

Slip, Grip, or Slide

What to Do

1. Set up equipment as shown on page 284 of your student resource.
2.
 - a) Gently pull the coffee cup along the smooth table top.
 - b) Record the force in the data chart below in the column marked Trial 1.
 - c) Repeat this step for Trial 2 and Trial 3.
 - d) Calculate the average force required to pull the coffee cup along the smooth table top.
3.
 - a) Gently pull the coffee cup along the sandpaper.
 - b) Record the force in the data chart below in the column marked Trial 1.
 - c) Repeat this step for Trial 2 and Trial 3.
 - d) Calculate the average force required to pull the coffee cup over the sandpaper.
4.
 - a) Gently pull the coffee cup along the table top with water on it.
 - b) Record the force in the data chart below in the column marked Trial 1.
 - c) Repeat this step for Trial 2 and Trial 3.
 - d) Calculate the average force required to pull the coffee cup along the smooth table top that is covered with water.

What Did You Observe?

Surface	Force Trial 1	Force Trial 2	Force Trial 3	Average Force $\left(\frac{\text{Total of Trials}}{3}\right)$
smooth table top				
sandpaper				
water on table top				

Name: _____

Date: _____

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(continued)

What Did You Learn?

- 5.** Is there any difference among the three average forces? YES NO
Explain any difference.

- 6.** Explain the connection between this activity and how sports shoes work on different surfaces.
