Mint Water Cooling Effects

M1-11

Question

Does mint, known for its cooling effect, lower water temperatures?

Abstract

For my experiment, I tested the water temperature affects that mint had on the water. The purpose of this experiment was to test the well known "cooling effect" that mints have. When people consume mints, a chemical known as menthol causes a "chilled" feeling in your mouth. I wanted to see if the menthol in the mints would be activated by the water, and if the water temperature would be affected, since it seems to have the cooling effect on people. My hypothesis was "If I put different amounts of mint into water, than the water with mints will cool down faster than the water without mints." I performed this experiment by using 4 different temperatures of water, and different amounts of mints adding up to 5 mints for every type of water. In my experiment, the water cooled at least 1 degree. This brings me to my conclusion, that water can be cooled by mints.

Hypothesis

"If I put different amounts of mint into different sets of water temperatures, then the water with mints will cool faster than the water without mints."

Materials

1. 2 containers of “Ice Breakers” spearmint sugar free mints
2. 2 cups of the same size (plastic)
3. Measuring cup
4. stove/ microwave
5. Thermometer
6. Timer

Procedure

Variables

Variables

My independent variable will be the different temperature of water in the water cups, and the amount of mints I put in each type of water. My dependent variable will be the temperature of the water based on the amount of mints that were put into the water cup. Based on the different amounts of mints in the certain temperature of water, I will have a different temperature for each of the water cups due to the mints.

Experimental set

Step 1- Boil or heat two cups of water separately from each other at the same temperature.

Step 2- Get two of the same size cups and pour the same amount of water into each of the cups.

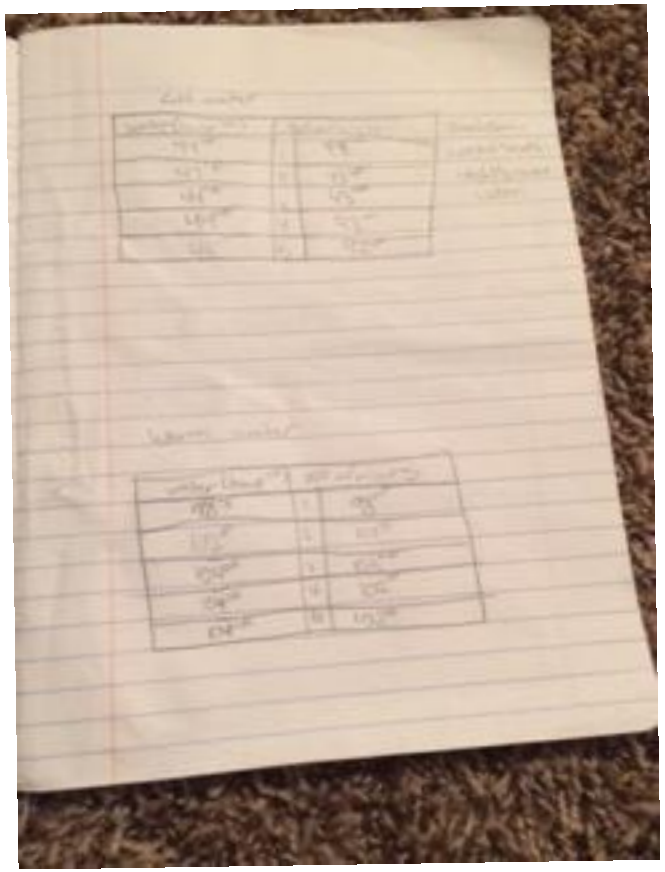
Step 3- Out 5 icebreaker mints into each of the cups. Wait 30 for an effect to kick in.

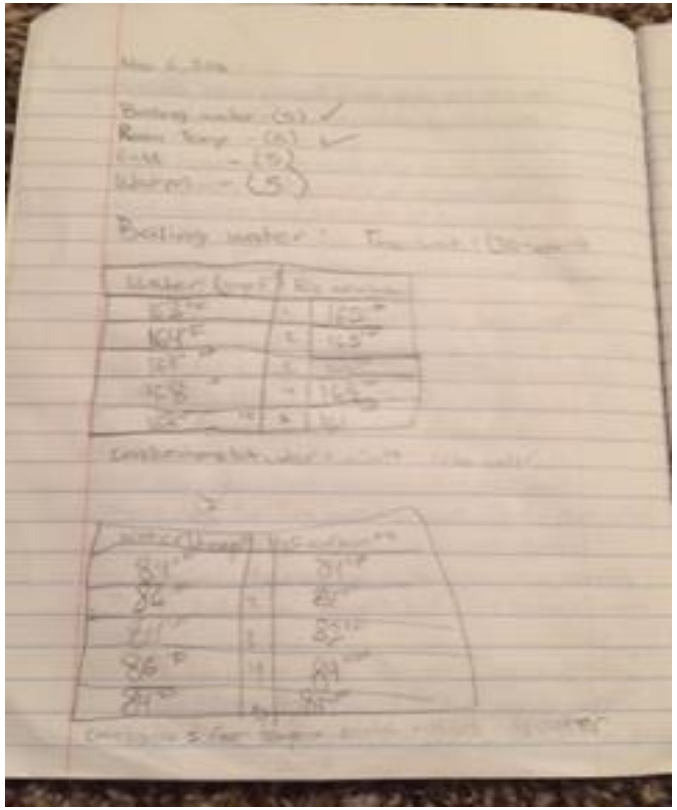
Step 4- After 10 minutes, measure the temperature of the water.

Step 5- Record the results in your data notebook.

REPEAT THE PROCESS FOR A SET NUMBER OF TIMES!

Experiment





Results and Data

Boiling Water(temp F)	Boiling Water Temp With Mints
162 F	1 MINT - 162 F
164 F	2 MINTS - 162 F
168 F	3 MINTS - 164 F
168 F	4 MINTS - 163 F
168 F	5 MINTS - 161 F

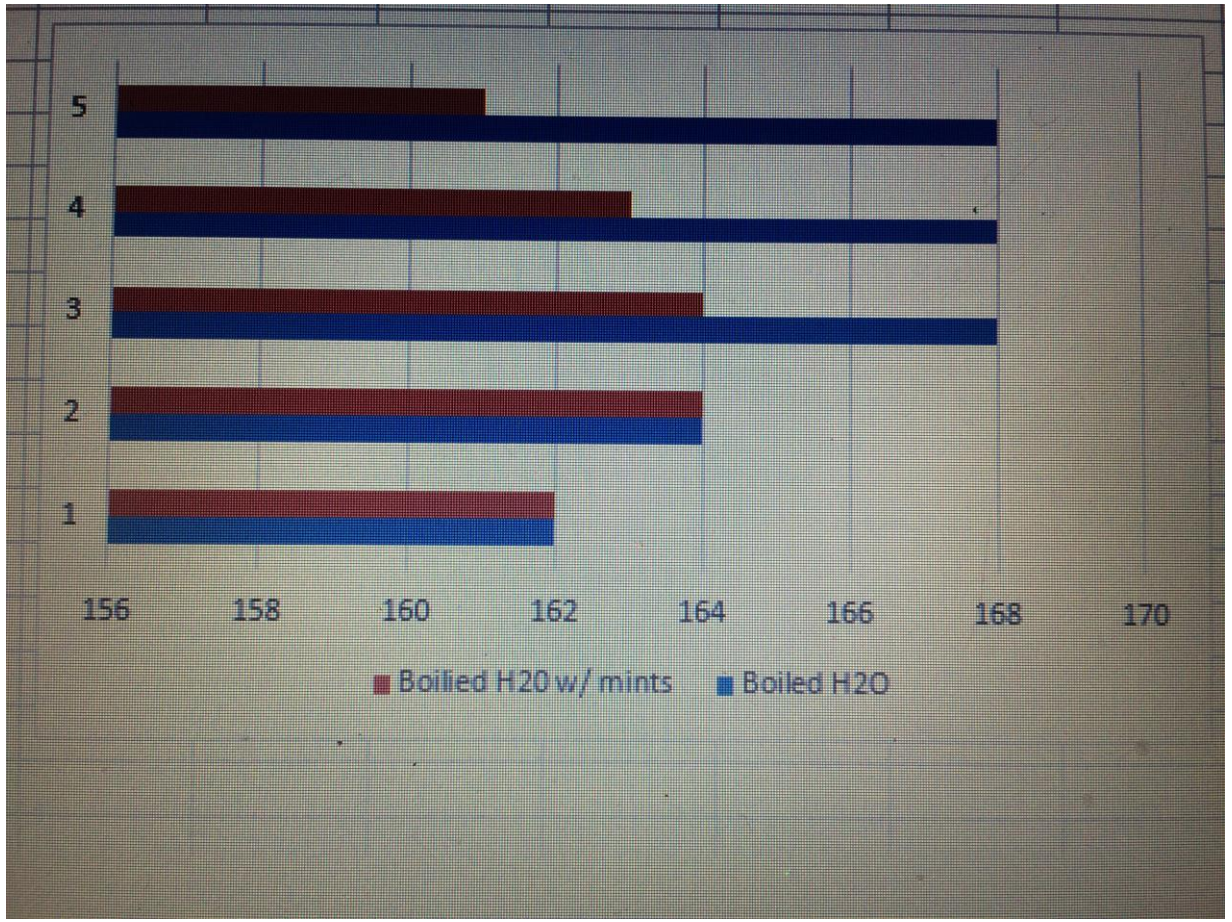
Room Temperature Water(temp F)	Room Temperature Water(temp F)
84 F	1 MINT - 84 F
86 F	2 MINTS - 84 F
84 F	3 MINTS - 82 F
86 F	4 MINTS - 84 F
84 F	5 MINTS - 83 F

Results and Data

Cold Water (temp F)	Cold Water With Mints (temp F)
44 F	1 MINT - 44 F
44 F	2 MINTS – 43 F
44 F	3 MINTS – 43 F
44 F	4 MINTS - 43 F
44 F	5 MINTS - 42 F

Warm Water(temp F)	Warm Water With Mints (temp F)
98 F	1 MINT – 98 F
102 F	2 MINTS – 101 F
104 F	3 MINTS - 103 F
104 F	4 MINTS - 102 F
104 F	5 MINTS - 102 F

Graphs!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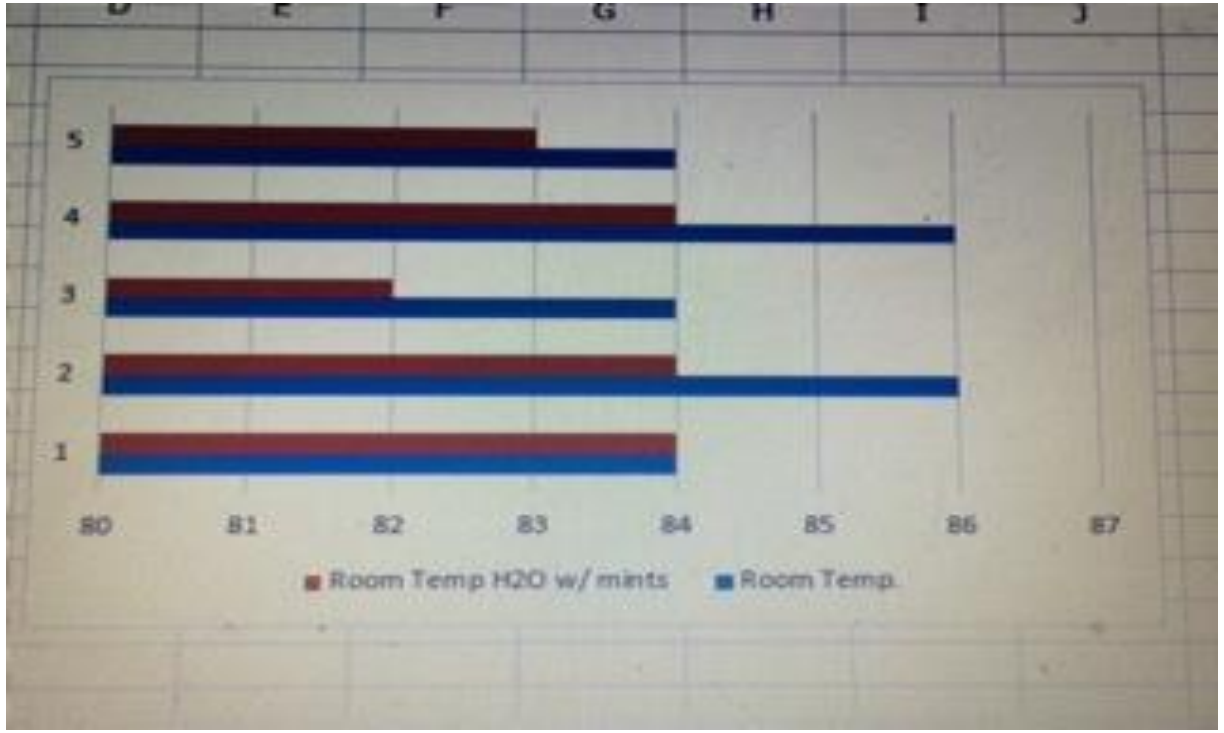
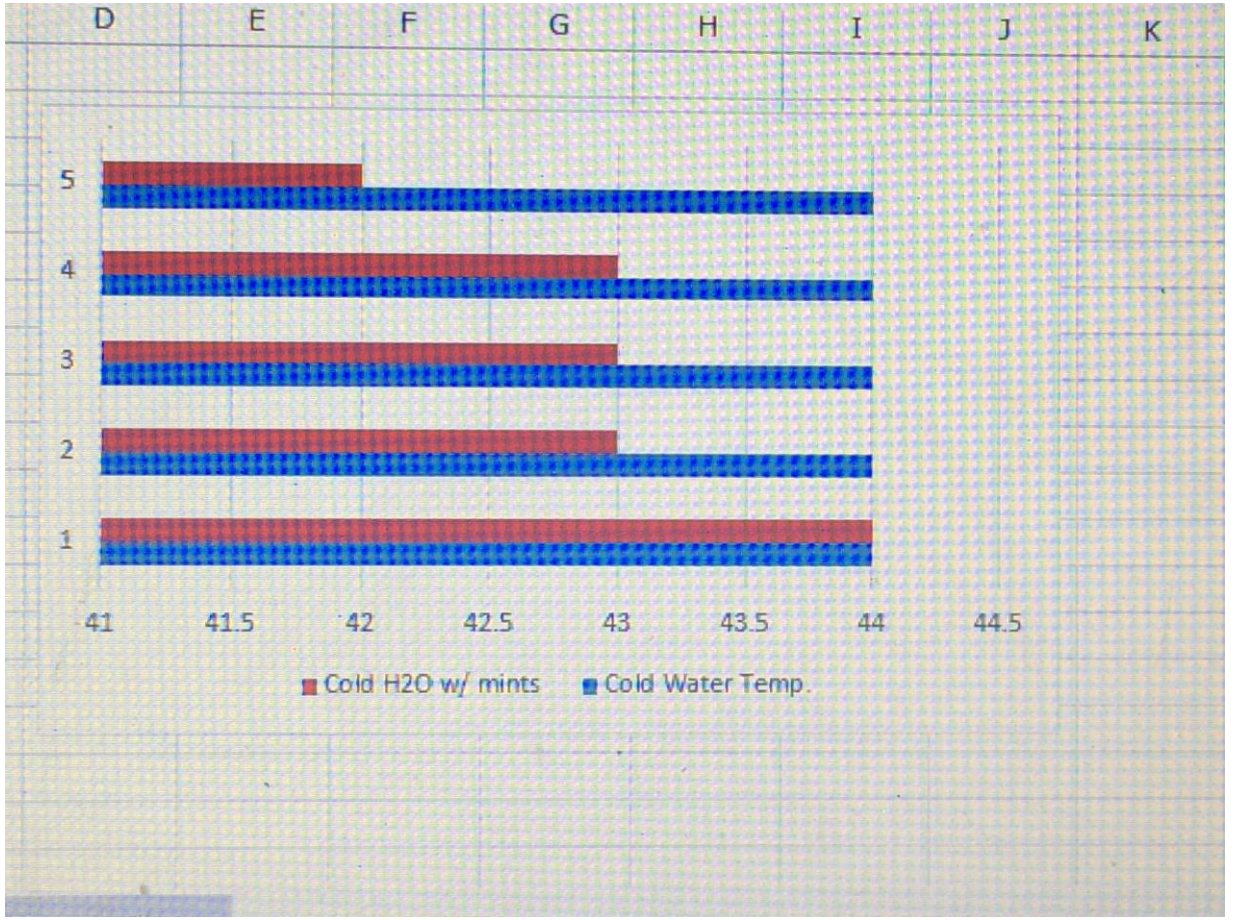
170
Boilied H20 w/ mints
Boiled H2O

Another Graph….



Graph, Graph….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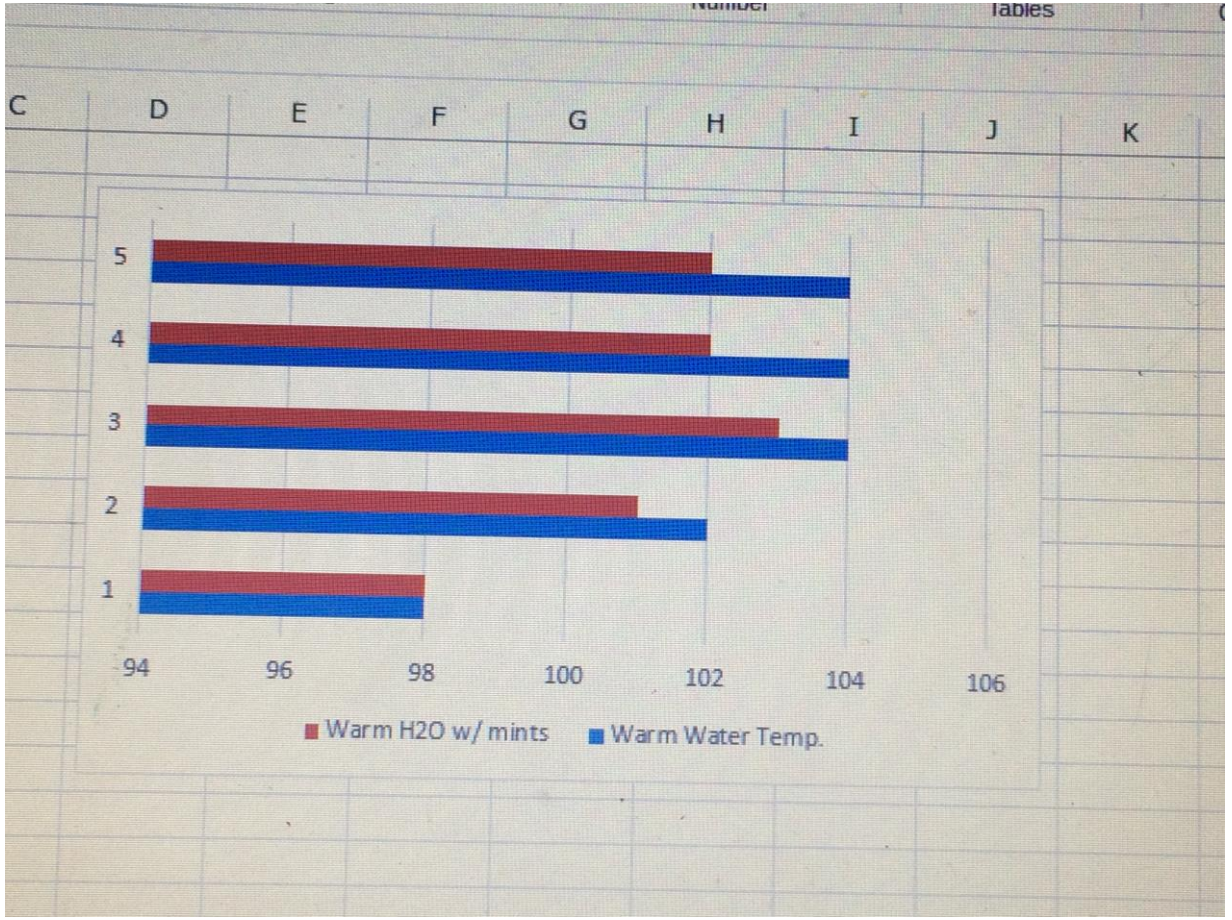
Cold H2O w/ mints
Cold Water Temp.

Last Graph!!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Warm H2O w/ mints
Warm Water Temp.

Conclusion

My hypothesis was correct. This is supported because, based off of my results, it's clear that mints have an effect on the temperature of water. Due to Menthol, the water was cooled slightly by a few degrees depending on the amount of mints.

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