



Name _____ Class _____ Date _____

- 1 What is the **equilibrium temperature** of an ice-water mixture at a pressure of **1 atmosphere**?

A 0°C
B 32°C
C 100°C
D 273°C



- 2 The list below shows four samples: 1, 2, 3, and 4.

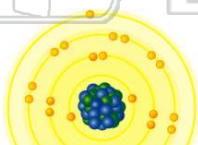
(1) HCl(aq) (3) HCl(g)
(2) NaCl(aq) (4) NaCl(s)

Which samples are **substances**?

A 1 and 2 C 3 and 2
B 1 and 3 D 3 and 4

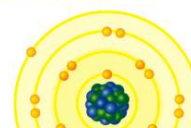
- 3 Which sample of **Fe** contains particles having the **highest** average kinetic energy?

A 5 g at 10°C
B 10 g at 25°C
C 5 g at 400 K
D 10 g at 300 K



- 4 Which substance at **STP** **conducts electricity** because the substance contains **mobile electrons**?

A H
B He
C K



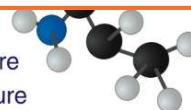
PREVIEW

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200 mL at 0°C
C 300 mL at 40°C
D 400 mL at 20°C



B a compound
C a homogeneous mixture
D a heterogeneous mixture



- 9 The burning of **magnesium** involves a **conversion** of

A chemical energy to mechanical energy
B chemical energy to heat energy
C heat energy to chemical energy
D heat energy to mechanical energy

- 10 Which statement explains why **H₂O** has a **higher boiling point** than **N₂**?

A H₂O has greater molar mass than N₂.
B H₂O has less molar mass than N₂.
C H₂O has stronger intermolecular forces than N₂.
D H₂O has weaker intermolecular forces than N₂.



ANSWER KEY

What is the **equilibrium temperature** of an ice-water mixture at a pressure of **1 atmosphere**?

- A 0°C
- B 32°C
- C 100°C
- D 273°C



(a)

The list below shows four samples: 1, 2, 3, and 4.

- (1) HCl(aq) (3) HCl(g)
- (2) NaCl(aq) (4) NaCl(s)

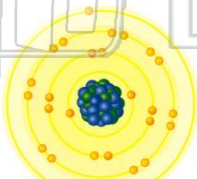
Which samples are **substances**?

- A 1 and 2 C 3 and 2
- B 1 and 3 D 3 and 4

(d)

Which sample of **Fe** contains particles having the **highest** average kinetic energy?

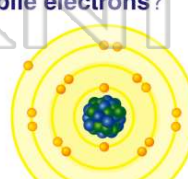
- A 5 g at 10°C
- B 10 g at 25°C
- C 5 g at 400 K
- D 10 g at 300 K



(c)

Which substance at **STP** **conducts electricity** because the substance contains **mobile electrons**?

- A H
- B He
- C K
- D Kr



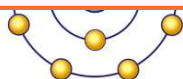
(c)



PREVIEW

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D 400 mL at 20°C



- C a homogeneous mixture
- D a heterogeneous mixture



The burning of **magnesium** involves a **conversion** of

- A chemical energy to mechanical energy
- B chemical energy to heat energy
- C heat energy to chemical energy
- D heat energy to mechanical energy

(b)

Which statement explains why **H₂O** has a **higher boiling point** than **N₂**?

- A H₂O has greater molar mass than N₂.
- B H₂O has less molar mass than N₂.
- C H₂O has stronger intermolecular forces than N₂.
- D H₂O has weaker intermolecular forces than N₂.

(c)