



THE SIMPLE PENDULUM

The affects of the angle

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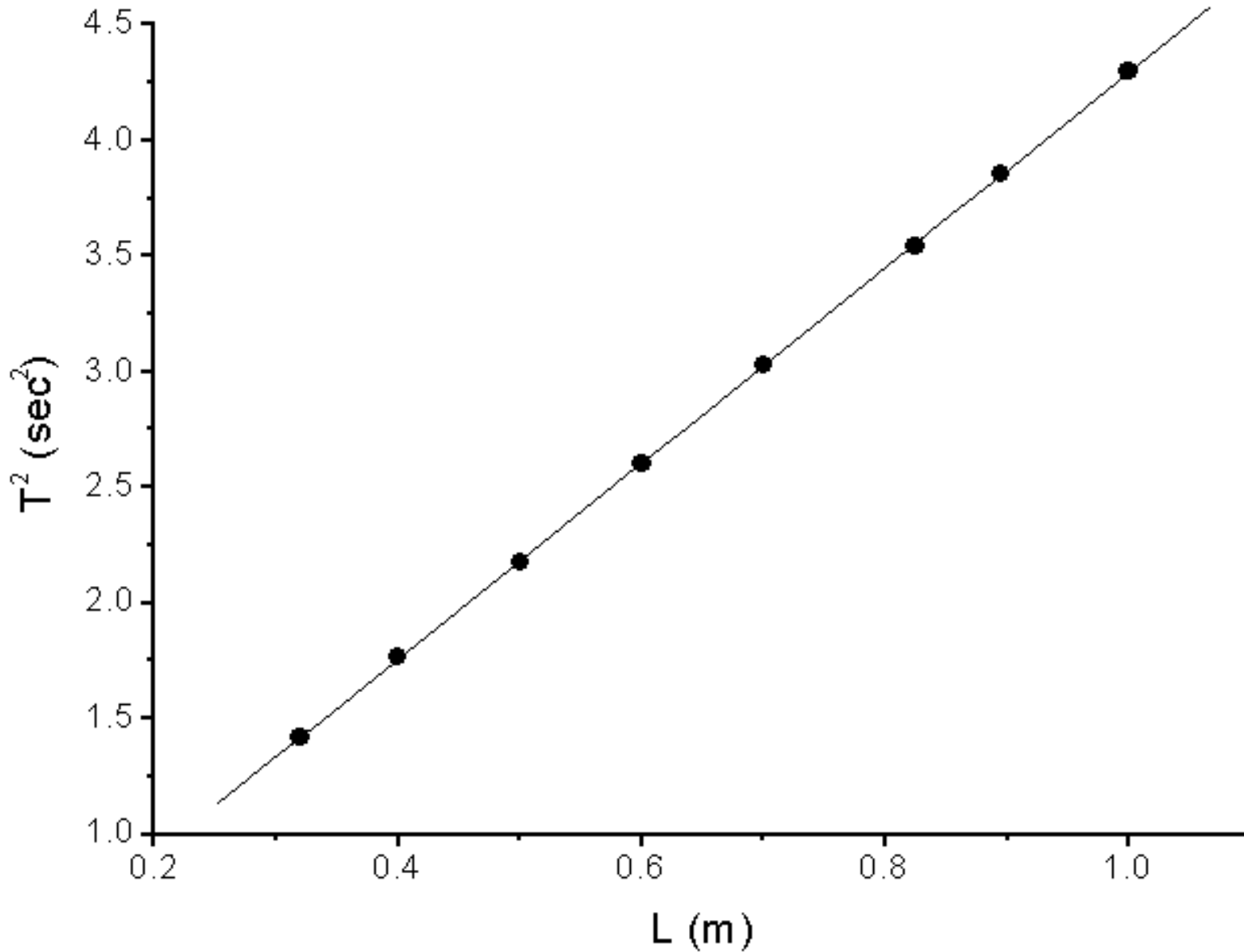
Recap

- In the previous experiment, length was the variable used to test for its effects on the period of a pendulum.
- In this presentation, the previous variable will become a constant.
- The new variable for this experiment will be the angle.

Experiment to find the affects of a variable angle ($^{\circ}$) with periodic time (T)

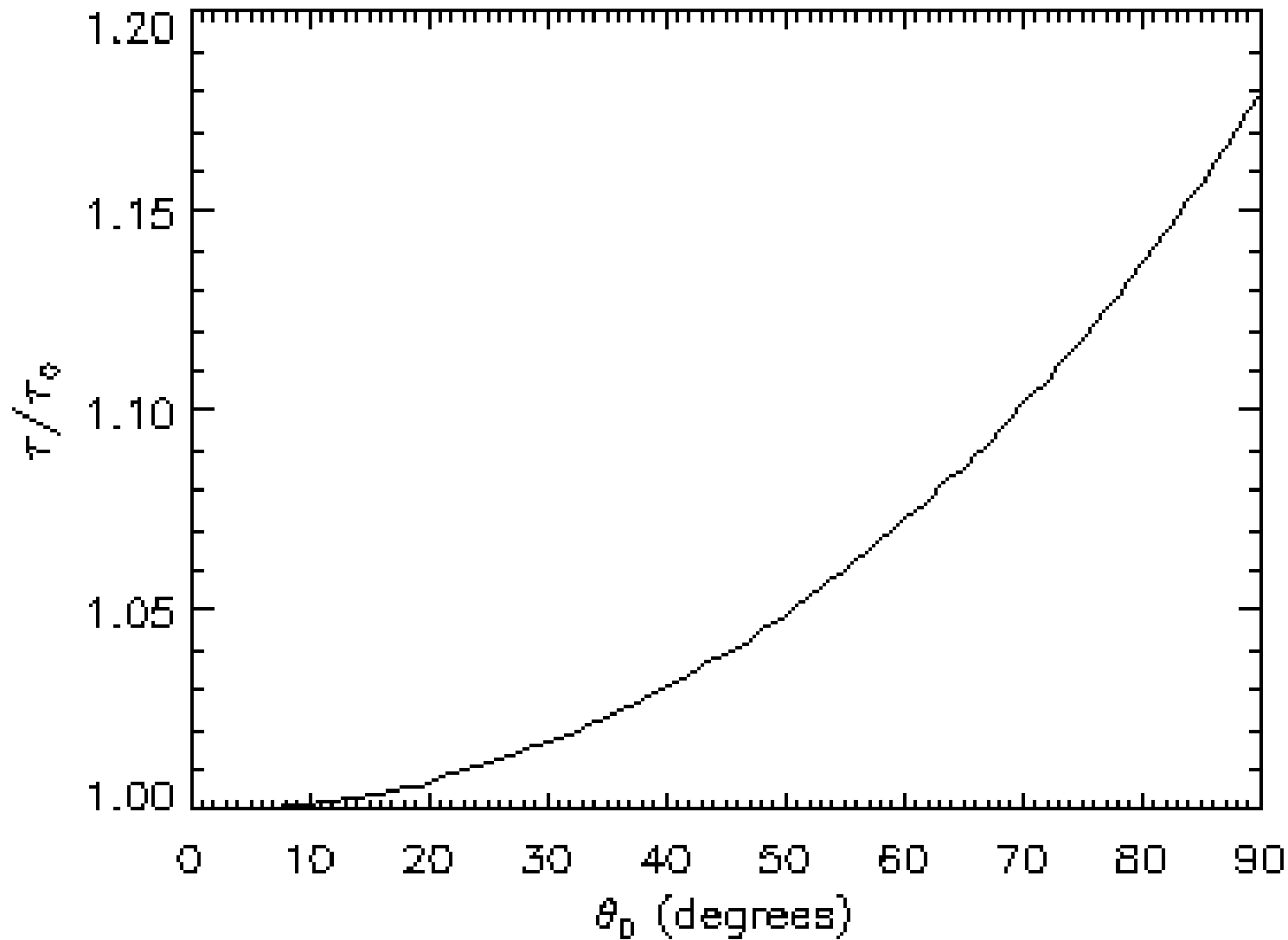
Angle of bob ($^{\circ}$)	Length of string (cm)	Mass of bob (g)	Time for 20 oscillations	Period , T, time for one oscillation	T ² , period squared
10	10	10			
20	10	10			
30	10	10			
40	10	10			
50	10	10			
60	10	10			

- The pendulum using a constant mass and length for 20 oscillations, the angle at which the bob was released is then varied but the experiment is done 6 times per angle of displacement of the bob.
- The values for oscillations, period, angle and period squared are then tabulated.
- A conclusion can then be made from the results.



GRAPH SHOWING $T^2(\text{s}^2)$ VS Angle($^\circ$)

The graph shows direct proportionality between the values of time squared, s^2 , and Angle, $^\circ$.



GRAPH SHOWING PERIOD(S) VS Angle($^\circ$)

The graph shows indirect proportionality between the values of period, s, and Angle, $^\circ$.

The logo is a circular emblem with a multi-colored border. Inside the circle, the words "SHAW S.T.E.M." are written in a bold, sans-serif font along the top arc, and "ACADEMY" is written along the bottom arc. In the center of the circle, the letters "SSA" are prominently displayed in a large, bold, sans-serif font. On either side of the "SSA" text, there is a small, stylized icon of an atom with a central nucleus and three orbiting electrons.

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