Unit 3 Evaluation

Name: _____ Class: _____ Date: _____

Mark the correct answers with a ✔.

1 What do these objects have in common?

A. Both are autotrophs.

B. Both are living things.

C. Both are nonliving things.

D. Both are formed by matter.

2 Which describes matter?

A. Matter is formed by small particles.

B. The particles do not move. They remain static.

C. Between the particles, matter exists in different states.

D. The particles do not possess forces of attraction.

3 In what state is the water if it takes the shape of the vase?

A. Gas.

B. Solid.

C. Liquid.

D. Plasma.

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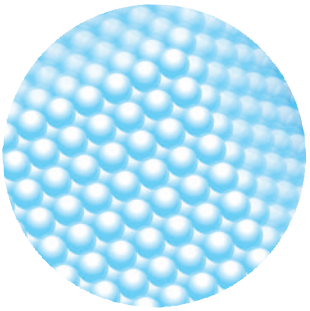
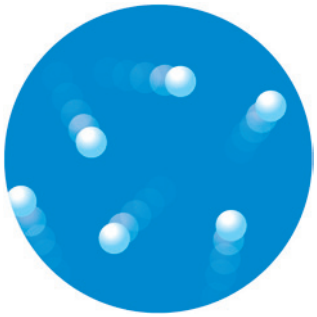
4 Which models show particles in liquid and gaseous states?

Model 1



Model 2

Model 3



A. Models 1 and 2.

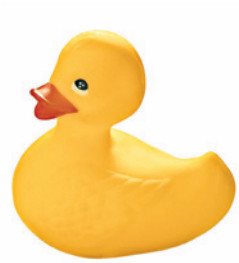
B. Models 2 and 3.

C. Models 1 and 3.

D. Model 1 only.

Look at the images and answer questions 5–7.

State 1



State 2

State 3

5 What is the difference between state 1 and state 3?

A. The particles in state 1 are more separated than those in state 3.

B. The particles in state 1 are closer together than those in state 3.

C. The particles in state 1 expand to fit the available space and those in state 3 do not.

D. The particles in state 1 move around and those in state 3 do not.

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6 In which state do the particles have greater kinetic energy?

A. 1.

B. 2.

C. 3.

D. 1 and 2.

7 In which states is the volume constant?

A. 1 and 2.

B. 2 and 3.

C. 1 and 3.

D. 1 only.

8 Why do solids have a rigid form?

A. Because the particles are very separated.

B. Because the particles possess a lot of kinetic energy.

C. Because the force of attraction between the particles is very strong.

D. Because air in between the particles impedes their movement.

9 Which material should be used to build a safety deposit box?

A. Metal.

B. Wood.

C. Ice.

D. Paper.

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Look at the images and answer questions 10–12.

10 In each beaker, the same amount of food coloring was put in at the same time. Which beaker contains water at a higher temperature?

A. Beaker 1.

B. Beaker 2.

C. They have the same temperature.

D. The temperature cannot be determined.

11 Why does the food coloring disperse more quickly in beaker 2?

A. The particles in beaker 2 have more kinetic energy.

B. The particles in beaker 1 have more kinetic energy.

C. The particles in beaker 1 have more chemical energy.

D. The particles in beaker 2 have more chemical energy.

12 What would happen if ice were put in beaker 2?

A. The mass would decrease.

B. The temperature would increase.

C. The kinetic energy of the particles would decrease.

D. The kinetic energy of the particles would increase.

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13 What is the lowest temperature matter can reach?

A. 0 ºC.

B. 0 K.

C. 0 ºF.

D. –273 K.

14 Edward and Wendy are talking about the weather. Edward says that in summer it gets very hot. Wendy says that it is more correct to say that in summer the temperature is high. Who is right?

A. Wendy.

B. Edward.

C. Both.

D. Neither.

15 Why does it feel cold when the outside temperature is 0 ºC?

A. Because the environment transfers cold to a person's body.

B. Because thermal energy is transferred from the environment to the person.

C. Because there's a transference of heat from the body to the environment.

D. B and C are correct.

Read the information and answer questions 16–18.

In a lab, there is a glass containing 50 ml of water at 0 ºC, and the room temperature is 25 ºC.

16 What will happen to the temperature of the water after a while?

A. The temperature will lower.

B. The temperature will not change.

C. It will reach thermal equilibrium with the environment.

D. It will rise above 25 ºC.

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17 How will the energy transfer take place?

A. The water will transfer thermal energy to the environment.

B. The environment will absorb heat from the wall of the glass.

C. Heat will transfer from the environment to the wall of the glass and then to the water.

D. The water will transfer thermal energy to the wall of the glass and then the environment.

18 What is heat?

A. Energy in transit from one body to another.

B. A measure of the kinetic energy of the particles of a body.

C. The thermal energy of two bodies at different temperatures.

D. The thermal energy of two bodies with the same temperature.

Look at the images and answer questions 19–22.

Metal spoon

Wooden spoon

Plastic spoon

The images show three spoons each with the same amount of margarine. The same amount of hot water at the same temperature is poured on them.

19 What is the process by which heat is transferred to the spoon?

A. Conduction.

B. Convection.

C. Radiation.

D. Thermal equilibrium.

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20 The results show that the margarine on the metal spoon melted first, then the margarine on the plastic spoon and finally the margarine on the wooden spoon. How do you interpret these results?

A. In some materials, there is no heat transfer.

B. Some spoons are in thermal equilibrium with their medium.

C. Not all spoons have the same thermal conductivity.

D. Margarine melts at different temperatures.

21 Which spoon is the best conductor of heat?

A. The plastic spoon.

B. The metal spoon.

C. The wooden spoon.

D. The metal and plastic spoons are equally conductive.

22 What materials would you use to make a cooking pot and its handles, respectively?

A. Plastic and wood.

B. Wood and metal.

C. Metal and plastic.

D. Wood only.

23 What is the mechanism of heat transfer in liquids and gases called?

A. Conduction.

B. Convection.

C. Radiation.

D. Thermal equilibrium.

24 What type of heat transfer is produced through electromagnetic waves?

A. Conduction.

B. Convection.

C. Radiation.

D. Thermal equilibrium.

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Look at the diagram and answer questions 25–27.

25 What are processes 1–3, respectively?

A. Sublimation, fusion and vaporization.

B. Fusion, condensation and solidification.

C. Condensation, fusion and vaporization.

D. Vaporization, condensation and solidification.

26 Which processes are regressive?

A. 1 and 3.

B. 1 and 2.

C. 1, 2 and 3.

D. 4, 5 and 6.

27 Which process produces ice?

A. 1.

B. 2.

C. 4.

D. 5.

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28 Which is an example of vaporization?

A. The gas released when water is boiled.

B. The smoke released when paper is burned.

C. The tiny drops of water that appear in the air when the freezer door is opened.

D. The ice melting in a glass of water.

29 What process occurs when an ice cube is put in hot water?

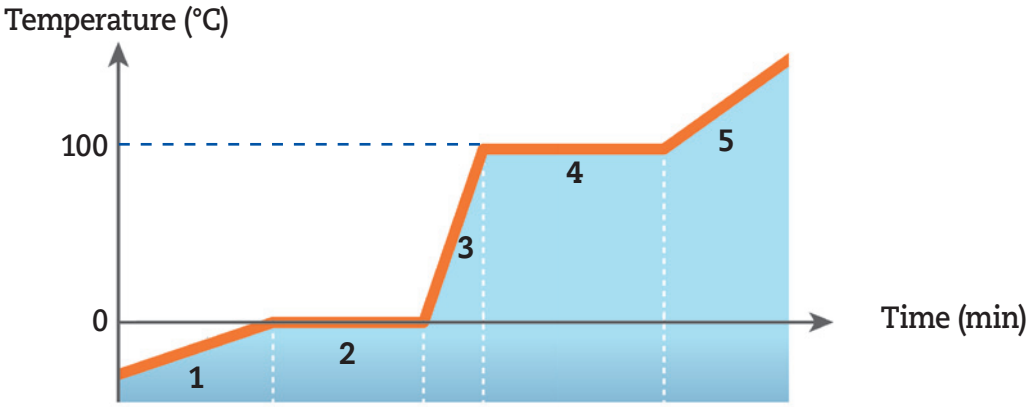
A. Fusion.

B. Condensation.

C. Solidification.

D. Deposition.

30 Look at the graph of the heating curve of water. Which statement below is correct?



A. At stages 2, 3 and 5, the water increases in temperature.

B. At stages 2 and 4, the temperature stays constant.

C. At stage 1, the water is in a gaseous state.

D. At stage 5, the water is in a solid state.

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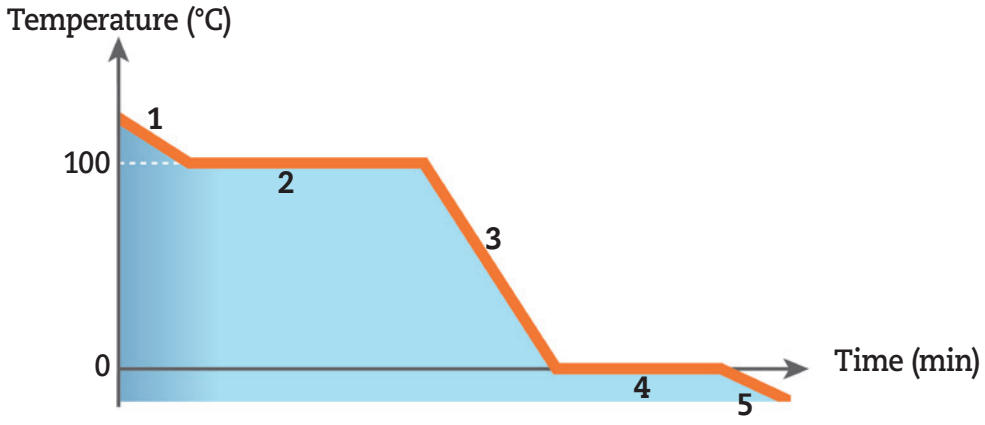
31 Explain what happens at each stage on the cooling curve of water.



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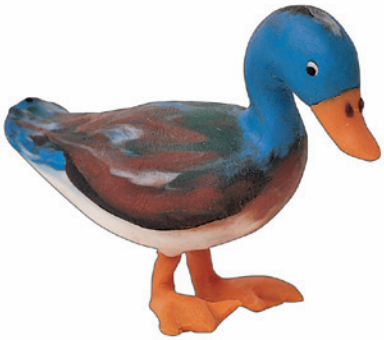
Test B

Unit 3 Evaluation

Name: _____ Class: _____ Date: _____

Mark the correct answers with a ✔.

1 What do these things have in common?



A. Both are formed by matter.

B. Both are heterotrophs.

C. Both are autotrophs.

D. Both are living things.

2 Which describes matter?

A. Matter is formed by cells.

B. The particles are always moving.

C. Between the particles, matter in different states exists.

D. There is no force of attraction between the particles.

3 In what state is water if it takes the shape of the flowerpot?

A. Liquid.

B. Solid.

C. Gas.

D. Plasma.

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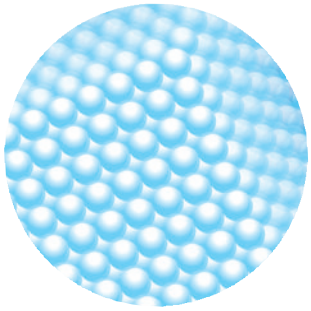
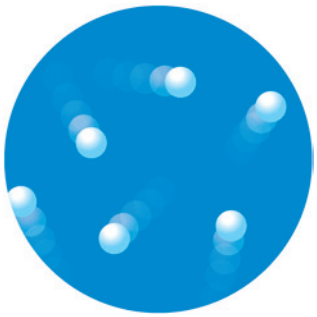
4 Which models show particles in solid and gas states, respectively?

Model 1



Model 2

Model 3



A. Models 1 and 2.

B. Models 2 and 3.

C. Models 1 and 3.

D. Only model 1.

Look at the images and answer questions 5–7.

State 1

State 2

State 3

5 What is the difference between state 2 and state 3?

A. The particles in state 3 are more separated.

B. The particles in state 3 are closer together.

C. The particles in state 3 only vibrate and those in state 2 move around.

D. The particles in state 3 move around and those in state 2 do not.

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6 In which state do the particles have the least kinetic energy?

A. 1.

B. 2.

C. 3.

D. 1 and 2.

7 Which states flow?

A. 1 and 2.

B. 2 and 3.

C. 1 and 3.

D. Only 3.

8 Why do liquids flow easily?

A. Because the particles have kinetic energy.

B. Because the particles vibrate in place.

C. Because the force of attraction between the particles is weak.

D. Because air in between the particles allows their movement.

9 Which material is most suitable for a kitchen pot?

A. Ice.

B. Metal.

C. Paper.

D. Wood.

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Look at the images and answer questions 10–12.

10 In each beaker, the same amount of food coloring was put in at the same time. Which beaker contains water at a higher temperature?

A. Beaker 1

B. Beaker 2.

C. They have the same temperature.

D. The temperature cannot be determined.

11 Why does the food coloring disperse more quickly in beaker 1?

A. The particles in beaker 2 have more kinetic energy.

B. The particles in beaker 1 have more kinetic energy.

C. The particles in beaker 1 have more chemical energy.

D. The particles in beaker 2 have more chemical energy.

12 What would happen if ice were put in beaker 1?

A. The mass would decrease.

B. The temperature would increase.

C. The kinetic energy of the particles would decrease.

D. The kinetic energy of the particles would increase.

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13 What is the lowest temperature matter can reach?

A. 0 ºC.

B. 0 ºF.

C. –273 ºC.

D. –273 K.

14 Colin and Patricia are talking about the climate. Colin says that in summer it gets very hot. Patricia says it is more correct to say that in summer the temperature is high. Who is right?

A. Colin.

B. Patricia.

C. Both.

D. Neither.

15 Why does it feel hot when the outside temperature is 35 ºC?

A. Because there is a transference of heat from the body to the environment.

B. Because thermal energy moves from the body to the environment.

C. Because heat transfers from the environment to the body.

D. A and B are correct.

Read the information and answer questions 16–18.

In a lab, there is a glass containing 50 ml of water at 50 ºC, and the room temperature is 25 ºC.

16 What will happen to the temperature of the water after a while?

A. The water temperature will increase.

B. The temperature will not change.

C. It will decrease below 25 ºC (room temperature).

D. It will reach thermal equilibrium with the environment.

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17 How will thermal equilibrium be reached?

A. The water will absorb energy from the wall of the glass.

B. Heat will transfer to the wall of the glass and then the environment.

C. The environment will transfer heat to the wall of the glass and then this energy will transfer back to the environment.

D. The environment will transfer heat to the wall of the glass and then to the water.

18 What is thermal equilibrium?

A. The transfer of heat between two bodies at the same temperature.

B. The transfer of heat between bodies at different temperatures until they reach the same temperature.

C. The transfer of kinetic energy to one body at room temperature and the other at absolute temperature.

D. The transfer of kinetic energy between two bodies at different temperatures.

Look at the images and answer questions 19–22.

Metal spoon

Wooden spoon

Plastic spoon

The three spoons have the same amount of margarine on them. The same amount of hot water at the same temperature is poured on them.

19 By what process does heat transfer from the water to the spoon?

A. Radiation.

B. Conduction.

C. Convection.

D. Thermal equilibrium.

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20 The margarine on the metal spoon melted first, then the margarine on the plastic spoon and finally the margarine on the wooden spoon. What can you conclude?

A. In the metal spoon, there is no heat transfer.

B. Equal heat transfer took place in all the spoons.

C. The metal spoon is a better conductor of heat than the others.

D. The metal spoon doesn't conduct heat.

21 Which spoon conducts the least amount of heat?

A. The plastic spoon.

B. The metal spoon.

C. The wooden spoon.

D. The metal and plastic spoons are equally conductive.

22 What materials would you use to make the body and handle of a kettle?

A. Metal only.

B. Metal and plastic.

C. Wood and metal.

D. Plastic and wood.

23 What mechanism of heat transfer occurs between two solids in contact?

A. Conduction.

B. Convection.

C. Radiation.

D. Thermal equilibrium.

24 What type of heat transfer occurs in liquids and gases?

A. Conduction.

B. Convection.

C. Radiation.

D. Thermal equilibrium.

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Look at the image and answer questions 25–27.

25 What processes are 4, 5 and 6, respectively?

A. Sublimation, fusion and vaporization.

B. Fusion, condensation and solidification.

C. Condensation, fusion and vaporization.

D. Solidification, condensation and deposition.

26 Which processes are progressive?

A. 1 and 3.

B. 1 and 2.

C. 1, 2 and 3.

D. 4, 5 and 6.

27 What process occurs when clothes dry?

A. 1.

B. 3.

C. 4.

D. 5.

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28 Which is an example of solidification?

A. Observing the water that melts from the ice in a glass of ice.

B. Opening the freezer door and seeing water vapor.

C. Burning paper and observing the smoke.

D. Leaving an ice cube tray with water in a freezer.

29 What process occurs when water vapor comes in contact with a bathroom mirror?

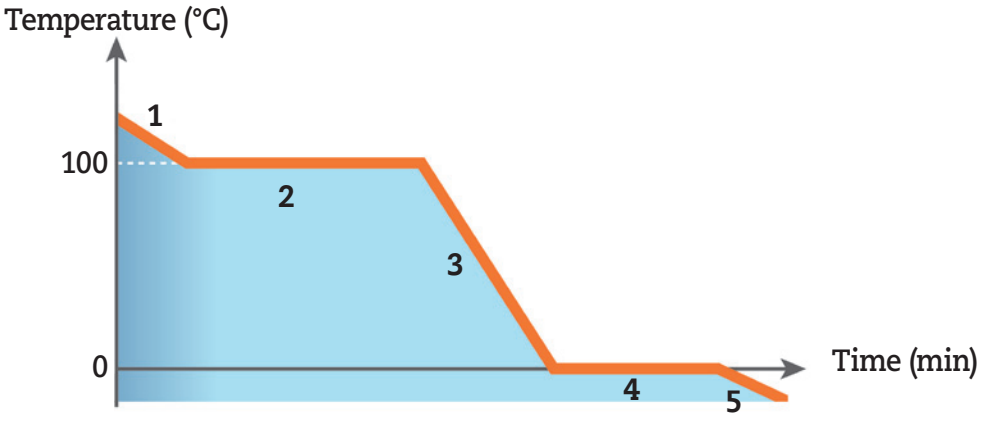
A. Fusion.

B. Condensation.

C. Solidification.

D. Deposition.

30 Look at the graph of the cooling curve of water. Which statement below is correct?



A. At stages 2, 3 and 5, the water temperature increases.

B. At stages 3 and 4, the water temperature stays constant.

C. At stage 1, the water is in a gaseous state.

D. At stage 5, the water is in a liquid state.

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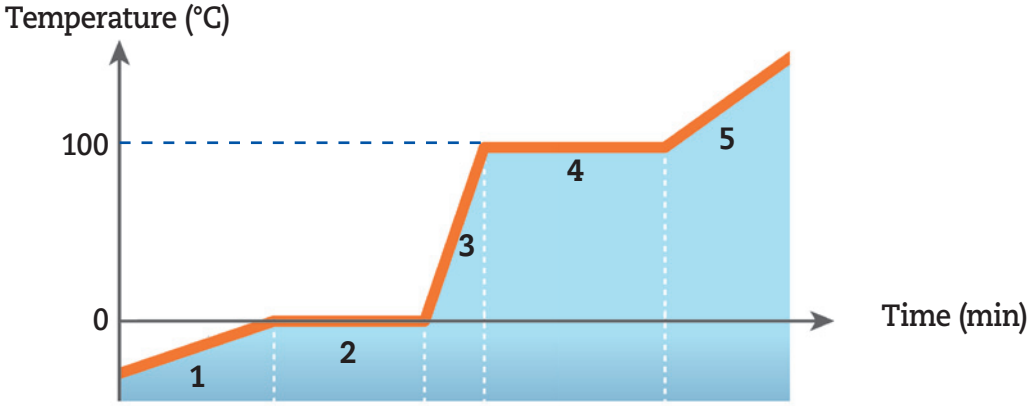
31 Explain what happens at each stage on the heating curve of water.



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