

ELEMENTARY EXPLORATION: Friction

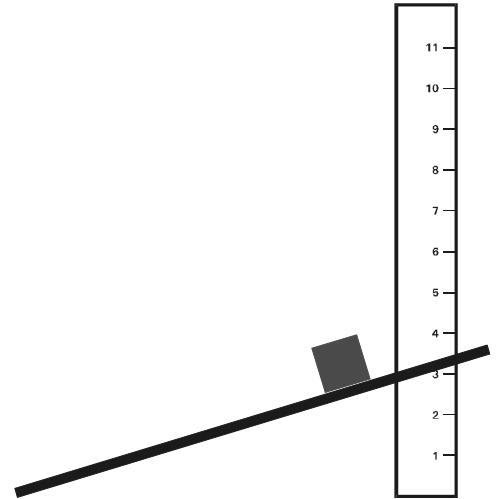
GOAL: To explore the force of friction between several materials.

MATERIALS:

- 2 Rulers
- 1 Wood block
- Construction paper
- Aluminum foil
- Waxed paper
- Tape
- Scissors

PREPARATION:

1. Set up a center with the materials listed.
2. Schedule the students in groups of four to explore the center at five minute intervals.
3. Make one copy of this page for each student.



STUDENT PROCEDURE:

1. Friction is the force that opposes or slows the motion of objects.
2. Which do you think will produce the most friction with the ruler: the wood block or the block wrapped in construction paper, aluminum foil, or waxed paper?
3. In the column marked Hypothesis, number the materials from 1 – 4 with the 1 representing the material that produces the most friction.
4. Hold one ruler upright, like in the diagram.
5. Place the wood block on the smooth side of the second ruler and slowly raise one end until the block begins to move. Record the height of the ruler at that point.
6. Wrap the block in a small piece of construction paper, using the tape to hold the paper tightly in place. Using the same procedure, find and record the height of the ruler when the block begins to move.
7. Follow the same procedure with the aluminum foil and the waxed paper. Record the data.
8. From your data, determine which material produced the most friction with the ruler. In the result column, number the materials from 1 – 4, with the 1 representing the material that produced the most friction.
9. Was your hypothesis correct? What did you learn from this experiment?

Material	Hypothesis	Data (inches)	Result
wood			
paper			
aluminum foil			
waxed paper			