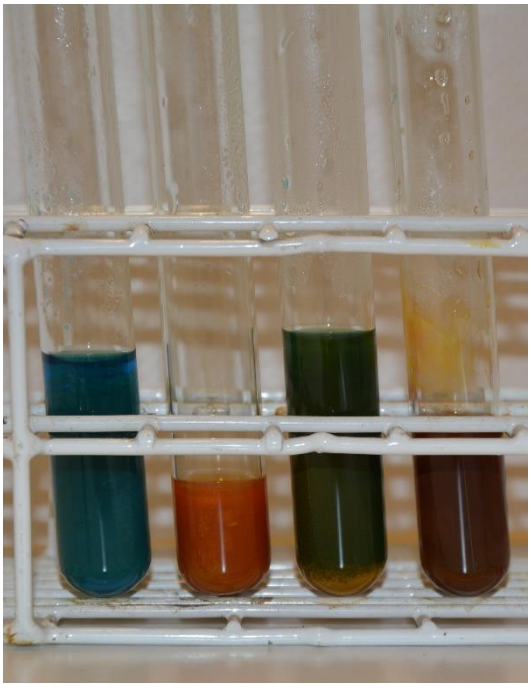
Why does zero cola makes us gain weight?

Investigating the cola and zero cola content with Fehling test



Experiment

Pour 2 ml Fehling(I) solution into every test-tube and add Fehling(II) solution drops to it until the initially formed precipitation dissolves with deep blue color. (The created reagents contain Cu^{2+} ions in the form of tartarate complex in alkaline medium/state). Then add a drop of cola to the first test-tube with pipette, the same quantity of cola to the second one, glucose solution to the third and distilled water to the fourth.

Observation

The solution containing cola changes at first to green by heating (because of the melange of the original blue and nascent orange color), after a short period of boiling, the red color of Cu_2O will dominate. We experience the same phenomenon in the glucose solution. The solutions containing zero cola or distilled water, there is no color change.

Explanation

In primary school, in Kindergarten we only say that the glucose in the cola indicates the Fehling test whilst the sweetener in the zero cola not. We do not gain energy from sweetener, therefore it does not make us gain weight. 100 ml cola contains 11.2 g sugar that beseems to 4 piece of lump sugar and its energy content is 193 kJ.

Water quality investigation

Determination of the ammonium ion, nitrite ion and phosphate ion content

Experiment

At colorimetric determination they utilize the known property of chemicals to create colorful compound with the determined component. Color intensinty is proportional to the original amount of the component.

Samples: a, solution contains the investigated ion **b,** distilled water **c,** turtle's water **d,** water from a natural lake