

## 12-BAR RULES

MATH &amp; MUSIC

## Objectives

## CONTENT

**CCSS.MATH.CONTENT.4.OA.C.5:**  
Generate a number or shape pattern that follows a given rule. Identify apparent features of the pattern that were not explicit in the rule itself.

## FINE ARTS

**MU:Cr1.1.4b** Generate musical ideas (such as rhythms, melodies, and simple accompaniment patterns) within related tonalities (such as major and minor) and meters.

Materials:

- [12-Bar Blues Video](#)
- [Math Patterns Tutorials](#)
- [12-bar blues worksheet](#)
- [Drag and Drop Guitar Player](#)
- Computer, Speakers, Internet and Projector
- Paper and pencils
- Musical Instruments (optional)

**Pre-Assessment:**

Ask students to identify patterns that they see around the room. Describe the pattern and then attach a letter to each section of the pattern. For example, if the pattern in red dot, blue dot, red dot, they would attach the letters ABA.

**Engagement:**

View the video The 12 Bar Blues from Hawkeye Herman: <https://www.youtube.com/watch?v=dAtYy4K4vTg&feature=youtu.be> Discuss what kind of pattern the 12-bar blues follows (AAB) and how you could show that kind of pattern visually with materials in the room.

**Activity:**

1. Using the math rules times table patterns found here: <http://www.dr-mikes-math-games-for-kids.com/times-tables-tips.html> ask students to identify what patterns they see in each column. Then, compare the pattern from the first table with that of the second table. How are they related?
2. Ask students to attach letters to each part of the pattern in their times tables, just like we did at the beginning of the lesson. These “times table patterns” will become the basis for creating their own 12-bar blues composition.
3. Using this worksheet: <https://mathsciencemusic.org/#/project/academic-music> students will create a 12-bar blues composition from the pattern found in their math times table. For each letter, students will assign a chord (for example: A = I chord, B = IV chord).

**Closing:**

Using the chart they created for their 12-bar blues, students can play their composition using the guitar drag-and-drop player ([http://www.drumbot.com/projects/key\\_chords/](http://www.drumbot.com/projects/key_chords/)) OR using a musical instrument.

**Assessment:**

As a next step, as students to create their own mathematical patterns. Then, each student can create a new 12-bar blues composition from those patterns. As students perform their compositions, use a rubric to assess the accuracy of their pattern rule and their musical composition in the 12-bar blues format.