Salsa with Edison

Lesson Plan | *Grades 3–12*

MIM
MUSICAL INSTRUMENT MUSEUM

ARIZONA ACADEMIC STANDARDS

Arizona Computer Science Standards

3rd-5th Grades: [3-5].CS.T.1, [3-5].AP.A.1, [3-5].AP.C.1, [3-5].AP.PD.3, [3-5].AP.PD.4, [3-5].AP.PD.5

6th-8th Grades: 6.CS.T.1, [7-8].CS.T.1, [6-8].AP.C.1, 6.AP.PD.3, [7-8].AP.PD.3, [6-8].AP.PD.4, [6-8].AP.PD.5

High School: 5HS.AP.A.1, HS.AP.C.1, HS.AP.PD.1, HS.AP.PD.2

Arizona Arts Standards: Music

3rd-12th Grades: 10a, 10b, 11a

Arizona Arts Standards: Dance

3rd-5th Grade: 5.A.-C., 7.A., 11.A.

6th Grade-High School: 5.A., 11.A.

Key Vocabulary

- **Algorithm:** a step-by-step method or sequence for solving a problem or completing a task
- **Code:** individual instructions written in a specific programming language that a computer, machine, or robot can understand
- **Coding:** the task of writing instructions for a computer, machine, or robot
- **Event:** an action that a user does that causes a program to respond in a certain way
- **Input:** the information that entered as code in a coding language
- **Loop:** a section of code that repeats
- **Nested code:** code that operates under the instructions of another code
- **Note:** a distinct musical pitch
- **Output:** the information produced or the action taken by a computer, machine, or robot based on input
- **Robot:** a machine that does tasks without the help of a person, but only after a person has built and coded it to complete those tasks

Materials

- Digital or printed copies of the **EdScratch Code Bank Handout**, **Student Song Handout**, and **Success Criteria Checklist**
- A class set of Edison robots
- A computer, laptop, or tablet with internet access.
  *(**Note**: Students will need access to the **EdScratch web app**.)*
- **Teacher Answer Key** for song programming

Objectives

Students will be able to program an Edison robot to simultaneously play a salsa song and dance a simple salsa step using the concepts of loops, events, and nested code.

Click here *or scan the QR code to find additional images, videos, detailed teaching instructions, and worksheets!*

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DAY 1

ENGAGE [10 minutes]

Get students moving by showing them a music video for a familiar salsa song and practicing a couple of basic salsa steps in time with the music.

EXPLORE [20 minutes]

Give students a short orientation on how to code Edison robots and use the **Drive** blocks in EdScratch. Then divide students into groups of two or three and give them time to choreograph and code Edison robots to "dance" to salsa music.

EXPLAIN [20 minutes]

Demonstrate how students can use the **Sound** blocks in EdScratch to program their Edison robot to "sing." Then show them how they can use the **Play Music in Background** block to get their Edison robot to sing and dance at the same time!

DAY 2

ELABORATE [30–45 minutes]

Form students into their groups from the previous day or new groups. Hand out the **EdScratch Code Bank Handout** and **Student Song Handout**. Have students choose a salsa song from the **Student Song Handout** and give them time to build and test their code.

EVALUATE [15–20 minutes]

Have each group's robot perform their salsa song. Have students provide feedback on their peers' work by filling out a checklist. Evaluate each group's work using the rubric below.

RUBRIC

	Exceptional	Almost There	Not Yet
Sequencing	Code is correctly sequenced with little to no errors.	Code is sequenced currently as a whole, but errors are present in the ordering of individual code blocks (e.g., notes are out of order).	Fundamental sequencing errors are present, such as sequencing the Drive codes before the Sound codes.
Using loops	Loops blocks are successfully used to instruct Edison to sing and dance for the same period at the same time.	Loops blocks are used to instruct Edison to repeat the dance, but the dancing and singing are out of sync.	Student's use of loop blocks shows a misunderstanding of their purpose.
Nested code	Codes are nested correctly to achieve the desired outcome.	Correct codes are present but not nested correctly, resulting in performance errors.	Edison is not able to sing and dance at the same time due to incorrect use or absence of nested code.