

The scenario

Subject	Precipitation and filtration of the precipitate
Length	8,00 min.
Main objectives	Learning the precipitation reaction
Detailed objectives	Observation of changes occurring during the reaction Learning the solubility of some copper(II) compounds Learning the reactions notation in ionic form
Structure and description of experiments:	
Introduction	Description: Precipitation reactions take advantage of the different solubility of certain chemical compounds. Compounds dissolved in water exist in the form of ions. During the reaction of copper ions and the radical of the carbonic acid, an insoluble precipitate of copper (II) carbonate is formed.
Main subject	Description: Learning the ion exchange reaction and the precipitation of the insoluble copper salt from an aqueous solution
Experiment	<p style="text-align: center;">Precipitation and filtration of the precipitate</p> <p>Equipment: metal filter ring, a stand, filter paper, scissors Glass: glass funnel, two beakers, glass rod, measuring cylinders, water wash bottle Reagents: aqueous solutions CuSO_4 and Na_2CO_3</p> <p>Description: Using a cylinder, measure 15 ml of the copper(II) sulphate (VI) solution and pour it into the beaker. Then, using another cylinder, measure out 15 ml of the sodium carbonate solution. After adding the second solution, mix the contents of the beaker with a rod. Filter the resulting suspension on a funnel with filter paper. Wash the sediment remaining on the funnel several times with distilled water from a wash bottle and then spread it out to dry.</p> <p>Questions: 1. Write down the equation of the reaction that took place in the beaker while mixing the solutions. 2. Why did the precipitate need to be washed with distilled water at the very end?</p> <p>Conclusions: Copper(II) compounds have different solubility in water. When dissolved in water, soluble metal salts are in ionic form. Copper(II) sulphate (VI) dissociates into copper ions (Cu^{2+}) and sulfuric acid residue (SO_4^{2-}). Similarly, dissolved sodium carbonate dissociates into sodium ions (Na^+) and carbonic acid ions (CO_3^{2-}). In the case of mixing two or more substances, we are dealing with a mixture of all ions. In such a mixture, an exchange reaction may occur. If the substance formed as a result of such a reaction is insoluble, it falls out in the form of a</p>



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	<p>precipitate. In the above case, insoluble copper(II) carbonate is formed and sodium ions and sulfuric (VI) acid residues remain in solution.</p> <p>Level: Primary school</p>
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