

Solutions

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

2.1

- net movement of particles from **higher** to **lower** concentration
- **down a concentration gradient**

2.2

- the energy comes from the **kinetic energy** of the particles' random movement

3.1 B

- **higher** temperature makes particles move faster, so diffusion is faster
- A and C slow it; D is false

3.2

(a)

- oxygen moves down its concentration gradient: **diffusion**

(b)

- any **two** of: larger surface area / higher temperature / steeper gradient / shorter distance

3.3

- particles move using their own **random (kinetic) energy**
- so **no extra energy from respiration** is needed