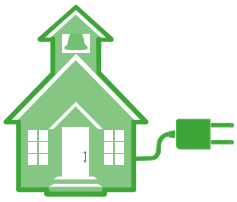

Key Term Glossary

Acid rain: When sulfur dioxide and nitrogen oxides are emitted from cars and power plants, they mix with water vapor and turn into acids, which in turn, fall to the ground with rain, snow, or fog. This "acid rain" corrodes buildings, damages trees, harms vegetation and can harm or destroy aquatic life.

AMPERE (AMP): The measure of the number of electrons flowing through a wire. If electricity were water in a flowing river, the amps would be the amount of water flowing in that river. (See volt and watt.)

Analysis: An examination of a system, its elements, and their relations; or proof of a mathematical proposition by assuming a result and deducing a valid statement by a series of reversible steps as in the Scientific Method.

Ballast: A device that charges the electrical current in fluorescent lights.

Biomass: Farming wastes, grasses, trees, bark, sawdust, and other things which can be changed into energy by burning it, changing it to a gas, or by converting it to a liquid fuel.

Boiler: A pressurized vessel in which water or another liquid is heated to generate steam energy.

Carbon Dioxide (CO_2): A gas that is the product of burning fossil fuels and contributes to the greenhouse effect. It is also a naturally occurring chemical that is absorbed by plants. The molecule CO_2 has one carbon atom and two oxygen atoms.

Coal: A solid fossil fuel found in the earth that is often burned to make electricity.

Compact fluorescent lights or lamps (CFL): Fixtures that contain gas instead of wire filaments. Electrical current makes the gas atoms glow or "fluoresce." This fluorescence creates light with very little heat. (Note: In this lesson CFL is sometimes referred to as light due to audience knowledge levels.)

Conservation: Protecting something from waste, loss, or harm. Energy conservation means using less energy, both by using more energy-efficient technologies and by changing wasteful habits.

Efficiency: The amount of work you get for the energy you use. An energy-efficient light bulb uses most of its energy to create light, not heat. An efficient power plant gets more electricity out of the coal or oil it burns and less unwanted heat or pollution.

Electricity: One of the most important forms of energy, consisting of oppositely charged electrons and protons that produce light, heat, magnetic force, and chemical change.

Energy: The product of power (watts) and time (hours) or the capacity for doing work. Energy used for lighting can be saved by either reducing the amount of power required to produce the same amount or more light (lumens).

Energy-efficiency: Getting more accomplished with less energy.

Energy-efficient lighting: Lights that produce the same amount of light (lumens) using less electricity (watts) than conventional light bulbs. Efficient lights are usually fluorescent (they don't waste energy making unwanted heat), and they may have reflectors that direct the light where you want it.

ENERGY STAR® labeled products: Products which have met the specifications of a joint program of the U.S. Department of Energy and the U.S. Environmental Protection Agency for energy efficiency and pollution prevention.

Fossil Fuels: Fuels such as oil, coal and natural gas, that formed millions of years ago from decayed plants and animals that contain carbon.

Fuel: A material (liquid, solid, or gas) that can be used to provide power for an engine, power plant, or nuclear reactor.

Generator: A machine that converts mechanical energy into electrical energy.

Geothermal energy: Using the heat from the earth to produce power.

Global Warming: Possible accelerated increase in the Earth's temperature caused by excess production of greenhouse gases due, in large part, to the depletion of forests, air pollution from automobiles, making electricity via fossil fuels and burning fossils fuels for other needs.

Greenhouse Effect: The trapping of the sun's heat. In houses and cars it can be caused by glass. In the Earth's atmosphere it is a naturally occurring phenomenon resulting from the interaction of sunlight with greenhouse gases (such as CO_2 and CFCs). This interaction helps maintain the delicate balance of temperature and breathable air necessary for life as we know it.

Halogen torchiere: A popular, indoor, contemporary floor lamp. This light bulb uses 300-500 watts and has been identified as a potential fire hazard due to the excessive heat (750 -1000 degrees F) generated from the light produced.

Hydropower: Using the energy in flowing water to make electricity.

Hypothesis: Educated guess and step 3 in the Scientific Method.

Incandescent light bulbs: Light bulbs that work on the principle of electrical resistance. Electrical current flows through a wire filament, which slows or "resists" the flow of electrons. The wire gets hot and glows. Thus the incandescent bulbs create both heat and light.

Kilowatt: 1,000 watts.

Kilowatt-hour: The amount of work that can be done by one kilowatt during one hour.

Lumens: The measure of the amount of light a bulb puts out.