

**Activity****Energy Equation Thought Problems**

Use the equations on the previous page to determine how mechanical kinetic and gravitational potential energy are affected in the following problems.

Explain your answer in each case.

1. Two cars are driving at the same velocity, but one has twice the mass of the other. Is the mechanical kinetic energy of the larger car two times, three times, or four times that of the smaller car?
2. You are skateboarding to school and realize that you are late. If you double your pace, by what factor would your mechanical kinetic energy increase?
3. Two rock climbers of the same mass are climbing a cliff.
  - a) One stops to rest at a position that is 50 m above the ground. The other climber stops at a height of 25 m above the ground. Which one has greater gravitational potential energy?
  - b) Would the climbers have more or less gravitational potential energy if they were climbing a cliff on the Moon?

Use the equations on page 212 of the textbook to determine how mechanical kinetic energy and gravitational potential energy are affected in the following problems. Explain your answer in each case.

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DATE:

NAME:

CLASS:

**TOPIC 3.1**

**Activity: Energy Equation Thought Problems**

**BLM 3.1-9**

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