

Condensation & Clouds

Condensation Canopy with Trickling

Learning target

Explain condensation using a simple model.



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

Cooling vapor; droplets; cloud ice; surface condensation

Open Condensation Canopy - 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.



Condensation & Clouds - key ideas

1. The first clues

Condensation changes water vapor into liquid droplets when conditions allow, often as air cools.

2. How the clues connect

Clouds contain droplets, ice crystals or both. Droplets on the outside of a cold container can come from water vapor in surrounding air.

3. Our evidence record

Our model begins with moist air touching a cold surface. Vapor becomes droplets there; the container does not need to leak to explain them.

Keep the science accurate

Water vapor is invisible; clouds contain droplets/ice. Groundwater occupies spaces, not necessarily underground rivers. No required purification experiments.

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-ess2-earths-systems>

Talk through the evidence

1. What process forms droplets from vapor?

Expected answer: Condensation

Reasoning: Condensation changes water vapor into liquid droplets when conditions allow, often as air cools.

2. What can a cloud contain?

Expected answer: Liquid droplets and ice

Reasoning: Clouds contain droplets, ice crystals or both. Droplets on the outside of a cold container can come from water vapor in surrounding air.

3. Where can outside-container droplets come from?

Expected answer: Water vapor in the surrounding air

Reasoning: Clouds contain droplets, ice crystals or both. Droplets on the outside of a cold container can come from water vapor in surrounding air.

4. Which sequence fits the model?

Expected answer: Moist air cools and droplets form

Reasoning: Condensation changes water vapor into liquid droplets when conditions allow, often as air cools.

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.