



Highly Commended

Crystal Investigation

Year R-2

Liev Tingey
Arius Tingey

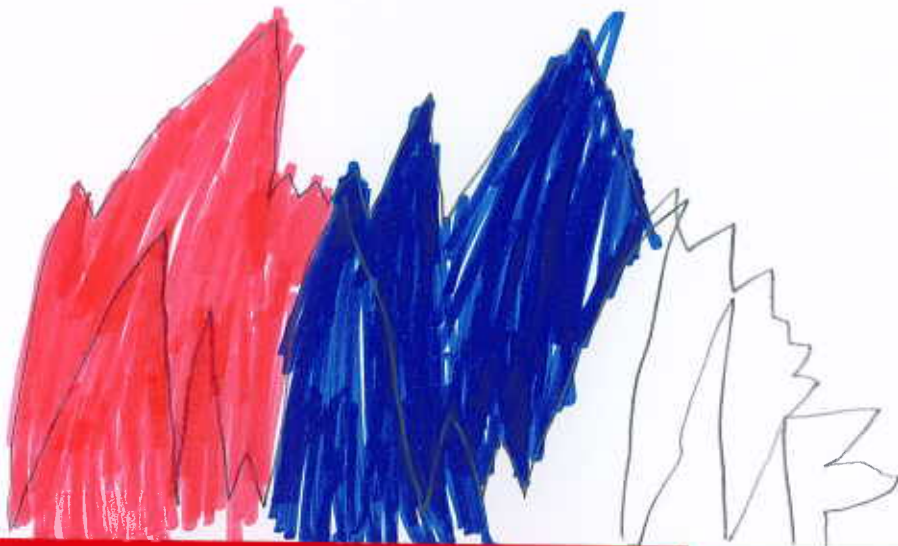
**Bellevue Heights Primary
School**

0041006

SASTA Oliphant
science

Awards 2020

Liev T.ingey
ARMS T.ingey





SASTA Oliphant Science

Awards

2020

Liev Tingey - Year 2

Arius Tingey - Reception

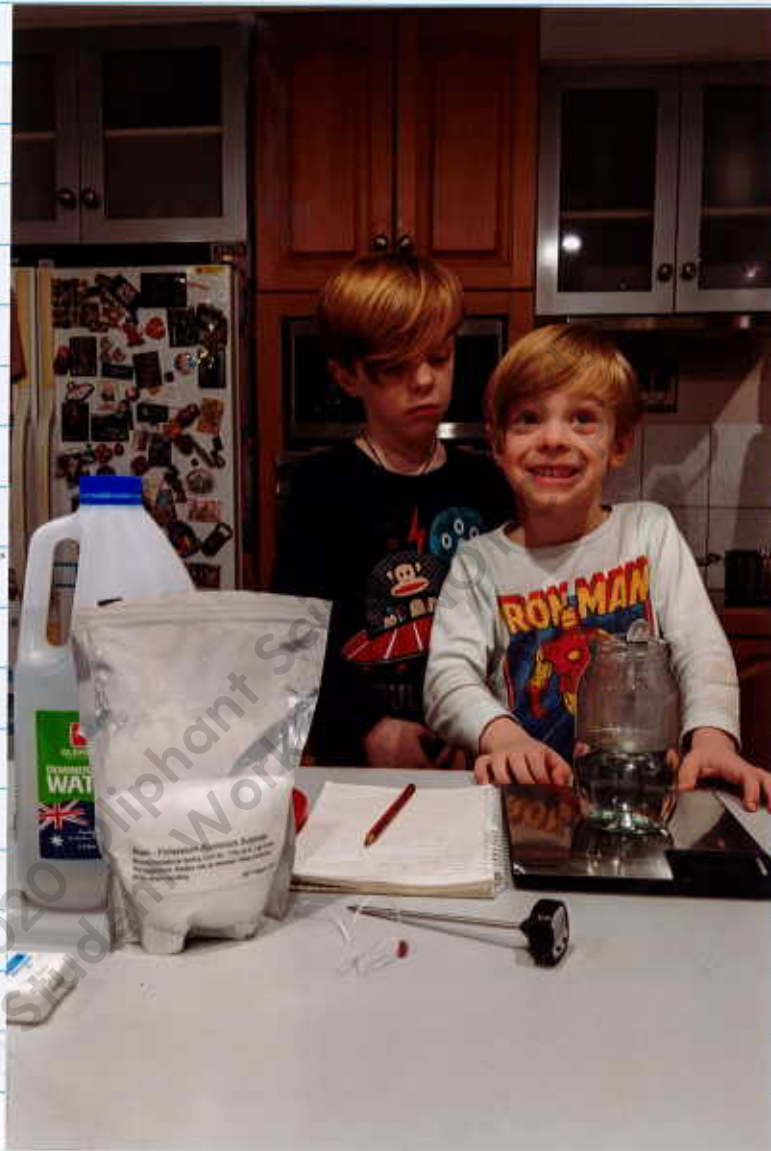
Bellevue

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Primary

School

Liev & Arius Tingey Bellevue Heights
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Title: Crystal investigation.

Aim: To grow potassium aluminium sulfate crystals in different coloured water

Hypothesis: If we add different dye (food colouring) to the water then the colour will be incorporated by the crystals

Materials:

Potassium aluminium sulfate

Demineralised water

Glass jars ($\approx 250\text{ml}$)

Paddle pop sticks

Dental floss

Tissues

Rubber bands

Scales (digital)

Table spoon

Microwave

Thermometer

Variety of food colouring dyes

Method:

1. Pour 200ml of demineralised water into a glass jar, measure amount on scales.
2. Heat water in microwave for 2mins.
3. Measure the temperature of the water with a thermometer ensuring it is over 60°C . If it is not, reheat until it is.
4. Measure 30g of potassium aluminium sulfate on scales, add to jar and swirl to dissolve. Ensure all crystals are dissolved in water.
5. Repeat steps 1-4 with x3 more jars.
6. Add x6 drops of food colouring to one jar. Add x6 drops of another food colouring to another jar. Cover with tissue and a rubber band.
7. Let the jars sit overnight.
8. Next day remove a seed crystal and tie it to dental floss ($\approx 15-20\text{ cm}$ in length). Tie dental floss to paddle pop stick.
9. Reheat solution again in microwave for 2mins.
10. Swirl solution until all crystals have dissolved.

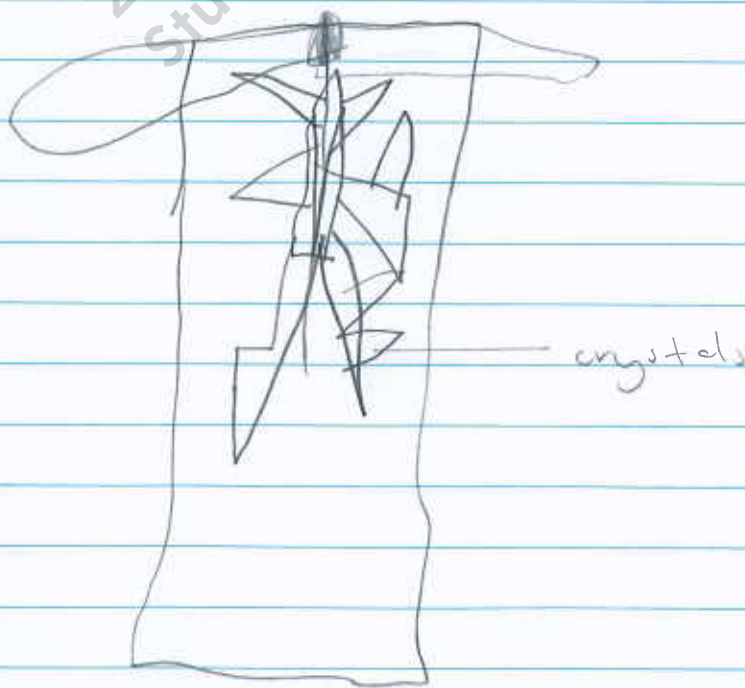
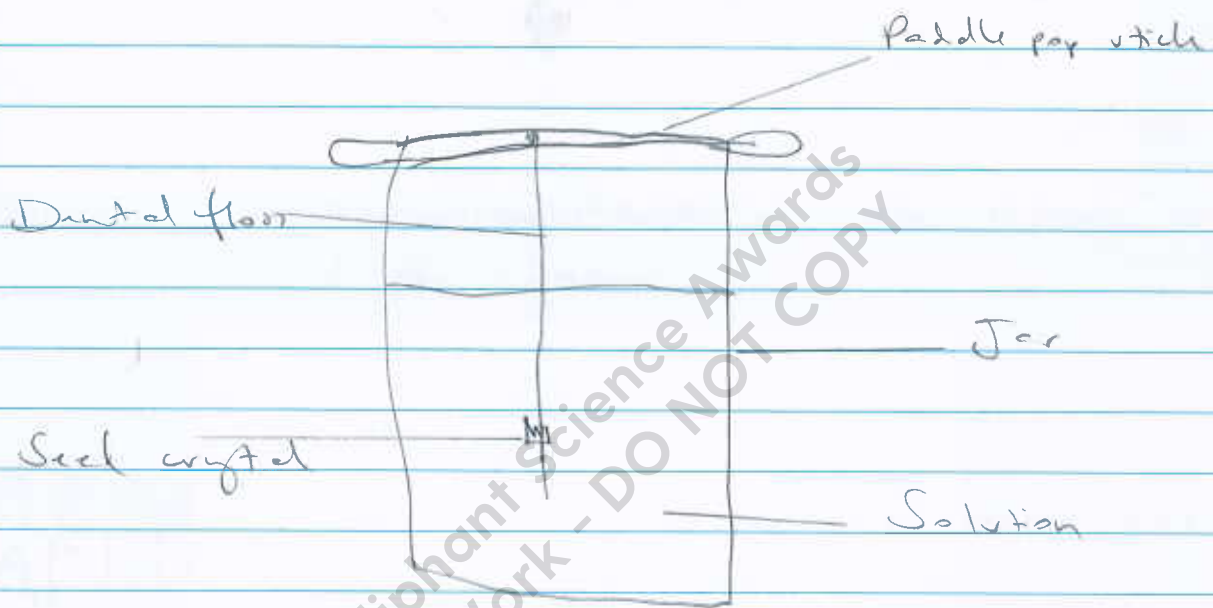


11. Let solution cool for 2 hours.
12. Place seed crystal tied to paddle pop stick into cooled solution, ensuring it sits approximately in the centre of the jar.
13. Cover with tissue & rubber band, place in an undisturbed area.

To regrow smaller crystals which form, repeat steps 9 - 13.

Method reference: Growing Aluminium Potassium Sulfate Crystals David A. Katz.





2-6-20
LieV

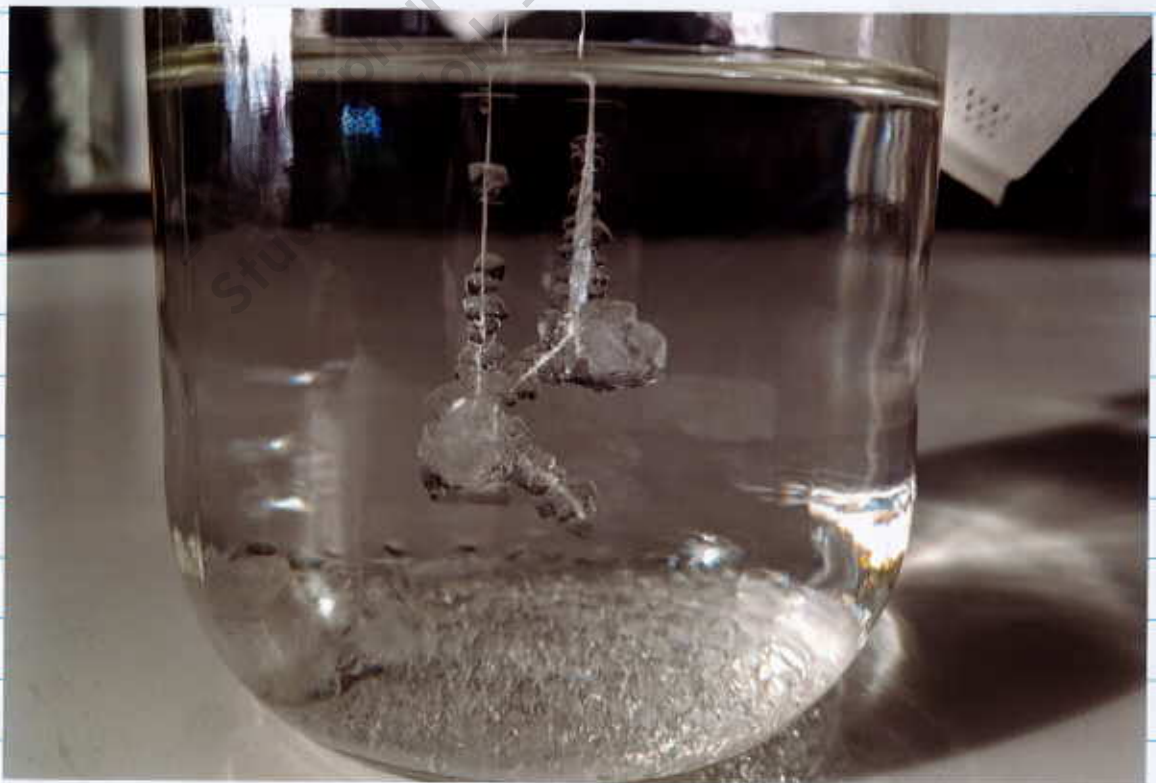
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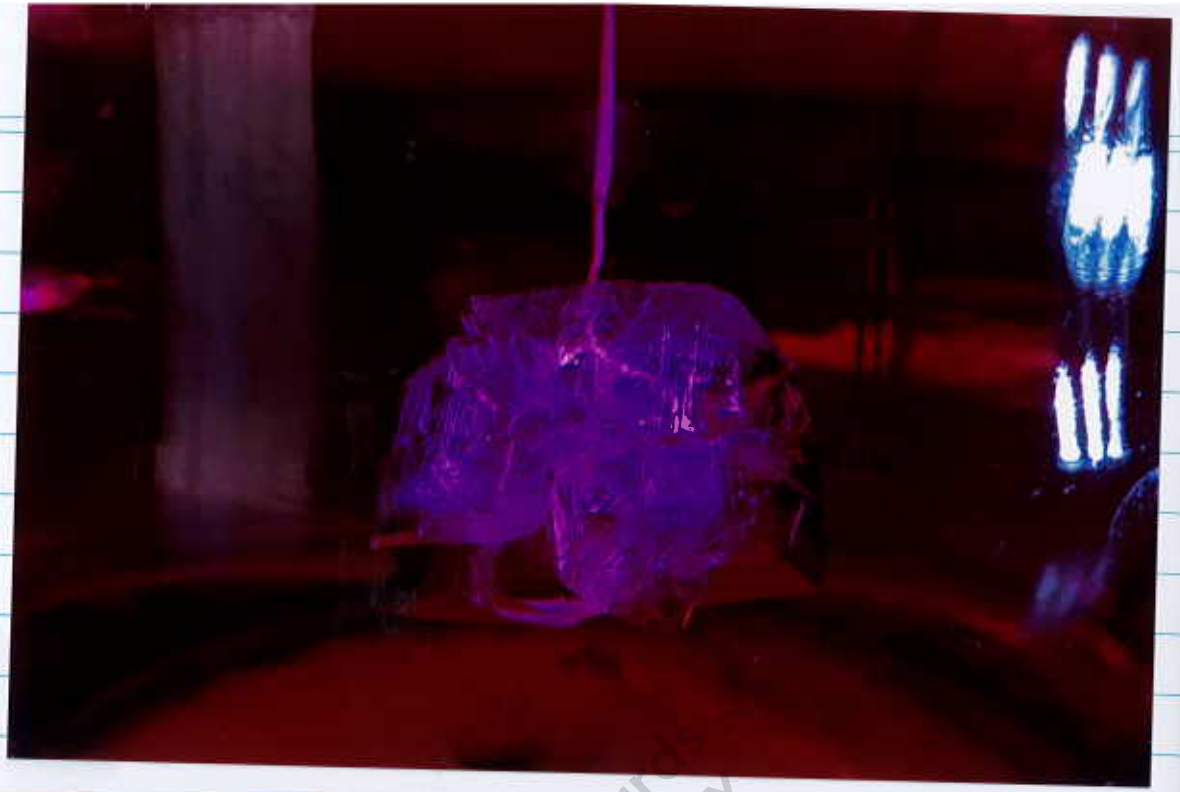


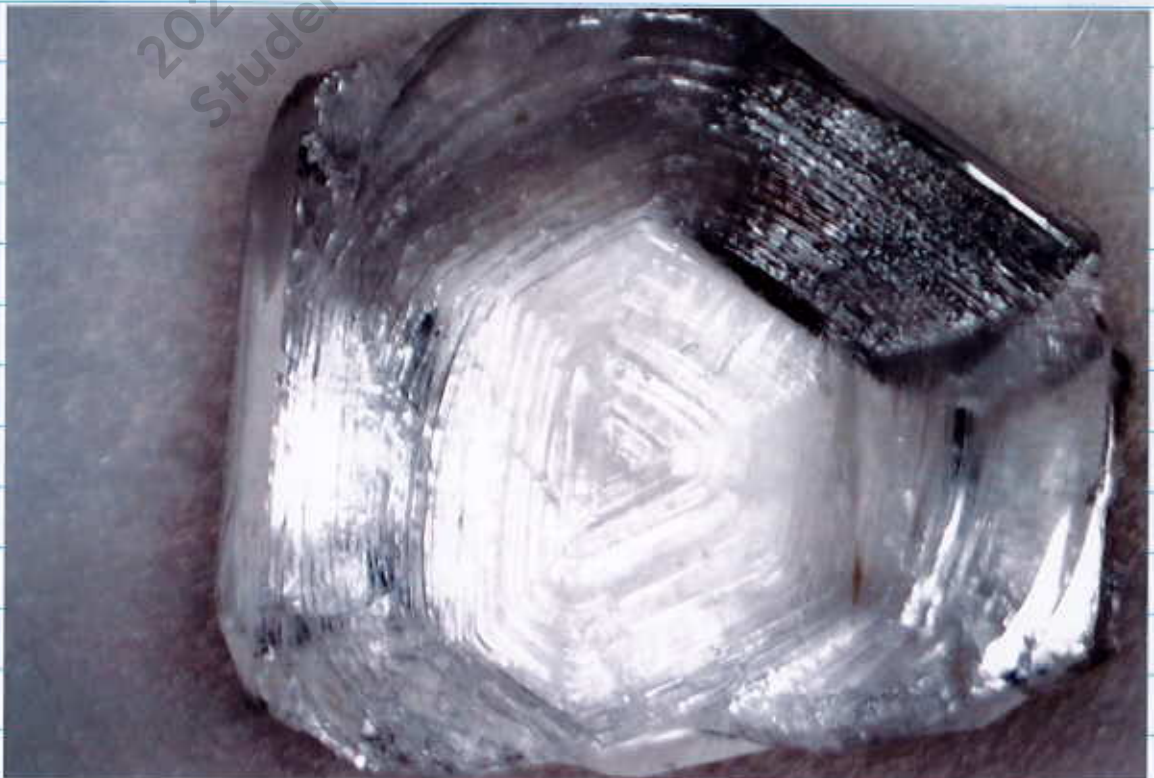
Results:

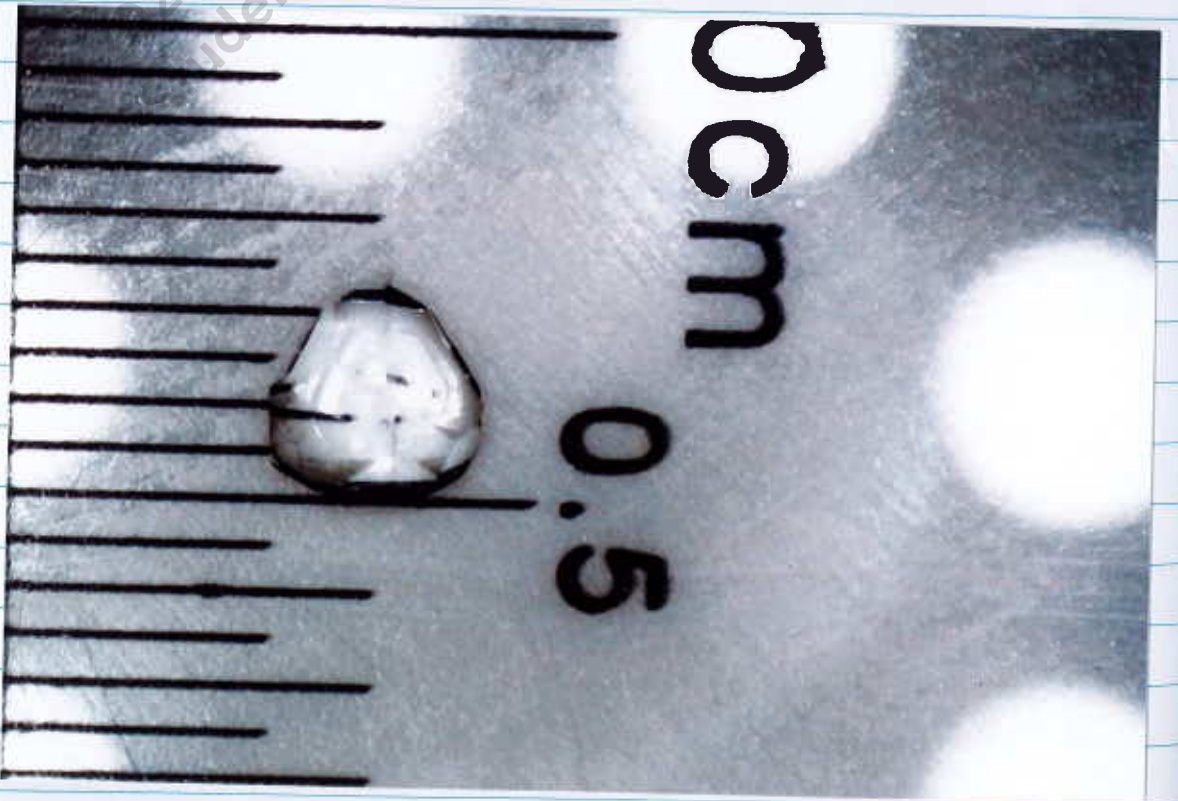
Date	Observations
3-6-20 Liev	The seed crystal has grown.
5-6-20 Liev	The crystal has become bigger and little crystals have grown on top and on the bottom of the jar.
8-6-20 AFM2	The crystals in the blue water are little.
13-6-20	The crystals have stopped growing, we took them out of the water. We let them dry and put them into plastic bags.











Discussion:

The hypothesis was partly supported. It looks like the colour from the dye was incorporated by the crystal lattice (structure), but not much was so we must have used the wrong dye.

Next time we will try a different dye, maybe an oil one.

We were very happy with all the crystals we grew, it was a lot of fun.

We were able to take photos of the crystals under a microscope camera, and see the patterns which happen as the crystal grows.

Conclusion:

We grew potassium aluminium sulfate crystals in different coloured water, and they looked very pretty. It was a lot of fun.

Thank you Mum for helping us.