

Name _____

The Magical Dance of Potential and Kinetic Energy

Short Answer Key

1. Potential energy is stored energy due to an object's position or condition. An example is a stretched rubber band.
2. In a roller coaster ride, as the coaster climbs a hill, it gains potential energy. As it descends, this potential energy is converted into kinetic energy, causing the coaster to speed up.
3. A pendulum illustrates the conversion of potential energy into kinetic energy. At the highest point of its swing, it has maximum potential energy, which is transformed into kinetic energy as it swings down.
4. Energy conservation means that the total energy remains constant in a closed system. In a roller coaster ride, while some energy is lost to friction and air resistance, the total energy of the coaster (sum of potential and kinetic) remains constant.
5. An everyday example of the law of conservation of energy is a bouncing ball. When a ball is dropped, it gains kinetic energy as it falls, but as it bounces back up, this kinetic energy is converted back into potential energy.

