

Practical session 6: Assemble and run three first comparisons

Mentor Teaching · Teacher directions · 15 October 2026

Plan and prerequisites

75–95 minutes plus adult preparation; continue after trial 1 when needed. Planning estimate; adjust to the class.

Accurate decimal °C/time reading; calculate change; measure 150 mL; follow the matched-pair and probe-position procedure. Carry forward the preceding session evidence. The adult must check the current complete operational guide, equipment and room/water conditions before handling.

Print in this order

1. Practical first comparison: directions and blank trials

Give each independent or new-evidence file only at the stage described below. Keep answers with the teacher.

Teach and demonstrate

Use the current 6 October operational guide. Check stable matching cups/loose covers, suitable non-glass immersion probes, probe support/depth, spill tray, pre-cut felt/tape and a marked 150 mL measure. Water is not for drinking. Learners do not heat, cut, puncture or modify equipment. Model a blank reading-log entry; never invent experimental values.

Learner work and evidence

Follow all standard conditions printed with the student procedure: 150 mL within 2 mL; room 20–24 °C; common cool batch 12–14 °C; starts within 0.5 °C, both 12–14 °C, room at least 6 °C warmer. After the checked response interval (at least 60 seconds), record 0/5/10-minute readings, actual times, 0/10 room air and departures. Complete F1–F3 with three fresh pairs; three timepoints are one trial. Keep all readings.

Next decision and continuation

Complete pre/post-phase instrument checks and the printed probe/position alternation; display resolution is not accuracy. Retain failed starts and inconclusive trials. A room shift over 1 °C, missing 0/10 reading or changed procedure requires a flag, not invented correction. Between trials, the teacher drains, checks dry sleeves, conditions interiors with room-temperature water for 5 minutes, drains/dries and prepares fresh water. If stopping after F1, clean/store dry labelled sleeves and finish F2/F3 in another supervised block before redesign. No equipment homework.

Matching complete teacher key

Use the complete current 17-page operational teacher guide, including setup, procurement, conditions, worked records, first-comparison keys and cleanup. The selected student packet contains no constructed first-trial results.

[Open the matching complete teacher guide](#)

Access and interpretation

Offer oral, dictated, pointing or labelled responses when they show the same intended reasoning. Keep each task's quantities, conditions and sources available. Allow extra response paper. A supplied-data explanation does not establish actual construction or testing.