

Independent challenge · Record a proposal first

Quick Check disclosure: this is the same independent challenge used in Teach the Design Challenge. It is not fresh after you have seen or attempted it. Keep the next page out of view until you finish this page.

80 g, start 11°C, room 23°C, 16 min. Final ≤16.5°C in EVERY trial; ≤5 tokens; ≤19 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.

K6-D-I · 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
J	3	14	16	16	16.5
K	5	19	15	15.5	15
L	4	16	15	17	15
N	6	18	14	14.5	14

K6-I1. Check every requirement. Which designs are feasible? Select one and justify your priority with relevant comparisons across trials.

K6-I2. Propose a specific modification to your chosen design. State a testable prediction and describe a matched repeated comparison against the unchanged design. Include starting conditions, duration, what to record, and what would count against the prediction.

Independent challenge · Separate redesign evidence

Reveal only after I0. These are specified fictional prototypes, not results for your own unbuilt proposal: J-sealed closes a gap in J with one extra token; K-thin uses a thinner wrap with the same token allowance. Changes are already included in the table. Do not invent a successful result for your proposal.

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K6-D-R · 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
J-sealed	4	14	15.5	16	17
K-thin	5	17	15.5	16	16

K6-I3. Reassess these prototypes against the original brief. Compare each with its original record on I0; what must be revised? Is either a demonstrated universal improvement?

K6-I4. Retain your original proposal as a hypothesis, or revise it. Explain the evidence needed before claiming its success. Name one conclusion the supplied records cannot establish.