

## Thermochemical equations

### Work sheet

#### Activity 1 : Writing the Thermochemical equation:

1. Write the thermochemical equation of Combustion of sucrose (  $C_{12}H_{22}O_{11}$  ) forming carbon dioxide and liquid water , the energy released is 5644 KJ/ mol.

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2. Write the thermochemical equation of combustion of methane (  $CH_4$  )

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3. Write the thermochemical equation of combustion of methane (  $C_2H_5OH$  ) ,  $\Delta H = -1367$  KJ

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#### Activity 2 : Identify which of the reaction is endothermic reaction and which one is exothermic reaction :

| Equation                          | Type of reaction | Equation                                | Type of reaction |
|-----------------------------------|------------------|---|------------------|
| $C_3H_8(g) \rightarrow C_3H_8(l)$ |                  | $C_{10}H_8(s) \rightarrow C_{10}H_8(l)$ |                  |
| $CO_2(s) \rightarrow CO_2(g)$     |                  | $H_2O(l) \rightarrow H_2O(s)$           |                  |

#### Activity 3 : Calculating the amount of heat :

A ) How much heat is released from the condensation of 1255 g of water vapor to liquid water at  $100^{\circ}C$  ?

B) Choose the correct answer :

An amount of ammonia (  $NH_3$  ) release 5.66 KJ of heat when it solidification at melting point , calculate the mass of ammonia ?

- a) 5.66 g
- b) 1 g
- c) 17 g
- d) 0.058 g