

The Wizard's Brew: Mastering Volume & Ratio

Learning Area(s)

Maths

Year Level

Year 5/6

Introduction

In this lesson, students will apply their mathematical understanding of volume and ratio to real-world problems. Students will explore HoloLAB Champions Mini-Labs where they must practise scaling measurements up and down, and practice pouring exact volumes using various glassware. Additionally, students will create potions by mixing ingredients in specific ratios and volumes.

Application

HoloLAB Champions VR

HoloLAB Champions is a VR game that immerses students in a futuristic game show setting to teach and test chemistry lab skills. Students complete realistic lab challenges that emphasise proper techniques, chemical reactions, and measurements. Ideal for classrooms, HoloLAB Champions provides a safe and interactive way for students of all ages to learn and practice chemistry concepts.



Lesson Overview

Lesson Objectives

- Understand and apply the concepts of volume and ratio.
- Use ratios to solve problems.
- Develop problem-solving and critical thinking skills through practical application.

VR Resources

- [Potion's Classroom Set in 360 Degrees](#) (1:19)

Other Resources

- [Wizard's Brew Recipe Cards](#) (PDF)



Lesson Outline



Before the Immersive Learning Journey

- Ensure all students understand the basic concepts of volume, capacity, and ratios.
- Provide a brief overview of the VR equipment and safety protocols.
- Teachers should familiarise themselves with the VR experience using [HoloLAB Champions Essentials Guide](#) and ensure that all necessary resources are set up and functioning properly.
- Prepare four-six potion 'recipe cards' and answer sheets to be used at the Skills station (see: [Wizard's Brew Recipe Cards](#)).



During the Immersive Learning Journey

- **IMVR Station:**
 - Students use HoloLAB Champions to complete **one** of three mini-lab stations: Acceptable Error, Chemical Baista and RatiOh-No .
- **Skills Station:**
 - Students practise their knowledge of Volume and Ratio by creating 'potions'. Check out [Wizard's Brew Recipe Cards](#) as a sample. Students determine the amount of each liquid based on the given parts and total volume.
- **Creation Station:**
 - Students will be creating their own potion e.g. 'Invisibility Potion'. For each potion there must be eight different ingredients.
 - Provide students with a basic potion recipe that includes the total volume and specific ratios for each ingredient.
 - Ask students to calculate the actual volume of each ingredient based on the total volume and the given ratios.
 - Challenge students to adjust the potion recipe for a different total volume, and recalculate the ingredient volumes accordingly.
- **Presentation Station:**
 - Students imagine they are going to be presenting to the *Board of Potion Control*, and must display their new potion for quality assurance.
 - Students may decide how they wish to present their work.
 - Students watch [Potion's Classroom Set in 360 Degrees \(1:19\)](#) to engage in the theme.



After the Immersive Learning Journey

The class may decide to do an actual presentation to the *Board of Potion Control*, with students taking turns to present and act as part of the Board.

Students may also share their thoughts on the learning experience, noting any challenges they faced and how they overcame them. This may be completed either as a class discussion or in student notebooks or forms (digital or paper).

1. How did using VR help you to understand volume and ratios better?
2. What was the most challenging part of the VR lab experiments?
3. How can the skills you learned today be applied in real-life situations?