A Bright Idea: Energy Conservation
Instructor Key

Some energy is converted into thermal energy. After a while this makes the light bulb hot.

Electrical energy is transmitted through the wire.
Part of the energy is changed into thermal energy.

Only about one-tenth of the energy is converted into light energy.

Remember: The overall amount of energy in a closed system always remains the same. As in the light bulb example, energy can change from one form to another form. All the different forms of energy in a system always add up to the same total amount of energy. It does not matter how many energy conversions occur.

Teacher reference pages

Critical vocabulary:

1. Energy: The ability to do work
2. Potential energy: The energy an object has because of its position
3. Kinetic energy: The energy of motion
4. Energy conversion: Change from one form of energy to another
5. Friction: The force that opposes motion between two surfaces that are touching each other
6. Law of conservation of energy: Energy cannot be created or destroyed, but only changed from one form into another.
7. Mechanical energy: Total energy of motion and position of an object
8. Thermal energy: Internal kinetic energy due to the random motion of particles that make up an object

Relevant page numbers for the *Occupational Outlook Handbook* (or use resources from the website, http://www.bls.gov/oco) [Note: The page numbers below refer to the 2004-2005 edition of the book.]

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