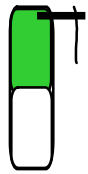
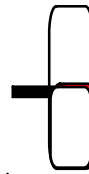


Energy



Energy



Work

①a) list all variables you know

- displacement (0.2 m)
- force (10 N)

①b) variables that you don't know

- Work

② Write the equation  
unit for work:  
Joule (J)

$$F \cdot d = W$$

③ Substitute the values you know

$$10 \cdot 0.2 = W$$

④ Solve the equation for the unknown variable

$$W = 10 \cdot 0.2$$

$$W = 2 \text{ J}$$

⑤ Check it!

①a)  $E = 10 \text{ J}$   
 $d = 2 \text{ cm} = 0.02 \text{ m}$

①b)  $F = ?$

②  $F \cdot d = W$

③  $F \cdot 0.02 = 10$

④  $F = \frac{10}{0.02} = 500 \text{ N}$

⑤  $500 \cdot 0.02 = 10$  😊

A frog is pushing a slug. The frog and the slug end up travelling 3.5 meters across the road. The frog ends up using 78543 Joules of energy to push the slug. What force did the frog use?

## SOLIDWORKS DRAWINGS SHOULD

- DESCRIBE HOW YOUR PROJECT WORKS.
- DESCRIBE YOUR 3 ADJUSTMENTS THAT WILL RESULT IN DIFFERENT FORCES/DISPLACEMENTS
- DESCRIBE HOW THE FORCE SENSOR WILL BE ATTACHED.
- INCLUDE OVERALL DIMENSIONS .
- PLACE THIS DRAWING ON THE DRAWING TEMPLATE & INCLUDE ALL 4 VIEWS.