

Mac and Cheese Lab

Owen O'Toole

In this lab I made macaroni and cheese with the express purpose of seeing what effect cooking time had on the mac and cheese. I cooked three batches, one undercooked (5 minutes), one overcooked (15 minutes), and one cooked per the instructions (10 minutes). It was agreed upon by all the testers that the normal pasta was the best, so I would suggest following the instructions for the best results.



Why pasta works scientifically:

Pasta works the way it does
Because of the way the molecules
in the pasta react to heat and
moisture, it's the reason pasta
returns to being hard if left out.
When water interacts with the
starch and glucose molecules
The glucose swells up and
becomes softer and less stiff.



The pasta then becomes, well, ready to eat. Undercooking happens when not enough water molecules bond with the glucose and starch to have them swell up; overcooking occurs when too much water is introduced and the glucose and starch cannot absorb all of the water, making the pasta mushy. The reason we use boiled water and not just regular water is because the heat speeds the process up significantly.

I enjoy macaroni and cheese because it's quick, easy, and delicious. It's a wonderful and filling dish and is widely available. One of the best qualities of macaroni and cheese is how simple it is to make. Recipes are easy to find online and the boxed macaroni is usually inexpensive and has the instructions on the box. Overall macaroni and cheese is a wonderful meal that I enjoy very much. I prefer to make my own using a recipe and not just a box, however I won't turn my nose up at a box either.

