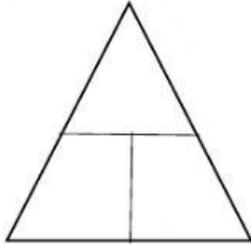


Energy and Work

_____ is the transfer of _____ when a _____ makes an object _____ in the direction of the force, while it still acts on the object.



$$W = Fd$$

$$\text{work} = \text{force} \times \text{distance}$$

(joule J) (Newton N) (meter m)

W

F

d

energy

work

move

force

Calculate the work done in the following examples:

Problem	Force (Newton)	Distance (Meters)	Work done (Joules)
1	5N	10m	
2	20N	0.5m	
3	0.5N	5m	

1. If a ball is lifted 2 meters off the ground and 5 Newtons of force were needed to move it, what amount of work has been done?
2. The force required to move a chair 4 meters is 3 Newtons, what amount of work is done?
3. How much energy do you give a sumo wrestler if you push him with all your might (150N worth of force) for 1 hour and he does not move at all?