

Landforms Change Over Time

Deepfold Cavern with Landling

Learning target

Use evidence to explain how a landscape changes and affects a route.



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

Slow and rapid change; interacting processes; map evidence; land use

Open Deepfold Cavern - 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.



Landforms Change Over Time - key ideas

1. The first clues

Landscapes change through interacting processes. Uplift, flowing water, wind, ice and gravity can change landforms at different speeds.

2. How the clues connect

Compare maps made at different times using the same key and scale. A changed river channel is evidence of change; a different drawing color alone may not be.

3. Our evidence record

Our earlier map shows a path beside a river. The later survey marks part of that path washed away and a maintained route farther uphill. Use the latest surveyed route to plan our fictional trip.

Keep the science accurate

Keep map reading and observable forms central. Detailed plate mechanics and contour calculations are extensions.

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. Which comparison is useful evidence?

Expected answer: Same-scale maps from two dates

Reasoning: Compare maps made at different times using the same key and scale. A changed river channel is evidence of change; a different drawing color alone may not be.

2. Can landforms change both rapidly and slowly?

Expected answer: Yes

Reasoning: Landscapes change through interacting processes. Uplift, flowing water, wind, ice and gravity can change landforms at different speeds.

3. Which route fits the later survey?

Expected answer: The maintained uphill route

Reasoning: Our earlier map shows a path beside a river. The later survey marks part of that path washed away and a maintained route farther uphill. Use the latest surveyed route to plan our fictional trip.

4. What explains the changed riverbank?

Expected answer: Surface processes removed or moved material

Reasoning: Landscapes change through interacting processes. Uplift, flowing water, wind, ice and gravity can change landforms at different speeds.

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.