

4.1 Plate Tectonics

Name: _____ Class: _____ Date: _____ **Total: 11 marks**

KEY WORDS plates 板块 • plate boundaries 板块边界 • soil 土壤 • plate tectonics 板块构造

Objective

Build the skills to answer exam questions on **plate tectonics**.

You must be able to:

- describe **plate boundaries** 板块边界 (divergent, convergent, transform)
- link boundaries to earthquakes, volcanoes, and mountains
- explain the effect on ecosystems and hazards

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 three boundaries

Earth's **plates** move over the mantle. Where they meet:

- **Divergent** — plates move **apart**; new crust forms (mid-ocean ridges).
- **Convergent** — plates move **together**; one may subduct, forming volcanoes, mountains, and deep trenches.
- **Transform** — plates **slide** past each other; earthquakes (e.g. San Andreas Fault).

■ Hazards

Boundaries are where **earthquakes** and **volcanoes** concentrate. Convergent zones build **mountains** and cause explosive volcanoes; transform faults cause earthquakes.

■ Effect on life

Volcanic soil is fertile; new islands create habitats; but hazards (eruptions, quakes, tsunamis) also disrupt ecosystems and human settlements.

■ A worked identification

Two plates colliding, with a chain of volcanoes and a deep ocean trench, is a **convergent** boundary.

2 Practice

Now apply the methods above.

2.1 Name the three types of plate boundary. [3]

2.2 Which boundary forms new crust? [1]

2.3 Which boundary mainly causes earthquakes as plates slide past? [1]

3 Exam-style questions

3.1 Volcanoes and mountain ranges most often form at [1]

- | | |
|---|---|
| A | B |
| C | D |
- A** divergent boundaries
B convergent boundaries
C transform boundaries
D the plate centers

3.2 A region has a chain of volcanoes and a deep ocean trench.

(a) Name the boundary type. [1]

(b) Explain how it forms these features. [2]

3.3 Explain one benefit and one hazard of living near a plate boundary. [2]