

8.10 Waste Reduction Methods

Name: _____ Class: _____ Date: _____

Total: 10 marks

Objective

Build the skills to answer exam questions on **waste reduction methods**.

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

1 Worked examples

Study these first. Each one shows the method for a question type used later —follow the steps and you can do the Practice and Exam-style questions yourself.

■ The waste hierarchy

Best to worst: **Reduce** → **Reuse** → **Recycle** → (**Recover energy**) → **Dispose**.
Preventing waste in the first place (**reduce**) is best.

■ 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).

■ Composting

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

■ Benefits

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

2 Practice

Now apply the methods above.

2.1 State the three Rs in order (best first). [1]

2.2 What does composting turn waste into? [1]

2.3 Which R is the most effective? [1]

3 Exam-style questions

3.1 In the waste hierarchy, the best option is to [1]

- **A** dispose
 - **B** recycle
 - **C** reduce
 - **D** incinerate
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3.2 A household wants to cut its waste.

(a) Give one example each of reducing, reusing, and recycling. [3]

(b) Explain one environmental benefit of composting food scraps. [1]

3.3 Explain why "reduce" is more effective than "recycle". [2]

4 Go further

You are now ready for the real exam questions on this subtopic:

- work through the **8.10 Waste Reduction Methods** lesson on the **Learn** page;
- read the **Waste Reduction Methods** section of the AP Environmental Science handout on the **Know** page.

Solutions

2.1 Reduce, reuse, recycle.

2.2 Compost (fertilizer / soil enrichment).

2.3 Reduce.

3.1 C —reduce.

3.2 (a) Reduce: buy less/less packaging; reuse: refillable bottle; recycle: paper/glass/metal.

(b) It keeps organics out of landfills (avoiding methane) and enriches soil.

3.3 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.