

ARTS INTEGRATION LESSON FRAMEWORK (ARTS/OTHER DISCIPLINE)

Title: Creating Patterns as code		Grade: 2-5
Subject/Content Area & Art Form: Math, Music		Lesson Duration: 2 hours
Driving Question: Music is full of patterns; can we make those patterns mathematical and make it sound like music?		
Connected Objective: At the end of this lesson, students will use number patterns to create their own basso ostinato bass line and play it on a xylophone or another pitched instrument.		
Subject/Content Area Objective Students will know: What a repeating pattern is. Students will be able to: Complete a mathematical pattern using grade level math skills.		Art Form Objective Students will know: What a Basso Ostinato is. Students will be able to: Compose a basso ostinato.
Subject Area Standard(s): Math: CCSS.MATH.CONTENT.5.OA.B.3 Generate two numerical patterns using two given rules. Identify apparent relationships between corresponding terms. Form ordered pairs consisting of corresponding terms from the two patterns, and graph the ordered pairs on a coordinate plane. RELA: CCSS.ELA-LITERACY.CCRA.R.7 Integrate and evaluate content presented in diverse media and formats, including visually and quantitatively, as well as in words.	Art Elements: Music: III.B Develop the ability to compose and arrange music. CORE Anchor Standard 2: Organize and develop artistic ideas and work. Essential Question: How do musicians make creative decisions? Musicians' creative choices are influenced by their expertise, context, and expressive intent.	21st Century Skills: (Choose skills that apply to lesson) <ul style="list-style-type: none"> <input type="checkbox"/> Creativity & Innovation <input type="checkbox"/> Critical Thinking & Problem Solving <input type="checkbox"/> Collaboration & Teamwork <input type="checkbox"/> Communication <input type="checkbox"/> Cross-cultural Understanding

Formative Assessment(s): Explain your pattern: How did you come up with your number sequence and how does it demonstrate a repeating pattern?

Summative Assessment(s): Play your number sequence composition for the class.

Lesson Materials/ Preparation: Interview with Daryl Davis video, watch at 12:00-14:25 (explanation of a basso ostinato).

Paper, pencils, math worksheet(s)

xylophones

Lesson Steps/Strategies for Learning

- **Introduce: What are number sequence patterns? Even or odd sequences, counting by 5's, Fibonacci sequence, etc. Demonstrate several number patterns and discuss what they represent. Have students complete this or another number pattern worksheet:**
<https://www.education.com/worksheet/article/number-patterns-3/>
- **Engage: What is an ostinato? Watch the Melodic Planet interview with Daryl Davis from 12:01-14:25, the explanation and demonstration of a basso ostinato.**
- **Build Knowledge: Music can be represented by numbers and are always in patterns. Demonstrate melodic or chord patterns like arpeggios. Can we use number patterns to compose music? Have students choose a number pattern and then assign a pitch to each number in the sequence. Take turns playing the sequence on a xylophone. Edit the sequence to make the music more appealing.**
- **Deepen/Assess Understanding: Have students break into small groups and compose their own music by choosing a number sequence and assigning pitches to each number.**
- **Apply: Have each group explain which sequence they chose and then perform their composition for the class.**
- **Reflect: Discuss: How did the music sound? (Good or bad?) Which compositions, (number sequences) sounded the best? Why do you think they worked and other sequences didn't? (Older students can discuss cultural expectations in music- depending on your culture you will like certain patterns while other patterns sound strange, i.e. scales and chord progressions).**