

SIMPLE MACHINES

- recall: _____
- power is the _____ of doing work. Doing work quicker requires more _____
- power = _____.
- the SI unit of power is the _____ which is equal to _____
- _____ are devices that do work
- they make _____.
- they change the:
 - o (a) _____.
 - o (b) _____.
 - o (c) _____.

MECHANICAL ADVANTAGE

- _____ of a machine is the number of times that a machine _____ an input force
- _____ is defined as the ratio of the output force to the input force
- _____ is the mechanical advantage in the absence of friction
- because _____ is always present, the actual mechanical advantage is always less than the ideal mechanical advantage

SIX TYPES OF SIMPLE MACHINES

(A) LEVERS

- FIRST CLASS LEVERS

- SECOND CLASS LEVERS

- THIRD CLASS LEVER

(B) WHEEL AND AXLE

- wheels and axles consist of _____, each with a different radius
 - the outer disk is the _____ and the inner cylinder is the _____.
- Wheels and axles rotate as a single unit (think the steering wheel and shaft of a vehicle)

(C) INCLINED PLANES

- an inclined plane is a slanted surface along which a force moves an object to a different _____

(D) WEDGES AND SCREWS

- a wedge is a _____ object whose sides are _____ planes sloped towards each other
- _____ are inclined planes wrapped around a cylinder

(E) PULLEYS

- a pulley is a simple machine that consists of a rope that fits into a groove in a wheel.
- fixed pulleys only change the _____ of an input force
- movable pulleys change the _____ of the force
- pulley systems combine fixed and movable pulleys resulting in a large mechanical advantage.