OAKRIDGE INTERNATIONAL SCHOOL

Revision Worksheet

Subject : Physics **Name of the Student:**

Topic :Energy

Grade : MYP 4/5

1. A body of mass 2kg is moving with a speed of 20m/s Find the kinetic energy. (400J)

2. A moving body of 30kg has 60 J of KE. Calculate the speed.

3. A hammer of mass 1kg falls freely from a height of 2 m .Calculate (I) The velocity and (II) The KE of the hammer just before it touches the ground. Does the velocity of hammer depend on the mass of hammer? (6.26m-2 , 19.6 J)

4. Calculate the energy possessed by a stone of mass 10kg kept at a height of 5m If 196x102 J of energy were used to raise a 40kg boy above the ground, how high would he be raised? (50m)

5. Calculate the change that should be affected in the velocity of a body to maintain the same KE , if mass of the body is increased to 4 times (half the original velocity)

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Subject : Physics **Name of the Student:**

Topic Work, Power, Energy

Grade : MYP 4/5

1. A machine does 192 J of work in 240Sec. What is the power of the machine? (8w)

2. A weighting 50kg runs up a hill rising himself vertically 10m in 20Sec. Calculate power. given g=9.8m-1 (245w)

3. A rickshaw puller pulls the rickshaw by applying a force of 100 N. If the rickshaw moves with constant velocity of 36 kmh-1. Find the power of rickshaw puller. (1000w)

4. A athlete weighing 60kg runs up a staircase having 10 steps each of 1m in 30 sec. Calculate power (g=8.8ms-1 200W)

5. The heart does 1.5 J of work in each heartbeat. How many times per minute does it beat if its power is 2watt? (80 times)
hint: total work =power x time =120J ,
number times heartbeat in 1 min. =total work done / work done in each beat =120/1.5=80 times

6. Calculate the time taken 60 w bulb to consume 3000 J of energy . (50sec.)

7. A horse exert a force of 200N to pull the cart. If the horse cart system moves with velocity 36km/h on the level road., then find the power of horse in terms of horse power (1hp=746W) Ans. 2.68 hp