

Lesson 2 Questions

Homework due Monday March 14th

Please **Write Out** the sentences and fill in the blanks with the appropriate word. You can print out this sheet or write in your notebook.

- 1) Some machines decrease the size of the input force, whereas others increase it.
- 2) The ratio of the output force exerted to the input force applied is a machine's MA.
- 3) If the mechanical advantage (MA) is greater than 1, it means that the machine's output force is greater than the input force.
- 4) If the MA is greater than 1, what is the purpose of the machine? (To change...)
size of force
- 5) If the MA is less than 1, it means that the output force is less than the input force.
- 6) If the MA is less than 1, is the machine poorly designed? Why or why not?
no b/c distance ↑s
- 7) If the MA is equal to 1, it means that only the direction of the force has been changed.
- 8) When a hockey stick is used to move a puck, the input force is greater than the output force.
- 9) Why can't output work exceed input work or reach 100%?
FRICTION
- 10) How can efficiency increase?

****REMEMBER THE GENERAL RULE.****

- 1) The lack of force makes up for it in distance.
- 2) The lack of distance makes up for it in force.
- 3) If the person's input force is great, the output force is small.
- 4) If the machine's output distance is small, the input force is small.

Determine how these machines make the task easier. (Size, distance, direction)

- 1) using a bat to hit a ball distance
- 2) using a pulley to raise a weight direction
- 3) gripping an object with a pair of pliers size
- 4) sweeping dirt with a broom distance
- 5) using a jack to lift a car size