

FAMILY FAVOURITE

In any 12-week period, half of all children in the US will eat mac and cheese.

THE LAB

Loads of things to make and do



Make mac and cheese

Add a springtime twist to a favourite pasta dish.

What you need

- 400g macaroni
- Water
- 2 tbsp **butter**
- 3 tbsp **flour**
- 1 tsp **mustard**
- 1 tsp chopped garlic
- 500ml **milk**
- 140g frozen peas
- 50g parmesan **cheese**
- 250g cheddar **cheese**
- Small bunch basil
- Pan
- Sieve
- Wooden spoon
- Jug
- Ovenproof dish

Instructions

- 1** Cook the macaroni in a pan with some water. Drain and leave to cool while you make the sauce.
- 2** In the same pan, heat butter and flour. Mix well to form a paste, then add the mustard and garlic.
- 3** Stirring constantly, add the milk a bit at a time. Add the frozen peas and simmer until cooked. Take the pan off the heat and stir in half of the parmesan and cheddar cheese.
- 4** Now put the pasta back into the pan along with half of the basil. Pour into an ovenproof dish and sprinkle the rest of the cheese on top. Cook in the oven for 20 minutes. Add the remaining basil on top and serve.

Keep stirring as you add the milk.



How does it work?

When you add the milk to a flour-and-butter paste, something magical happens. It turns into a thick, gooey sauce. Scientists describe a thick and gloopy liquid as “viscous”. Viscosity is a measure of how much a liquid resists flowing or changing shape. The more viscous, the less runny it is. Cooks can increase a liquid’s viscosity by adding a starch, such as flour. When the milk is added, the particles of starch absorb some of the liquid and can expand by as much as 30 times. This thickens the sauce. Make sure that you reduce the heat before adding cheese, as the heat might curdle your sauce. Cheese contains milk proteins, fats and water. If it melts at too high a temperature, cheese will “curdle” – forming lumps of protein in the middle of pools of fat and water.

Allergy warning! Ingredients in **bold** are allergens (substances that cause allergic reactions). Learn more at tinyurl.com/SN-allergy

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