Name _____

Energizing the World: Understanding Kinetic Energy

Short Answer Key

1. Kinetic energy is directly proportional to an object's mass, meaning that as an object's mass increases, its kinetic energy also increases.
2. Velocity is the speed of an object in a particular direction. In determining an object's kinetic energy, velocity plays a crucial role because kinetic energy increases with the square of the velocity.
3. Example: In soccer, when a player kicks a ball, the ball acquires kinetic energy as it moves through the air. The faster the player kicks the ball, the more kinetic energy it has.
4. The law of conservation of energy states that energy cannot be created or destroyed but can only change from one form to another. This law relates to kinetic energy because when an object comes to a stop, its kinetic energy is converted into other forms of energy, such as heat, sound, or potential energy.
5. The standard units of measurement for kinetic energy are joules (J). These units are used because they provide a consistent and universally accepted way to quantify energy.

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