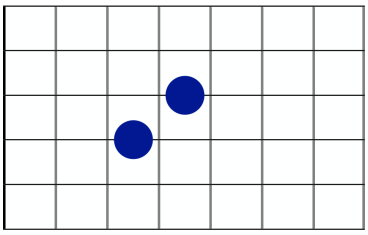
Diminished 5th between
Strings 5 and 6



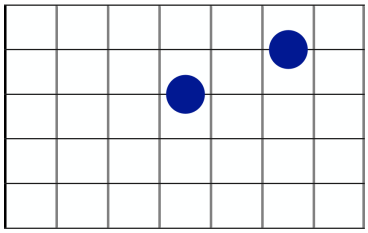
Diminished 5th between
Strings 4 and 5



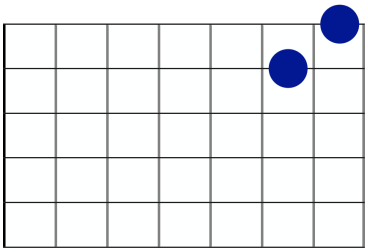
Diminished 5th between
Strings 3 and 4



Diminished 5th between
Strings 2 and 3

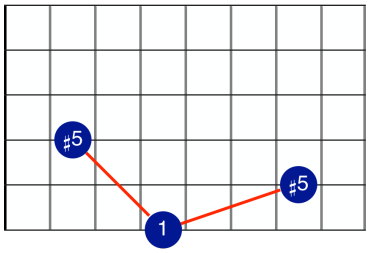


Diminished 5th between
Strings 1 and 2

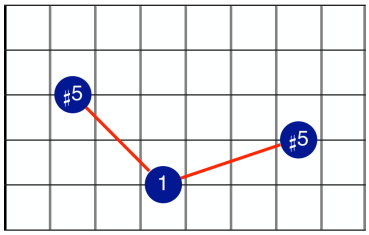


Playing Augmented 5ths on the Guitar

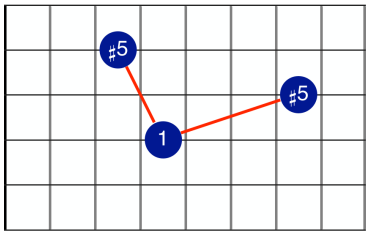
Augmented 5th between Strings 6-5 and Strings 6-4



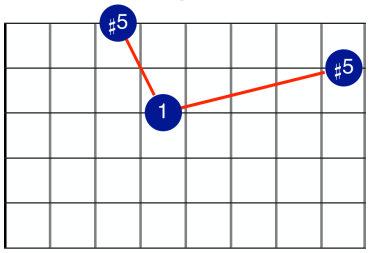
Augmented 5th between Strings 5-4 and Strings 5-3



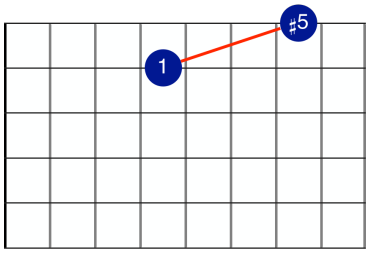
Augmented 5th between Strings 4-3 and Strings 4-2



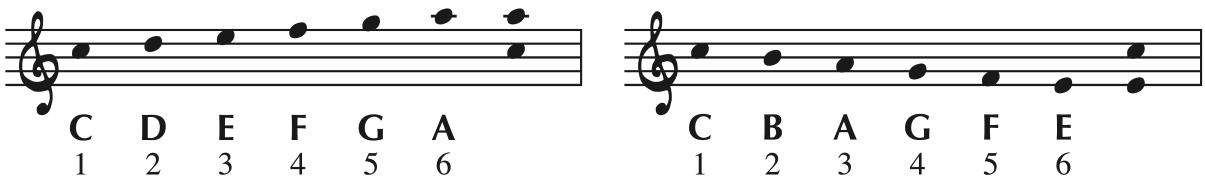
Augmented 5th between Strings 3-2 and Strings 3-1



Augmented 5th between Strings 2-1



Intervals – 6ths



In the music staff, a 6th is six steps distance. C-D-E-F-G-A, 1-2-3-4-5-6. C and A are a 6th apart. You can also count down from the higher note. C-B-A-G-F-E, 1-2-3-4-5-6. E is a 6th lower than C.

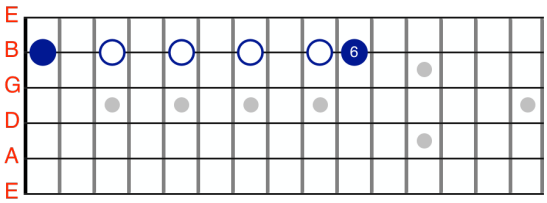
Major and Minor 6ths

You can further define 6ths as major 6ths and minor 6ths.

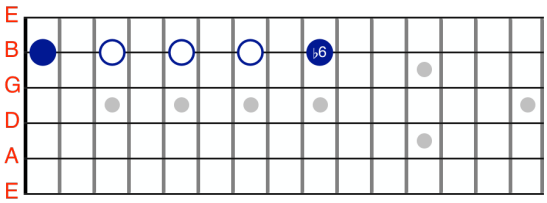
On the guitar, a major 6th is the distance of nine frets (four whole steps and half step), and a minor 6th is the distance of eight frets (four whole steps).

A minor interval is always one half step smaller than its corresponding major interval.

Major 6th:
9 frets • four whole steps
and one half step



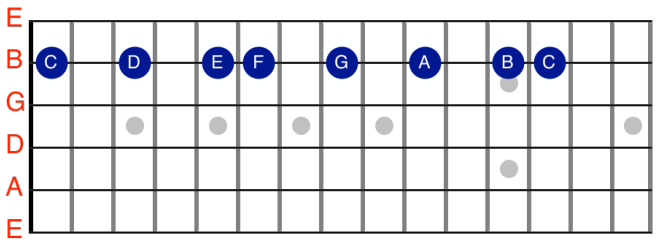
Minor 6th:
8 frets • four whole steps



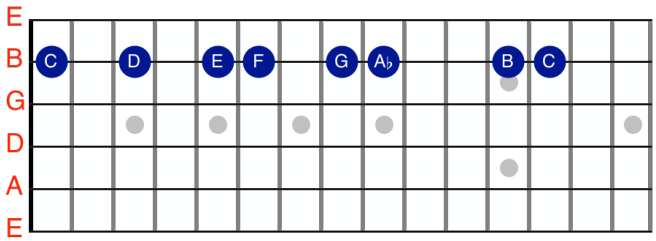
Determining Interval Quality (Major 6th or Minor 6th)

You can use the major scale to determine if a 6th is major or minor. To do this, build a major scale from the lower note of the interval. If the upper note of the interval belongs in that major scale, it is a major 6th. If it is a half step lower than the 6th note of that scale, it is a minor 6th.

For example, the notes C and A are a 6th apart. To determine if A is a major or minor 6th higher, construct a major scale from the lower note of the interval (C). The C major scale is spelled C-D-E-F-G-A-B-C. The note “A” belongs in the C major scale, so C up to A is a major 6th.

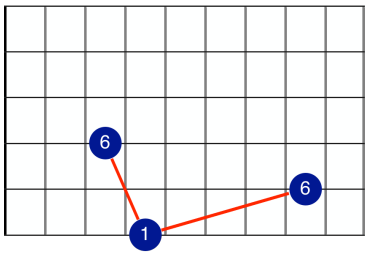


If the upper note is an Ab, which is a half step lower than A, the interval is a minor 6th.

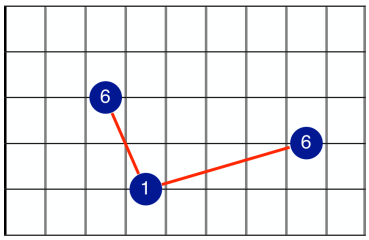


Playing Major 6ths on the Guitar

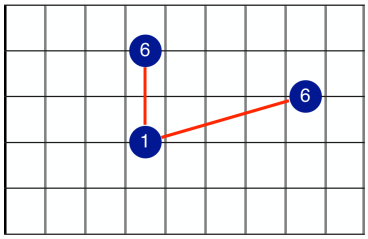
Major 6th between Strings 6-5 and Strings 6-4



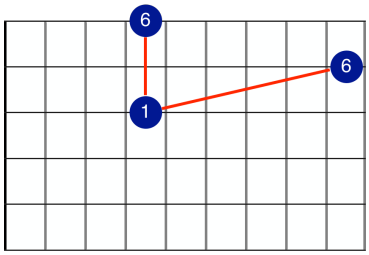
Major 6th between Strings 5-4 and Strings 5-3



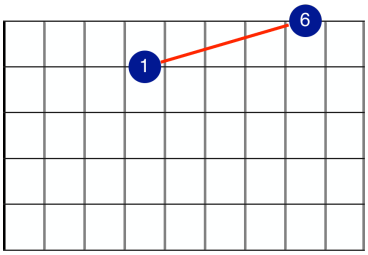
Major 6th between Strings 4-3 and Strings 4-2



Major 6th between Strings 3-2 and Strings 3-1

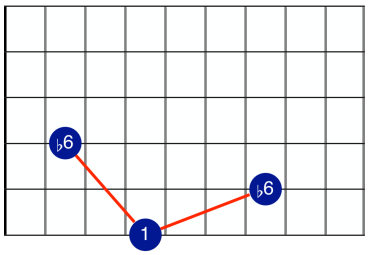


Major 6th between Strings 2-1

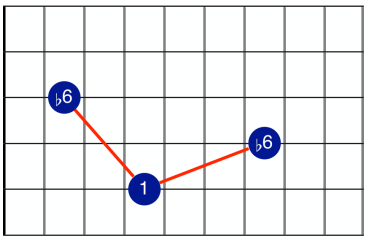


Playing Minor 6ths on the Guitar

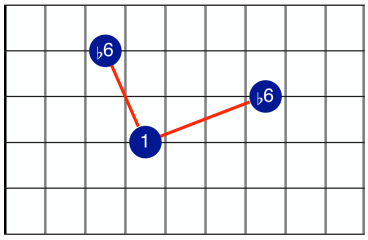
Minor 6th between Strings 6-5 and Strings 6-4



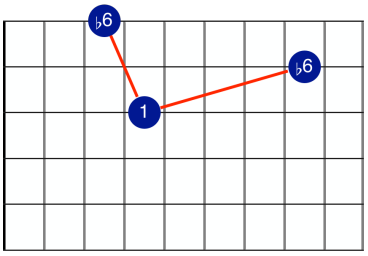
Minor 6th between Strings 5-4 and Strings 5-3



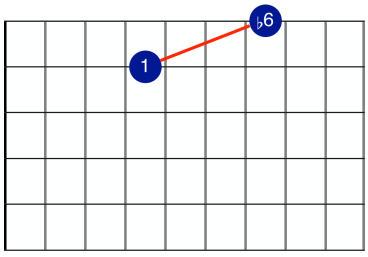
Minor 6th between Strings 4-3 and Strings 4-2



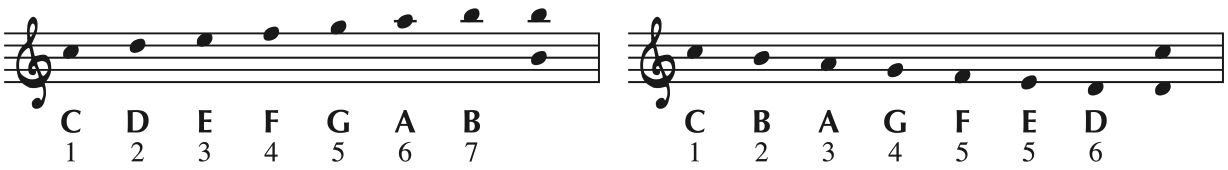
Minor 6th between Strings 3-2 and Strings 3-1



Minor 6th between Strings 2-1



Intervals – 7ths



In the music staff, a 7th is seven steps distance. C-D-E-F-G-A-B, 1-2-3-4-5-6-7. C and B are a 7th apart. You can also count down from the higher note. C-B-A-G-F-E-D, 1-2-3-4-5-6-7. D is a 7th lower than C.

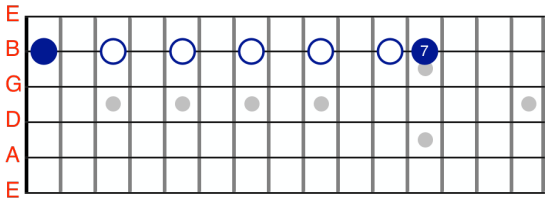
Major and Minor 7ths

You can further define 7ths as major 7ths and minor 7ths.

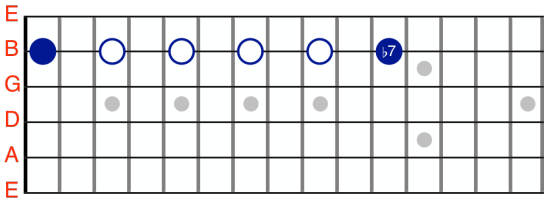
On the guitar, a major 7th is the distance of eleven frets (five whole steps and half step), and a minor 7th is the distance of ten frets (five whole steps).

A minor interval is always one half step smaller than its corresponding major interval.

Major 7th:
11 frets • five whole steps and one half step



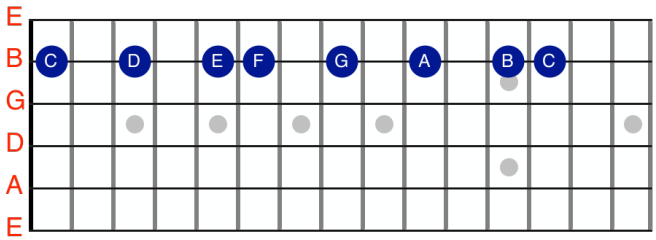
Minor 7th:
10 frets • five whole steps



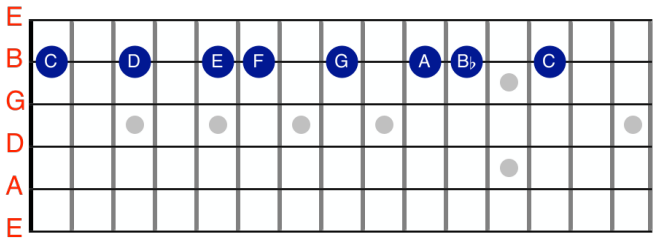
Determining Interval Quality (Major 7th or Minor 7th)

You can use the major scale to determine if a 7th is major or minor. To do this, build a major scale from the lower note of the interval. If the upper note of the interval belongs in that major scale, it is a major 7th. If it is a half step lower than the 7th note of that scale, it is a minor 7th.

For example, the notes C and B are a 7th apart. To determine if B is a major or minor 7th higher, construct a major scale from the lower note of the interval (C). The C major scale is spelled C-D-E-F-G-A-B-C. The note “B” belongs in the C major scale, so C up to B is a major 7th.

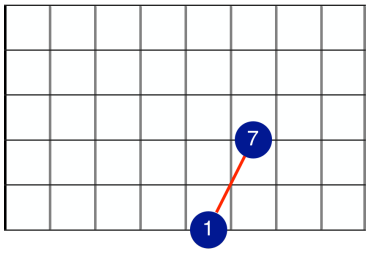


If the upper note is a Bb, which is a half step lower than B, the interval is a minor 7th.

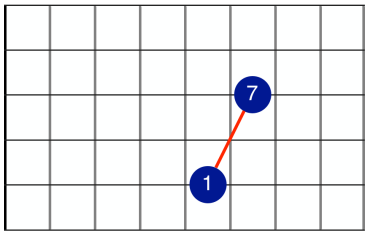


Playing Major 7ths on the Guitar

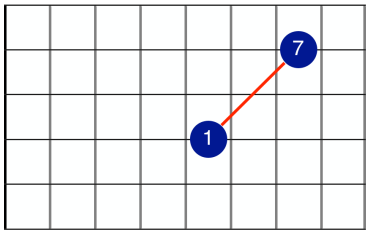
Major 7th between Strings 6-4



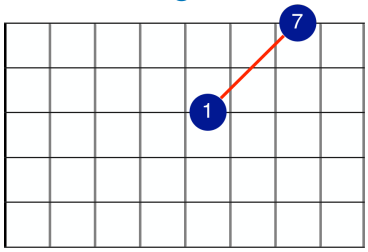
Major 7th between Strings 5-3



Major 7th between Strings 4-2

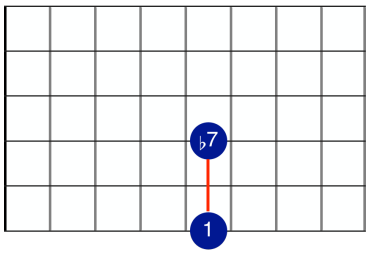


Major 7th between Strings 3-1

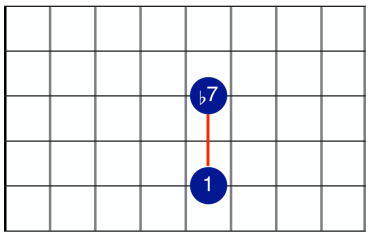


Playing Minor 7ths on the Guitar

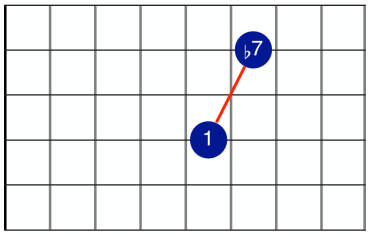
Minor 7th between Strings 6-4



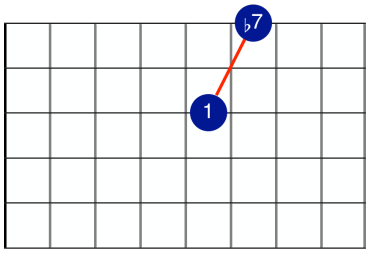
Minor 7th between Strings 5-3



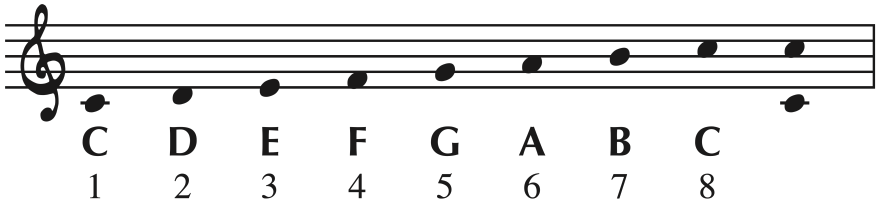
Minor 7th between Strings 4-2



Minor 7th between Strings 3-1



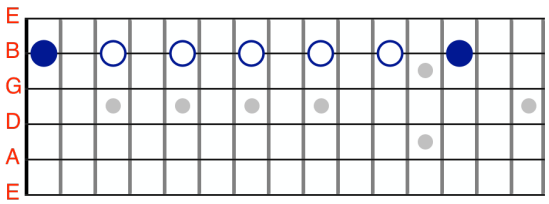
Intervals – Octaves



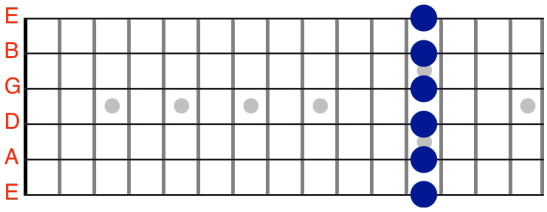
An octave is the distance of 8 notes. C-D-E-F-G-A-B-C, 1-2-3-4-5-6-7-8. The easiest way to think of an octave is that it's the next higher or lower iteration of that note. In the example above, the lower C to the next C higher is an octave.

On the guitar, an octave is the distance of twelve frets (six whole steps).

Octave:
11 frets • 6 whole steps



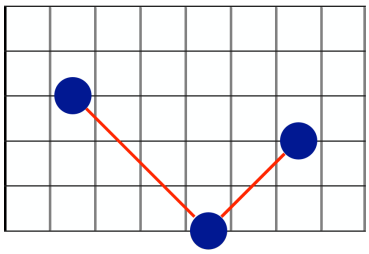
Most guitars have double dot fret markers at the 12th fret. The 12th fret is an octave higher than its corresponding open string. For example, in standard tuning the 6th string plays an E below the treble clef staff. If you the 6th string at the 12th fret, you'll get another E one octave higher.



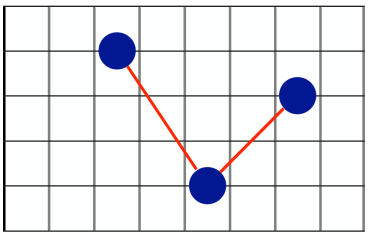
12th fret is one octave higher than its corresponding open string

Playing Octaves on the Guitar

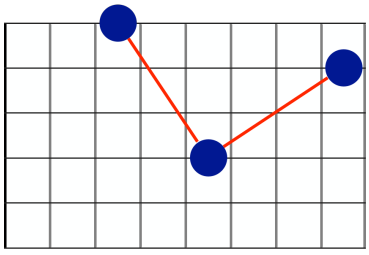
Octave
Strings 6-4 and 6-3



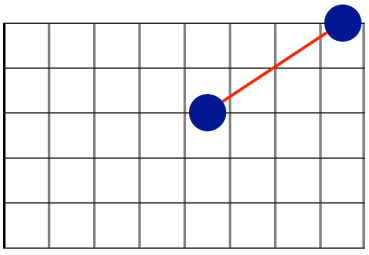
Octave
Strings 5-3 and 5-2



Octave
Strings 4-2 and 4-1



Octave
Strings 3-1

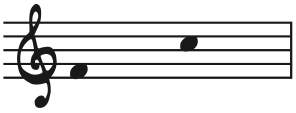


This covers intervals up to the octave. The next section explains intervals and inversions.

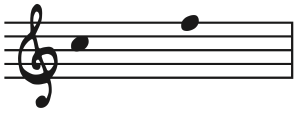
Inverting Intervals

To invert an interval, you can raise the lower note of an interval one octave, or you can drop the upper note of an interval one octave.

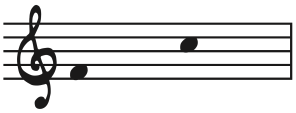
F up to C (5th)



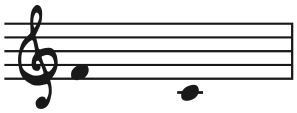
Inversion (4th):
F raised one octave



F up to C (5th)

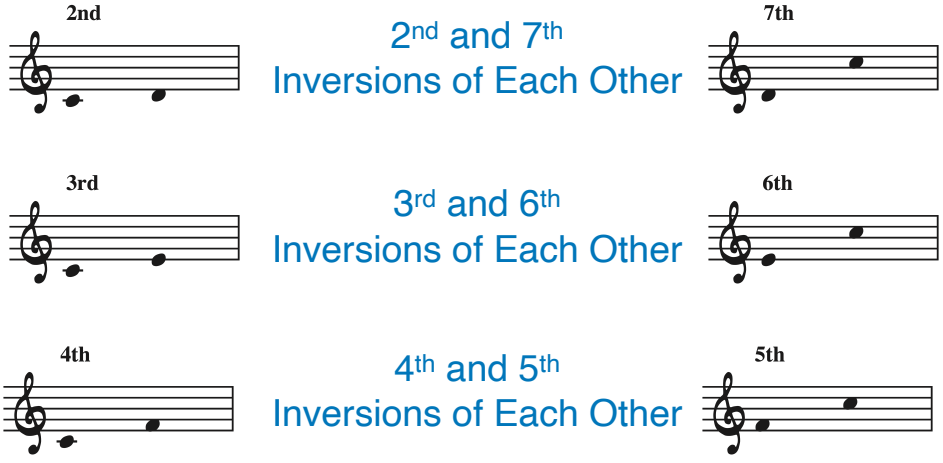


Inversion (4th):
C lowered one octave



The Number 9 Trick

Intervals and their inversions always add up to the number 9.



Interval Quality and Inversions

A quick review of which intervals are classified as major, minor, perfect, augmented, or diminished.

Major • Minor	Perfect • Augmented, • Diminished
2nds • 3rds • 6ths • 7ths	4ths • 5ths • (Octaves)

Not only do intervals and their inversions add up to the number 9, but the following rules will also help you invert intervals correctly.

Major Inverts to Minor
Minor Inverts to Major
Augmented Inverts to Diminished
Diminished Inverts to Augmented
Perfect Inverts to Perfect