

Precipitation & Weather Changes

Hailstone Hollow with Stormling

Learning target

Compare precipitation types using supplied weather conditions.



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

Rain; snow; sleet and hail; temperature along a falling path

Open Hailstone Hollow - 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.



Precipitation & Weather Changes - key ideas

1. The first clues

Precipitation is water falling from clouds. Rain is liquid drops; snow forms as ice crystals.

2. How the clues connect

Sleet forms when falling drops freeze into ice pellets. Hail grows in storm clouds as ice gains layers, often carried by strong updrafts.

3. Our evidence record

Our path model shows snow melting in warm air and drops freezing in a colder layer below. That sequence produces sleet, not the same growth process as hail.

Keep the science accurate

Use simple charts and forecasts, not advanced atmospheric physics. Safety decisions use supplied official guidance in later scripts.

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/3-ess2-earth-s-systems>

Talk through the evidence

1. Which precipitation is liquid?

Expected answer: Rain

Reasoning: Precipitation is water falling from clouds. Rain is liquid drops; snow forms as ice crystals.

2. What is sleet?

Expected answer: Frozen pellets from falling drops

Reasoning: Sleet forms when falling drops freeze into ice pellets. Hail grows in storm clouds as ice gains layers, often carried by strong updrafts.

3. Which form grows in layers within storm clouds?

Expected answer: Hail

Reasoning: Sleet forms when falling drops freeze into ice pellets. Hail grows in storm clouds as ice gains layers, often carried by strong updrafts.

4. What does the temperature-path model produce?

Expected answer: Sleet

Reasoning: Our path model shows snow melting in warm air and drops freezing in a colder layer below. That sequence produces sleet, not the same growth process as hail.

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.