

Key

Goal • Check your understanding of Chapter 7.

What to Do

Circle the letter of the best answer.

- The particles in _____ are closely spaced and in contact with each other, but they can slip and slide past one another.
 A. ice
 B. water vapour
 C. air
 D. water **D**
- The more energy particles have
 A. the faster they move **A**
 B. the slower they move
 C. the higher the mass of the object
 D. the more particles there are per unit volume
- In a solid
 A. particles have very large spaces between them
 B. particles can move freely in all directions
 C. particles vibrate in a fixed position **C**
 D. particles have no motion
- When the temperature of a solid, liquid, or gas decreases
 A. the particles slow down **A**
 B. the particles lose energy
 C. the particles have less space between them
 D. all of the above
- Which of the following describes a change in state?
 A. melting point
 B. sublimation **B**
 C. thermal expansion
 D. kinetic energy
- Which of the following does not describe a change in state?
 A. condensation
 B. solidification
 C. evaporation
 D. thermal energy **D**

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- _____ is the temperature at which a solid turns to a liquid.
 A. boiling point
 B. melting point **B**
 C. freezing point
 D. 0° C
- Highway bridges have gaps built into them to allow for
 A. thermal contraction
 B. thermal expansion **B**
 C. drainage
 D. the easier passage of cars
- As the thermal energy of a substance increases, its particles move farther apart. As a result,
 A. density increases
 B. mass increases
 C. density decreases **C**
 D. density does not change
- Which of the following is not a fluid?
 A. air
 B. magma
 C. dry ice **C**
 D. liquid oxygen

Match the Term on the left with the best Descriptor on the right.
 Each Descriptor may be used only once.

Term	Descriptor
11. density	A. temperature at which liquid turns to gas
12. fluid	B. the amount of space taken up by a substance
13. deposition	C. change in state from gas to solid
14. boiling point	D. can be a liquid or gas
15. evaporation	E. mass per unit volume
16. volume	F. change in state from liquid to gas
	G. change in state from solid to gas

The correct order, but they don't line up... sorry!!

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Short Answer Questions

17. Explain the difference between heat and thermal energy.

heat + thermal energy are similar. Heat = energy transfer
 Thermal energy = total amount of heat/energy in a substance.

18. Explain why a cold drinking glass cracks when it is placed in very hot water.

cold particles are moving slow when hot water is added they speed up very quickly causing thermal expansion to occur, breaking the glass.

19. Calculate the density of the following substances:

(a) 40 cm³ container filled with 62.8 g of brown sugar

1.57 g/cm³

(b) 135 g of aluminum that has a volume of 50 cm³

2.7 g/cm³

(c) 12 mL of oil with a mass of 10.5 g

0.875 g/mL