Separating by Magnetism

Magnet Sorting Docks with Mixling

Learning target

Use magnetic properties to plan separation.

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

Magnetic and nonmagnetic parts; property-based sorting; multiple steps

Open Magnet Sorting Docks - 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.

Separating by Magnetism - key ideas

1. The first clues

Magnets attract some materials strongly, including iron, but not all metals. Separation depends on the actual material properties.

2. How the clues connect

A magnetic step may recover one component while leaving others mixed. More steps can be needed.

3. Our evidence record

Our test records iron pieces attracted to a magnet and sand and plastic remaining. The magnet can separate the iron, but it does not separate sand from plastic by itself.

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 component is attracted in the record?

Expected answer: Iron

Reasoning: Our test records iron pieces attracted to a magnet and sand and plastic remaining. The magnet can separate the iron, but it does not separate sand from plastic by itself.

2. Are all metals strongly attracted to magnets?

Expected answer: No

Reasoning: Magnets attract some materials strongly, including iron, but not all metals. Separation depends on the actual material properties.

3. What remains after removing the iron?

Expected answer: Sand and plastic

Reasoning: Our test records iron pieces attracted to a magnet and sand and plastic remaining. The magnet can separate the iron, but it does not separate sand from plastic by itself.

4. Is the whole mixture fully separated by this one step?

Expected answer: No

Reasoning: A magnetic step may recover one component while leaving others mixed. More steps can be needed.

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.