**Conservation of Energy Notes**

Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Date: \_\_\_\_\_\_\_\_\_\_\_\_Period: \_\_\_\_\_\_\_\_\_

|  |  |  |  |
| --- | --- | --- | --- |
| **Work**W=FdW=ΔK= KF-KiW=ΔU= UF-Ui | **Power**$$P=\frac{W}{t}$$ | **Kinetic Energy**$$K=\frac{1}{2}mv^{2}$$ | **Potential Energy**U=mgh$$U=\frac{1}{2}kx^{2}$$ |
| **Total Mechanical Energy** TE= K + U |
| **Conservation of Energy**  TEi= TEf |

**Total Mechanical Energy**

The total energy in a system of objects is the sum of their potential and kinetic energies:

**TE= K + U**

**Conservation of Energy**

It states that the total amount of energy in an isolated system remains \_\_\_\_\_\_\_\_\_\_\_\_\_ over time.

**TEi= TEf**

Ex. 1: A ball of mass 2kg is gently pushed off the edge of a tabletop that is 5.0 meters above the floor. Find the speed of the ball as it strikes the floor.

Ex.2: A skydiver jumps off from a hovering helicopter that’s 3000 meters above the ground. If air resistance can be ignored, how fast will he be falling when his altitude is 2000 meters?

