Lesson Check: Speed and Energy

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1) Which is evidence that a bowling ball has more energy when it is moving faster than when it is moving slower?

- ○ The bowling ball has a larger mass when it is moving faster than when it is moving slower.
- ○ The bowling bowl can knock over more pins when it is moving faster than when it is moving slower.
- ○ The bowling ball will reach the pins in less time when it is moving faster than when it is moving slower.
- ○ A bowling ball can knock over more pins than a soccer ball moving at the same speed.

2) Fill in the blanks using the available answer choices.

The _____ energy of a roller coaster is the energy of its motion.
(Blank 1)

Blank 1 options
- potential
- kinetic

3) Stretching a coil or spring increases its _____.

- ○ potential energy
- ○ kinetic energy
- ○ direction
- ○ speed

4) Because jaguars can run faster than sloths they move with more _____ energy than sloths.

5) Suppose you are riding a bike. As you increase speed, your _____.

- ○ energy of motion increases
- ○ energy of motion decreases
- ○ stored energy increases
- ○ energy is used up

6) How can the speed of a dropped ball be increased?

- ○ Roll it down a hill instead to increase the amount of friction.
- ○ Drop a larger ball to increase the amount of friction.
- ○ Decrease the height from which it is dropped to give it more potential energy.
- ○ Increase the height from which it is dropped to give it more potential energy.

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7) Fill in the blanks using the available answer choices.

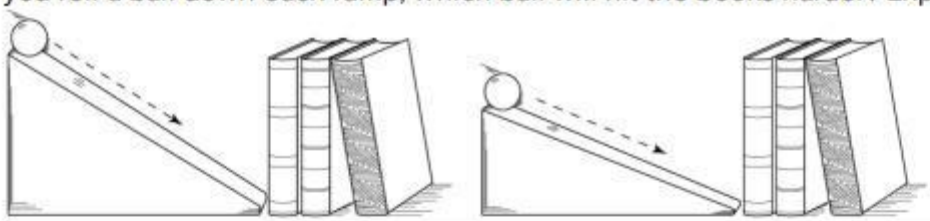
If the amount of kinetic energy an object has is _____, then the object will move faster.
(Blank 1)

Blank 1 options
- increased
- decreased

8) Which is **not** evidence of what happens during a roller coaster ride?

- ◯ As the cars go down the hill, the energy of motion increases.
- ◯ As the cars pull to the top of the first hill, the potential energy increases.
- ◯ As the cars slow down at the end of the ride, energy of motion decreases.
- ◯ As the cars pull to the top of the first hill, the potential energy decreases.

9) There are two ramps with books standing at the bottom. One ramp is taller than the other. If you roll a ball down each ramp, which ball will hit the books harder? Explain your answer.



10) The energy of motion is _____.

- ◯ determined by an object's position above a surface
- ◯ increased as your speed decreases
- ◯ decreased as your velocity increases
- ◯ not determined by an object's position above a surface

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