

Music Blocks Lesson Plan

Sitar, Tabla, and Tampura for Makey Makey

Explore Indian music and external inputs: Sitar, Tabla, and Tampura for Makey Makey

Age:

8-10

Number of students:

Up to 10.

Rationale:

Students will learn how to integrate the Makey Makey into music blocks, in a simple program that demonstrates multiple instruments in Indian culture. They will also understand basics of circuits and the integration of circuits into software and computers.

Objectives:

Students will understand how to use the Makey Makey, and the basics of electrical circuits. They will also understand the structure of the code for the program, especially the broadcast block.

Lesson

Introduction:

Begin by introducing the Sitar, Tampura, and the Tabla. Briefly state its history and listen and watch a video to have the students familiarize themselves with it.

Part 1:

A. Hand out Makey Makey

1. Hand out the Makey Makeys to the students. Explain the parts of it: the earth, the arrow keys, and the space.
2. Tell students to connect Makey Makey to the computers using USB cord.
3. Hand out Alligator clips and connect them to right arrow, left arrow, space, and ground

B. Testing the Makey Makey

1. Ask students to hold ground cord (grounded to "Earth" inputs on Makey Makey with alligator clips)
2. While holding ground cord, ask students to hold the alligator clip attached to the right arrow key. A green light should be shown
3. Ask students to let go of the ground cord. The green light should disappear. Ask them why it is. Then, explain that this is because the circuit is incomplete and an electrical current cannot flow through it.

Break

Part 2:

C. Integrating Music Blocks

1. Open the Sitar, Tampura, and Tabla program.
2. Run the program. To play the Tablas and Sitar, have the students click on it.
3. Ask students to play with it using the keyboard. Ask students to verify that the right arrow key plays the right tabla, the left arrow key plays the left tabla, and the space bar plays the Sitar.

D. Using Makey Makey

1. Confirm that the Alligator clips are successfully connected to the space, right arrow, left arrow, and ground.
2. Have the students play the Sitar and Tablas using the alligator clips
3. Attach the end of the Alligator clip to something else, like a banana. By doing this, instead of holding the alligator clips, the students can touch the object to play the Sitar and Tablas.

Assessment:

1. Observe participation
2. Did the students connect the clips correctly? If not, help them debug, and show them how they can debug these issues.

Materials:

1. Music Blocks software with Chrome or Chromium installed and a working Internet connection
2. Makey Makeys with alligator clips
3. Paper and conductive pencil lead or bananas (for squishy circuits)

Resources:

- <https://www.youtube.com/watch?v=t2CrWWn22uw> (Explanation of Makey Makey)
- https://youtu.be/m_sf3RD87dY (Demo without Makey Makey)
- <https://en.wikipedia.org/wiki/Tabla> (About the Tabla, indian drum, and a demonstration)
- https://invidious.private.coffee/watch?v=tTbY_EeC9Wg (Sitar demonstration)
- More about Makey Makey:
 - <https://www.ericrosenbaum.com/s/rosenbaum-musical-tinkering-dissertation.pdf> (Eric Rosenbaum's dissertation on Makey Makey, and what you can do with it.)
 - https://www.youtube.com/watch?v=wkPt9MYqDW0&ab_channel=EricRosenbaum
 - https://www.youtube.com/watch?v=STHZ2FFKYBs&ab_channel=EricRosenbaum
- Resources for more Indian instrument samples:
 - More Tabla sounds: <https://www.noiiz.com/sounds/instruments/82>
 - More Sitar sounds: <https://www.noiiz.com/sounds/instruments/46>

Project Link: <https://musicblocks.sugarlabs.org/index.html?id=1721141977517661&run=True>