

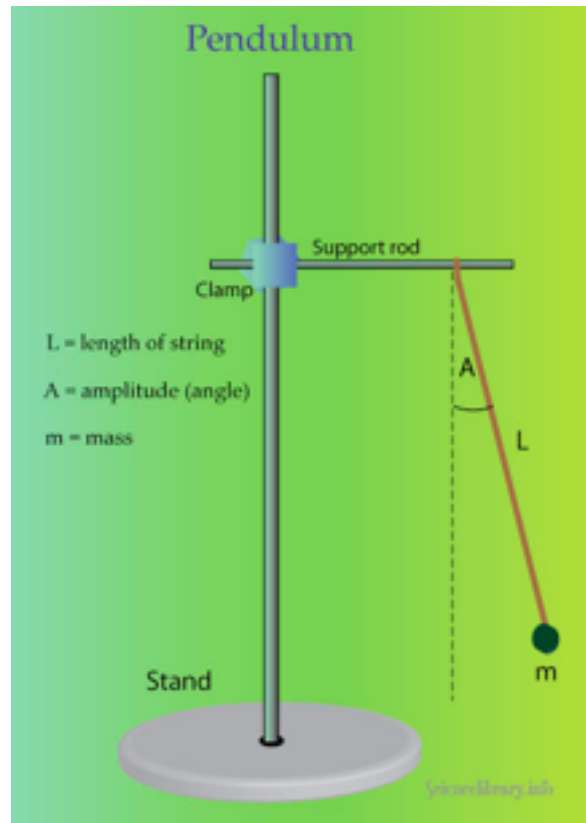
Pendulum Lab

Purpose:

The purpose of this lab is to investigate the periodic motion of an object suspended from a string, forming a simple pendulum. Do the amplitude of the motion, the mass of the object, and/or the length of the string affect the period of the motion?

Experimental Set-up:

Use a long string hung from a rod as shown in the illustration. Use a long rod clamped to the table to allow a long string length. You may collect data using a stopwatch or a GLX and motion sensor (if available). Use other measuring tools and equipment as appropriate for the data you need to collect.



Determine how the amplitude of the motion, the mass of the object, and the length of the string affect the period of the motion.

In your lab write-up, explain how you decided what data to collect and include tables and plots of your data. Discuss how each quantity affects the period of the motion and describe how you determined how each quantity affects the period of the motion. What are the limitations of your measurements (e.g. how could your experiment be improved)? How do your results compare with the commonly accepted relationships?

Pendulum Lab Grading Rubric:

Item	Criterion	Points Possible	Points Earned
Amplitude	Data - table	1	
	Data - plot	1	
	Discussion – determination of effect on period	3	
Mass	Data - table	1	
	Data - plot	1	
	Discussion – determination of effect on period	3	
String length	Data - table	1	
	Data - plot	1	
	Discussion – determination of effect on period	3	
Overall	Discussion – limitations of measurement	3	
	Discussion – comparison with commonly accepted relationships	2	
Total		20	