

Solutions

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

2.1

- About 10%

2.2

- 800 kcal

2.3

- Lost as heat and used in life processes (respiration, movement)

3.1 B

- 10%

3.2

(a)

- primary = 3000; secondary = 300; tertiary = 30 kcal/m²/yr

(b)

- About 90% of the energy is lost at each of the three transfers

3.3

- Because ~90% of energy is lost at each level, after a few levels there is too little energy left to support another, limiting the number of levels