

5.11 Ecological Footprints

Name: _____ Class: _____ Date: _____

Total: 9 marks

Objective

Build the skills to answer exam questions on **ecological footprints**.

You must be able to:

- define an **ecological footprint** 生态足迹
- explain what raises or lowers it
- compare footprints between countries

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 ecological footprint

An **ecological footprint** is the area of land and water needed to supply a person's (or population's) resources and absorb their waste.

■ What raises it

A larger footprint comes from **high consumption**: more meat, energy, driving, and goods. Wealthy, developed countries tend to have **large** footprints per person.

■ What lowers it

Using less energy, eating lower on the food chain, recycling, and using renewable energy **lower** the footprint.

■ Overshoot

If humanity's total footprint exceeds Earth's **biocapacity** (what it can regenerate), we are in **overshoot** —using resources faster than they renew.

2 Practice

Now apply the methods above.

2.1 Define an ecological footprint.

[1]

2.2 State one factor that increases a person’s footprint. [1]

2.3 State one way to lower your footprint. [1]

3 Exam-style questions

3.1 A person with a large ecological footprint most likely has [1]

- **A** low resource consumption
 - **B** high resource consumption
 - **C** no impact
 - **D** a plant-based diet only
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3.2 Two countries: one wealthy and high-consuming, one lower-income.

(a) Which likely has the larger per-person footprint? [1]

(b) Explain why. [2]

3.3 Explain what it means for humanity to be in ecological "overshoot". [2]

4 Go further

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

- work through the **5.11 Ecological Footprints** lesson on the **Learn** page;
- read the **Ecological Footprints** section of the AP Environmental Science handout on the **Know** page.

Solutions

2.1 The area of land and water needed to supply a person's resources and absorb their waste.

2.2 Any one: high energy use, meat-heavy diet, driving, buying many goods.

2.3 Any one: use less energy, eat lower on the food chain, recycle, use renewables.

3.1 B —high resource consumption.

3.2 (a) The wealthy, high-consuming country. (b) Its people consume more energy, food, and goods and produce more waste, requiring more land and water per person.

3.3 Overshoot means humanity's total footprint exceeds Earth's biocapacity, so resources are being used faster than the planet can regenerate them.