

Comparing Mixtures

Swirl Spice Alley with Mixling

Learning target

Describe and compare mixtures without relying only on appearance.



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

Even and uneven distribution; visible parts; different proportions

Open Swirl Spice Alley - 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.



Comparing Mixtures - key ideas

1. The first clues

Mixtures can have visibly different parts or appear evenly distributed. Their proportions can differ even when they use the same components.

2. How the clues connect

A mixture with more of one component may look or behave differently. Appearance alone does not reveal every invisible component.

3. Our evidence record

Our records list A with one scoop of white grains and three of dark grains, and B with three white and one dark. Both have the same component types but different proportions.

Keep the science accurate

Dissolving is not disappearance and filtration does not remove dissolved salt. Use safe supplied models and data.

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 differs between A and B?

Expected answer: The proportions

Reasoning: Our records list A with one scoop of white grains and three of dark grains, and B with three white and one dark. Both have the same component types but different proportions.

2. Which has more dark grains?

Expected answer: A

Reasoning: Our records list A with one scoop of white grains and three of dark grains, and B with three white and one dark. Both have the same component types but different proportions.

3. Can mixtures have the same components but differ?

Expected answer: Yes

Reasoning: Mixtures can have visibly different parts or appear evenly distributed. Their proportions can differ even when they use the same components.

4. Does an even appearance prove only one substance is present?

Expected answer: No

Reasoning: Mixtures can have visibly different parts or appear evenly distributed. Their proportions can differ even when they use the same components.

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.