

MC-FRICSET
FRICITION BOARD KIT

INCLUDED MATERIALS:

Surface board
Two wooden blocks with hooks

OPTIONAL MATERIALS:

String
Spring scale

OBJECTIVES:

To define the term “friction”

To describe the effects of friction on wooden blocks as they are dragged across surfaces of rubber, cork, sandpaper and masonite

PROCEDURE:

1. Explain that friction is a force that resists or retards the motion of two objects relative to each other.
2. Experiment by tying a 12-24” piece of string to each block. Place one block on the sandpaper and one block on the rubber surface. Gently pull on the two stings attached to the blocks. Increase the pulling force gradually until one block moves. Continue pulling harder until the second block moves. Which surface has the greater frictional force in resisting the movement of the block?
3. Repeat the experiment by comparing two other surfaces until the frictional force of each surface has been compared with all the others. List the surfaces in order of greatest frictional force to least frictional force. Form conclusions about what surface characteristics increase friction or reduce friction.
4. Discuss how it takes different pulling forces to overcome the frictional force of each surface. If appropriate, estimate the amount of pulling force (in ounces or other units) needed to overcome the frictional force of each surface.
5. Experiment (optional) with a spring scale. Attach the spring scale to a block and measure the amount of pulling force (in ounces or other units) needed to overcome the frictional force of each surface. Compare your measured results to your estimates. Repeat the experiment but measure the pulling force needed to overcome the frictional force of two blocks hooked together on each surface. What can you conclude about the frictional force on two blocks versus one block?