

The scenario

Subject	Solubility equilibrium/Precipitation reactions
Length	4:08
Main objectives	To show how a precipitation reaction can indicate the presence of Cl in tap water
Detailed objectives	
Structure and description of experiments:	
1. Introduction	Description: The reason for this experiment is to demonstrate how the formation of a precipitate can indicate the presence of Cl in a substance.
2. Main subject	Description: Is it easy to determine the presence of Chlorine in water? The presence of Cl will be demonstrated due to the precipitation that occurs when reacting with AgNO_3
Part 1	
(0:40), Experiment 1 (0:41)	<p>Tools: AgNO_3, NaCl</p> <p>Description: Prepare two solutions, one with NaCl and the other with a small amount of AgNO_3, then, put both together and pay attention to the white solid to be formed. This occurs when a few drops of AgNO_3 are added to a solution containing chloride ions, and a white precipitate of silver chloride forms.</p> <p>Then, mix tap water with the AgNO_3 solution. The presence of Cl in tap water is demonstrated due to the precipitate that is formed when AgNO_3 reacts with chloride ions.</p> <p>Questions: Is it possible to confirm the presence of chloride ions in water? - Yes, precipitation with AgNO_3 would indicate the presence of these ions. Why does tap water have chloride ions? - due to the purification process where chloride is added.</p> <p>Conclusions: The test of chloride ions is based on the precipitation of an insoluble chloride salt with AgNO_3.</p>
3. Summary, evaluation and notes	<p>Application: Precipitation often is used to remove metal ions from aqueous solutions. In pharmaceuticals, precipitation is used as a method of purification to isolate pure crystalline pharmaceutical intermediate, ingredient, or excipient after bioprocesses.</p> <p>Level: secondary school</p>