

If something looks off.

A troubleshooting card — what to do when readings drift outside the healthy range. Stick this near the unit.

How to use this card. Find the reading that's outside its healthy range, then read the action across. Most fixes are small — add a few millilitres of solution, top up with plain water, move the unit to a warmer spot. Always recheck the reading after acting. And remember — you can always wait and see; most readings settle on their own.

Reading-by-reading actions — if outside healthy range, do this	
PH Slightly acidic 5.4 – 5.8	Watch and wait. Plants are still okay. If still under 5.8 next week, add a small amount (2–3 ml) of pH-up solution and retest in an hour. WHY <i>acidic water makes nutrients harder to absorb.</i>
PH Too acidic below 5.4	Act now. Add 2–3 ml pH-up solution. Stir gently. Retest in 1 hour. Repeat once if still under 5.8. Don't add more than twice in a day. WHY <i>nitrogen and calcium become unavailable. Yellow leaves follow if untreated.</i>
PH Edging alkaline 6.8 – 7.5	Often self-corrects. As plants drink, pH usually drops. If still above 6.8 next week, add 2–3 ml pH-down and retest in an hour. WHY <i>above 6.8, iron and phosphorus get harder to absorb.</i>
PH Too alkaline above 7.5	Act now. Add 2–3 ml pH-down. Stir gently. Retest in 1 hour. Repeat once if still above 6.8. WHY <i>nutrient lockout. Plants will pale and stop growing.</i>
EC Plants hungry 0.7 – 1.0	Feed them. Add nutrient solution per bottle instructions for ~4 litres. Retest in 30 mins. Recheck pH after — feeding shifts it. WHY <i>not enough dissolved nutrient for healthy growth.</i>
EC Starving below 0.7	Feed urgently. Add nutrient solution as per bottle for ~4 L. Always check pH after — fresh nutrients drop pH a little. WHY <i>plants running on empty. Yellowing within days.</i>
EC A bit rich 1.8 – 2.5	Dilute gently. Top up reservoir with plain (unfertilised) water. Stir, retest. A 200–500 ml top-up usually does it. WHY <i>EC creeps up as plants drink water faster than nutrients.</i>
EC Too rich above 2.5	Drain and dilute. Drain ~1 litre, replace with plain water. Stir. Retest pH and EC. Repeat if still over 2.5. WHY <i>salt concentration can damage delicate root hairs.</i>
TEMP Chilly 14 – 17 °C	Move somewhere warmer. Off the floor, away from windows. Plants recover as water warms. WHY <i>cool water slows root metabolism.</i>
TEMP Too cold below 14 °C	Move urgently. Check overnight conditions (radiator off, draft). Wrap reservoir in a tea towel as a quick fix. WHY <i>below 14 °C, growth stalls and pathogens take advantage.</i>
TEMP Getting warm 22 – 26 °C	Move from heat source. Away from sun or radiators. Lift the lid for a few minutes after lessons to vent. WHY <i>warm water holds less oxygen for the roots.</i>
TEMP Too hot above 26 °C	Move now — root rot risk. Drain 1–2 L of warm water, replace with cool tap water (settled 5 mins). Recheck pH and EC. WHY <i>oxygen drops; root rot organisms flourish.</i>
LEVEL Top-up needed 25 – 40 %	Add plain water. Bring above 60 % before next lesson. Recheck pH and EC after — fresh water dilutes both. WHY <i>low water means stronger nutrient concentration.</i>
LEVEL Dangerously low below 25 %	Top up immediately. Bring to at least 70 %. Listen for the pump — if clicking or silent, check it can draw water. Recheck pH and EC. WHY <i>plants about to dry out. Dry pump may damage itself.</i>
PLANTS Stressed —	Check the water first. pH 5.8–6.8? EC 1.0–1.8? Temp 17–22? Level above 40 %? If all four are good, check the grow light and the lid. WHY <i>stress almost always traces back to a reservoir reading drifting.</i>
PLANTS Wilting —	Investigate now. Check water level first. If reservoir is fine, listen for the pump. Photograph and contact the Trust if pump is silent. WHY <i>wilting almost always means roots aren't getting water.</i>

When in doubt.

Field-tested rules — six things to remember.

Always retest after acting. A 30–60 min wait then a fresh reading confirms the fix worked.
Small adjustments, often. Better to add 2–3 ml of solution twice than 6 ml once. Easier to undo.
Don't add nutrient and pH-up at the same time. Adjust one, retest, then the other.
Photograph anything strange. Send it to the Trust if you're uncertain. We'd rather see it twice than miss it once.
Plants come back. Most "stressed" readings recover within a week of fixing the water.
Submit the reading anyway. Even bad readings are useful data. The dashboard tracks trends over time.

Numbers tell us **what changed**. Actions tell us **what to do**. Logbook tells us **why**.
Submit weekly. Take photos. Tell the story.

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