Sub: Physical Science   **Class: 8**   **Date: 19.06.20**

Duration: 40 min   **Worksheet Solution 42**   **Full Marks: 15**

ENERGY/WORK

Choose the Correct options:

1. How is work defined?
   (a) the amount of energy
   (b) the transfer of force over a distance
   (c) rate of work in a given time
   (d) the change in distance in a given time

2. What is the unit of measurement for work?
   (a) N
   (b) J
   (c) W
   (d) m

3. What is the equation for work?
   (a) W = mass * acceleration
   (b) W = force * distance
   (c) W = force/distance
   (d) W = speed/time

4. Which of the following is an example of work being done?
   (a) Teacher sitting in a chair
   (b) Book resting on desk
   (c) Keys hanging from a key chain
   (d) A ball being rolled on the floor

5. If a student uses 10 N of Force to push a chair 5 meters, how much is work is being done?
   (a) 2 J
   (b) 5 J
   (c) 50 J
   (d) 20 N

6. 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?
   (a) .333 J
   (b) 3 J
   (c) 300 J
   (d) 60 J

7. 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)
   (a) 1,470 J
   (b) 150 J
   (c) 49 J
   (d) 294 J

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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