

Name.....Number.....Class.....

## SPECIFIC LATENT HEAT Worksheet

$$\blacksquare Q = ml$$

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### Questions

1. Calculate the specific latent heat of fusion if:

a. 28,000 J is supplied to turn 2 kg of solid oxygen into a liquid at  $-219^{\circ}\text{C}$

Formula  $Q = ml$

$$Q = \boxed{\phantom{0000}}$$

$$M = \boxed{\phantom{0000}}$$

$$l = \boxed{\phantom{0000}}$$

We get

$$\boxed{\phantom{0000}} = \boxed{\phantom{0000}}$$

Ans

$$\boxed{\phantom{0000}}$$

b. 183,600 J is supplied to turn 3.4 kg of solid sulphur into a liquid at  $115^{\circ}\text{C}$

Formula  $Q = ml$

$$Q = \boxed{\phantom{0000}}$$

$$M = \boxed{\phantom{0000}}$$

$$l = \boxed{\phantom{0000}}$$

We get

$$\boxed{\phantom{0000}} = \boxed{\phantom{0000}}$$

Ans

$$\boxed{\phantom{0000}}$$

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## SPECIFIC LATENT HEAT Worksheet

## ■ $Q = ML$

c. 6600 J is supplied to turn 600g of solid mercury into a liquid at -39°C

Formula  $Q = ml$

Q =  
M =  
l =

We get

$$\boxed{\quad} = \boxed{\quad}$$

Ans

1. *What is the primary purpose of the study?*

d. 67,000 J is supplied to turn 200 g of ice into a liquid at 0°C

Formula  $Q = ml$

Q =  
M =  
l =

We get

$$\boxed{\quad} = \boxed{\quad}$$

Ans

11. *What is the primary purpose of the following statement?*

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### ■ $Q = ML$

2. Calculate the specific latent heat of vaporization if:

a. 335,200 J is supplied to turn 400 g of liquid ethanol into a gas at 78°C

Formula  $Q = ml$

$$\begin{array}{l} Q = \boxed{\phantom{000000}} \\ M = \boxed{\phantom{000000}} \\ l = \boxed{\phantom{000000}} \end{array}$$

We get

$$\boxed{\phantom{000000}} = \boxed{\phantom{000000}}$$

Ans

$$\boxed{\phantom{000000}}$$

b. 987,800 J is supplied to turn 2.2 kg of liquid hydrogen into a gas at -253°C

Formula  $Q = ml$

$$\begin{array}{l} Q = \boxed{\phantom{000000}} \\ M = \boxed{\phantom{000000}} \\ l = \boxed{\phantom{000000}} \end{array}$$

We get

$$\boxed{\phantom{000000}} = \boxed{\phantom{000000}}$$

Ans

$$\boxed{\phantom{000000}}$$

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## SPECIFIC LATENT HEAT Worksheet

### ■ $Q = ML$

c. 53.25 kJ is supplied to turn 250 g of liquid oxygen into a gas at -183°C

Formula  $Q = ml$

$$Q = \boxed{\phantom{000}}$$

$$M = \boxed{\phantom{000}}$$

$$l = \boxed{\phantom{000}}$$

We get

$$\boxed{\phantom{000}} = \boxed{\phantom{000}}$$

Ans

$$\boxed{\phantom{000}}$$

d. 7,620 J is supplied to turn 30 g of liquid chloroform into a gas at 62°C

Formula  $Q = ml$

$$Q = \boxed{\phantom{000}}$$

$$M = \boxed{\phantom{000}}$$

$$l = \boxed{\phantom{000}}$$

We get

$$\boxed{\phantom{000}} = \boxed{\phantom{000}}$$

Ans

$$\boxed{\phantom{000}}$$

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## SPECIFIC LATENT HEAT Worksheet

### ■ $Q = ml$

3. How much energy is needed to turn 2 kg of water, at 100°C into steam at 100°C? (specific latent heats of steam 2256 kJ/Kg)

Formula:  $Q = ml$

$$\begin{array}{l} Q = \boxed{\phantom{0000}} \\ M = \boxed{\phantom{0000}} \\ l = \boxed{\phantom{0000}} \end{array}$$

We get

$$\boxed{\phantom{0000}} = \boxed{\phantom{0000}}$$

Ans

$$\boxed{\phantom{00000000}}$$

4. How much heat energy is given out when 500 g of steam at 100°C condenses at 100°C? (specific latent heats of condensation 2256 kJ/Kg)

Formula:  $Q = ml$

$$\begin{array}{l} Q = \boxed{\phantom{0000}} \\ M = \boxed{\phantom{0000}} \\ l = \boxed{\phantom{0000}} \end{array}$$

We get

$$\boxed{\phantom{0000}} = \boxed{\phantom{0000}}$$

Ans

$$\boxed{\phantom{00000000}}$$