

MUSIC, CODING, LOOPS, OH MY!	
Essential Outcome(s)	Level(s)
Students will... learn the importance of loops in reference to computer programming by manipulating loops within Soundtrap to compose their own piece of music.	Adaptable to all levels
Activity/Project	
What you'll need: Your learners will need a device and access to Soundtrap. Soundtrap is a collaborative online Digital Audio Workstation (DAW) that includes 4000+ pre-recorded, copyright-free loops for your learners to choose from. It is highly recommended to have the teacher's screen projected for the introduction and wrap-up of this lesson. Environment: The potential environment for this lesson is very flexible. A music teacher could use this lesson while introducing loops or introducing how to maneuver around a DAW. It could also be used for participating in an Hour of Code school-wide event or the computer technology teacher could use this lesson in conjunction with their Code.org or similar curriculum. This is an opportunity to blur the lines between subjects while embedding the Arts into more technical and core subject matter. This lesson could be adapted to all ages but is designed predominately for elementary and middle school. However one could use this activity with colleagues for professional development if the goal is familiarizing and educating themselves with the Soundtrap software. The onboarding instructional "floor" is very low for this particular lesson while the "ceiling" is virtually non-existent. Anyone and everyone can participate and the complexity of the end result is quite unpredictable! Activity - Review necessary information from past lesson(s). Possible prompts for class discussion: - What did we do last time? - What do you wish we had had a chance to do? - Did you think of any questions after the lesson that you want to ask? - What was your favorite part of the last lesson? - Introduce key vocabulary: Loop - <i>The action of doing something over and over again.</i> - Introduction activity - Ask for a volunteer and have them stand - Instruct your volunteer to walk around their chair	



- iii. When they finish, instruct them to do it again, using the exact same words you did before
 - iv. When they finish, instruct again...then again
 - v. Discussion questions: Would it have been easier for me to just ask you to go around the table four times? What if I wanted you to do it ten times?
 - vi. Explanation: If I want you to repeat an action 10 times, that's called "**looping**."
 - vii. When someone knows in advance that they want someone to do something a certain number of times, it's easier for them just to "Repeat it that many times."
 - viii. Ask: Can you think of some other things that we could loop?
 - ix. Pull up some pop songs on Youtube that might have repeating musical sections or dance routines for another possible connection.
3. Activity: Using the pre-recorded loops within Soundtrap the class will create their own song. The teacher will build one in front of the class and then break them into groups to complete their own compositions.
- a. Time for the teacher to rock it! : Call it "The Iteration"
 - i. Play the demo song to the class, from start to finish, projecting the project in front of the class.
 - ii. Can the students find the loop(s)? Can they hear the loop(s)?
 - iii. What would the song look and sound like if we only repeated the main part 2 times?
 - iv. What if we repeated the main part 4 times?
 - v. Can they find anything else in the song that they could use a loop for?
 - vi. ***Optional - talk about merging tracks at this point. (advanced)
 - b. Time for the students to rock it!
 - i. Adjust the parameters of their compositions to line up with the ability of your class and the desired objective(s).
 - ii. Break class into pairs or small groups to complete their own piece of music.
 - iii. ***Optional - use the Soundtrap collaboration feature for cross-subject or cross-class assignments/groupings.
 - iv. Complete activity
 - v. Share, showcase & reflect
 - 1. **Share** - Mini "concert" in class with each group sharing their compositions with projector at the front of the room.
 - 2. **Showcase** - Post a couple of examples on the school social media spaces.
 - 3. **Reflect** - Ask students to reflect on their experience:



- a. Do you think it is easier to add more loops to a project or change the number of times we loop?
- b. Would your answer be the same if we wanted to loop 100 times?
- c. Could we use these same loops with different songs?
- d. What might that sound and look like?
- e. What was your favorite part about that activity?

Additional Notes

Possible Modifications:

Grouping and assignment specifications are two main ways you can differentiate the activity for various learning styles/speed and ensure inclusivity for all. If one student works better solo, let them rock it on their own. If you have two high flyers, let them choreograph a dance alongside their composition and/or create a music video. As far as the hardware, pair up the students appropriately given their accessibility and/or use devices that are most native to (example: iPads for younger learners, mobile phones for high school and Chromebooks for middle school - your choice!)

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