Conservation of Energy Lab Report

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Introduction:

In this lab, it is determined to find out the correlation of gravitational energy and kinetic Energy. Students were assigned to develop each individual group’s experiments. Students designed a experiment where an object is free falling, if the height of the falling object increases, the final velocity will also increase.

Procedure:

1. Measure 3 meters height of a particular wall, where the wall is vertical to the floor.
2. Measure 0.8m,0.9m,1m,1.1m,1.2m,1.3m,1.4m,1.5m,1.6m,1.7m,1.8m,1.9m,2m,2.1m,2.2m,2.3m, with in the pre-measured 3 meters.
3. Then drop the same object 5 times of each measurement, record the final time of the ball dropping from each measurement in order to calculate the final velocity of each trials.

Graphical Analysis:

It represent that the velocity increases when the height increases, however the fit line was not exactly linearlized, therefore student cannot find out the correlation between the height and final velocity.

In class professor Beaty introduced the equation Eg=mgh, where the energy of gravity is calculated by the mass of the object multiple the gravitational constant (9.8m/s2) and the height of the object that is free falling.

Therefore students decided to generate a graph that is made up with the final velocity and the calculated gravitational energy

However such graph those students generated was almost identical to the previous graph.

Conclusion:

After the graphical analysis, student could not find any correlation with Gravitational Energy and Kinetic Energy. The hypothesis was not proven, therefore further experiment is needed. In next experiment, students can use a better time recorder like tracker-pro to record the falling time of the object more accurately. If a accurate set of data points is recorded, then those data can be used to proof the hypothesis that student generate.