

Independent task · Explain the record

Use relevant measurements, a scientific connection and a limit. You may write, speak while pointing to data, or draw a labeled representation. This is also the Use a Quick Check task; it is reused, not fresh, after this page has been attempted.

K4-D-I · Three independent trials each use fresh 80 g liquid-water samples in the same covered-cup design. All surroundings stay at 20°C. The 12-minute interval and reading procedure match within/across trials. Covered liquid water; no active heating/cooling, ice, phase change, direct sunlight or meaningful evaporative cooling. Room, cup, lid and supporting surfaces are at the stated surrounding temperature; it stays constant. Readings represent the sample temperature with a consistent procedure. This is a paper scenario, not apparatus instructions.

Initial and final sample readings

Constructed teaching data: these values were invented for this activity, not collected in an experiment.

Trial ID	Start (°C)	After 12 min (°C)
I-1	31	27
I-2	31	26
I-3	31	27

K4-I1. Use at least two trials to describe the temperature pattern and changes.

K4-I2. Explain the pattern. Identify the sample, surroundings, warmer/cooler parts and direction of net thermal-energy transfer.

K4-I3. State one meaningful limit and information or a comparison that would address it. What was observed, and what is part of your explanatory model?