



Musical Chain Reactions

Exploring Music with Gadgeteer

Learning Area

Music

Year Level

Year 7

Introduction

In this lesson, students will explore the fascinating intersection of music and physics by using the Gadgeteer VR app to create intricate chain reaction machines. As they design and build their machines, students will also compose a 30-second piece of music that complements the motion and rhythm of their creations. This activity not only allows students to engage with the principles of physics but also encourages them to express their creativity through music, blending STEM with the arts in a unique and immersive way.

Application

Gadgeteer

Gadgeteer is a physics-based VR puzzle game where students build chain reaction machines using a variety of gadgets. The app challenges them to solve complex puzzles by creating sequences that twist, turn, launch, and interact in surprising ways, providing an engaging platform to understand the mechanics of cause and effect.



Lesson Overview

Lesson Objectives

- Understand the principles of cause and effect in both physics and music.
- Design a chain reaction machine using Gadgeteer that visually represents a chosen piece of music.

VR/AR Resources

- [Falling Ball Music Playlist](#)




- Compose a 30-second piece of music that matches the rhythm and movement of their machine.
- Record and present their machine and music, explaining the connection between the two.

Lesson Outline



Before the Immersive Learning Journey

- Teachers and students should familiarise themselves with the IMVR experience using the [Gadgeteer Essential Guide](#).
- View the  [Lumination Safety Poster.pdf](#)
- Review the basic principles of physics related to motion and energy transfer. Discuss how music can reflect movement and rhythm.
- Ensure students have access to the Gadgeteer VR app, musical instruments or music creation software, and recording devices.
- Talk about examples of how music is used in media to reflect movement (e.g., movie soundtracks).
- Organise students into groups.
- **View 1-2 videos from the [playlist](#) as a lesson provocation.**



During the Immersive Learning Journey

IMVR Station:

Students will use the Gadgeteer app to design and build a chain reaction machine. They should focus on creating a sequence that inspires a specific rhythm or feel that can be translated into music. One student will need to record their final product to use with their musical composition.

Depending on the rotations, students may prepare their composition first and then match their machine to their pre-made music.

Planning Station:

Students watch videos from the Falling Ball playlist for additional ideas and inspiration for their machine designs. They may wish to begin brainstorming their machine or composition.

Creation Station: Students will compose a 30-second piece of music



that aligns with the movement and rhythm of their Gadgeteer machine. They can choose their instrument or use digital music creation tools. Once composed, they will record their piece. *Depending on the rotations, students may prepare their composition first and then match their machine to their pre-made music.*



After the Immersive Learning Journey

Presentations: Students will present their recorded Gadgeteer machine and music, explaining how the two elements connect.

Discussion Questions:

1. How did the movement of your Gadgeteer machine influence the music you composed?
2. What challenges did you face in synchronising the music with your machine's movements?
3. How does this project help you understand the relationship between physics and music?