

MACHINES and WORK Notes

Note Taking Guide - Episode 603, Part 2

Fact or Fiction?

Machines let us do less work to perform a task. FICTION

A screw is a type of inclined plane. FACT

The typical automobile engine is about 50% energy efficient. FICTION

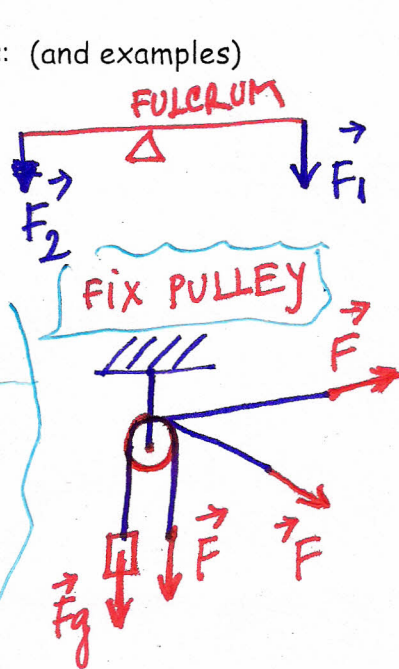
Machines make tasks easier by-
 - changing the direction of force
 - changing the size of force

Work input = Work output
 a small F X a large distance = a large F X a small distance

Machines decrease the force required to do a task by increasing distance over which the force is applied.

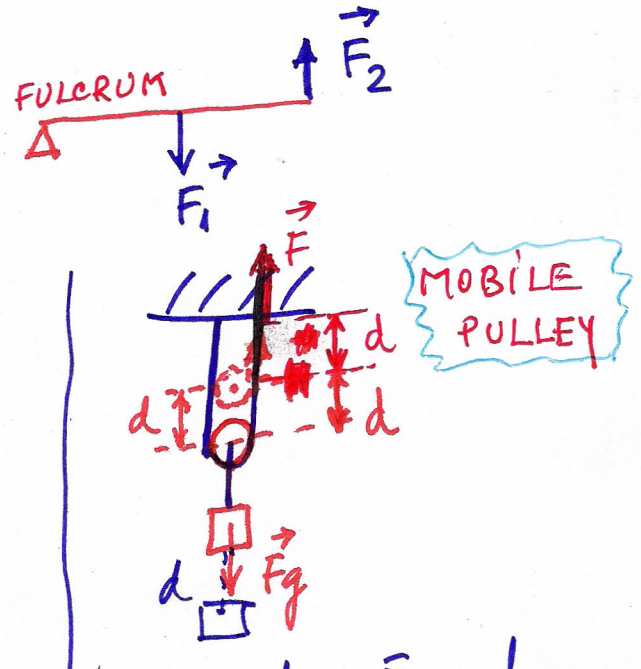
Six Simple Machines: (and examples)

1. lever
2. pulley
3. Wheel and axle
4. inclined plane
5. Wedge
6. Screw



$$F = F_g$$

The direction of the applied force can change



$$F \cdot 2 \cdot d = F_g \cdot d$$

$$F = \frac{F_g}{2}$$

The applied force is equal with half of the object weight