



Homeschool Learning Network

Week 29 Science: Pendulums (Grades 6-8)

Name _____

Date _____

Introduction:

A pendulum is any object that is suspended from a fixed point so that it swings freely back and forth under the action of gravity. Think of sitting in a swing. You always go out and then you briefly stop and then return back to the starting position. A cycle is one out and back swing of the pendulum. Measuring the time for one cycle is called the period of a pendulum.

Activity: Measuring the Period of a Pendulum

Materials:

- Meter stick
- String (1.5 meters)
- Paper clip
- Fishing weight
- A table where the pendulum may be taped and can swing freely
- Stop watch
- Tape

Procedure:

1. Tie the paper clip onto one end of the string and open it up to make a hook
2. Attach the fishing weight to the hook
3. Tape the string to the edge of a table so it hangs 50 cm from the top.
4. Pull the pendulum back about a hand's length and release. Try this several more times so that you are consistent.
5. Pull the pendulum back a hand's length and release at the same time you start the stopwatch. Count 10 full cycles while you are timing. Stop the watch when the last cycle is complete.
6. Record your data and calculate the period.
7. Repeat this procedure two more times and then calculate an average period.



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ANSWERS TO QUESTIONS:

1. You would release the pendulum when the runner begins the race and count the number of cycles until the runner crosses the finish line. Once you have the number of cycles, multiply by the period and you will have the time in seconds.
2. This pendulum is under the forces of gravity and air friction. It will not continue moving, but will eventually stop. A watch that is powered is much more accurate and will keep running!