Year 12 Chemistry

Quick Quiz: Using and Controlling Reactions

1. A candle containing $C_{25}H_{52}$ is burned for 1 minute under a beaker containing 50 mL of water. The temperature of the water changes from 15°C to 40°C and the mass of the candle changes from 14.62 g to 14.25 g.
   (a) Calculate the molar enthalpy of combustion of the candle, given that the specific heat capacity of water is 4.18 J g^{-1} C^{-1}.

   (b) Explain why the molar enthalpy calculated above is likely to be less than the true value.

2.
   (a) State two uses of carbon-based fuels.

   (b) Compare advantages and disadvantages of two types of carbon-based fuels.

3. Describe how the actions of charging and discharging a galvanic cell are complementary.

4. State how you could tell from a graph whether two variables are proportional.