Solutions

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

2.1

- MRS GREN names the seven life processes
- any **four** of: **Movement, Respiration, Sensitivity, Growth, Reproduction, Excretion, Nutrition**

2.2

- growth is a **permanent increase in size and dry mass**

2.3

- the chemical reactions in cells that break down nutrient molecules and release energy for metabolism

2.4

- the processes that make more of the same kind of organism

3.1 B

- excretion is the **removal of toxic waste** the organism's own metabolism made
- A is digestion; C is sensitivity; D is gas exchange, not waste removal

3.2

(a)

- **removal of the toxic waste products of metabolism** (and excess substances)

(b)

- the ability to **detect and respond** to changes in the environment

3.3

- **nutrition** is taking in materials for energy, growth and development
- **digestion** is just one part of nutrition (breaking food into small molecules)

3.4

- a car does not show all seven characteristics of living things
- it cannot grow or reproduce, and it is not made of cells

3.5

(a)

- **sensitivity**

(b)

- a characteristic other than sensitivity: nutrition, respiration, excretion, growth, reproduction or movement
- a correct example, such as nutrition: making its own food by photosynthesis; or excretion: giving out oxygen as a waste product of photosynthesis