Energy cannot be created or destroyed law

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Since The Law of Conservation of Energy states energy cannot be created or destroyed, this means that the total energy in the universe is constant and does not change in value, assuming there is nothing beyond the universe.

These gifs demonstrate the energy principal from a Conservation of Energy standpoint. As the ball on a spring approaches the equilibrium point, the kinetic energy increases and the spring potential decreases. These values will oscillate, but the total energy will stay constant! This demonstration was written in GlowScript and iteratively updates the ball"s momentum while taking into account the spring force.

The driver of an SUV (m = 1700 kg) isn"t paying attention and rear ends a car (m = 950 kg) on level ground at a red light. On impact, both drivers lock their brakes. The SUV and car stick together and travel a distance of 8.2 m before they come to a stop. The coefficient of friction between the tires and the road is 0.72.

In Physics, we separate what we are looking at into a system and its surroundings. This is a zero-sum separation where what we are interested in is included in the system and everything else in the universe is lumped into the system"s surroundings.

Since the Law of Conservation of Energy says energy cannot be created or destroyed, The Energy Principle tells us that the only way for a system to gain or lose energy is from its surroundings losing or gaining the same amount of energy. Therefore, The Energy Principle can be generalized in terms of conservation of energy.

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Who: Many physicists contributed to the knowledge of energy, however it is most notably attributed to Julius Robert MayerWhat: Most formally discovered the law of conservation of energyWhen: 1842Where: GermanyWhy: To explain what happens to energy in an isolated systemSee Reference 6

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