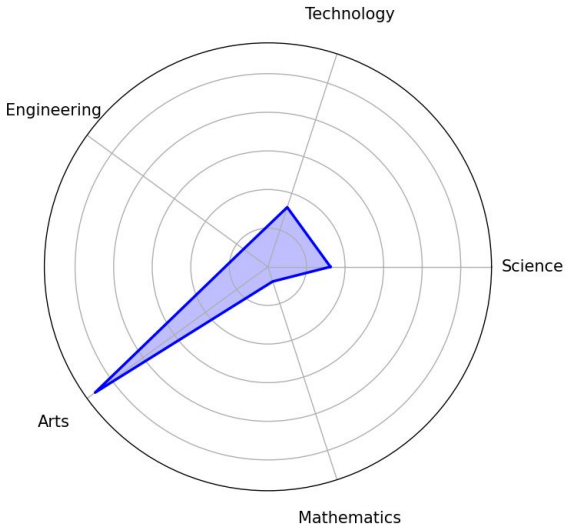
Curricular



Rhythm Builders – Expressing Identity Through Sound

Duration	Age	Difficulty
45 min	13-14	Medium
#creativity #performance #music #artistic expression		

DESCRIPTION

In this 45-minute interactive, face-to-face session, students explore rhythm as a powerful form of artistic and cultural expression.

Working in small teams, they analyze global rhythm patterns, learn about underrepresented pioneers in sound and music, and design original rhythm compositions using body percussion and everyday objects. The session culminates in a performance, reflection, and optional remix activity to deepen engagement and inclusion.

KEY COMPETENCES (EU)

- Cultural Awareness and Expression
- Social and Civic Competence
- Digital Competence
- Learning to Learn

ACTIVITY OBJECTIVES

- **Understand rhythm structure and tempo by analyzing and reproducing global beats.**
- **Explore how rhythm expresses cultural identity and emotion through group composition.**
- **Apply creative thinking and collaboration to build rhythmic patterns using sound and gesture.**
- **Reflect on rhythm as a social message tool in contexts like protest, healing, and awareness.**
- **Highlight contributions by women and gender-diverse figures in rhythm and sound design.**

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MATERIALS

- Provided by students
- Provided by the teacher/institution
- Downloadable Elements

Paper/Notebooks

Pens/pencils

Audio clips (Afrobeat, Samba, Techno, Protest Rhythms)

Projector or speakers

Everyday percussion materials (tin cans, pencils, bottles, etc.)

Markers

Optional: computers or phones to do the activity extension

Rhythm grid template

Biographies: (Pauline Oliveros, Suzanne Ciani, Sofia Gubaidulina)

Cultural rhythm fact sheet

Role rotation instruction sheet

Role cards

PREVIOUS PREPARATION

- Divide class into diverse groups of 4 students, ensuring equal participation and leadership rotation.
- Print materials (grids, role cards, biographies)
- Prepare and test rhythm samples/audio.
- Set up percussion kits at each station.
- When setting the groups, mix the role cards well (1 set of cards per group) and then make each participant in the workgroup select 1 cards without seeing which one is it. That is going to be the role assigned to them on the first “round” of the session. Then, they will have to do this random selection again.

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CONTEXTUALIZATION AND ADAPTATION

Students experience rhythm as a universal language connecting traditions and identities. Through examples across cultures, they learn how rhythm influences society, from protest marches to meditation rituals. Rhythm is also a gateway to discuss voice, agency, and inclusion.

Watch video 📽️ – "How playing an instrument benefits your brain"

https://www.youtube.com/watch?v=R0JKCYZ8hng

Classroom activity 💡

A **Class Activity: 60-Second Sound Story – Celebrating Hidden Figures in Music:** Students research a woman or gender-diverse pioneer in music and deliver a 60-second oral "sound story" presenting that person's impact.

1. Assign each student or pair one name from a list of sound designers, composers, or producers (e.g., Pauline Oliveros, Suzanne Ciani, DJ Rekha, Sofia Gubaidulina, Beverly Glenn-Copeland).

2. Students spend **5 minutes researching**:
   - One unique contribution or invention
   - One quote or fact related to sound, rhythm, or identity

3. Each pair presents their "sound story" in a structured format:
   - **30 seconds**: Who they are and their core musical idea
   - **30 seconds**: Why their work matters and how it changed the way we hear or think about rhythm
4. The class then votes on the most "mind-blowing" rhythm-related innovation or story.

Note for the teacher 📝

Materials Needed for the previous classroom activity:

- List of 6–8 women/gender-diverse music figures (provided in downloadable PDF)
- Audio links or QR codes for sample works (e.g., Ciani synth sequences, Oliveros' Deep Listening pieces)
- Optional: timer or bell for managing 60-second format

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ACTIVITY

Step 1: Warm-Up – Body Percussion Basics (5 min)

Goal: Get everyone moving and engaged with rhythm using just the body.

- The teacher leads the class through basic body percussion patterns:
  Example pattern: **Clap – Stomp – Snap – Pause**
  Practice it together in a loop, slowly increasing the tempo.
- Students repeat and try to improvise one variation each (e.g., replacing "snap" with a chest tap).
- Rotate leaders

Step 2: Explore Cultural Rhythms (10 min)

Goal: Expose students to how different cultures use rhythm expressively.

- Play 10–20 second rhythm samples from at least three styles:
  - **Afrobeat** – layered polyrhythms
  - **Latin Salsa/Clave** – strong syncopation
  - **Techno** – repeating digital beats
- For each, ask:
  "What do you feel?" – "Where do you imagine this rhythm is used?" – "What is its emotion or energy?"
- Also, each group must compare at least two rhythmic styles and justify their preference choice.

Step 3: Group Creation – Build an 8-Beat Rhythm (10 min)

Goal: Teams collaborate to design their own rhythm using the provided rhythm grid.

- **Provide each group**:
  - A blank 8-count rhythm grid
  - Recycled or body percussion tools (e.g., cup, pen, claps, desk tap)
  - Role cards: Timekeeper, Creative Lead, Writer, Performer

- **Task**: Fill in the grid using symbols or dots (e.g., X = clap, O = stomp, 🔔 = tap tin can).

  - Example:
    - Beat 1: Clap
    - Beat 2: Clap
    - Beat 3: Pause
    - Beat 4: Tap pen
    - Beat 5–8: Clap – Stomp – Snap – Clap
- Encourage groups to rehearse their pattern repeatedly and adjust tempo or sequence.

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Step 4: Refine & Reflect (10 min)

Goal: Finalize performance and explain meaning.

- Groups finalize their beat and write 2–3 sentences explaining:
  - What their rhythm expresses (e.g., excitement, protest, calm)
  - Who or what inspired it (e.g., "Our rhythm mimics marching in protest for equality")

  Teachers circulate to offer feedback and ensure equal participation.

Step 5: Performance & Sharing (10 min)

Goal: Celebrate student creativity and voice.

- Each group presents:
  - **Their rhythm performed live**
  - **Their reflection read aloud or posted visually**
- Optional: Combine all rhythms into a final "class jam."

After building the rhythm, each group could (optional) record it and analyze its spectrogram using Chrome Music Lab or Spectrogram app (further explained in the optional extension part).

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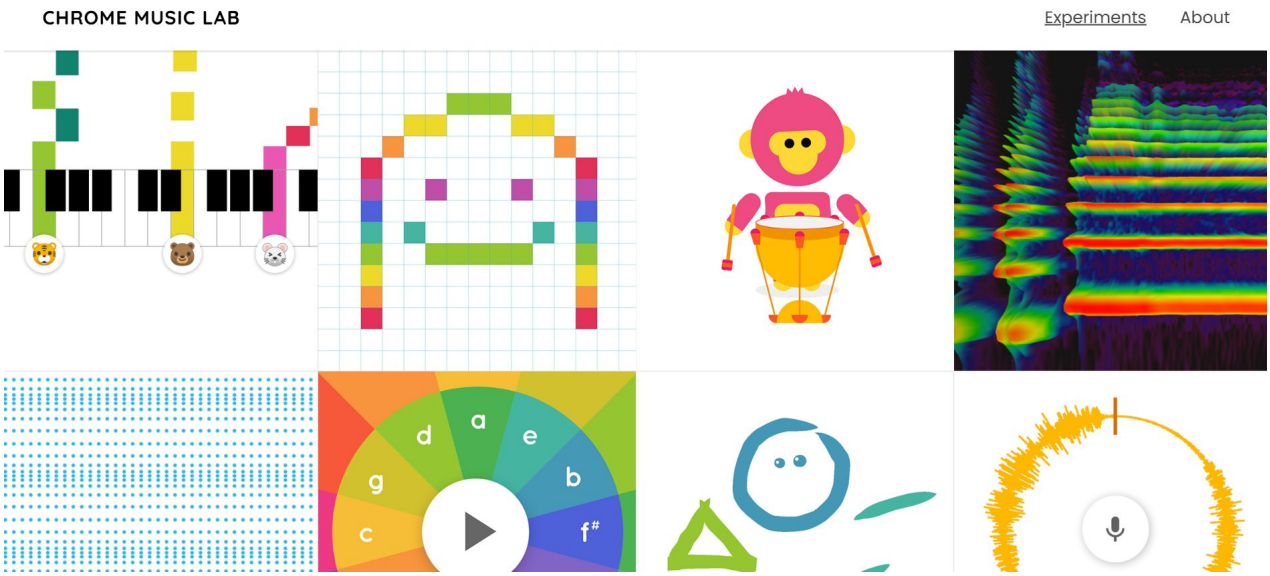
ACTIVITY - OPTIONAL EXTENSION

In this optional extension, we encourage students to use the app of **Chrome, Music Lab**.

In this app students will be able to create melodies in an easy and intuitive way. Below you may find a picture of the main page of the app:



Note for the teacher 📝

In the following video you may find a quick tutorial on how to use the app:
https://www.youtube.com/watch?v=9L-GMmooT0A

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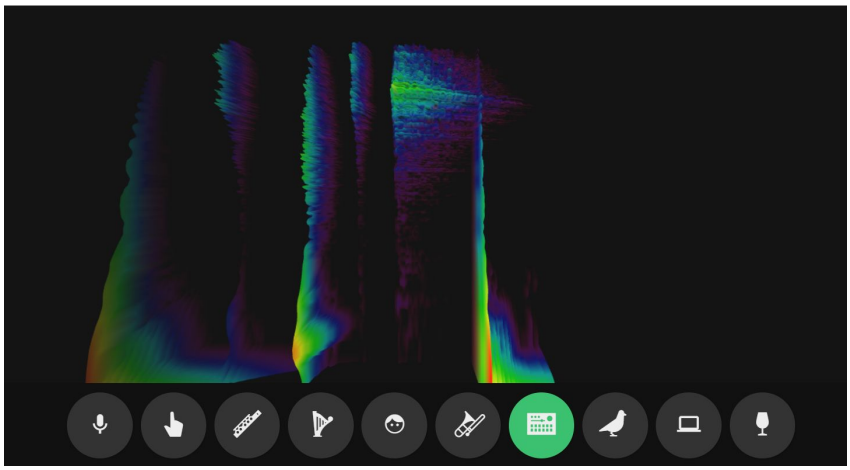
ACTIVITY - OPTIONAL EXTENSION

Even as an extension, if you are working with older students, you may be able to connect sound with the fourier transformation with this app through the spectrogram option.

SPECTROGRAM



The spectrogram plays a crucial role in musical analysis, and its foundation lies in the Fourier Transform.
By applying the Fourier Transform to a sound signal, musicologists can convert it from the time domain into the frequency domain. This mathematical operation allows them to visualize and study the distribution of frequencies over time, resulting in what we call a spectrogram.

Thanks to this process, it becomes possible to extract precise information about:

- The relative energy (or weight) of high and low frequency components within a sound.
- The temporal profile of sound attacks, the exact moment a note begins
- How the spectral envelope of a sound evolves over its duration.
- The distinction between different sound types (e.g., instruments, voices) based on their unique frequency patterns.

The spectrogram is, essentially, a visual representation of the Short-Time Fourier Transform (STFT): a series of Fourier Transforms applied to small, overlapping segments of the audio signal. This enables time-frequency analysis, a fundamental tool for studying complex musical textures and performance nuances.
Spectrograms are also widely used outside the realm of music, in fields such as speech analysis, phonetics, and assistive technologies for the deaf and hard of hearing, where the Fourier Transform once again plays a key role in extracting and visualizing sound features. Gaining an understanding of these concepts will also help students better analyze how rhythmic components relate to musical form, structural elements, and even audio system modeling.

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CONCLUSION AND SHARING

Ask students:

- What message did your rhythm express?
- How did your perspective on rhythm change?
- What challenges came with group roles?
- How could this rhythm be used in real life?

Teacher Notes:

- Ensure all students rotate through a leadership role at least once.
- Guide rhythm analysis to move beyond emotion into structure, pattern, and intent.

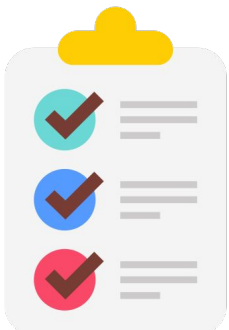
📸 Encourage students to post their group rhythm grid or performance with:

#RhythmBuilders #STEAMbrace

Don't forget to take a photo of your experience and share it with us!

LinkedIn Instagram X

BIBLIOGRAPHY AND REFERENCES



Pauline Oliveros' Deep Listening archives
Suzanne Ciani – "The Delicate Sound of Synths" (Interview, 2018)
Soundtrap for Education (www.soundtrap.com)
STEAMbrace Project:www.instagram.com/steambrace_eu

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