

Using a Metronome

Some pieces (such as *Canarios*) are too fast to count every syllable out loud or to have a metronome tick each eighth note (quaver) at the actual performance tempo. The remedy for this is to change the metronome setting (usually by half or a third) and changing the note value we assign to each metronome tick.

For example, in a simple 4/4 meter, a passage can be played at MM=200 for an eighth note (quaver). But that is a lot of metronome ticks to listen to. It is easier if we cut the metronome setting in half so we play at MM=100 and reassign each tick to a quarter note (crochet). The result is that we are still playing the eighth notes (quavers) at the same speed but don't have to listen to so many ticks. It is easier to hear what we are doing (Example #12):

Example #12.

♩=200



Metronome Ticks at 200 bpm (beats per minute)

This is a lot of ticks.
Difficult to hear and follow.

♩=100



Metronome Ticks at 100 bpm

Same speed, but easier
to hear and follow.

Watch me demonstrate in Video #6:



Tech Tip Hemiola Video 6 Metronome Ticks and Note Values

We Have a Problem

John Williams plays *Canarios* at about 360 bpm for the eighth note (quaver). Even if we had a metronome that could tick that fast, it would be difficult to follow. Instead of ticking on every eighth note (quaver), we can change the metronome setting and assign each tick to a larger note value.

In 6/8, it is very convenient to have the metronome tick dotted quarter notes (dotted crotchets) (Example #13):

Example #13.

Metronome ticks on dotted quarter notes (dotted crotchets)



or

A dotted quarter note (dotted crochet) equals three eighth notes (quavers).



So, for the first seven measures of *Canarios*, it works very well and is very natural to have the metronome tick dotted quarter notes (dotted crochets), playing in groups of three notes (Example #14):

Example #14. *Canarios* (Gaspar Sanz) arr. John Williams, measures 1-7

⑥ = D

Metronome Tick x 1 2 3 4 5 6 Metronome Tick x 1 2 3 4 5 6 Metronome Tick x 1 2 3 4 5 6 Metronome Tick x 1 2 3 4 5 6

3

6

Watch me demonstrate in video #7.

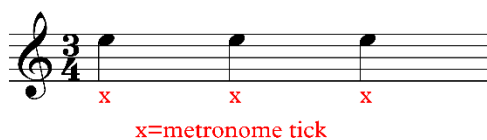


Tech Tip Hemiola Video 7 Canarios measures 1-8 metronome dotted quarters

On the other hand, in 3/4 meter it is very convenient to have the metronome tick quarter notes (crotchets) (Example #15):

Example #15.

Metronome ticks on each quarter note (crotchet).



A quarter note (crotchet) equals two eighth notes (quavers).



And this works great for all the 3/4 measures in *Canarios*. But now we have A BIG PROBLEM! Because the hemiola changes the meter back and forth between 6/8 and 3/4, how are we supposed to set our metronome? Do we set it to tick dotted quarters (dotted crochets) or quarter notes (crotchets)?

The answer is to learn to play the piece or passage *both* ways. It is essential to begin at a relatively slow speed and count out loud. It will feel very awkward at first because when the metronome is set to tick on dotted quarters (dotted crochets) it will be ticking the 3/4 measures as if they were in 6/8 and vice-versa. Let's have a look.

Setting the metronome to tick on the dotted quarter notes (dotted crochets) and playing our passage from measure 23-28 will look like this. In essence, you are playing the entire passage in 6/8, playing the notes in groups of three regardless of whether the meter says 6/8 or 3/4 (Example #16):

Example #16. *Canarios* (Gaspar Sanz) arr. John Williams.
Measures 23-28 with metronome ticking 6/8 meter.

Measures 23-28 with metronome ticking 6/8 meter.

Measures 23-28 are shown. The metronome ticks on dotted quarter notes (dotted crochets) in 6/8 meter. The measures alternate between 6/8 and 3/4 time signatures. The metronome ticks are marked with red 'x' and numbers 1-6 above the staff. A red arrow points to the first dotted quarter note in measure 24.

Measures 26-28 are shown. The metronome ticks on dotted quarter notes (dotted crochets) in 6/8 meter. The measures alternate between 6/8 and 3/4 time signatures. The metronome ticks are marked with red 'x' and numbers 1-6 above the staff. A red arrow points to the first dotted quarter note in measure 27.

Watch me demonstrate in Video #8.



Tech Tip Hemiola Video 8 Canarios measures 23-28 metronome ticking dotted quarter notes

Alternatively, setting the metronome to tick on the quarter notes (crochets) and playing our passage from measure 23-28 will look like this. Now you are playing the entire passage in 3/4, playing the notes in groups of two regardless of whether the meter says 6/8 or 3/4 (Example #17):

Example #17. *Canarios* (Gaspar Sanz) arr. John Williams.
Measures 23-28 with **metronome ticking 3/4 meter**.

23

Metro- nome Tick x 1 2	Metro- nome Tick x 3 4	Metro- nome Tick x 5 6	Metro- nome Tick x 1 2	Metro- nome Tick x 3 4	Metro- nome Tick x 5 6	Metro- nome Tick x 1 2	Metro- nome Tick x 3 4	Metro- nome Tick x 5 6
------------------------------------	------------------------------------	------------------------------------	------------------------------------	------------------------------------	------------------------------------	------------------------------------	------------------------------------	------------------------------------

T
A
B

26

Metro- nome Tick x 1 2	Metro- nome Tick x 3 4	Metro- nome Tick x 5 6	Metro- nome Tick x 1 2	Metro- nome Tick x 3 4	Metro- nome Tick x 5 6	Metro- nome Tick x 1 2	Metro- nome Tick x 3 4	Metro- nome Tick x 5 6
------------------------------------	------------------------------------	------------------------------------	------------------------------------	------------------------------------	------------------------------------	------------------------------------	------------------------------------	------------------------------------

T
A
B

Totally confused?

Watch and listen to me make sense of it all in Video #9.



Tech Tip Hemiola Video 9 Canarios m23-28 metronome ticking quarter notes

The point is, learn to play a hemiola passage with a metronome in both 6/8 AND 3/4 meter. It will help you understand the hemiola, feel it, and play it precisely.

When you turn the metronome off, you may be able to automatically maintain the correct rhythms without counting. However, some guitarists must always maintain an internal count in their head to keep the rhythm changes accurate.

Other Hemiolas

The most common hemiola in guitar music is the change from 6/8 to 3/4 meter. A less common meter change is from 6/4 to 3/2 meter. It is found in *Prelude No. 5* by Heitor Villa-Lobos. Villa-Lobos does not actually notate the change of meters but it is obvious (I will explain this more in the next section).

Example #18:

Example #18. *Prelude No. 5* (Heitor Villa-Lobos)

Use of Hemiola from 3/2 to 6/4 meter.

[illegible]

Play notes in groups of three:

Accent

Accent

Accent

Accent

0 2 2 2 0 2

0 2 4 5 2 1 2 0

Sometimes Hemiolas are Written in Secret Code

A key thing to understand is that in a piece of music, the meter and other musical notational elements (beaming and accents) are SUPPOSED to tell you how to group, accent, and count the beats when you encounter a hemiola passage. Unfortunately, that is often not the case. In fact, I would say that in much of the repertoire I encounter, the music is notated incorrectly or inadequately. When music is properly

notated, you should easily be able to identify hemiolas simply by the notational elements on the page. My notation of the Sanz *Canarios* is a good example. I specify every meter change and the notes are correctly beamed according to the meter.

But the problem goes beyond inadequate or incorrect notation. For the Hispanic and African cultures, hemiola is such an integral part of the music that the composers assume any idiot can feel or hear when the meter changes and therefore it is not necessary to notate it. They will either notate the entire piece in 6/8 or in 3/4 and let the performer change the meter as needed. Or, some will acknowledge that the meter changes in the piece by putting a double or composite meter at the beginning of the piece but not indicate the actual changes of meter within the piece.

Leonard Bernstein uses this method to notate the aforementioned *America* in the orchestral score to *West Side Story*. He notates both a 6/8 and 3/4 meter at the introduction to the song (Example #19):

46 **Tempo di Huapango (fast)**

col legno saltando

The musical score for "Tempo di Huapango (fast)" consists of six staves. The first two staves are marked *col legno saltando* and *f marcato*. The third and fourth staves are marked *pizz.* and *f marcato*. The fifth and sixth staves are marked *(pizz.)* and *f marcato*. The score is divided into three measures, with the first measure containing a hemiola (6/8 to 3/4) and the second measure containing a hemiola (3/4 to 6/8). The third measure returns to 6/8. The notation is complex, with many beamed notes and rests, and includes dynamic markings like *f marcato* and *dim.*

But from then on, no meter changes are indicated (for clarity, I added them in red). Example #20:

Example #20 is a musical score for a song. The vocal parts are for Anita and GIRLS*. The lyrics are: "I like to be in A - mer - i - ca! O. K. by me in A - mer - i - ca! Ev - ry - thing free in A -". The instrumental parts include Vlns. (Violins), Vcs. (Violas), and Cb. (Cello). The score includes a box with the number 50. The tempo is marked "Allegro ritmico". The meter changes are indicated in red: 6/8, 3/4, 6/8, 3/4, 6/8. The score also includes the instruction "Except Rosalia".

Antonio Lauro uses the same notation at the beginning of his *Vals Venezolano No. 3* (Example #21):

Example #21 is a musical score for "Vals Venezolano No. 3" by Antonio Lauro. The score is in 3/8 time, indicated by a red box around the time signature. The tempo is marked "Allegro ritmico". The score includes the instruction "Revisado por Alirio Diaz". The score also includes the instruction "Arm. 12". The score includes the instruction "mf". The score includes the instruction "p". The score includes the instruction "arco spicc.". The score includes the instruction "unis.". The score includes the instruction "p". The score includes the instruction "sim.". The score includes the instruction "naturale".

Within the piece he switches freely back and forth between 6/8 and 3/4 without indicating changes of meter (Example #22):

Example #22. *Vals Venezolano No. 3* (Antonio Lauro)
Switching from 6/8 to 3/4 without indicating changes of meter.

Notations in red and blue have been added. They are not present in the original score.

The musical score is presented in two systems. The first system consists of a treble staff and a bass staff. The treble staff begins with a treble clef, a key signature of three sharps (F#, C#, G#), and a common time signature of 8. The notation includes various musical symbols such as notes, rests, and accidentals. Red and blue annotations are added to indicate meter changes. The bass staff contains a series of numbers (11, 9, 9, 9, 7, 6, 9, 7, 5, 5, 2, 1, 4, 2, 0, 0, 1, 0) which likely represent fingerings or positions. The second system also consists of a treble staff and a bass staff. The treble staff continues the musical notation with similar symbols. The bass staff contains a series of numbers (2, 0, 4, 2, 2, 0, 0, 3, 0, 2, 0, 0, 0, 9, 7, 12, 9, 9, 1, 2, 0, 2, 2, 1, 1, 2, 2, 0, 7, 0) which likely represent fingerings or positions. The score is divided into two systems, each with a treble staff and a bass staff.

Finally, we have this famous example from the first movement of the *Concierto de Aranjuez* by Joaquín Rodrigo (Example #23):

Example #23. *Concierto de Aranjuez*, First Movement (Joaquín Rodrigo)

Notated only as 6/8 but clearly switches between 6/8 and 3/4.

Notations in red and blue have been added. They are not present in the original score.

1

6/8

T	2	2	2	2	2	2	2	2	2	3	0
A	3	3	3	3	3	3	3	3	3	5	2
B	0	0	0	0	0	0	0	0	0	4	0

3

6/8

T	2	2	2	2	2	3	0	2	2	2	2	2	2	2
A	3	3	3	3	3	5	2	3	3	3	3	3	3	3
B	0	0	0	0	0	0	0	0	0	0	0	0	0	0

5

3/4

6/8

T	2	3	0	2	2	2	2	2	3	0
A	3	5	2	3	3	3	3	3	5	2
B	0	4	0	2	2	2	2	2	4	2

Sometimes, when the composer has not clearly indicated the meter, it is up to the performer to decide which meter they need to play in depending on how they want the passage to sound.

Important Points

1. Hemiolas are everywhere in the guitar repertoire so it is important to understand how to play them correctly.
2. Counting out loud is crucial to learning the rhythms.
3. Playing with a metronome is very helpful especially if you learn to play the passage in both meters.