Ping Pong Catapult

Student quiz — Answer key

Directions: Circle the best answer for each question below.

1. The energy of motion is called
   a. gravitational potential energy
   b. elastic potential energy
   c. chemical energy
   d. kinetic energy

2. When you stretch a rubber band, it stores _____.
   a. elastic potential energy
   b. gravitational potential energy
   c. chemical energy
   d. kinetic energy

3. When you pull back the catapult's arm and then release it, which of the following statements is true?
   a. The kinetic energy of the rubber bands is converted to the elastic energy of the ping pong ball.
   b. The elastic potential energy of the rubber bands is converted to the kinetic energy and gravitational potential energy of the ping pong ball.
   c. The gravitational potential energy of the rubber band is converted to the kinetic energy of the ping pong ball.
   d. None of the above.

4. You set up an experiment where you change the launch angle while keeping the pull-back angle constant, and measure the horizontal distance the ball travels as a result. Which of the following is your independent variable?
   a. Pull-back angle
   b. Horizontal distance the ball travels
   c. Launch angle
   d. Number of rubber bands

5. You conduct four trials with pull-back angles of 20, 40, 60, and 80 degrees, while the launch angle is held constant. Which pull-back angle do you expect to result in the ball traveling the farthest?
   a. 20 degrees
   b. 40 degrees
   c. 60 degrees
   d. 80 degrees