8th Grade Science
Redlands Middle School

Name _____
Date_____ Period ____ Score_____/4

Edison's Lab: Inventing the Light Bulb
Skill Builder

1. The form of energy is caused by increasing the speed of the molecules within a material.
   A. Electric
   B. Light
   C. Chemical
   D. Mechanical
   E. Heat

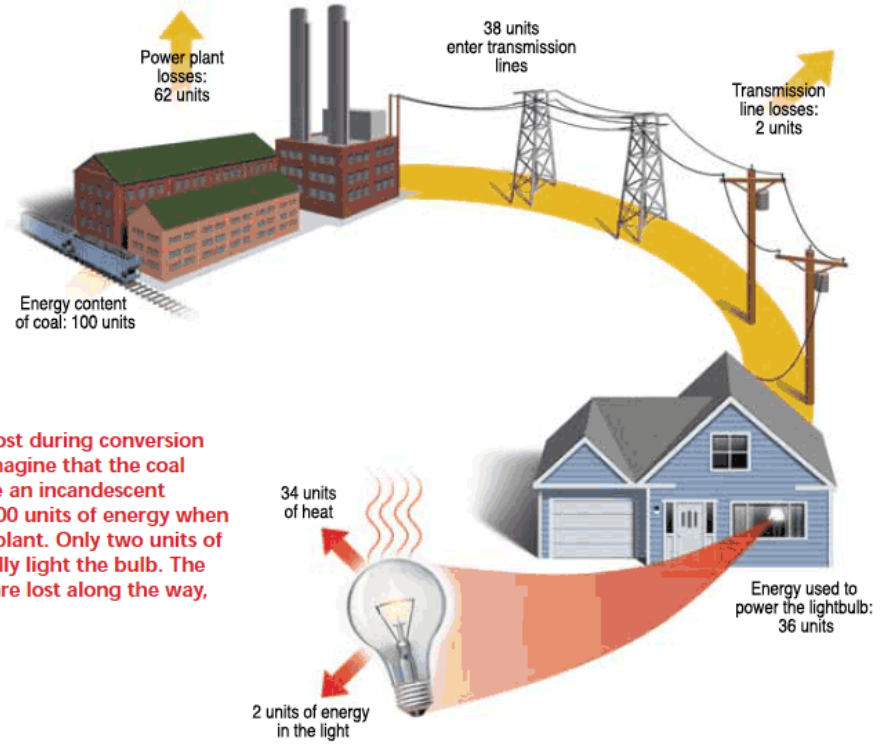
2. The form of energy is caused by the flow of electrons.
   A. Electric
   B. Light
   C. Chemical
   D. Mechanical
   E. Heat

3. The form of energy is often associated with heat – when materials get hot enough, this form of energy develops.
   A. Electric
   B. Light
   C. Chemical
   D. Mechanical
   E. Heat

4. This form of energy is the desired output for a toaster.
   A. Electric
   B. Light
   C. Chemical
   D. Mechanical
   E. Heat

5. This form of energy is formed during all energy transformations.
   A. Electric
   B. Light
   C. Chemical
   D. Mechanical
   E. Heat

6. We choose certain materials to be a filament in a light bulb based on _____.
   A. How well they maintain their shape while heated
   B. How well they glow
   C. Their ability to conduct electricity
   D. Their resistance to a flow of electrons
   E. All of the above are reasons for choosing a material.



Example of energy lost during conversion and transmission. Imagine that the coal needed to illuminate an incandescent lightbulb contains 100 units of energy when it enters the power plant. Only two units of that energy eventually light the bulb. The remaining 98 units are lost along the way, primarily as heat.

7. In the diagram above, where are the following transformations occurring?
   a. Chemical potential energy to electricity in the power plant – heat from coal ….electricity
   b. Electricity to heat and light light bulb
   c. Heat to kinetic heated water becomes steam which spins turbine

8. Which form of energy is stored within a piece of coal? Chemical potential.

9. Where does coal get its energy?
   a. Photosynthesis
   b. Remains of ancient plants
   c. The Sun
   d. All of these are true

11. You invented the incandescent bulb in class. Use your text, pages 394 – 398 to identify and describe 6 additional ways to produce light

	Type	Description
a.	fluorescent	gas filled with phosphorescent coating and electrodes
b.	Neon	gas filled tube – inert gas
c.	Sodium - vapor	neon, argon, and sodium metal
d.	Laser	Light Amplification by Stimulated Emission of Radiation
e.	Tungsten halogen	tungsten filament and halogen gas
f.	LED	Light Emitting Diode