

Reteach · Compare the measurements

Read one setup from start to finish before comparing designs. Write 'start → final'; then decide whether the value rose or fell.

Data R · Two separate trials. Fresh 100 g water samples start at 12°C in a 24°C room. Cups, lids, 15-minute exposure, and measurement procedure match. Each row compares sleeves X and Y.

Final water temperatures after 15 minutes

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

Trial	Start (°C)	Sleeve X: final °C	Sleeve Y: final °C
1	12	15	18
2	12	16	18

R1. Did either design cool its water? For each trial, write X: start → final → change and Y: start → final → change.

R2. Which sleeve showed less warming in both trials? Explain why the smallest final value works here.

Fresh check · The goal now is to limit cooling. Fresh 100 g water samples begin at 34°C in a 22°C room. Two 20-minute trials use matching cups, lids, and measurement methods.

Final water temperatures after 20 minutes

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

Trial	Start (°C)	Sleeve P: final °C	Sleeve Q: final °C
1	34	29	31
2	34	28	30

R3. Which sleeve better limits cooling? Give both temperature drops. Is the lowest endpoint the best choice for this goal?