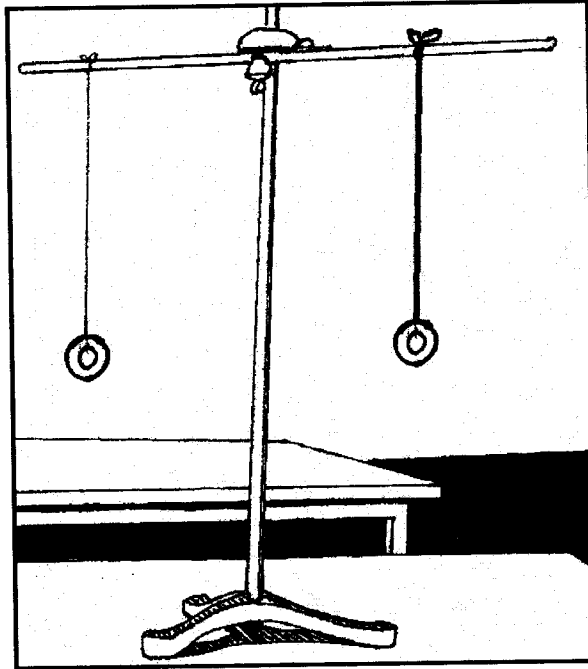


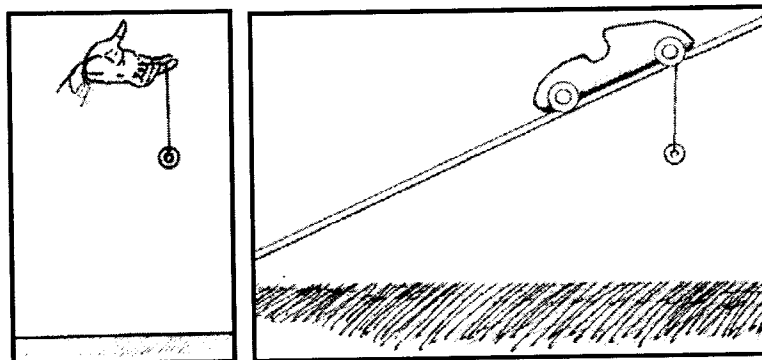
Station A. Elastic Forces: Tension

Suspend a washer on a string from an object like a ring stand. Next, cut a large rubber band to make a strip and hang a washer from it. The washer on the string and the washer on the rubber band should hang at similar heights.



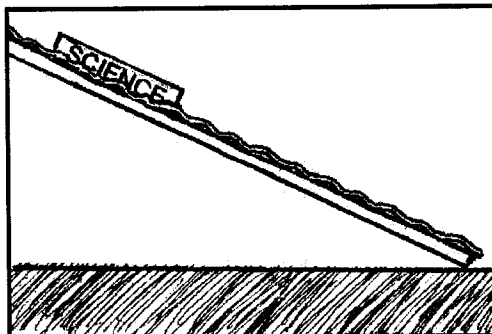
Station B. Gravity

Tie a washer to a 12-inch string. This will be used for the in-hand part of the station. Next, on one end of a separate 12-inch string, tie another washer. Then, tie the free end to the axel of a pinewood racer. Rest the pinewood racer on a meter stick. Use masking tape to fasten the pinewood racer to the meter stick.



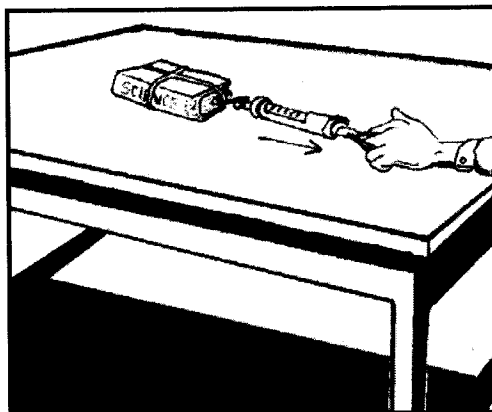
Station C. Friction

Place a textbook and a towel next to a 2' × 1' wooden board. The towel should be able to cover the board.



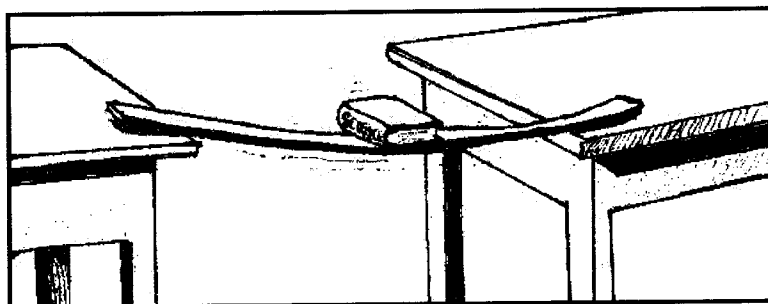
Station D. Friction

Place a textbook on a table. Tie a piece of string around the book that allows to a spring scale to be attached.



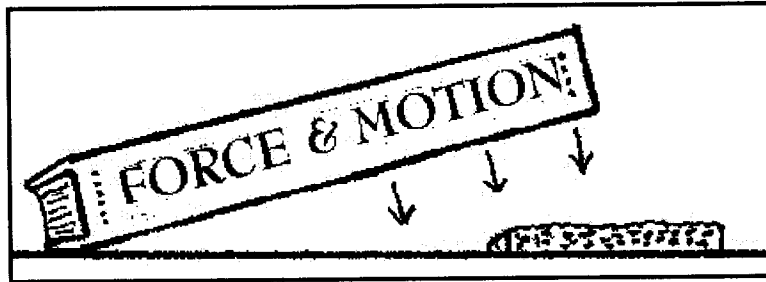
Station E. Elastic Forces: Compression

Place a meter stick between two tables. Balance a textbook on the meter stick in such a manner that the meter stick sags in the middle.



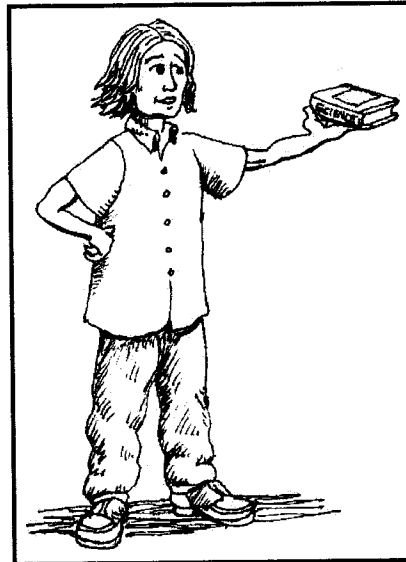
Station F. Elastic Forces: Compression

Place a textbook and a large sponge on a table. The sponge should not be so hard that it doesn't compress, but it shouldn't be damp either.



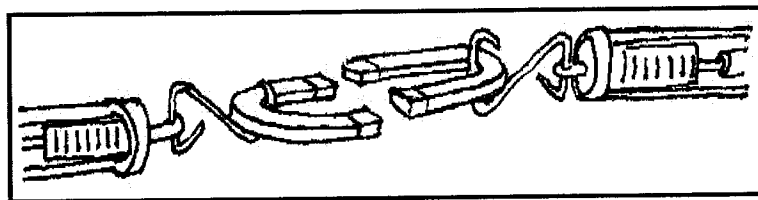
Station G. Gravity

Have a textbook ready at the station.



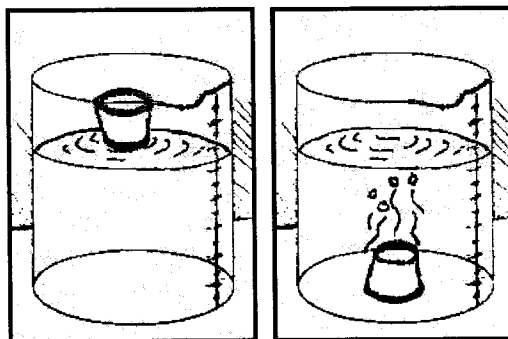
Station H. Magnetism

Place two horseshoe magnets together with their opposite poles in contact. If necessary, use masking tape or string to attach a spring scale to each magnet.



Station I. Buoyancy

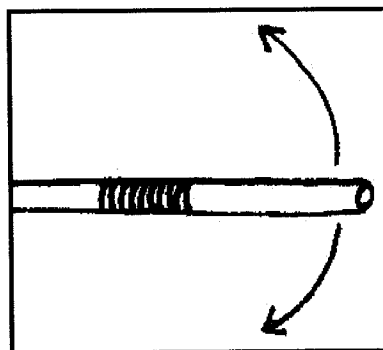
Fill a 1000-ml beaker $\frac{3}{4}$ full of water. Also have available a 250-ml beaker.



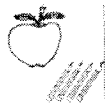
NOTE: *The diagram above does not accurately depict the set-up as described for this station, Station I. A revised drawing will be included in the next version of the Force & Motion Model Lesson.*

Station J. Elastic Forces: Compression

Have 4 flexible drinking straws available at the station.



Procedure



Conduct a review of push forces and pull forces as well as force vector diagrams. Using objects found in the classroom, demonstrate the application of a force and have the students diagram the examples using force vectors. These examples should be simple because the purpose of the lesson is for the students to identify multiple forces acting on a single *static* object at the various stations.



Divide the students into groups of four. Provide the students with Student Worksheet 1. Assign each group to one of the ten stations set up around the classroom.