

Heat and Temperature Change Prelab Quiz

Note to instructor: The purpose of this quiz is to determine the student's experience with working in the kitchen: specifically, with using the stove, given that water needs to be brought to the boil. I recommend that you run this quiz through your learning management system, making sure students get the feedback they need, depending on their answer, and only share the lab once students have taken the quiz and you're satisfied that they understand how to carry out this experiment safely. You may wish to speak with any student who has selected answer "E" (no kitchen experience).

Instructions to students:

Please consider this question to be a "pre-lab screening" question to make sure you are ready for lab activities that involve heating up water on the stove. There are no "wrong answers" for this question, so please answer this question honestly, and look at the feedback.

Please substitute the appropriate pronoun if the pronoun "she" doesn't apply to you.

If I asked your friend about your proficiency in the kitchen, your friend would reply: (select the answer that best applies to you)

- A. She's ok, but a little forgetful. There was that time when she left a pot of soup on the stove and forgot to turn it off. The pot was ruined because of the burnt crust stuck on the pan.
- B. She's not bad. She makes pretty good coffee and homemade spaghetti.
- C. Oh, she's an absolute whiz in the kitchen! I love her "Eggs Benedict". And that cake she made for my birthday was divine!
- D. She's a fun cook...a real risk taker! She follows the principle "When it's smoking it's cooking...when it's burnt, it's done!" She constantly setting off the smoke detector, but the food always tasted good.
- E. She can't even boil water. I've never seen her darken the door of a kitchen.

Feedback to ALL: This experiment requires heating water to the boiling point in a saucepan on the stove. Whenever you are working with boiling water, there is a risk of a burn (either from the water or the steam) as well as a fire risk if the stove is not used properly. Carry out the experiment as described in the procedure. Make sure the handle of the saucepan is turned inward, and is not sticking out (which could result in the pan getting knocked over, spilling hot water). Are there children in your house? Make sure they are kept out of harm's way during your experiment, just as you would when preparing a meal. And finally, don't forget to turn off the stove as per the instructions.

Specific feedback:

If you answered "A": Thank you for answering honestly. It will be very important to remember to turn off the stove, and to pay close attention to all safety instructions when heating up water



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on the stove. If your instructor has an electronic office hour, why don't you do the experiment during their office hour, so they can "supervise" electronically, and answer any questions you may have?

If you answered "B": Sounds like you know your way around the kitchen. Don't forget to turn off the stove, and make sure there are no children underfoot when you're around the stove or handling hot water.

If you answered "C": Good for you! Hope you'll share some of your recipes with us! You clearly know your way around a kitchen stove: that said, don't be complacent. Please follow all safety instructions, and make sure any children in your household are kept safe.

If you answered "D": Thank you for your honesty. It sounds like you know your way around the kitchen, but you like to "push the envelope" when it comes to taking risks. I sincerely entreat you to follow all instructions, as these were designed to minimize the risk to you and to your loved ones.

If you answered "E": Thank you for answering this honestly. My job is not to turn you into a master chef, but I DO want to make sure you and your loved ones are safe during and after your lab activities! Do you have a friend/family member with some kitchen savvy who can supervise your work? I encourage you to get some help from them. Let's discuss this.



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