


# Crystal growing



<b>Name</b>	Crystal growing
<b>Description</b>	Experimenting with crystal growing
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## Copper Sulfate




 **Picture 1.1:** Materials

The first crystals, that we are growing are copper sulfate crystals. They give an intense blue color and are quite easy to grow. For this, we need to acquire [Copper\(II\)-sulfate pentahydrate](#). The chemical formula is:  $\text{CuSO}_4 \cdot 5 \text{H}_2\text{O}$

Gather your materials:

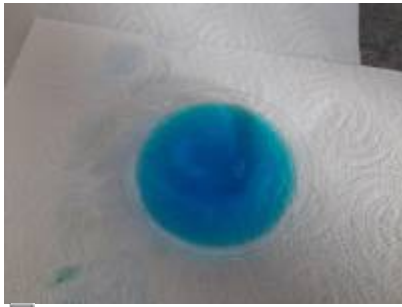
- Copper(II)-sulfate pentahydrate
- Water
- Beaker
- Glass dish
- Spoon



 **Picture 1.2:** Finished solution of Copper(II)-sulfate pentahydrate

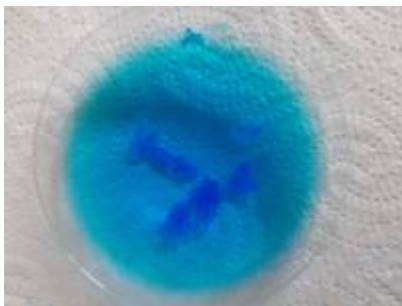
Begin with boiling about 800ml of water. When it is boiling, transfer it to the beaker and start adding Copper(II)-sulfate pentahydrate until nothing will dissolve anymore. It should have a deep blue color, see picture 1.2.

Pour a little of the solution onto the glass dish, this will be used to grow some seed crystals. See picture 1.3.

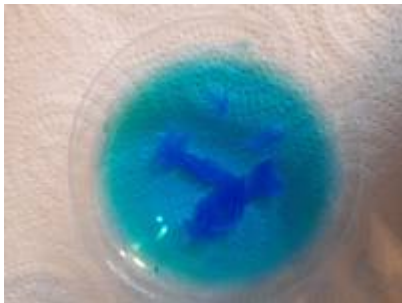


**Picture 1.3:** Solution on glass dish

Now, we have to wait, until we have seed crystals:



**Picture 1.4:** After 2 hours



**Picture 1.5:** After 3 hours

After about 3 hours, we can pick out one of the seed crystals and fix them to a piece of string (picture 1.5).



**Picture 1.6:** Seed crystal on string



**Picture 1.7:** Seed crystal in solution

This seed crystal can now be hung into the solution and let it sit overnight.



**Picture 1.8:** Crystal after growing overnight



**Picture 1.9:** Polycrystals of Copper(II)-sulfate pentahydrate

The next day, take out your polycrystals and filter the solution. Use a cotton pad in your funnel.



**Picture 1.10:** Filtering



**Picture 1.11:** Filtering with cotton pad

Clear out the bottom of the beaker, as a lot of crystals have grown on it.



**Picture 1.12:** Crystals on bottom of beaker

After the solution has been filtered, pour it back into the beaker and hang your polycrystal back into it.

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