

**Topic 4 - The Energy Connection**

1. Electrical energy can be produced from other forms of energy, or it can be converted into other kinds of energy. The conversion in a battery is
  - A. **chemical energy into mechanical energy**
  - B. **mechanical energy into electrical energy**
  - C. **chemical energy into electrical energy**
  - D. **solar energy into electrical energy**
2. A device which converts thermal energy into electrical energy is a ...
  - A. **rheostat**
  - B. **thermocouple**
  - C. **photovoltaic cell**
  - D. **piezoelectric crystals**
3. The basic principle of the thermocouple was discovered by Thomas Johann Seebeck in 1821, and in his honor was named the '**Seebeck** ...'
  - A. **Principle**
  - B. **Effect**
  - C. **Law**
  - D. **Action**
4. A *thermo-electric generator* is a device based on a thermocouple that converts heat directly into electricity without moving parts. Several thermocouples connected in a series is called a ...
  - A. **thermodore**
  - B. **thermostat**
  - C. **thermopile.**
  - D. **thermal farm**
5. A device which converts sound energy (vibrations) into electrical energy is a ...
  - A. **thermostat**
  - B. **rheostat**
  - C. **photoelectric cell**
  - D. **piezoelectric crystals**
6. When a crystal or Rochelle salt is compressed or pulled, a potential difference is built up on the opposite sides of the crystal. Conductors then take this through a circuit to produce electric energy (a spark). A barbeque 'spark' lighter uses the ...
  - A. **piezoelectric effect in reverse**
  - B. **photovoltaic cells**
  - C. **thermo-nuclear fission**
  - D. **light-emitting diodes**
7. Solid-state components, when connected to a semiconductor chip in the right direction, will produce light and last for many years. These light emitting devices are called ...
  - A. **LED's**
  - B. **CCD's**
  - C. **EEG's**
  - D. **CFC's**
8. The International Space Station uses this type of energy to generate electricity on the station ...
  - A. **chemical**
  - B. **solar**
  - C. **wind**
  - D. **tidal**
9. Certain animals, namely, the electric eel, can produce electric shock, to kill or stun prey. They have a special organ that contains specialized muscle cells called ...
  - A. **epidermals**
  - B. **electroplaques**
  - C. **electrostatic**
  - D. **electrolysis**