

# Exercise walk-through

Waste Reduction Methods ■ 8.10

eXercise

## You must be able to

- apply the **three Rs** (reduce, reuse, recycle) and **composting** 堆肥
- explain the **waste hierarchy** (reduce is best)
- describe benefits of each method

## Method — The waste hierarchy

Best to worst: **Reduce** → **Reuse** → **Recycle** → **(Recover energy)** → **Dispose**.

Preventing waste in the first place (**reduce**) is best.

## Method — The three Rs

- **Reduce** — use less / buy less packaging.
- **Reuse** — use items again (refillable bottles).
- **Recycle** — process materials into new products (paper, glass, metal, plastic).

## Method — Composting

**Composting** turns food and yard waste into fertilizer, keeping organic matter out of landfills (where it would make methane) and enriching soil.

## Method — Benefits

Waste reduction saves **landfill space**, **energy**, and **raw materials**, and cuts pollution and greenhouse gases.

## Practice 2.1 ■ 1 mark

State the three Rs in order (best first).

## Solution 2.1

Method: The waste hierarchy

### Worked steps

Reduce, reuse, recycle **B1**.



## Practice 2.2 ■ 1 mark

What does composting turn waste into?

## Solution 2.2

Method: Composting

### Worked steps

Compost (fertilizer / soil enrichment) **B1**.

## Practice 2.3 ■ 1 mark

Which R is the most effective?

## Solution 2.3

### Worked steps

Reduce **B1**.

## Exam-style 3.1 ■ 1 mark

In the waste hierarchy, the best option is to

**A** dispose

**B** recycle

**C** reduce

**D** incinerate

## Solution 3.1

Method: The waste hierarchy

**A** dispose

**B** recycle

**C** reduce 

**D** incinerate

### Worked steps

**C** — reduce.

## Exam-style 3.2 ■ 3 marks

A household wants to cut its waste.

- (a) Give one example each of reducing, reusing, and recycling.
- (b) Explain one environmental benefit of composting food scraps.

## Solution 3.2

Method: Composting

### Worked steps

(a) Reduce: buy less/less packaging; reuse: refillable bottle; recycle: paper/glass/metal **B1 B1 B1**. (b) It keeps organics out of landfills (avoiding methane) and enriches soil **B1**.



## Exam-style 3.3 ■ 2 marks

Explain why “reduce” is more effective than “recycle”.

## Solution 3.3

### Worked steps

Reducing prevents the waste (and the energy/materials to make and process it) entirely, while recycling still uses energy to collect and reprocess the material **M1** **A1**.