
Safety:

Instruments:

- a cup
- a teaspoon

Chemicals:

- sugar
- warm water (filled in a cup)

Experiment:

- Pour enough warm water into the cup so that the water's surface curves slightly higher than the edge of the cup.
- Add a teaspoon of sugar to the cup extremely slowly, a few grains at a time. What happens?
- You can add even more sugar if you wait patiently until the first portion has completely dissolved.

Advice for the teacher:

The pupils observe that the cup does not overflow.

They should learn that everything is composed of smallest particles, namely atoms and molecules. When sugar is added to the water, the volume taken up by the liquid does not increase. The sugar molecules fit themselves into the small, empty spaces between the water molecules.

The teacher should very carefully introduce the topic of "particles," so that no false ideas are caused. It is important that the students understand such particles not as the smallest piece that something can be divided up into, but rather the starting building block of a particular substance.
