

Integrative record B · Design and evidence

A separate fresh later task, not a validated equivalent form or a score of improvement. Tokens are fictional resource units, not prices or energy. Keep B1 out of view until you record a proposal.

90 g, start 12°C, room 24°C, 15 min. Final ≤17°C in EVERY trial; ≤6 tokens; ≤18 mm added thickness. Covered liquid water; cups/lids, mass, starting temperature, duration, exposure and reading procedure match within and across trials. Surroundings stay at the stated room temperature. No ice, phase change, active heating/cooling, direct sunlight or meaningful evaporative cooling. Each trial uses fresh samples. Accuracy is not supplied.

PF-D-B0 · Supplied design record

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

Design	Tokens	Added mm	Trial 1 final °C	Trial 2 final °C	Trial 3 final °C
R	4	15	16	16.5	16
S	6	18	15	15.5	15
T	5	16	15	17.5	15

PF-B1. Check every requirement and compare all trials. Which designs qualify? Choose one with a stated priority; explain the warming using a scientific idea.

PF-B2. Propose one modification and a matched repeated test. Specify a prediction, constraints, recording plan, and evidence that would challenge it.

Integrative record B · Revised design record

Fictional prototypes, not your proposal’s results: R-tight closes a gap with an extra token; S-thin uses a thinner wrap. These constructed values were not measured. Starts/room/mass/time/procedure match B0.

90 g, start 12°C, room 24°C, 15 min. Final ≤17°C in EVERY trial; ≤6 tokens; ≤18 mm added thickness. Covered liquid water; cups/lids, mass, starting temperature, duration, exposure and reading procedure match within and across trials. Surroundings stay at the stated room temperature. No ice, phase change, active heating/cooling, direct sunlight or meaningful evaporative cooling. Each trial uses fresh samples. Accuracy is not supplied.

PF-D-B1 · Supplied design record

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

Design	Tokens	Added mm	Trial 1 final °C	Trial 2 final °C	Trial 3 final °C
R-tight	5	15	15.5	16	17.5
S-thin	6	16	15.5	16	16

PF-B3. Reassess each prototype using every requirement and the original record. Describe tradeoffs; revise the claim without erasing an inconvenient trial.

PF-B4. What remains uncertain? Name a useful next test and explain why this record cannot prove that your own proposal works or identify a unique transfer pathway.