High School Physical Science

The task

High School students become involved in problem solving in this physics lab. By throwing a Frisbee, they are able to make and verify predictions about air friction, gravity, and lift as related to distance traveled by the toy.

Circumstances of performance

This sample of student work was produced in class and for homework, in a group.

What the work shows

Characteristics of Science

Habits of Mind

SCSh5. Students will be able to communicate scientific ideas and activities clearly.

a. Write clear, coherent accounts of scientific activities, including possible analyses and alternative interpretations of the results.

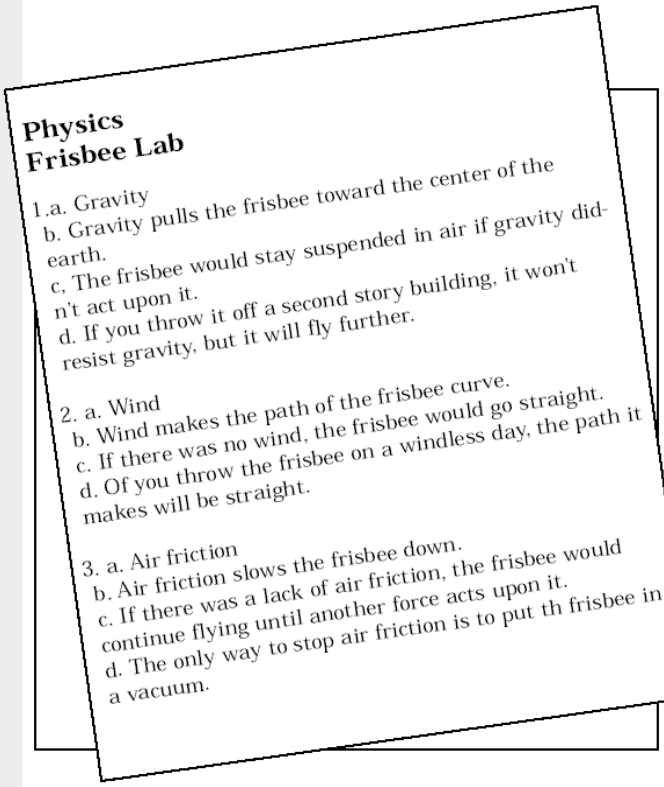
c. Make and use tables, charts, graphs, and scale drawings to make scientific arguments and claims in oral and written presentations.

Content

SPS7. Students will be familiar with the relationship between force, mass, and motion

b. Students will explore the relationship between force, mass and motion.

c. Students will demonstrate a conceptual understand of Newton's Laws of Motion.



Physics
Frisbee Lab

1.a. Gravity
b. Gravity pulls the frisbee toward the center of the earth.
c, The frisbee would stay suspended in air if gravity didn't act upon it.
d. If you throw it off a second story building, it won't resist gravity, but it will fly further.

2. a. Wind
b. Wind makes the path of the frisbee curve.
c. If there was no wind, the frisbee would go straight.
d. Of you throw the frisbee on a windless day, the path it makes will be straight.

3. a. Air friction
b. Air friction slows the frisbee down.
c. If there was a lack of air friction, the frisbee would continue flying until another force acts upon it.
d. The only way to stop air friction is to put th frisbee in a vacuum.

Commentary

The Sample:

- Demonstrates an understanding that moving objects behave according to certain general principles.
- Describes the effect of gravity, wind, and air friction on the path of an object, in this case, a frisbee.
- Predicts the effect of lack of gravity, wind, and air friction.
- Uses drawings to illustrate phenomena.

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