

26. Boiling Water

REVIEW

Greece - Alliance
Papaioannou Efthymia

I.Y.N.T. 2021

Reporter - Theory

PROS

- Thorough explanation of nucleation, cavitation and surface popping, which support their hypothesis
- Detected the important roles of the bubbles and the sound pattern.

CONS

- Did not include a “predictive” theory.
- Did not base his hypothesis on the theoretical background of the presentation.
- Did not refer to the role of the shape of the kettle. Researches suggest that it serves a significant role.

Reporter - Experiments & Results

PROS

- Explanation of the experiment conduct.
- Measured the initial conditions of the experiment.

CONS

- Did not include the experimental setup
- Did not include information of the kettle they used (if it was older or new, if there was an utilization of hard water before)
- Did not define the environmental conditions (noise and temperature of the environment)
- Did not define the characteristics of the kettle (if was electrical or insulated)
- Mentioned that they used distilled water but still the water boiling temperature was over 100 degrees

Opponent

PROS

1. Asked relevant questions about the experimental setup that wasn't explained thoroughly (device that was used, the room that was conducted, the properties of the kettle)
2. Referred to some hypothetical cases.
3. Asked about the difference between the vapour and steam. A significant aspect of the presentation that should be known by the reporter.

CONS

1. Made a question about the insulated and non-insulated kettles that was not a part of the experiment
2. In the presentation referred to parameters that had answered and explained (the inclusion of graphs, the measurement of frequency, the correlation of experiment-theory)

Points discussed

REPORTER

The Reporter mentioned that it doesn't matter

OPPONENT

Asked about the insulated and non-insulated kettles and difference between them

We agree with the opponent because she referred in references and gave a scientific based answer

Points discussed

REPORTER

He answered wrongly that it is actually steam

OPPONENT

Asked if the smoke out of the kettle is steam and at a later stage pointed out that it's not steam but vapor

We agree with the opponent that it is not actually steam but vapor what is coming out of the kettle

Points discussed

REPORTER

The opponent mentioned about the possibility of an error in the presentation

OPPONENT

Mentioned about the disparity of the boiling temperature for distilled water when in the presentation it showed to be 100 degrees when it shouldn't

We agree with the Opponent that distilled water shouldn't be boiling at 100 degrees, like it was shown in the Reporter's presentation

Missed Points

To the Opponent:

- Did not refer to the significance of investigation of the kettle shape.
- Did not focus on the possible errors of the presentation.
- Did not focus how theory it is confirmed through the experimental procedure.



SUGGESTIONS

Reporter: You should read and understand the problem in depth so as to be ready to answer all the answers right (many answers was answered wrongly).

Opponent: Could have focused more on the possible errors of the experimental part and not in many hypothetical questions.

Thank you for
your attention