C1.1 Potatoes make us strong

You would like to bake a cake. For the batter you need butter, eggs, sugar, and flour. The recipe states that you should also add 150 grams of starch to the batter. You ask your mother what this starch is. She answers you that starch flour is meant, which is produced from corn, wheat, and potatoes.

How can you make the starch in a potato visible?

Write down your ideas and guesses:

You need the following for the experiment:

- ☐ 1 dishtowel
- ☐ 1 grater
- ☐ 1 knife
- ☐ 1 measuring cup, 100 ml
- ☐ 1 potato (medium, raw)
- ☐ 1 small spoon
- ☐ 2 trays
- ☐ Water (cold)

Required materials.

How to set up the experiment:

Lay out all the materials and the potato as shown in the photo.

1. Peel the potato.
2. Lay the dishtowel over one of the trays.
3. Fill the measuring cup halfway with water.

How to conduct the experiment:

Tip: Use the second tray as a resting surface.

1. Use the grater to carefully grate the potato over the towel.
   Watch out for your fingers!
2. Add water to the grated potato and carefully stir it with the spoon.
3. Hold the corners of the towel and lift the towel up.
4. Firmly squeeze out the towel over the tray.
5. Wait a few minutes and observe what happens with the liquid in the tray.
6. Then carefully pour off the excess water.

Write down your observations:

Starch remains in the tray. What does it look like? How does it feel? What does it smell like?

Evaluate your observations:

Write down where you have already encountered starch in everyday life. Perhaps when cooking at home?

Doing further research:

1. Recombine the starch and the water that was poured off.
2. Heat the mixture in a test tube over a tea warmer with a tea light. Use the test tube clamp so that you don't burn yourself.
3. Observe what happens. How does the mixture feel after it has cooled?
4. Think about how you can apply these new properties of the starch mixture. If you think of a useful application, try it out.