



IMMERSIVE LEARNING PROGRAM

Gadgeteer

Duration

60 Minutes

IMVR Application Link

[Download Here](#)

App Overview

Gadgeteer is a physics-based VR puzzle game where players build complex chain reaction machines to solve intricate puzzles. Using various gadgets, players can create machines that launch, bump, twist, and turn, resulting in dynamic chain reactions. The game challenges creativity and problem-solving as players navigate puzzles that could even disrupt the fabric of space-time.



Objectives

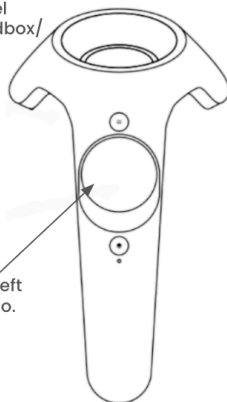
For students to explore the basic functionalities of Gadgeteer by completing the tutorial. Students will learn about the basic mechanics such as the grabbing, cloning, deleting and freezing tool. Students will also research Rube Goldberg and create a timeline of his significant life events. Additionally, students will use their research to complete a 10-question, multiple choice quiz.

Basic Controls - HTC Vive Pro 2

Left Controller

Left controller:
options panel
when in sandbox/
puzzles

Trackpad: left
click to undo.



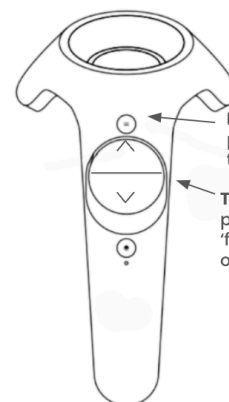
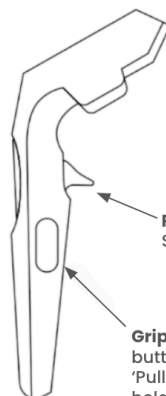
Right Controller

Menu: hold and
point to change
tools

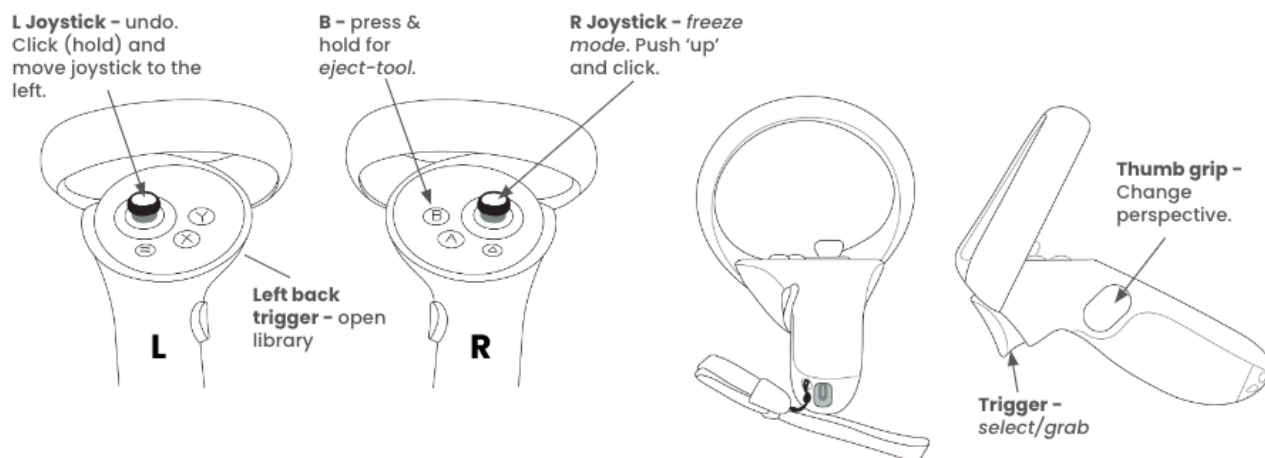
Trackpad:
press to switch
'freeze' mode
on/off

Right Trigger:
Select/grab

Grip Buttons: Hold
button to move.
'Pull' yourself whilst
holding.



Basic Controls – XR Elite



Resources

Student Resources: [Gadgeteer Student Digital Notebook](#)

Safety Poster: [Lumination Safety Poster.pdf](#)

Top Tips

Elements and Features of the experience to be aware of:

- 'Push' a button by moving the controller towards it.
- Complete the tutorial for assistance with controllers.
- The 'Puzzle' option has 60 pre-loaded activities for students to complete.
- The 'sandbox' option allows students to build their own 'gadgets' from scratch.
- Students can save their work by changing 'profiles'.

Learning Sequence

Start all students on their [Gadgeteer Student Digital Notebook](#). Provide a basic run through of their tasks and explain that they will be completing the sections of the notebook at their own pace, independently or with a partner.

There are about 40 minutes worth of tasks in this digital notebook, which will require access to the internet for research purposes. Please review and adjust content to best suit your cohort of students. There are two slides with controller diagrams, please delete the slide that doesn't apply to your lab (HTC Vive Pro 2, or XR Elite). There is an extension task on slide 10 for fast finishers and G&T students.

As students get started, begin calling up the desired number of students/groups to begin their exploration of the experience.



IMVR Station: Gadgeteer

Assign students in desired groups (2-3 students is recommended). Each student will be given **5 minutes** to explore Gadgeteer. Depending on the number of students and IMVR stations, you may choose to allocate a longer explore session per student.

Nominate students to be responsible for the following jobs:

- **Timekeeping:** ensuring each student adheres to the provided time limit
- **Safety:** ensuring that the safety guidelines are being followed correctly
- **Headset Switcher:** they will swap the devices and controllers for each student.

When in the experience, students will rely on their group members to guide with the controller buttons and the task at hand, using slide 2 and 3 of the Student Digital Notebook. Students will complete the tutorial and the optional puzzle to familiarise themselves with the functionalities of the experience.

Student Digital Notebook

Students will learn more about Rube Goldberg through an independent research task. They will read through a selection of websites (adjust as necessary) and then use the Google Slides function to create a timeline of significant events in Rube Goldberg's life.

Next, students will answer a multiple choice quiz (Google Forms) based on information they'd have read from the given websites. Students will receive immediate feedback and enter their score onto slide 9.

As an extension, students will answer the hypothetical question of how a Rube Goldberg machine could work without gravity.

Troubleshoot

- Restart the session if you run into any technical issues.

Lesson Bytes

1. [Lesson Byte: Kinetic and Potential Energy Explorers \(Year 8\)](#)
2. [Lesson Byte: A Knock-on Effect \(Year 5/6\)](#)
3. [Lesson Byte: Musical Chain Reactions \(Year 7\)](#)

**For more Learning Bytes please visit our [Lumination Education Centre](#).*