

Reteach · Use all results and limit the claim

Question: Do these results support a clear winner, or a narrower statement? Read all rows before choosing evidence.

Data F · Four separate matched trials. Fresh 100 g water samples start at 10.0°C in a 22°C room. Cups, lids, 20-minute exposure, and thermometer procedure match. Readings are displayed to 0.1°C; instrument accuracy is not supplied.

Final water temperatures after 20 minutes

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

Trial	Sleeve J: final °C	Sleeve K: final °C
1	14.0	14.5
2	15.0	14.5
3	15.0	14.5
4	15.0	14.5

Fictional response 1 — selected only favorable evidence: ‘J wins because Trial 1 ends at 14.0°C for J and 14.5°C for K.’

Fictional response 2 — overstates the record: ‘K is proven best for every room and every future trial because it is lower in Trials 2–4.’

F1. For each trial, identify which sleeve has the lower endpoint. What would you miss by quoting only Trial 1?

F2. Evaluate each fictional response. Which observation is accurate, and which conclusion goes beyond the record?

F3. Write a claim that uses the full record and states the uncertainty. What would strengthen a preference?

New short check · Apply the correction

Data F-check uses fresh 100 g samples starting at 11°C in a 23°C room. Cups, lids, 20-minute exposure, and thermometer method match within and across three separate trials.

Final water temperatures after 20 minutes

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

Trial	Sleeve R: final °C	Sleeve S: final °C
1	16	15
2	16	17
3	16	17

F4. Which design has the lower endpoint in each trial? Revise ‘S is always better’ into a claim the complete record supports.