

# 1.2 Terrestrial Biomes

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

Total: 9 marks

## Objective

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Build the skills to answer exam questions on **terrestrial biomes**.

**You must be able to:**

- explain that **biomes** 生物群系 are determined mainly by **temperature and precipitation** 温度和降水
- match a biome to its climate
- name key terrestrial biomes

## 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.

### ■ What sets a biome

A **biome** is a large region with a characteristic climate and community. **Terrestrial biomes** are determined mainly by **temperature and precipitation**.

### ■ The main terrestrial biomes

- **Desert** —very low precipitation.
- **Tropical rainforest** —hot and very wet.
- **Grassland** —moderate rainfall, seasonal.
- **Temperate forest** —moderate temperature and rainfall.
- **Taiga (boreal forest)** —cold, coniferous.
- **Tundra** —very cold, low precipitation, frozen soil (permafrost).

### ■ Reading a climate

Given a climate (e.g. hot, very wet), identify the biome (tropical rainforest). Given the biome, describe its climate.

### ■ A worked match

A region with high temperature and high rainfall all year → **tropical rainforest**, with high biodiversity.

## 2 Practice

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Now apply the methods above.

**2.1** What two climate factors mainly determine a terrestrial biome? [2]

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**2.2** Which biome has very low precipitation? [1]

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**2.3** Which biome has frozen soil (permafrost)? [1]

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## 3 Exam-style questions

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**3.1** Terrestrial biomes are determined mainly by temperature and [1]

- **A** soil color
- **B** precipitation
- **C** altitude only
- **D** wind speed

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**3.2** A region is hot with heavy rainfall year-round.

(a) Name the biome. [1]

(b) State one feature you would expect there. [1]

**3.3** Explain why deserts and tropical rainforests differ so greatly despite both being warm. [2]

## 4 Go further

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

- work through the **1.2 Terrestrial Biomes** lesson on the **Learn** page;
- read the **Terrestrial Biomes** section of the AP Environmental Science handout on the **Know** page.

## Solutions

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**2.1** Temperature and precipitation.

**2.2** Desert.

**2.3** Tundra.

**3.1 B** —precipitation.

**3.2** (a) Tropical rainforest. (b) Any one: high biodiversity, tall dense trees, high productivity.

**3.3** They differ mainly in **precipitation** —a desert is very dry while a rainforest is very wet —which controls the plants and animals that can live there.