

Student experiment  
(1st - 4th grade)

## Neutralization of acids

🕒 Time: max. 15 min.

### Safety:

### Instruments:

- five small glasses
- a pipette
- a teaspoon

### Chemicals:

- red cabbage juice
- sugar solution
- baking soda solution (sodium hydrogencarbonate)
- tap water
- lemon juice

### Experiment:

- Add one full pipette of sugar solution to glass 1 and one full pipette of backing soda into glass 2.
- Add one full pipette of lemon juice to glasses 3, 4 and 5.
- Empty another full pipette of lemon juice into glass 4.
- Put enough drops of red cabbage juice into all five glasses so that a clear color change is visible.
- Watch carefully as you add a few drops of baking soda solution to glass 5. What do you see?

### Advice for the teacher:

The liquids in the glasses with sugar and lemon juice turn red when cabbage juice is added. The baking soda solution turns green. When baking soda solution is added to the glass containing lemon juice, the color goes from red to purple.

The students should learn that sugar doesn't neutralize acids, what the term "neutralization of acids" really means, and that acids can only be neutralized by bases and vice versa. They should also learn that excess stomach acid can be neutralized (the function of bases) by using a base such as baking soda.