

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 _____ and _____.
- _____ 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?