



ST. LAWRENCE HIGH SCHOOL

A JESUIT CHRISTIAN MINORITY INSTITUTION



Sub: Physical Science

Class: 8

Date: 19.06.20

Duration: 40 min

Worksheet 42

Full Marks: 15

ENERGY/WORK

Choose the Correct options:

- How is work defined?
 - the amount of energy
 - the transfer of force over a distance
 - rate of work in a given time
 - the change in distance in a given time
- What is the unit of measurement for work?
 - N
 - J
 - W
 - m
- What is the equation for work?
 - $W = \text{mass} * \text{acceleration}$
 - $W = \text{force} * \text{distance}$
 - $W = \text{force}/\text{distance}$
 - $W = \text{speed}/\text{time}$
- Which of the following is an example of work being done?
 - Teacher sitting in a chair
 - Book resting on desk
 - Keys hanging from a key chain
 - A ball being rolled on the floor
- If a student uses 10 N of Force to push a chair 5 meters, how much work is being done?
 - 2 J
 - 5 J
 - 50 J
 - 20 N
- If a boulder is lifted by a forklift a distance of 10 meters with a force of 30 N. How much work is being done?
 - .333 J
 - 3 J
 - 300 J
 - 60 J
- If a bowling ball weighing 5 kg is dropped from a 30 meter tall building, how much work is being done if the acceleration due to gravity is 9.8 m/s^2 (Hint: $F = m*a$)
 - 1,470 J
 - 150 J
 - 49 J
 - 294 J

8. If a lion drags his prey 10 meters to his den doing 500 J of work, how much force did he use?

- (a) 50 N
- (b) 500 J
- (c) 50,000 N
- (d) 10 N

9. In which of the following situations do your arms do work on books?

- (a) holding a heavy stack of books while standing
- (b) carrying a heavy stack of books
- (c) dropping a stack of books onto a table
- (d) picking up a pile of books from the floor

10. How much work is done in holding a 15 N sack of potatoes while waiting in line at the grocery store for 3 minutes?

- (a) 15 J
- (b) 45 J
- (c) 0 J
- (d) 5 J

11. Energy is the ability to do _____.

- (a) Nothing
- (b) Work
- (c) Energy
- (d) Change

12. What is the unit of measure for force?

- (a) J
- (b) m
- (c) N
- (d) Kg

13. What is the unit of measure for distance?

- (a) J
- (b) m
- (c) N
- (d) Kg

14. 1 erg = _____ J

- (a) 10^7
- (b) 10^{-7}
- (c) 10^{-6}
- (d) 10^{-5}

15. A work of 150 J is done when a body is moved through 6 m in the direction of force. Find the amount of force applied.

- (a) 25 N
- (b) 2.5 N
- (c) 900 N
- (d) 90 N