

**POE Practice Test - Thermodynamics****Multiple Choice**

*Identify the choice that best completes the statement or answers the question.*

1. Heat is the transfer of energy from one place to another. It naturally occurs by one of three methods. Which one is not a natural heat transfer method?
  - a. Conduction
  - b. Convection
  - c. Radiation
  - d. Refrigeration
2. Radiation is the chief method of energy transfer
  - a. from the sun to an earth satellite.
  - b. from a gas flame to the top layer of water in a teakettle..
  - c. from a soldering iron to metals being soldered.
  - d. from the bottom of a glass of water to an ice cube floating in it.
3. Of the processes below, the one in which practically all the heat transfer is by conduction is:
  - a. from the sun to an earth satellite.
  - b. from a gas flame to the top layer of water in a teakettle.
  - c. from a stovetop to a pot of water above it.
  - d. from the bottom of a glass of water to an ice cube floating in it.
4. Plastic handles are often used on kitchen utensils because
  - a. the plastic is a good radiator
  - b. the plastic is a good insulator
  - c. the plastic is a good conductor
  - d. the plastic softens gradually with excessive heat
5. To increase the insulating qualities of a house, a homeowner should:
  - a. Increase the R-value
  - b. Increase the U-value
  - c. Increase radiation
  - d. Increase conduction
6. The law stating that heat energy always goes toward entropy, or moves from hot to cold and from order to disorder, is known as:
  - a. 1<sup>st</sup> law of thermodynamics
  - b. 2<sup>nd</sup> law of thermodynamics
  - c. Newton's first law
  - d. Newton's second law
7. Which of the following methods of heat transfer explains why air near the ceiling is warmer than the air near the floor in an enclosed room?
  - a. Convection
  - b. Conduction
  - c. Radiation
  - d. R-value