

# GREEN (Circle of 4ths) - Timpani (Four Drums)

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Scale	(1-5-9)	32'' - range D - A Set to F	29'' - range F - C Set to G	26'' - range Bb - F Set to C	23'' - range D - A Set to D
<b>C</b>	<b>(C-G-D)</b>		<b>G (5)</b>	<b>C (1)</b>	<b>D (9)</b>
<b>F</b>	<b>(F-C-G)</b>	<b>F (1)</b>	<b>G (9)</b>	<b>C (5)</b>	
<b>Bb</b>	<b>(Bb-F-C)</b>	<b>F (5)</b>	<b>Bb (1)</b>	<b>C (9)</b>	
<b>Eb</b>	<b>(Eb-Bb-F)</b>	<b>F (9)</b>	<b>Bb (5)</b>		<b>Eb (1)</b>
<b>Ab</b>	<b>(Ab-Eb-Bb)</b>	<b>Ab (1)</b>	<b>Bb (9)</b>		<b>Eb (5)</b>
<b>Db</b>	<b>(Db-Ab-Eb)</b>	<b>Ab (5)</b>		<b>Db (1)</b>	<b>Eb (9)</b>
<b>Gb</b> <b>F#</b>	<b>(Gb-Db-Ab)</b> <b>(F#-C#-G#)</b>	⌈ <b>Ab (9)</b> <b>G# (9)</b>		⌈ <b>Db (5)</b> <b>C# (5)</b>	⌈ <b>Gb (1)</b> <b>F# (1)</b>
<b>B</b>	<b>(B-F#-C#)</b>		<b>B (1)</b>	<b>C# (9)</b>	<b>F# (5)</b>
<b>E</b>	<b>(E-B-F#)</b>		<b>B (5)</b>	<b>E (1)</b>	<b>F# (9)</b>
<b>A</b>	<b>(A-E-B)</b>	<b>A (1)</b>	<b>B (9)</b>	<b>E (5)</b>	
<b>D</b>	<b>(D-A-E)</b>	<b>A (5)</b>		<b>E (9)</b>	<b>D (1)</b>
<b>G</b>	<b>(G-D-A)</b>	<b>A (9)</b>	<b>G (1)</b>		<b>D (5)</b>
<b>C</b>	<b>(C-G-D)</b>		<b>G (5)</b>	<b>C (1)</b>	<b>D (9)</b>

The mallet keyboard exercise “GREEN” is a scalar exercise designed to help the keyboard percussionist see larger groups of notes in one glance, in the context of scales. This exercise is based on a George Hamilton Green technique exercise; thus the name. The exercise strives to get the player to see the group of notes from scale degrees 1-5 and 5-9. The 9th scale degree is used so that there are two even groups of five notes, helping with the understanding of jazz, which often uses the 9th scale degree in chords. Strive to see the big picture and use the 1st, 5th, and 9th scale degrees as “landing points” or “land marks.”

This chart was developed to help timpanists understand the 1-5-9 motion of the Green exercise, how to adapt to each key, and which drums to tune. This is only one way to perform Green. The goal for this chart is to set the drums in a way that the timpanist would only have to tune one drum at a time (when playing the exercise in Circle of 4ths), keeping two common tones, which allows the player to quickly adjust the pitch and be able to perform the exercise without having to sit out a repetition to tune. The idea is to help the timpanist develop the ear, learn to tune quickly, and adjust for accuracy immediately. The timpanist should always listen and make fine-tuning adjustments to be exactly in tune with the melodic instruments. The top row of the chart acts as column headings for each column below.

**Column One** has the scale name on the left side, and which notes are scale degrees 1, 5, & 9 on the right side. As you look down the column you will see, the 1st, 5th, & 9th scale degrees are written in order in the parenthesis on the right.

**Column two** shows information for the 32-inch drum. The range (D-A) and the initial pitch setting of the drum (F). Looking down the column below shows which pitches are used on this drum in each scale (column one) and the scale degree it represents in parenthesis on the right side. If a cell is blank, then the drum is not used during the scale in that row.

**Column three** shows information for the 29-inch drum. The range (F-C) and the initial pitch setting of the drum (G). Looking down the column below shows which pitches are used on this drum in each scale (column one) and the scale degree it represents in parenthesis on the right side. If a cell is blank, then the drum is not used during the scale in that row.

**Column Four** shows information for the 26-inch drum. The range (Bb-F) and the initial pitch setting of the drum (C). Looking down the column below shows which pitches are used on this drum in each scale (column one) and the scale degree it represents in parenthesis on the right side. If a cell is blank, then the drum is not used during the scale in that row.

**Column Five** shows information for the 23-inch drum. The range (D-A) and the initial pitch setting of the drum (D). Looking down the column below shows which pitches are used on this drum in each scale (column one) and the scale degree it represents in parenthesis on the right side. If a cell is blank, then the drum is not used during the scale in that row.

The timpani ranges used are the minimum ranges that are available regardless of brand. Some brands can reach a 6th or octave, but since brand ranges are different, the range of a 5th is used here for a more universal standard. Please feel free to adjust the chart according to the ranges that you have available. Some of the pitches shown are in the lowest range of some drums.