Name: _____ Group: _____ Date: _____

CONCEPT REVIEW 62

Control and transformation of energy

ST

PAGES 469–472

Complete this Concept Review so you can keep a record of what you have learned.

Definitions

- A closed circuit is *a circuit in which electric current flows in a loop.*
- An open circuit is *a circuit in which electric current cannot flow in a loop.*
- Control is *the electrical function performed by any component that can open and close a circuit.*
- The transformation of energy is *the electrical function performed by any component that can convert electrical energy into another form of energy.*

Electrical components that are used to transform energy

Component	Description	Form of energy obtained
Incandescent light bulbs	*The electrons that make their way to the light bulb must flow through a tungsten filament. The filament resists the current, heating up to the point of emitting white light.*	*Luminous energy*
Heating elements	*As in light bulbs, the electrons must pass through a material that resists the current. The material warms up, converting the electrical energy into heat.*	*Thermal energy*
Piezoelectric crystals	*When an electric current is applied to a piezoelectric crystal, the crystal starts to vibrate.*	*Mechanical energy or sound energy (vibrations)*
Electromagnets	*The electrons flow through a coil of electrical wire wrapped around an iron core. The current flow gives the iron a magnetic charge, creating a magnetic field.*	*Magnetic energy*

© ERPI Reproduction permitted solely for classroom use with *Observatory*.