

What Mixtures Are

Market Gate with Mixling

Learning target

Explain a mixture using its components.



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

Combining materials; components; properties; mixtures versus new substances

Open Market Gate - 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.



What Mixtures Are - key ideas

1. The first clues

A mixture combines materials without necessarily making a new substance. Sand mixed with gravel still contains sand and gravel.

2. How the clues connect

Components may keep useful identifying properties. This differs from a chemical change in which new substances form.

3. Our evidence record

Our bundles contain sand plus gravel, and a separate record describes iron turning into rust. The first is a clear mixture example; rust formation is a different kind of change.

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. Which is a clear mixture?

Expected answer: Sand and gravel together

Reasoning: Our bundles contain sand plus gravel, and a separate record describes iron turning into rust. The first is a clear mixture example; rust formation is a different kind of change.

2. What are mixture components?

Expected answer: The materials combined

Reasoning: A mixture combines materials without necessarily making a new substance. Sand mixed with gravel still contains sand and gravel.

3. Must mixing always create a new substance?

Expected answer: No

Reasoning: A mixture combines materials without necessarily making a new substance. Sand mixed with gravel still contains sand and gravel.

4. Why can sand and gravel be sorted?

Expected answer: They retain different particle sizes

Reasoning: A mixture combines materials without necessarily making a new substance. Sand mixed with gravel still contains sand and gravel.

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.