GROWING SILVER CRYSTALS

WHAT TO DO

1. Remove a Copper wire ring slide from the box
2. Using a small plastic pipette suck up a couple of drops of Silver Nitrate solution. There are 1% 3% & 5% dilutions with give different growth rates.
3. Drip the Silver Nitrate solution into the Copper Ring.
4. If using a compound microscope remove a cover glass from the box and carefully place over the copper ring to protect your Objective.
5. See what happens using either the stereo microscope or compound.
6. Photograph with a smart phone or camera. Good illumination required.
7. When you have finished put your slide etc. in the waste box.
8. Alternatively, when dry seal the slide with LOCA and the slide will last a while before tarnishing.

NOTE

1. Silver nitrate is irritant, if you get any on your hands wipe it off immediately, then wash your hands thoroughly.
2. Under the Stereo, using an external light source, you should see some of the crystals glisten.
3. Under the compound microscope at higher magnification, you can clearly see the crystals grow.

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We can easily do this by using a displacement reaction. Copper is a more reactive Element than Silver. If we place a piece of Copper wire in a solution of Silver nitrate, the Copper will grab (displace) the 'nitrate' from the Silver, forming Copper sulphate and leaving metallic Silver behind in the form of crystals.

Leeds Microscopical Society

Founded 1991

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May 2025 CJW