

# 5.17 Sustainable Forestry

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Name: \_\_\_\_\_ Class: \_\_\_\_\_ Date: \_\_\_\_\_

Total: 9 marks

## Objective

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Build the skills to answer exam questions on **sustainable forestry**.

**You must be able to:**

- describe sustainable practices (**selective cutting** 择伐, replanting, rotation)
- explain how they maintain forest function
- contrast with clearcutting

## 1 Worked examples

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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.

### ■ Sustainable forestry

**Sustainable forestry** harvests timber while keeping the forest healthy and productive for the future:

- **Selective cutting** —remove only some trees, leaving the forest largely intact.
- **Replanting** —replace harvested trees.
- **Rotation** —harvest no faster than the forest regrows (sustainable yield).

### ■ Keeping forest function

Leaving trees standing maintains **habitat**, **soil stability**, **carbon storage**, and the **water cycle**, unlike clearcutting.

### ■ Certification

**Certification** programs label sustainably-harvested wood so consumers can support responsible forestry.

### ■ A worked contrast

Selective cutting keeps the forest canopy and roots, so it avoids the erosion, habitat loss, and flooding caused by clearcutting.

## 2 Practice

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Now apply the methods above.

**2.1** Name one sustainable forestry practice. [1]

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**2.2** Why is replanting important? [1]

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**2.3** How does selective cutting protect soil? [1]

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### 3 Exam-style questions

**3.1** Sustainable forestry harvests trees [1]

- **A** faster than they regrow
- **B** no faster than they regrow
- **C** only by clearcutting
- **D** never

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**3.2** A company switches from clearcutting to selective cutting and replanting.

(a) Explain two environmental benefits. [2]

(b) State one disadvantage compared with clearcutting. [1]

**3.3** Explain how sustainable forestry maintains a forest's carbon storage. [2]

### 4 Go further

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

- work through the **5.17 Sustainable Forestry** lesson on the **Learn** page;
- read the **Sustainable Forestry** section of the AP Environmental Science handout on the **Know** page.

## Solutions

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**2.1** Any one: selective cutting, replanting, rotation (sustainable yield).

**2.2** It replaces harvested trees so the forest regrows and stays productive.

**2.3** It leaves most trees (and roots) in place to hold the soil.

**3.1 B** —no faster than they regrow.

**3.2** (a) Any two: less erosion, maintained habitat, kept carbon storage, protected water cycle. (b) It is slower and more expensive, yielding less timber at once.

**3.3** By keeping most trees standing and replanting harvested ones, the forest continues to absorb and store CO<sub>2</sub>, rather than releasing it as a clearcut would.