Paper session 4 · Explain the pattern

Target / planning estimate

Explain the pattern; 36–45 min.

Print / prior evidence

Explain Why the Temperature Changed Teach-the-Lesson, student pp. 1–5; Observation, evidence, explanation, questions 1–2, Explain this record, questions 1–2; Model representation · Sample and surroundings, question 1, Guided practice · Explain a different record, questions 1–3, Independent task · Explain the record, questions 1–3.

Read changes and distinguish observations; Bridge checks the scientific connection.

Teacher demonstration

Model the 100 g cool-water sample warming from 12°C to 17°C in 15 minutes in 24°C surroundings. Explain net thermal-energy transfer from the warmer surroundings toward the cooler sample. Contrast the guided case: a sample cools from 37°C to 30°C in 21°C surroundings, with net transfer outward.

Learner work / collect

Guided cooling, then independent task; collect values, direction, idea and limit.

Next decision / continuation

Connect evidence to the explanation, questions 1–2; Fresh recheck · Connect a new record, question 1 if only readings are given; Trace energy transfer, questions 1–2; Fresh recheck · Trace a new case, question 1 for net direction, cold or stopping transfer; clarify wording first.