

Name \_\_\_\_\_ Period \_\_\_\_\_ Date \_\_\_\_\_

## WORKSHEET: KINETIC AND POTENTIAL ENERGY PROBLEMS

1. Stored energy or energy due to position is known as \_\_\_\_\_ energy.
2. The formula for calculating potential energy is \_\_\_\_\_.
3. The three factors that determine the amount of potential energy in an object are \_\_\_\_\_, \_\_\_\_\_ and \_\_\_\_\_.
4. Potential energy is measured in units of \_\_\_\_\_.
5. Mass must be measured in units of \_\_\_\_\_.
6. Gravitational pull must be measured in units of \_\_\_\_\_.
7. Height must be measured in units of \_\_\_\_\_.
8. Calculate the **potential energy** of a rock with a mass of 55 kg while sitting on a cliff that is 27 m high.
9. What **distance** is a book from the floor if the book contains 196 Joules of potential energy and has a mass of 5 kg?
10. An automobile is sitting on a hill which is 20 m higher than ground level. Find the **mass** of the automobile if it contains 362,600 J of potential energy.
11. Energy of motion is known as \_\_\_\_\_ energy.
12. The formula for calculating kinetic energy is \_\_\_\_\_.
13. The two factors that determine the amount of kinetic energy in an object are \_\_\_\_\_ and \_\_\_\_\_.
14. Kinetic energy is measured in units of \_\_\_\_\_.
15. Mass must be measured in units of \_\_\_\_\_.
16. Velocity must be measured in units of \_\_\_\_\_.

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17. Calculate the **kinetic energy** of the rock in problem #8 if the rock rolls down the hill with a velocity of 8 m/s.
  
18. Calculate the **kinetic energy** of a truck that has a mass of 2900 kg and is moving at 55 m/s.
  
19. Find the **mass** of a car that is traveling at a velocity of 60 m/s North. The car has 5,040,000 J of kinetic energy.
  
20. **How fast** is a ball rolling if it contains 98 J of kinetic energy and has a mass of 4 kg?