

Work and Energy Quiz 2

Section Quiz: Energy

Write the letter of the correct answer in the space provided.

- _____ 1. Energy that is due to the motion of an object is
 - a. kinetic energy.
 - b. potential energy.
 - c. gravitational potential energy.
 - d. elastic potential energy.

- _____ 2. Energy stored in the gravitational field of interacting bodies is
 - a. kinetic energy.
 - b. nonmechanical energy.
 - c. gravitational potential energy.
 - d. elastic potential energy.

- _____ 3. Energy associated with a compressed or stretched object is
 - a. kinetic energy.
 - b. potential energy.
 - c. gravitational potential energy.
 - d. elastic potential energy.

- _____ 4. How does the kinetic energy of an object change if the object's speed doubles?
 - a. The kinetic energy decreases to half its original value.
 - b. The kinetic energy doubles.
 - c. The kinetic energy increases by a factor of 4.
 - d. The kinetic energy does not change.

- _____ 5. The work-kinetic energy theorem states that
 - a. the net work done on an object equals the kinetic energy of the object.
 - b. the net work done on an object equals the change in the kinetic energy of the object.
 - c. the change in the net work done on an object equals the kinetic energy of the object.
 - d. the change in the net work done on an object equals the change in the kinetic energy of the object.

Work and Energy *continued*

- _____ 6. Friction does -400 J of net work on a moving car. How does this affect the kinetic energy of the car?
- The kinetic energy increases by 400 J .
 - The kinetic energy decreases by 400 J .
 - The kinetic energy decreases by 160 kJ .
 - The kinetic energy does not change.
- _____ 7. Which of the following does *not* affect gravitational potential energy?
- an object's mass
 - an object's height relative to a zero level
 - the free-fall acceleration
 - an object's speed
- _____ 8. How does the elastic potential energy in a mass-spring system change if the displacement of the mass is doubled?
- The elastic potential energy decreases to half its original value.
 - The elastic potential energy doubles.
 - The elastic potential energy increases or decreases by a factor of 4.
 - The elastic potential energy does not change.
9. Which has more kinetic energy, a 4.0 kg bowling ball moving at 1.0 m/s or a 1.0 kg bocce ball moving at 4.0 m/s ? Explain your answer.
- _____
- _____
- _____
- _____
- _____
10. The staples inside a stapler are kept in a place by a spring with a relaxed length of 0.115 m . If the spring constant is 51.0 N/m , how much elastic potential energy is stored in the spring when its length is 0.150 m ?