Work

Work	Force x Distance
Do all forces do work?	Only parellel forces do work
Force Distance graph	Area under the curve= work
Negative Work	Force is in opposite direction of motion

Basics

A=	Force on object/ mass of object
Motion	Equations

Efficiency

Efficiency	Ration of AMA to IMA
Efficiency =	AMA/IMA x 100
AMA < IMA	Wout < Win

Power

Power	The time rate of work
Joule/ second	watt
746 watt	1 horsepower
Power	Force x velocity

Simple Machines

Simple machines	Any device that varies the effect of an applied force
1	Lever
2	Pulley
3	Wheel + Axel
4	Inclined plane (screw, wedge)
Lever class 1	LFE
Lever class 2	FLE
Lever class 3	LEF
A machine can	Redistribute work
...	Change size or direction of input force
...	Increase output force by change distance the force is applied

Energy

Energy	The ability to do work
Kinetic Energy	associated with motion
KE=	1/2mv^2
Units of KE	Joules
KE is directly proportional to V^2	A car at 2x speed has 4x kinetic energy
Change in KE	Work

Mechanical Advantage

Actual Mechanical Advantage	How much a machine multiplies a force
AMA >1	Makes you stronger
AMA <1	Makes you weaker
IMA	How a machine would multiply a force if it were 100% efficient

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