Period 4 Multiple Choice Exercises

E.1 A practical handle for a sauce pan can be made from each of the following EXCEPT
   a) a poor conductor of heat.
   b) a thermal insulator.
   c) plastic.
   d) wood.
   e) silver.

E.2 In order for thermal energy to be transferred between two blocks of iron, the iron blocks
   a) must be in contact with each other.
   b) must have different sizes.
   c) must have different temperatures.
   d) cannot be located in a vacuum.
   e) Both a) and c) are required for thermal energy transfer.

E.3 Radiant energy is best absorbed by surfaces that are
   a) shiny.
   b) black.
   c) white.
   d) smooth.
   e) silvered.

E.4 If you stand next to a bonfire that is burning in the center of an open area on a calm day, most of the energy transferred to you as heat is transferred via
   a) conduction through open air.
   b) convection through open air.
   c) radiation.
   d) All of the above contribute equally to heat transfer in this case.
Period 4 Multiple Choice Exercises

E.1 A practical handle for a sauce pan can be made from each of the following EXCEPT

a) a poor conductor of heat.
b) a thermal insulator.
c) plastic.
d) wood.
e) silver. Silver has high thermal conductivity.

E.2 In order for thermal energy to be transferred between two blocks of iron, the iron blocks

a) must be in contact with each other.
b) must have different sizes.
c) must have different temperatures.
d) cannot be located in a vacuum.
e) Both a) and c) are required for thermal energy transfer.

Heat transfer via conduction requires contact of the surfaces. Transfer via convection or radiation does not require contact.

E.3 Radiant energy is best absorbed by surfaces that are

a) shiny.
b) black.
c) white.
d) smooth.
e) silvered.

The other types of surface reflect radiant energy more easily than a dark surface.

E.4 If you stand next to a bonfire that is burning in the center of an open area on a calm day, most of the energy transferred to you as heat is transferred via

a) conduction through open air.
b) convection through open air.
c) radiation.
d) All of the above contribute equally to heat transfer in this case.

Convection involves heated matter rising. Unless you were standing over the fire or the wind was blowing heated air in your direction, convection does not play a big role.

Conduction involves matter in contact, so there is little conduction among the moving molecules of a gas. Unless you were to put your hand into the fire (ouch!), conduction does not play a big role.