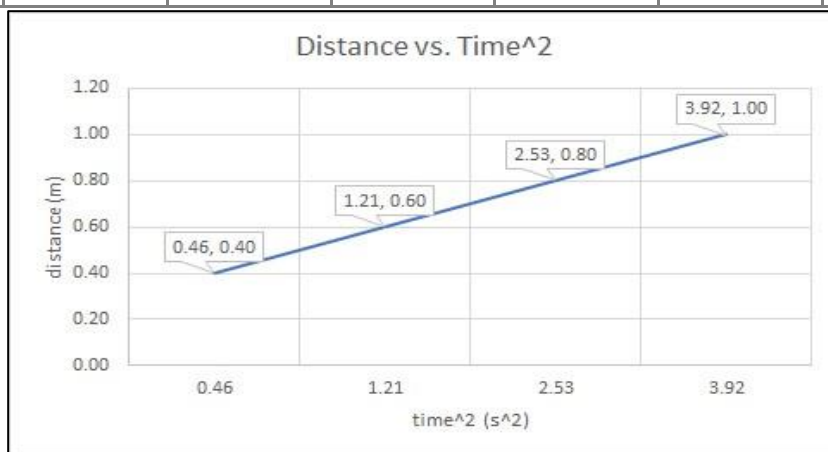


1-1 Galileo's Kinematic *Hands On Experiment*

1-2 Acceleration and Distance Relationship by Ceyhun Yagar

d (m)	t ₁	t ₂	t ₃	t ₄	t ₅	t ₆	t _(avg)	t ₂
1.00	2.19 s	1.90 s	1.96 s	2.02 s	1.89 s	2.02 s	1.98 s	3.92 s ₂
0.80	1.65 s	1.48 s	1.50 s	1.82 s	1.50 s	1.71 s	1.59 s	2.53 s ₂
0.60	1.19 s	1.13 s	1.05 s	1.03 s	1.16 s	1.06 s	1.10 s	1.21 s ₂
0.40	0.81 s	0.63 a	0.72 s	0.65 s	0.66 s	0.70 s	0.68 s	0.46 s ₂



A1. Is the graph linear?

Yes, because the line is straight.

A2. What does it mean if the graph is linear?

It increases or decreases at a constant rate.

A3. What does a linear graph indicate about the acceleration of rolling objects?

A linear graph indicates that the acceleration of rolling objects is constant and stays the same.

A4. Does your data support hypothesis A? Briefly justify your answer.

Yes, because the data on the graph Distance vs. Time² is a straight line and is directly proportional. When distance increases so does time², and acceleration is not affecting the data since it is uniform.

G1. What are the variables in this experiment? - Distance of ramp.

- Steepness of ramp.
- Height when can is released on ramp.
- Time it takes for the can to roll down the ramp.
- **Independent variable:** Distance of ramp.
- **Dependent variable:** Time it takes for the can to roll down the ramp.
- **Controlled variable:** Height when can is released on ramp & steepness of ramp.

