# Purpose

The purpose of this lab is to demonstrate the conservation of energy

# Hypothesis

If a marble is launched from a marble launcher, then the kinetic energy at the barrel of the launcher would be equal to the potential energy at the max height.

# Methodology

In order to test our hypothesis, we set up a marble launcher and a measuring stick to measure the maximum height. We attached a photo gate timer to the barrel to allow us to measure the time that the marble is blocking the gate. For four trials, we launched a marble and recorded both the photo gate time and the maximum height. We used four trials so that we could take an average and use more precise values for our calculations.

# Data

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Trial | Time (s) | VI­ (m/s) | VAvg (m/s) | Height (m) |
| 1 | 0.0025 | 5.6 | 2.8 | 0.75 |
| 2 | 0.0025 | 5.6 | 2.8 | 0.7 |
| 3 | 0.0022 | 6.4 | 3.2 | 0.77 |
| 4 | 0.0026 | 5.4 | 2.7 | 0.67 |

# Constants & Equations

# Analysis