# Law Of Conservation of Energy

# What is it?



• The total amount of energy in an object does not change when the type of energy changes from one form to the next

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## Mechanical energy transformations





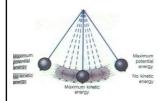
#### A Dam

- -When water is behind a dam, it has potential energy.
- -Water changes to kinetic energy in the movement of the water as it flows over the dam.

#### Rubberband

- -When a rubber band is stretched, kinetic energy is transformed into potential energy.
- -The further back you stretch the rubber band, the greater potential energy, and the more energy that will be transferred as kinetic energy.
- -When a stretched rubber band is released its potential energy is transformed into kinetic energy as the rubber band moves.





- Book On Shelf
  - -When a book is lifted to a shelf, kinetic energy is transformed into potential energy.
  - If the book falls off the shelf the potential energy is transformed to kinetic energy.
- Swinging Pendulum
  - -Kinetic energy is used to pull a ball back; this energy is transformed into potential energy (holding the ball).
  - -The ball is released and the ball swings back toward the other side, continuing to rock back and forth
  - -This shows conservation of energy because the energy is being converted from potential to kinetic and back to potential

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### Examples



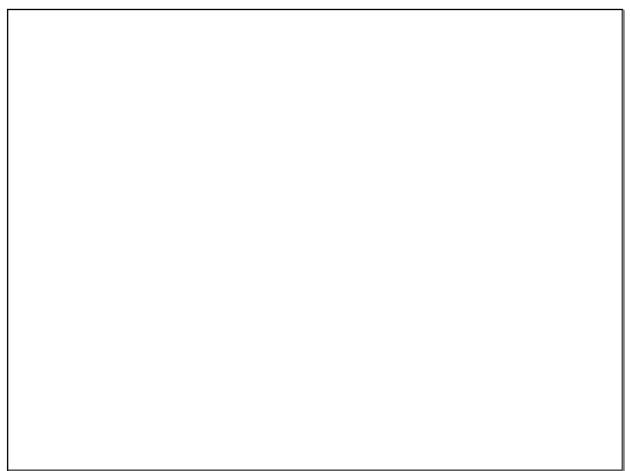




#### • Flashlight

Chemical-> Kinetic-> chemical -> electrical -> light -> heat

- PhotosynthesisSolar-> chemical-> kinetic
- Television
  Chemical-> Kinetic-> electrical-> light-> sound-> heat



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