Energy

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|  | Potential Energy |
| 635 J | 1. What is the potential energy of a 5.4 Kg shot put that is 12 m in the air? |
| 6.6x107 Kg | 2. What mass of water must you elevate a distance of 500. m to get a potential energy of 3.24 x 1011 J? |
| 61 m | 3. To what height must a 0.50 Kg ball rise to get a potential energy of 300. J? |
|  | Kinetic energy |
| 393.5 J | 4.What is the kinetic energy of a 0.545 Kg ball going 38 m/s? |
| 14 m/s | 5.What speed must a 5.0 Kg hammer have to have a kinetic energy of 500. J? |
| 0.201 Kg | 6. A speeding bullet with a speed of 582 m/s has a kinetic energy of 34,000 J. What is its mass? |
|  | Work and energy |
| 0.017 m | 7. It takes 500 N of force to drive a nail. A 0.69 Kg hammer going 5.0 m/s will drive it in what distance? |
| 2118 N | 8. A 1000.Kg car going 12 m/s is stopped in a distance of 34 m. What force stopped it? |
| 19845 N | 9. A pile driver lifts a 45 Kg pile driving head a distance of 6.6 m above a piling. It drives the piling in a distance of 0.15 m. What force does it exert? |
|  | Conservation of energy: |
| 59 m | 10. A 0.145 Kg pop fly has an upward velocity of 34 m/s. How high in the air will it go? |
| 19.8 m/s | 11. A 1.00 Kg ball falls 20.0 m. What is its speed when it hits the ground? |
| 6.78 m/s | 12. A 1000. Kg car is going 12.0 m/s at the bottom of a 5.00 m tall hill. How fast is it going at the top? |
| 8.6 m/s | 13. A 100. Kg rollercoaster is going 5.0 m/s at the top of a 7.5 m hill. What is its velocity at the top of a 5.0 m tall hill? |
| 8.1 m/s | 14. A 200 Kg rollercoaster is going 12 m/s at the top of a 3.0 m tall hill. What is its velocity at the top of a 7.0 m tall hill? |
| 13.5 m/s | 15. A 300. Kg rollercoaster is going 5.00 m/s at the top of an 8.00 m tall hill. What is its speed at the bottom? |