

Work

1.
 - a. What is the symbol for Work?
 - b. What is the equation for Work?
 - c. What does each letter stand for in that equation?
 - d. What is the unit for Work?
 - e. What symbol do we use to abbreviate that unit?
2. How much work does a car engine do if it exerts 1200 N of force for a distance of 32 m?
3. How much work do you do if you lift with 450 N of force for a distance of .4 m?
4. A battery can put out 32,000 J of work before it goes dead. It has to move a car for a distance of 1500 m. How much force can it push with?
5. A battery can put out 43,000 J of work. You put it in a machine that pushes with a force of 1350 N. How far will the machine push a load before the battery goes dead?
6. For a simple machine, you have to put in more work than you get out of it. Why? (*That is, why is some work always "lost" when you use a machine?*)
7. Figure out how much work you do when you climb stairs that are 5 m high. (*To find the force, take your weight in pounds and multiply by 4.5 to get your weight in newtons. Use this as the force.*)