

WORK, ENERGY, AND POWER

TRACKSTAR # 36926

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WORK

1. Explain the difference between an EFFORT (Force) and the concept of WORK.
2. Write the equation for calculating WORK. $W =$ _____
3. Calculate the amount of work done when I lift a tray of food weighing 30 N from the floor to your shoulder which is a distance of 1.5 m. (Always write the equation first, then plug in the numbers with their units, then give the answer with the units.)
4. According to science, if you are holding up a tray of food and are moving it across the room, is your arm doing work on the tray? Explain your answer.

POTENTIAL ENERGY

5. Explain what the term “ENERGY” means.
6. Define the term “POTENTIAL ENERGY”.
7. Name three types of potential energy. a. _____
b. _____ c. _____
8. Write the equation for calculating “**gravitational potential energy**”.
9. Using the acceleration of gravity as $10 \text{ m} / \text{s}^2$, calculate the PE of a bowling ball whose mass is 15 Kg and is sitting on a shelf 2 m above the floor.

KINETIC ENERGY

10. Define the term “KINETIC ENERGY.

11. Explain how “kinetic energy” is different from “potential energy”

12. Write the equation for calculating kinetic energy.

13. A Yankee pitcher threw a hard ball with a mass of 0.3 Kg at a velocity of 44 m / s (~90 mi / hr). Calculate the kinetic energy of the baseball.

POWER

14. Write the equation for calculating POWER.

15. What is the standard unit for power in the metric system? _____

16. How much power is required to push a box requiring a force of 20 N a distance of 10 m in 3 seconds.