



# Keep It Rolling!

## Procedure

- 1. Measure** Work with a partner. Measure 2 m from the wall. Mark this position with a line of masking tape on the floor.
- 2. Record Data** Record your measurement in the blank under *Short Distance*.

|                | Short<br>Distance:<br>_____ | Long<br>Distance:<br>_____ |
|----------------|-----------------------------|----------------------------|
| Roll 1<br>Time |                             |                            |
| Roll 2<br>Time |                             |                            |

- 3. Experiment** Slowly roll a ball straight toward the wall. This is *Roll 1*. Have your partner start a stopwatch just as the ball crosses the tape and stop the stopwatch just as the ball strikes the wall. Record the time in the chart.
- 4. Collaborate** Change places with your partner. Have your partner roll the ball faster than you rolled it. Time this roll. Record this time as *Roll 2* in the chart.
- 5. Use Variables** Take several steps back from the line of masking tape. Mark a second line with masking tape. Measure the distance between the wall and the second line. Record this distance under *Long Distance*. Repeat steps 3 and 4 for the longer distance.

Name \_\_\_\_\_ Date \_\_\_\_\_

## Conclusion

Write the answers to the questions below.

- 1. Collaborate** For each distance, compare the time of your roll to the time of your partner's roll. Whose rolls took less time?

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- 2. Analyze Data** How does distance affect the time it takes the ball to reach the wall?

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**Solve a Problem** The fire department wants to shorten the time it takes fire trucks to travel from the firehouse to a fire. Describe two ways that fire trucks could reach fires faster.

Guided Inquiry