Temperature, Air Pressure & Wind

Lightning Turbine Field with Stormling

Learning target

Use simple observations to explain moving air.

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

Uneven heating; moving air; pressure differences; wind direction

Open Lightning Turbine Field - 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.

Temperature, Air Pressure & Wind - key ideas

1. The first clues

The Sun heats Earth's surface unevenly. Air temperatures and air pressure can differ from place to place.

2. How the clues connect

Pressure differences help drive wind. In a simplified surface model, air moves from higher toward lower pressure; real winds are influenced by other factors too.

3. Our evidence record

Our diagram places higher pressure west and lower pressure east. Its simple arrow points east. This is a model prediction, not a complete forecast for every place.

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. What helps drive wind?

Expected answer: Differences in air pressure

Reasoning: Pressure differences help drive wind. In a simplified surface model, air moves from higher toward lower pressure; real winds are influenced by other factors too.

2. How is the surface heated?

Expected answer: Unevenly

Reasoning: The Sun heats Earth's surface unevenly. Air temperatures and air pressure can differ from place to place.

3. Which direction fits our simple diagram?

Expected answer: Toward the east

Reasoning: Our diagram places higher pressure west and lower pressure east. Its simple arrow points east. This is a model prediction, not a complete forecast for every place.

4. Why call this a model?

Expected answer: It leaves out some real-world influences

Reasoning: Pressure differences help drive wind. In a simplified surface model, air moves from higher toward lower pressure; real winds are influenced by other factors too.

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.