

Friction Shipping and Sliding Lab Topic List (Study Guide)

Given a description of an experiment, be able to recognize sources of error:

- Failure to keep constant variables constant
- Failure to match the experimental design to the problem or question
- Failure to conduct multiple trials
- **outlier**

Given a description of an experiment, be able to recognize evidence of validity:

- Kept specific factors constant
- Multiple independent measurements
- Multiple trials with similar data

Given a data table from an experiment, be able to analyze data:

- To answer the experimental problem or question or recognize that the data are inconclusive
- To critique someone else's data analysis

Given an inquiry task be able to identify the following:

- Question
- Independent variable
- Dependent variable
- Constant variables

11/21/15

Engineering is SWEet!

Hosted by



When: November 21st, 9am-12:30pm

Where: Bannow Science Building, Fairfield University Campus

Activities include: Chromatography experiment, coding lesson, the balloon challenge, and the marshmallow challenge

How: Register by emailing fairfieldswe@gmail.com

Forty girls maximum will be accepted. Signing up will be on a first come first serve basis.

How much: \$5 admittance fee at the door, lunch included

Restrictions: Grades 6th-8th

Contact Information: fairfieldswe@gmail.com

SWE President, Blanca Aca-Tecuanhuehue: (203)526-2923

Topics for Test Force and Friction and Slipping and Sliding Lab (1-3)

Force

- A force is a push or pull on an object that has both a size and direction.
- Net force is the combination of forces acting on an object. Forces in the same direction are added while forces in opposite directions are subtracted. You should be able to use net force to determine the direction that an object will move.
- Unbalanced forces cause changes to objects' motions.
- Balanced forces cause no changes to objects' motions.

Friction

Friction is a force (N) that opposes motion between surfaces that are in contact.

- Friction occurs among all the different states of matter including liquids and gases.

Friction can be either kinetic or static.

- Static friction occurs when the object is not moving.
- Kinetic friction occurs when the object is moving.
 - Rolling
 - Sliding
 - Fluid

The amount of friction between two surfaces depends on many factors.

- The greater the force pushing the surfaces together, the greater the friction
- The more rough the surfaces, the greater the friction

Friction can be both helpful and harmful.

- Know some examples of how it is helpful and harmful.

The force of friction can be increased or decreased.

- Friction may be reduced by lubricants, changing from sliding to rolling, and smoothing surfaces.
- Friction may be increased by roughening surfaces or changing the force pushing them together.

Shipping and Sliding Lab

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