

Does Paper Fall Like a Book [Informal Lab]

Materials:

Hard cover book

Paper that is slightly smaller than the book so that when they are placed together, no edges of the paper are protruding past the book.

Procedure:

1. Drop the piece of paper and observe how it falls.
2. Drop the book and observe how it falls.
3. Place the paper on top of the book, and drop both together.

Explanation:

The paper dropping to the floor is slowed in its descent due to air resistance caused by friction. The paper is too light relative to the surface area perpendicular to the force of gravity to overcome this air resistance easily. The book is sufficiently heavy to overcome this air resistance. When they fall together, there is no air under the paper, so there is not friction with the air. This models the paper falling in a vacuum. Sky divers make use of this interplay of air resistance and gravitational force. Also, race car drivers use drafting to overcome air resistance.

Reference:

<http://tiger.coe.missouri.edu/~pgermann/DiscEvent/Gravity/Friction/friction.html>

Questions/Things you need to do individually:

1. Nothing needs to be done for this activity other than participation