Period 5 Exercises Answers

E.1 **An increase in the temperature of a solid usually**

a) decreases the average molecular separation.

b) causes the molecules to melt.

c) increases the average molecular separation.

d) causes the electrons to transfer to lower energy levels.

e) NONE of the statements is correct.

E.1 = c

E.2 **Evaporation is a process**

a) that increases the temperature of liquids.

b) where slow molecules increase their speed.

c) caused by cooling.

d) that results in a decrease of the temperature of liquids.

e) NONE of the statements is correct.

E.2 = d

E.3 **When water is cooled to form ice there is a decrease in**

a) the kinetic energy of the molecules.

b) the latent heat of the water.

c) the intermolecular force.

d) molecular contraction.

e) Both a) and b) are correct.

E.3 = a

E.4 **When you transfer heat to a substance, you always increase its**

a) latent heat.

b) specific heat.

c) temperature.

d) energy.

e) heat capacity.

E.4 = d

E.5 **Brownian motion provided evidence for**

a) electronic shells of atoms.
b) atomic weights of atoms.
c) molecular motion.
d) nuclear charges of atoms.
e) None of the above is correct.

E.5 = c

E.6 **Container A contains air at a temperature of 100 ^{0} C and container B contains air at a temperature of 200 ^{0} C. Which of the following is true?**

a) The air molecules in container A are moving faster, on average than those in container B.

b) The air molecules in container B are moving faster, on average than those in container A.

c) There is not enough information to say anything about the average molecular speeds.

d) The air molecules in both containers have the same average speed.

E.6 = b

E.7 **One can change a substance from a liquid to a solid by**

a) removing thermal energy from the substance.

b) adding thermal energy to the substance.

c) adding the latent heat of vaporization to the substance.

d) adding the latent heat of fusion to the substance.

e) Both a) and d) are necessary.

E.7 = a

E.8 **Absolute zero is**

a) defined as zero degrees on the Kelvin scale of temperature.

b) the temperature at which all motion stops.

c) the temperature of liquid nitrogen.

d) defined as zero on the Celsius scale.

e) Both a) and b) are correct.

E.8 = a

E.9 **Consider two pails of water at the same temperature. Pail A contains 80 kg of water and Pail B contains 40 kg of water. Which one of the following statements is TRUE?**

a) The water in pail A has a larger specific heat than the water in pail B.

b) The water in pail A has a greater thermal conductivity than the water in pail B.

c) The water in pail A has a greater heat capacity than the water in pail B.

d) The water in pail A has a smaller specific heat than the water in pail B.

e) None of the statements is true.

E.9 = c

Period 5 Answers

E.1 = c

E.2 = d

E.3 = a

E.4 = d

E.5 = c

E.6 = b

E.7 = a

E.8 = a

E.9 = c