

Read through this sheet ***BEFORE*** viewing the video tape.

List 3 simple machines.

\_\_\_\_\_

\_\_\_\_\_ 1. Simple machines help make \_\_\_\_\_ easier.

\_\_\_\_\_ 2. Simple machines allow us to change the (2) and (3) of a force.

\_\_\_\_\_ 3.

\_\_\_\_\_ 4. A pulley changes the \_\_\_\_\_ of the force.

\_\_\_\_\_ 5. A catapult is a type of \_\_\_\_\_.

\_\_\_\_\_ 6. Levers allow us to change the (6) and (7) of forces.

\_\_\_\_\_ 7.

\_\_\_\_\_ 8. The middle of a lever is called the (8) or (9).

\_\_\_\_\_ 9.

7. List 5 other types of levers. \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_ 10. Do levers have to be flat?

\_\_\_\_\_ 11. If you bend a few levers and hook them together, they look like a \_\_\_\_\_.

\_\_\_\_\_ 12. (12) on a bicycles make work easier and they are an example of a (13).

\_\_\_\_\_ 13.

\_\_\_\_\_ 14. Gears are \_\_\_\_\_ with teeth.

\_\_\_\_\_ 15. Ramps make it easier to walk "up", but you have to walk \_\_\_\_\_.

\_\_\_\_\_ 16. An example of a ramp you use every day is a \_\_\_\_\_.

\_\_\_\_\_ 17. Ramps make things easier to \_\_\_\_\_.

- \_\_\_\_\_ 18. The force needed to pull an object up is ramps is a lot \_\_\_\_\_ than that needed to pull it straight up.
- \_\_\_\_\_ 19. A spiral staircase is a lot like a \_\_\_\_\_.
- \_\_\_\_\_ 20. A screw is like a \_\_\_\_\_ wrapped around a rod.
- \_\_\_\_\_ 21. The first "screw" was made by Archimedes over \_\_\_\_\_ years ago.
- \_\_\_\_\_ 22. Parking decks use \_\_\_\_\_ to move cars up and down.
- \_\_\_\_\_ 23. Which type of simple machines is used in prosthetic limbs?
- \_\_\_\_\_ 24. Which moving company uses simple machines; Brute Force Movers or Simply Movers?
- \_\_\_\_\_ 25. Cranes use \_\_\_\_\_ to lift things.
- \_\_\_\_\_ 26. With a pulley, you pull \_\_\_\_\_ (more or less) rope, but you don't have to apply as much force.
- \_\_\_\_\_ 27. Cable cars operate by \_\_27\_\_ and \_\_28\_\_.
- \_\_\_\_\_ 28.
- \_\_\_\_\_ 29. To lift a sail on a sailboat, you use a \_\_\_\_\_ on the mast to pull it up.
30. In all cases, using a machine to do work DOES NOT reduce the amount of work done. Actually, using a machine increases the amount of work you have to do.

a. Why is this so?

b. Why then, do we bother using machines to help us do work? What two factors in doing work can simple machines change? How are they changed?