

The scenario

Subject	Inorganic chemistry/Grow salt crystals
Length	8:31
Main objectives	To show the crystallization process
Detailed objectives	
Structure and description of experiments:	
1. Introduction	Description: The motivation for conducting the experiment is to investigate the crystallization process.
2. Main subject	Description: Why are salt crystals formed? The principle of crystallization is based on the limited solubility of a compound in a solvent at certain temperature and pressure.
Part 1	
Experiment 1 (0:42)	<p>(0:40), Tools: $\text{Na}_2\text{S}_2\text{O}_3$, tubes, lighter</p> <p>Description: Put $\text{Na}_2\text{S}_2\text{O}_3$ in a tube (3-4 cm), add some drops of water and heat until the complete solution.</p> <p>Cool down the solution in crystallization with a crystal seed.</p> <p>Questions: Does the crystallization process depend on the temperature or the solubility of the salt? – Yes, the evaporation of water in the formation of salts. How does crystallization occur? - Crystallization occurs in two major steps. The first is nucleation, the appearance of a crystalline phase from either a supercooled liquid or a supersaturated solvent. The second step is known as crystal growth, which is the increase in the size of particles and leads to a crystal state.</p> <p>Conclusions: Crystallization is a laboratory technique used for purifying the impure form of a substance into a more pure, solid product.</p>
3. Summary, evaluation and notes	<p>Application: Crystallization is primarily employed as a separation technique to obtain pure crystals of a substance from an impure mixture.</p> <p>Level: secondary school</p>