

Boiling Point of Water

Your Name
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Question:

What is the boiling point of water?

Hypothesis:

The kinetic theory that states that all molecules are in a constant state of motion and that adding heat will increase their motion. I expect that the boiling point of water will be 100.0 degrees Celsius.

Comment [Vs1]: Hypothesis is missing some basic science related to the experiment that would support the prediction as stated. Not written in third person.

Materials:

- Bunsen burner
- Tripod
- Beaker
- Thermometer

Comment [Vs2]: Missing retort stand; beaker size; tongs

Procedure:

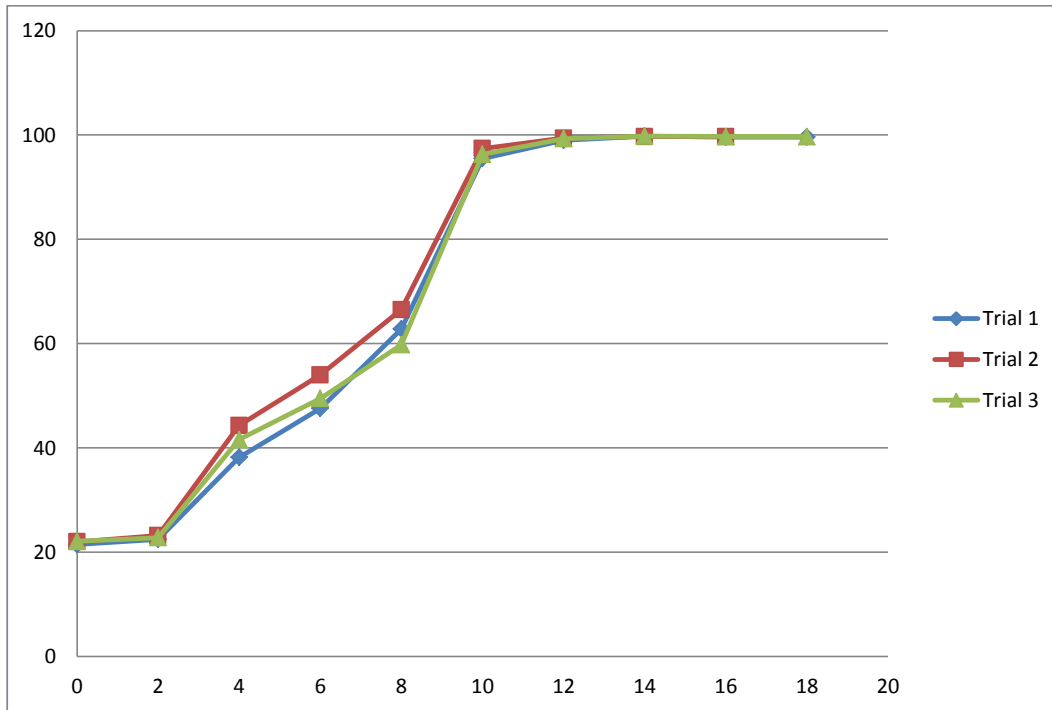
I poured water into a glass beaker and put it on a hotplate. We poured 250 mL of distilled water into a beaker. Then we placed a thermometer in the beaker and recorded the starting temperature. We put the beaker onto the tripod and turned on the Bunsen burner. My partner wrote down the water temperature every 2 minutes until water boiled and every 2 minutes after that. We did the same thing two more times.

Comment [Vs3]: Procedure not written in step-wise fashion; Not written in third person; missing details like beaker size, when to end timing, and safety measures for transfer of beaker.

Results:

Time (min)	Temperature (°C)		
	Trial 1	Trial 2	Trial 3
0	21	22	22
2	22	23	22
4	38	44	41
6	47	54	49
8	62	66	59
10	95	97	96
12	99	99	99
14	99	99	99
16	99	99	99
18	99		99

Comment [Vs4]: Table is missing title; includes units of measure; measurements are NOT written in correct significant digits; table formatting needs to be considered



Comment [Vs5]: Graph is missing main and axes titles – can't tell what is being measured on x or y axis; includes legend

Observations:

Bubbles could be seen at the bottom of the beaker.

Comment [Vs6]: Observation related to experimental results; very little detail.

Discussion:

Water can be found in three states; solid, liquid, or gas. When water reaches its boiling point, it changes from a liquid to a gas. According to the kinetic theory, molecules are in constant motion. Increasing the temperature of the water will increase the movement of water molecules. This will cause water to change from a liquid to steam. We can see this happening by taking the temperature of the water over time.

Comment [Vs7]: Provides some description of basic science involved in experiment; missing discussion of intermolecular forces; missing details on how water undergoes a phase change. NOT written in 3rd person/ past tense.

We found that the average temperature when the water came to a boil was 99 degrees. Our hypothesis that the water would boil at 100 degrees Celsius is correct. Our graph shows that the temperature increased all the way through the experiment until the water boiled. When this occurred, we knew that water had changed from a liquid to a steam.

Comment [Vs8]: Provides a summary of results but does NOT relate them to the basic science involved in the experiment; hypothesis is written incorrectly – it is either accepted/rejected based on results; discussion refers to graph with minimal relation to pattern/trends in data. NOT written in 3rd person/past tense.

Conclusion:

Our test results show that water will come to a boil at 99 degrees. We could try to use different kinds of water and see what temperature they will boil at.

Comment [Vs9]: Brief summary of overall results; idea of future testing not clear. NOT written in 3rd person/past tense.