

# PHYSICS LABORATORY: Terminal Velocity

## **BACKGROUND INFORMATION AND PURPOSE**

Remember that we say an object is in *free fall* when the only force acting on it is the Earth's gravitational force. We almost always 'neglect air resistance' by assuming it is so small as to be ignored. When the object in free fall is near the surface of the earth, the gravitational force on it is nearly constant. As a result, an object in free fall accelerates downward at a constant rate.

In everyday life, however, we cannot ignore air resistance. In this lab, you will investigate the effect of the mass of an object to the amount of air resistance encountered by it when falling through air. Specifically, you will investigate the terminal velocity of a falling object.

The object you will investigate is an ordinary coffee filter. The variables you will consider will be the mass of the filters(s) and their terminal velocity.

Your methodology is entirely up to you. Good luck!

### **Remember:**

- 1. Refer to the 'Physics Lab Report Guide' before submitting your report.**
- 2. Attach the 'Physics Lab Report Rubric' as a cover page to your paper copy.**

***You will be marked on Data Collection and Processing (DCP) and Conclusion and Evaluation (CE) for this lab.***