Observing & Measuring Weather

Forecast Base with Stormling

Learning target

Read simple weather measurements and distinguish observations from guesses.

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

Temperature; precipitation; wind; clouds; instruments

Open Forecast Base - 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.

Observing & Measuring Weather - key ideas

1. The first clues

Weather describes conditions at a place and time. Temperature, clouds, wind and precipitation are useful observations.

2. How the clues connect

A thermometer measures temperature; a rain gauge collects precipitation. A wind vane indicates the direction wind comes from, and an anemometer measures wind speed.

3. Our evidence record

Today's fictional log reads 18 degrees C, cloudy, wind from the west and 4 mm of rain. Each measurement answers a different question about the same day.

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-earths-systems

Talk through the evidence

1. Which instrument measures temperature?

Expected answer: Thermometer

Reasoning: A thermometer measures temperature; a rain gauge collects precipitation. A wind vane indicates the direction wind comes from, and an anemometer measures wind speed.

2. Which instrument measures wind speed?

Expected answer: Anemometer

Reasoning: A thermometer measures temperature; a rain gauge collects precipitation. A wind vane indicates the direction wind comes from, and an anemometer measures wind speed.

3. How much rain is recorded?

Expected answer: 4 mm

Reasoning: A thermometer measures temperature; a rain gauge collects precipitation. A wind vane indicates the direction wind comes from, and an anemometer measures wind speed.

4. Which description fits the log?

Expected answer: Cloudy with wind from the west

Reasoning: Today's fictional log reads 18 degrees C, cloudy, wind from the west and 4 mm of rain. Each measurement answers a different question about the same day.

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.