Solutions

Each answer shows the steps, then the **result**.

2.1

- a **chemical** change makes a **new substance**; a **physical** change does not

2.2

- any **two** of: colour change / gas given off / energy or temperature change / a precipitate forms

2.3

- ice melting: physical; iron rusting: chemical

2.4

- no new substance is formed, so the original substance can be recovered

3.1 C

- melting ice makes **no new substance** – a physical change
- A, B and D all make new substances

3.2

(a)

- dissolving salt: **physical**
- burning a candle: **chemical**

(b)

- burning makes **new substances** (e.g. CO_2 and water)
- and is **hard to reverse**

3.3

(a)

Any two of, one mark each:

- a bright light is given off
- heat is given out
- a new substance forms: the shiny grey metal becomes a white powder

(b)

- **magnesium oxide**

3.4

- new substances are formed: hydrated copper(II) sulfate becomes anhydrous copper(II) sulfate and water
- there is an energy change: heat is taken in on heating and given out when water is added