

Chapter 8 - States of Matter

STUDY GUIDE

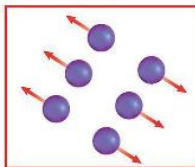
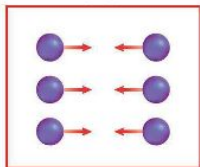
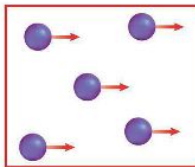
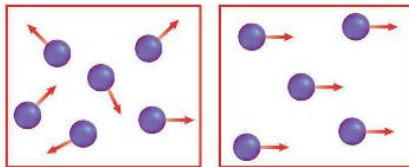
*answer key is given also

Pages 302-303

2, 3, 4, 5, 7, 8, 9, 12, 13, 14, 15, 18 (may not be in order below)

2=A; 3=D, 4=D, 5=B; 7=B; 8=B; 9=C (I am not giving you the answers to the critical thinking questions. Ask me if you have questions.)

- 2 Which type of motion in the figure below best represents the movement of gas particles?



- A. motion 1
- B. motion 2
- C. motion 3
- D. motion 4

- 3 A pile of snow slowly disappears into the air, even though the temperature remains below freezing. Which process explains this?

- A. condensation
- B. deposition
- C. evaporation
- D. sublimation

- 4 Which unit is a density unit?

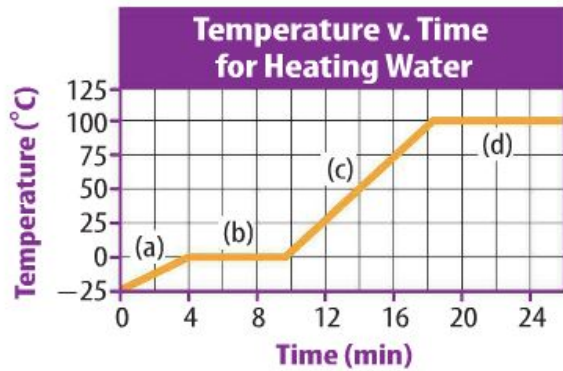
- A. cm^3
- B. cm^3/g
- C. g
- D. g/cm^3

- 5 Which is a form of vaporization?

- A. condensation
- B. evaporation
- C. freezing
- D. melting

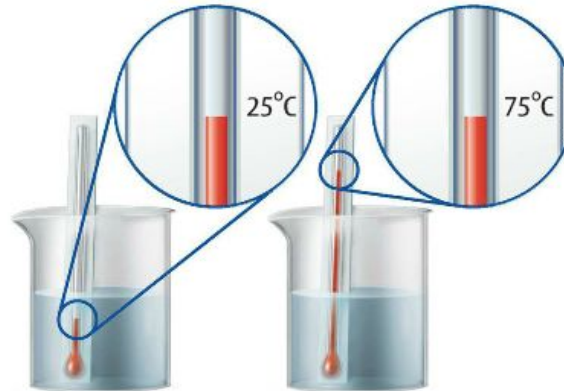
- 7 In which material would the particles be most closely spaced?

- A. air
- B. brick
- C. syrup
- D. water



- 8 Which area of the graph above shows melting of a solid?
- a
 - b
 - c
 - d
- 9 Which area or areas of the graph above shows a change in the potential energy of the particles?
- a
 - a and c
 - b and d
 - c

- 14 **Evaluate** Each beaker below contains the same amount of water. The thermometers show the temperature in each beaker. Explain the kinetic energy differences in each beaker.



12 Assess The particles of an unknown liquid have very weak attractions for other particles in the liquid. Would you expect the liquid to have a high or low viscosity? Explain your answer.

15 Summarize A glass with a few milliliters of water is placed on a counter. No one touches the glass. Explain what happens to the water after a few days.

water vapor.

18 In the photo below, explain how the average kinetic energy of the particles changes as the molten glass cools. What instrument could you use to verify the change in the average kinetic energy of the particles?



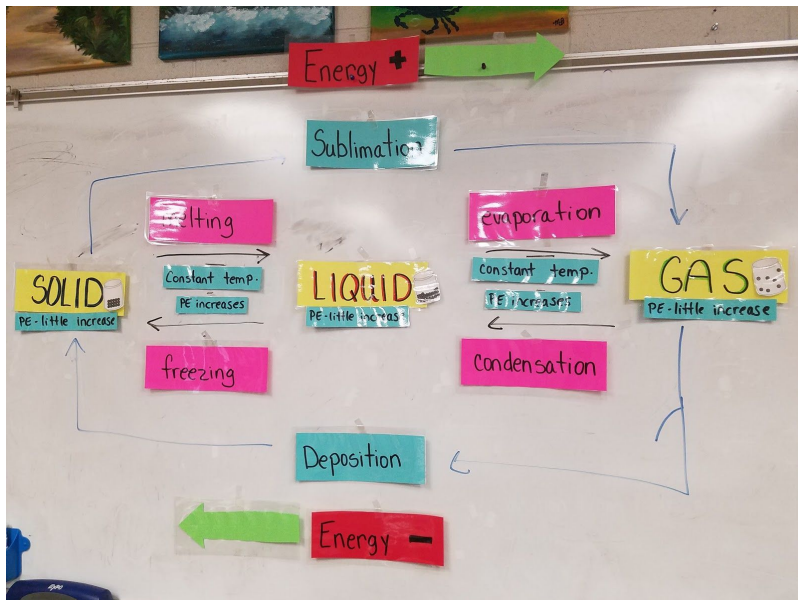
13 Rank these liquids from highest to lowest viscosity: honey, rubbing alcohol, and ketchup.

<p>1. - DOK 2 2. - DOK 1 3. - DOK 2 4. - DOK 1 5. - DOK 1 7. - DOK 3 9. - DOK 2 10. - DOK 3 11. - DOK 2</p>	<p>1. A 2. C 3. B 4. C 5. A 7. A 9. This answer has to do with viscosity. I am not giving you the answer. Think about what viscosity is and how temperature affects it. 10. Ask me if you have questions. You need to know how to interpret graphs. 11. Same as question 10</p>
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Kahoot quiz questions will be used also.

You also need to know the vocabulary.

Be able to recreate the concept map that we did on the board with the colored cards.



1 Which property applies to matter that consists of particles vibrating in place?

- A** has a definite shape
- B** takes the shape of the container
- C** flows easily at room temperature
- D** particles far apart

9 Some people say that something that does not move very quickly is “as slow as molasses in winter.” What property of molasses is described by the saying? Based on the saying, how do you think this property changes with temperature?

4 What happens to matter as its temperature increases?

- A** The average kinetic energy of its particles decreases.
- B** The average thermal energy of its particles decreases.
- C** The particles gain kinetic energy.
- D** The particles lose potential energy.

7 Which is true of the thermal energy of particles?

- A** Thermal energy includes the potential and the kinetic energy of the particles.
- B** Thermal energy is the same as the average kinetic energy of the particles.
- C** Thermal energy is the same as the potential energy of particles.
- D** Thermal energy is the same as the temperature of the particles.



2 Which state of matter is represented above?

- A amorphous solid
- B crystalline solid
- C gas
- D liquid

3 Which best describes the attractive forces between particles shown in the figure?

- A The attractive forces keep the particles vibrating in place.
- B The particles hardly are affected by the attractive forces.
- C The attractive forces keep the particles close together but still allow movement.
- D The particles are locked in their positions because of the attractive forces between them.

Use the figure to answer question 5.



Gas



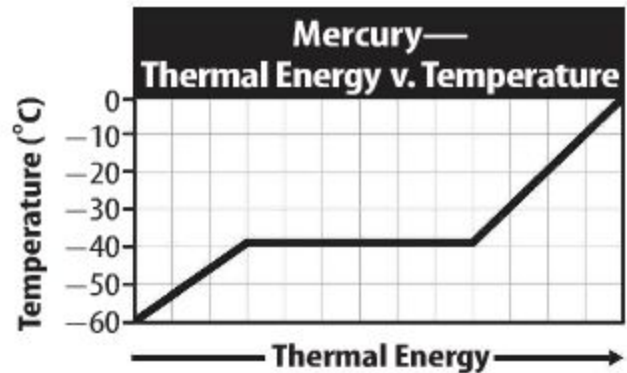
Solid

5 Which process is represented in the figure?

- A deposition
- B freezing
- C sublimation
- D vaporization

Use the graph to answer questions 10 and 11.

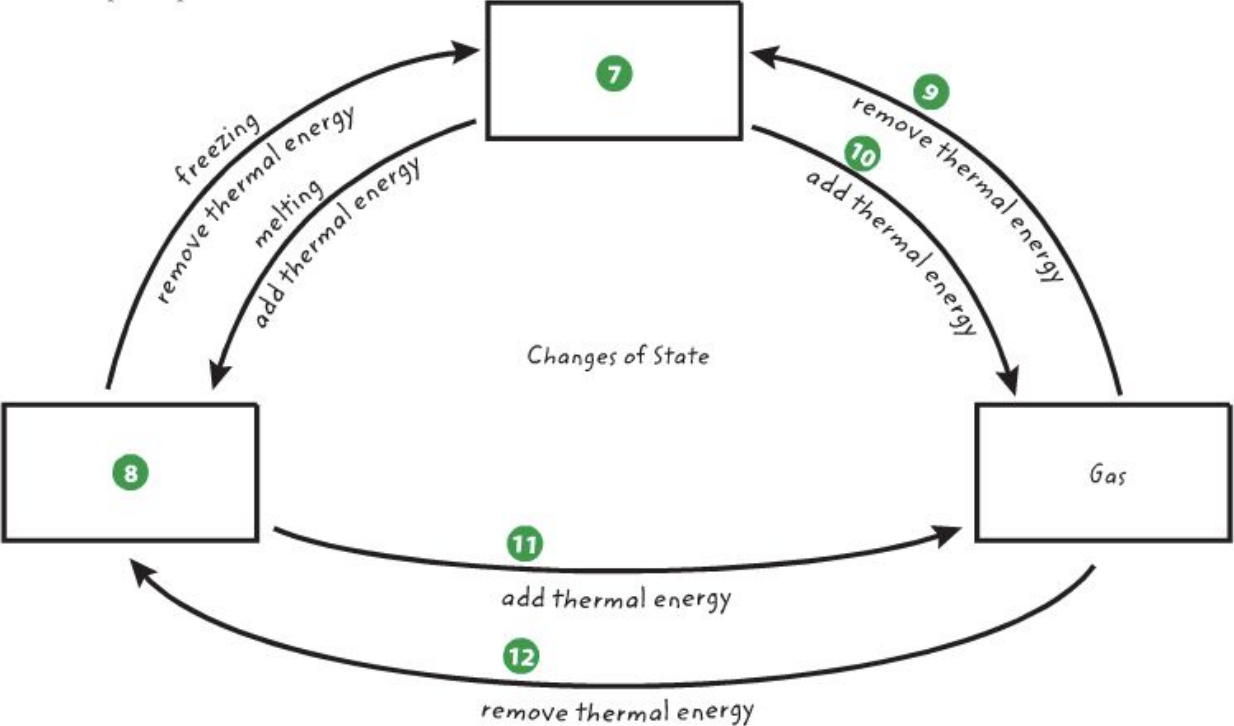
A scientist measured the temperature of a sample of frozen mercury as thermal energy is added to the sample. The graph below shows the results.



- 10** At what temperature does mercury melt?
How do you know?
- 11** Describe the motion and arrangement of mercury atoms while the temperature is constant.

B

Copy this concept map, and then use vocabulary terms from the previous page to complete the concept map.



Be able to tell me about this graph.

