

Mineral Properties

Geode Garden with Rockling

Learning target

Use more than one observable or tested property to compare minerals.

Before you begin

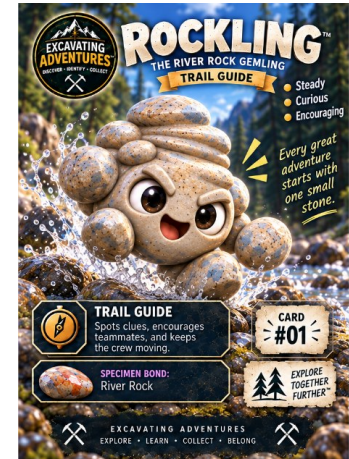
Use the reference page and discussion prompts on their own, or open the optional browser adventure. No earlier lesson or physical kit is required.

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

Color; luster; hardness; streak; combining evidence



Open Geode Garden - 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.



Mineral Properties - key ideas

1. Start with what you can see

Color is the color you see on a mineral. Luster tells how light reflects from its surface. A surface may look metallic, glassy, or dull.

2. Look beyond the surface

Hardness is resistance to scratching. Streak is the color of a mineral's powder. A streak test can reveal a different color from the outside.

3. Combine the evidence

Scientists compare several properties. Our reference hematite has a reddish-brown streak. Match that clue with the other notes before you choose.

Keep the science accurate

Use observable evidence and qualitative processes. Mineral chemistry, detailed crystallography and quantitative geological time remain 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.nps.gov/subjects/geology/rocks.htm>

Talk through the evidence

1. Which property is the color of a mineral's powder?

Expected answer: Streak

Reasoning: Streak is the color of a mineral's powder.

2. A mineral reflects light like metal. Which property is this?

Expected answer: Luster

Reasoning: Luster describes how light reflects from a surface.

3. One sample scratches another. Which property is compared?

Expected answer: Hardness

Reasoning: Hardness describes resistance to scratching.

4. Our hematite clue is reddish-brown streak. Which cache fits?

Expected answer: Gray surface, reddish-brown streak

Reasoning: This sample matches hematite's characteristic streak clue.

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.