

Solutions

2.1

: specialists examine methods, reasoning or reporting and can identify problems.: review does not guarantee the claim is correct or certify every product use.

2.2

: different starting temperatures.: this can affect cooling alongside the sleeve, so the comparison does not isolate the sleeve effect.

2.3

: recalculation uses the same recorded evidence.: replication obtains new observations under an appropriately comparable procedure.: the second school's experiment remains planned, so it supplies no result yet.

2.4

each: disclose the donation; scrutinise methods/data and possible incentives; seek independent checking without assuming funding proves truth or falsity. Accept retaining access to full records or preventing donor control over reporting as a distinct appropriate safeguard.

3.1

each: review is not certification; recalculation is not a new independent experiment; donation is neither proof of falsity nor proof of superiority; incomplete replication must not be called confirmation; original data may remain useful if its limits are stated; material/chemical expertise can inform insulation research alongside physics.

3.2

Local analytic rubric, 8 ×: identify original study; name unequal starting temperatures; keep peer-review limit; distinguish recalculation; state independent test is pending; disclose donation; avoid automatic funding verdict; recognise useful collaboration; coherent truthful 80–110 word response. Example: “The school team investigated an insulating sleeve using a recorded cup comparison. A specialist reviewer identified different starting temperatures, which could affect cooling alongside the sleeve. The report should retain that limitation rather than describe review as product certification. Checking calculations uses the original readings; it is not a new independent experiment. The second school's proposed test remains unperformed and supplies no confirming result. Donated materials should be disclosed, with methods and reporting open to scrutiny. Funding alone proves neither truth nor falsity. Relevant expertise from physics and materials research can help improve the next approved comparison.”