Mechanical Energy Flash Cards **Chapter 12**

Cut apart, fold over, tape together and quiz each other.

Formula for work by a non conservative force. 1	W = Fdcos(theta) "theta" is an angle
The variable "W" stands for 2	WORK
"Work" is measured in... 3	Joules (J)
Force is measured in... 4	Newtons (N)
How is the displacement oriented to the force in the formula W=Fd 5	It is pointing in the same direction as the force
In the formula W=Fdcos(theta), where is theta measured? 6	Theta is the angle between the displacement's direction and the force direction
What does "K.E." stand for? 7	Kinetic Energy
What are the units of kinetic energy? 8	Joules (J)

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What are the units of power? 9	Watt (W)
What is the formula for power involving force? 10	Power = (Average force)(average velocity)
What is the formula for power involving WORK? 11	P=W/t
What is the formula for power involving the change in total energy? 12	P=W/t ...again because W = the change in total energy.
What kind of force is gravity? **Conservative or non-conservative?** 13	Conservative When you do work against gravity , you get all the energy back.
What kind of force is a spring? **Conservative or non-conservative?** 14	Conservative When you do work against a spring , you get all the energy back.
What kind of force is air resistance? **Conservative or non-conservative?** 15	Non-conservative When you do work against friction you do not get it back.
Define total energy 16	E.T. = KE + PEg + PEs

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What is the formula for potential energy stored in gravity? 17	PEg = mgh m= mass (kg) g = 9.80 m/s^2 h = height above the lowest point (m)
What is the formula for potential energy stored in a spring? 18	PEs = (1/2) k x^2 k= the spring constant (N/m) x = the displacement (m)
What is the formula for kinetic energy? 19	K.E. = (1/2) mv^2 m = mass (kg) v = velocity (m/s)
Which make a bigger change in KE, doubling the mass or doubling the velocity? 20	Doubling the velocity because "v" is squared in the KE formula.
On a roller coaster potential energy stored in gravity is traded for ...what kind of energy? 21	Kinetic Energy
Which energy as know as energy of motion? 22	Kinetic Energy
Which energy is known as energy of height? 23	potential energy of gravity PEg = (mgh)