

SPEED

February 26, 2006

Table of Contents

Acknowledgements.....Pg.1

Abstract.....Pg. 2

Experiment.....Pg. 4-5

Data.....Pg. 6

Conclusion.....Pg. 7

Acknowledgements

We would like to thank Mr. Lee for helping us with our diagram and experiment layout. We also would like to thank our parents for helping us purchase our materials. I would also like to thank ACE HARDWARE for donating the PVC piping that we used.

Citation

- <http://www.glenbrook.k12.il.us/GBSSC/PHYS/CLASS/newtlaws/u213e.html>
- <http://www.google.com/search?hl=en&q=air+resistance&btnG=Google+Search>
- <http://www.ask.com/web?o=0&qsrc=19&q=air+resistance>

Abstract

Our project, Speed, was a difficult and fun project. We got our idea from an air resistance chapter in our science textbook. So we gathered our materials, which were: tape, a marble, PVC piping, PVC elbows, a stopwatch, and a metal capping. We hypothesized that the air resistance will be greater in the pipe with the diameter of $\frac{1}{2}$ of an inch. This is the smallest tube. In our experiment we dropped a marble down a PVC pipe that was at a slight angle. Next we waited until the marble hit a metal cap, right when it hit the cap we stopped the time and recorded our data. We tested three different pipes each with a different sized diameter. We ended up finding out that a marble would be sent through a PVC pipe that has a larger diameter quicker. There for the air resistance was greater in the pipe with the smallest diameter.

Experiment

Problem

Our Problem was to find out if the air resistance was greater in a PVC pipe that had a greater or smaller diameter. To test this, we used a marble to travel through different sized pipes.

Materials

Our materials were these:

Page 3

- *PVC piping*

- *Tape*
- *A marble*
- *A stopwatch*
- *A metal capping*

Procedure

Our procedure was basic, first of all we sent a marble down a PVC pipe that had a diameter of three quarters of an inch and we started the stop watch right when

We released the marble. Next we stopped the clock right when the marble fully traveled through the pipe and hit the metal capping. Immediately after this, we recorded all of our data. We did this 10 times. Next we did the same thing over again but with a pipe with a diameter of one inch. And finally we tested the one and one fourth inch pipe the same way.

Data

Our results were that the tube with the greater diameter sent the marble through it faster than the smaller tubes.

The medium tube sent the marble through it slower than the larger tube but faster than the smaller tube, therefore the smallest tube sent the marble the slowest.

Conclusion

In Conclusion, after many tests, our hypothesis has been supported. The tube with the greatest diameter sent the marble through it faster than the two smaller pipes did. Therefore the air resistance was greater in the smallest pipe. The air resistance was the least in the largest pipe.