Flexibility & Elasticity

Flex Bridge with Craftling

Learning target

Compare flexibility and elastic behavior using simple tests.

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

Bending; stretching; returning to shape; permanent change

Open Flex Bridge - 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.

Flexibility & Elasticity - key ideas

1. The first clues

Flexibility describes bending without breaking. Elasticity describes returning toward the original shape after a force is removed.

2. How the clues connect

A material may bend but remain bent, so flexible and elastic do not mean exactly the same thing.

3. Our evidence record

Our test bends strip A, which stays bent, and stretches band B, which returns to shape. For a returning stretch loop, B fits the recorded need.

Keep the science accurate

Compare properties through fair tests. Strength, hardness and flexibility are not interchangeable; no live electrical testing required.

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/2-ps1-matter-and-its-interactions

Talk through the evidence

1. Which property means returning toward original shape?

Expected answer: Elasticity

Reasoning: Flexibility describes bending without breaking. Elasticity describes returning toward the original shape after a force is removed.

2. Is every flexible material strongly elastic?

Expected answer: No

Reasoning: A material may bend but remain bent, so flexible and elastic do not mean exactly the same thing.

3. Which sample suits the returning loop?

Expected answer: Band B

Reasoning: Our test bends strip A, which stays bent, and stretches band B, which returns to shape. For a returning stretch loop, B fits the recorded need.

4. What does strip A's result show?

Expected answer: It bends but keeps the change

Reasoning: Our test bends strip A, which stays bent, and stretches band B, which returns to shape. For a returning stretch loop, B fits the recorded need.

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.