

Name:

Time:



# Physical Science | 0.3 Virtual Lab: Measurement

## Background

This lab will help you practice using measurement tools to collect accurate data, which is essential for scientific investigations. You will explore concepts related to length, volume, mass, temperature, and time that you learned about in the lesson.

**Learning Objective:** Take, record, and interpret scientific measurements using appropriate tools (e.g., rulers, graduated cylinders, thermometers, digital scales) and units.

## Pre-Lab Questions

1. Why is it important to use standardized units when recording measurements?

2. How do inaccuracies in measurement affect scientific conclusions?

Name:

Time:

## Data Collection

Measurement Type	Object or Material	Tool Used	Measurement with Units
Length		[Ruler/Tape Measure/Measuring Tape]	[MLength1]
		[Ruler/Tape Measure/Measuring Tape]	[MLength2]
Volume	[Volume1]	[Graduated Cylinder/Ruler]	[MVolume1]
	[Volume2]	[Graduated Cylinder/Ruler]	[MVolume2]
Density	[Density1]	[Digital Scale] [Ruler/Graduated Cylinder]	[MassD1] [VolumeD1]
	[Density2]	[Digital Scale] [Ruler/Graduated Cylinder]	[MassD2] [VolumeD2]
Time	[Time1]	[Stopwatch/Timer/Data Logger]	[MTime1]
Temperature	[Temp1]	[Thermometer/Digital Thermometer/Probe]	[MTemp1]

## Calculations

In the space provided, type your work for density calculation for your two objects.

Object or Material	Density Calculation Work	Density
[Density2]	[StudentCalcMD2] [StudentCalcVD2]	[CalcDensity2]

Name:

Time:

## Analysis Questions

1. How did choosing different tools affect the accuracy of your measurements?

2. What factors could introduce errors during measurement, and how can they be minimized?

3. How would using improper units impact your results?

4. At the density station, how did the choice of mass and volume tools affect the calculated density?

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