

Where Earthquakes Happen

Plate Press Tunnel with Quakeling

Learning target

Identify earthquake patterns without treating all boundaries as identical.



Before you begin

Use the reference page and discussion prompts on their own, or open the optional browser adventure. No earlier lesson or physical kit is required.

For online play: use an internet-connected current browser with local storage enabled. Read the three-part Gemling briefing, answer the quick check, and apply the evidence at three checkpoints. Retry feedback supports review; results are not a secure test or gradebook.

Use for teacher-led review, science centers or partner practice. Independent readers may need support with the vocabulary below. The design target is grades 3-5; choose support based on the learner.

Vocabulary and concepts to discuss

Plate boundaries; fault maps; location patterns; exceptions

Open Plate Press Tunnel - direct lesson link

Scan the QR code or use the clickable link. This guide is usable offline; the adventure runs on an external educational website.



Where Earthquakes Happen - key ideas

1. The first clues

Many earthquakes cluster near plate boundaries, but some occur inside plates. Maps help reveal patterns without removing exceptions.

2. How the clues connect

A fault map and an earthquake map show related but different evidence. Boundary types and local conditions vary; every boundary is not identical.

3. Our evidence record

Our map shows dense earthquake dots along several boundaries and a few within plates. The supported claim is many near boundaries, not only near boundaries.

Keep the science accurate

Focus on maps, simple fault/wave models and risk reduction. Detailed seismic calculations and exact prediction are out of scope.

Apply the evidence

Use a specific observation from this lesson to explain one choice. Point to a clue, then connect that clue to a scientific idea.

Curriculum reference: <https://www.nextgenscience.org/dci-arrangement/4-ess2-earths-systems>

Talk through the evidence

1. Where do many earthquakes occur?

Expected answer: Near plate boundaries

Reasoning: Many earthquakes cluster near plate boundaries, but some occur inside plates. Maps help reveal patterns without removing exceptions.

2. What does an earthquake inside a plate show?

Expected answer: The main pattern has exceptions

Reasoning: Many earthquakes cluster near plate boundaries, but some occur inside plates. Maps help reveal patterns without removing exceptions.

3. Why compare two kinds of maps?

Expected answer: To test a location pattern

Reasoning: Many earthquakes cluster near plate boundaries, but some occur inside plates. Maps help reveal patterns without removing exceptions.

4. Which claim fits the dots?

Expected answer: Many earthquakes cluster near boundaries

Reasoning: Many earthquakes cluster near plate boundaries, but some occur inside plates. Maps help reveal patterns without removing exceptions.

Guide the discussion

Ask learners to name the evidence that supports their answer. If an answer differs, revisit the matching key idea on page 2 and invite a revised explanation.

Online rewards: this lesson grants one fixed digital Expedition Discovery. Five saved digital Gemling friends become available only after all six distinct subject lessons are complete, in any order. Digital rewards do not establish physical ownership.