

Liquids & Their Properties

Liquid Channel Locks with Matterling

Learning target

Explain how liquids behave in different containers.



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

Flow; definite volume; changing shape; containers

Open Liquid Channel Locks - 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.



Liquids & Their Properties - key ideas

1. The first clues

A liquid flows and takes the shape of its container. A given amount has a nearly fixed volume under the same conditions.

2. How the clues connect

Pouring into a taller, narrower container changes the liquid's shape and height, not necessarily its amount.

3. Our evidence record

Our record pours 100 mL of water into another container without spilling. The reading remains 100 mL even though the water looks taller.

Keep the science accurate

Use simple particle models and measured mass/volume. Formal density calculations and molecular bonding 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/5-ps1-matter-and-its-interactions>

Talk through the evidence

1. What changes when this water is poured?

Expected answer: Its shape

Reasoning: Pouring into a taller, narrower container changes the liquid's shape and height, not necessarily its amount.

2. What remains the same without spilling?

Expected answer: The volume of water

Reasoning: A liquid flows and takes the shape of its container. A given amount has a nearly fixed volume under the same conditions.

3. How much water remains in our record?

Expected answer: 100 mL

Reasoning: Our record pours 100 mL of water into another container without spilling. The reading remains 100 mL even though the water looks taller.

4. Why is height alone misleading?

Expected answer: Container width also affects the level

Reasoning: Pouring into a taller, narrower container changes the liquid's shape and height, not necessarily its amount.

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.