

Physical Science Worksheet: Energy

Short Answer

1. The kinetic energy of an object increases as its _____ increases.
2. Increasing the speed of an object _____ its potential energy.
3. The SI unit for energy is the _____.
4. You can calculate kinetic energy by using the equation _____.
5. According to the law of conservation of energy, the total amount of energy in the universe _____.
6. What is the energy in motion?
7. What is the energy that is stored?
8. A jukebox that weighs 1023 N is lifted a distance of 45 m straight up by a rope. The job is done in 117 s. What power is developed in watts?
9. Superman, with a mass of 102.06 kg, was flying around one day looking out for trouble. He was flying at a height of 500 m then he stopped and floated in the air at that height. Suddenly, a piece of Kryptonite rope came out of nowhere and wrapped around Superman. The Kryptonite rope took Superman's powers and he fell to the ground. At what Velocity did he hit the ground?
10. Which of the following is not used to calculate kinetic energy?
11. Which of the following is not used to calculate potential energy?
12. The _____ energy of an object increases with its height.
13. The law of _____ states that energy in a system can change forms but can never be created or destroyed.
14. The ability to do work is called
15. Energy stored in the core of an atom is called
16. The rate at which work is done is

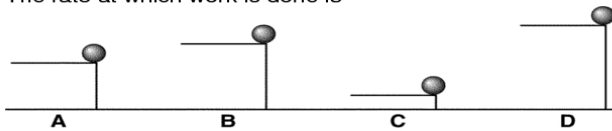


Figure 4-1

17. Which ball in Figure 4-1 has the greatest potential energy?
18. Which ball in Figure 4-1 has the least potential energy?
19. Use the equation $KE = 1/2m \times v^2$ to calculate the kinetic energy of a 100 kg cart moving at a speed of 7 m/s?
A carpenter lifts a 10-kg piece of wood to his shoulder 1.5 m above the ground. He then sets the wood on his truck at 1.0 m above the ground and makes his delivery going 10 m/s.
20. What is the wood's potential energy on the carpenter's shoulder?
21. What is the wood's potential energy on the carpenter's truck?
22. What is the wood's kinetic energy during the delivery?
23. If the wood drops from the carpenter's shoulder, what would its maximum kinetic energy be?
24. A 20-kg bicycle carrying a 50-kg girl is traveling at a speed of 8 m/s. What is the kinetic energy of the girl and bicycle?
25. A 200-kg boulder is raised 10 m above the ground and then is dropped. Calculate its kinetic energy just before it hits the ground.