

## Energy Home Work

Name: \_\_\_\_\_

Classify the following as a type of potential energy or kinetic energy (use the letters K or P)

- |  |       |  |       |
|--|-------|--|-------|
| 1. A bicyclist pedaling up a hill        | _____ | 2. An archer with his bow drawn        | _____ |
| 3. A volleyball player spiking a ball    | _____ | 4. A baseball thrown to second base    | _____ |
| 5. The chemical bonds in sugar           | _____ | 6. The wind blowing through your hair  | _____ |
| 7. Walking down the street               | _____ | 8. Sitting in the top of a tree        | _____ |
| 9. A bowling ball rolling down the alley | _____ | 10. A bowling ball sitting on the rack | _____ |

What examples can you find in your home that are examples of kinetic and potential energy? (name two for each type of energy)

11. Kinetic: \_\_\_\_\_
12. Kinetic: \_\_\_\_\_
13. Potential: \_\_\_\_\_
14. Potential: \_\_\_\_\_

$$\mathbf{KE = 0.5 \cdot m \cdot v^2} \quad \mathbf{OR} \quad \mathbf{PE = m \cdot g \cdot h}$$

$v = \text{velocity or speed}$        $m = \text{mass in kg}$        $g = 10 \text{ m/s/s}$        $h = \text{height in meters}$

15. You serve a volleyball with a mass of 2.1 kg. The ball leaves your hand with a speed of 30 m/s. The ball has \_\_\_\_\_ energy. Calculate it.
16. A baby carriage is sitting at the top of a hill that is 21 m high. The carriage with the baby has a mass of 1.5 kg. The carriage has \_\_\_\_\_ energy. Calculate it.
17. A car is traveling with a velocity of 40 m/s and has a mass of 1120 kg. The car has \_\_\_\_\_ energy. Calculate it.