

Swinging Bucket Lab
AP Physics

24 Points Total

Instructions:

The purpose of this lab is to calculate the normal force exerted on a tennis ball from a plastic bucket at the bucket/tennis ball's highest and lowest points for five different velocities. Write the variables necessary to measure and a procedure to measure each variable, and apply the procedure to your experiment. Record data, and graph the data in a way that allows you to draw conclusions about the experiment. Write these conclusions, and include sources of error and ways to improve your procedure and data-taking.

Rubric:

1. Variables that are necessary to measure (1).
2. Procedure (3).
3. Data table (3). Include all variables that are necessary to measure.
4. Calculations of normal force (4; 2 for normal force at top of loop and 2 for normal force at bottom of loop).
5. Graphs; one for normal force at top of loop and one for normal force at bottom of loop (6).
These must be neatly drawn, with appropriate axes sizes and labels.
6. Sources of error and possible improvements (4; 2 each).
7. Conclusions about your experiment, drawn from your data and graphs (3).