Zachary Sins

AP Physics

Pendulum Lab

Purpose: Find g from T^2= (4π^2)(( 1/12)+d^2)/mgd) and from the slope of the graph

Materials: Meterstick, Photogate, Calculator, Clamp, Paperclip, Clay, Wooden Block

Procedure: Clamp the paperclip on top of the wooden block perpendicular to the table’s edge facing away from the center of the table. Hang the meterstick from the paperclip and secure with a small amount of clay. Place the photogate directly beneath the meterstick, allowing for clearance and accurate measurement. Calculate the period of the pendulum(meterstick) by releasing it above the photogate and using the calculator to record the time ellapsed during each period. Use this number to find the slope, and from the slope deduce the numerical value for “g.”

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| Distance((1/12)+d^2)/d) | Period(s^2) |
| 0.7056 | 2.8224 |
| 0.5833 | 2.3747 |
| 0.6667 | 2.6896 |

(4 π^2)/g=3.7758

g=10.4556m/s^2

(10.4556-9.81)/9.81=6.58% error