

Forces**Friction and Gravity** (pages 340–348)**Friction** (pages 341–343)

Key Concept: The strength of the force of friction depends on two factors: how hard the surfaces push together and the types of surfaces involved.

- **Friction** is a force caused by two objects rubbing together. Friction acts in the opposite direction of motion. Friction keeps you from slipping when you walk. Friction also makes a car's brakes work.
- The amount of friction depends on two things: how smooth the objects are and how hard they push together.
- There are four kinds of friction:
 1. **Static friction** is between two things that are not moving.
 2. **Sliding friction** happens when two objects slide past each other.
 3. **Rolling friction** occurs when one object rolls over another.
 4. **Fluid friction** happens when a solid moves through a fluid, like water or air.

Answer the following questions. Use your textbook and the ideas above.

1. A force caused by two objects rubbing together is _____.
2. Circle the letter of each sentence that is true about friction.
 - a. Friction acts in the same direction as motion.
 - b. There are four kinds of friction.
 - c. The amount of friction depends only on how smooth the objects are.

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3. Friction acts in the opposite direction of _____.

4. Read the words in the box. Use the words to fill in the blanks in the table about friction.

Static friction	Fluid friction	Sliding friction
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Friction	
Kind of Friction	Friction Occurs When...
Rolling friction	an object rolls over a surface
a. _____ _____	an object moves through air or water
b. _____ _____	one object slides over another
c. _____ _____	objects are not moving