

Use of $E = mc\Delta T$

1. 0.377 g of magnesium was burnt to heat up 800 g of water. The temperature of water rose by 2.3°C. Calculate the heat energy released by magnesium.
2. A spirit burner containing 20 cm³ methanol is used to heat up a beaker of 250 cm³ NaCl(aq) from 15.5°C to 100.0°C. Calculate the heat energy released by methanol.

(Specific heat capacity = 4.2 J g⁻¹ K⁻¹; density of water = 1.0 g cm⁻³)