



Prize Winner

Crystal Investigation

Year R-2

Ilona Danilovic
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The log book in this form is only advisory but students should try to document the following:

- Date and time for each handling of the crystal procedure
- Describe exactly what they did on each occasion (should include measurements of volume and temperature made at any time)
- What has happened to the selected crystal on each viewing (changes)
- Description of the crystal characteristics – clarity, regularity (smooth faces, sharp edges), and size (can be assisted by sketches or digital photos)
- What problems were encountered and how they were solved – may include summaries of discussions with teachers/mentors
- Acknowledgment of manual assistance by others e.g. for competitors from the R-2, 3-5 age groups, what teachers or parents did.
- Acknowledgement of any crystal growing advice from books or websites

Date/Time	Descriptions of what the student(s) did, problems encountered and solved	Crystal characteristics	signed
13/6/20 7 PM	equipment: 3x beakers Paper towels (400 mL) Labels Mineral Water cup scale Demineralised water	none	
	30g alum dissolve with 200 mL hot water (first mineral then demineralised water)		
	Paper towel on top of beakers (let stand over night)		
14/6/20 4 PM	no seed crystals yet, but bubbles	none	
16/6/20 12:04	equipment: plastic spoon thread penicillin		



Crystal Growing Competition
Watch your crystal grow

PRIZE WINNER

OLIPHANT SCIENCE AWARDS

CATEGORY: CRYSTAL GROWING

Supported by the SA Branch of the Royal Australian Chemical Institute
and
The RACI Chemical Education Group (S.A.)



0259 - 021

Student(s):
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Coordinator: Sarah Nash
School Phone: 08 8294 8422

Gender: F F
Patent Sought: N

App code:
4568273

Year Level: R-2 **Group Entry:** Y **Students:** 2

Category: Crystal Investigation

Project Title:
Incredible Crystal Collection



Please note: the use of this version of a log book is not mandatory.
There will be no penalty for not using it.

However the student(s) who are preparing a crystal will need to provide evidence of their ongoing efforts by comments related to the criteria suggested in this log book model.

The competition instructions suggest that the crystal growers formulate an hypothesis that they can test while growing the crystal(s)

Examples of questions that could be expressed as a prediction or hypothesis are:

- Can my crystal grow to the required 9 mm in 3 weeks?
- Does leaving my crystal in a dark place help it to grow better?
- Does more or less attention help my crystal to be more clear and well-formed?
- Does an incubator help grow bigger crystals in a given time period?

MY HYPOTHESIS crystals grow better with
mineral water

Date/Time	Descriptions of what the student(s) did, problems encountered and solved	Crystal characteristics	signed
	We took big crystals out. Then we put paper in a bowl with hot water and mixed with a spoon until tiny crystals		
	Disappeared. 100 solution demin water lots of tiny crystals. 100 solution	triangles still 2x2x2cm 5+11 clear	
	The arrangement was here! U	hexagons still 3x3cm 1.4cm tall white	
25/6/20 17:09	mineral water a little crystal on the bottom. tiny crystals on string.	LOVE heart shape, widest sides 2.5x3cm	
	Just above 150ml water. demin water. lots of little crystals on the bottom.		
	150ml water	hexagon widest sides 3x3cm	
17/7/20 18:04	mineral water lots of tiny crystals at the bottom. 130ml 0x solution.	widest sides 3.5x3cm cloudy, clear	

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Date/Time	Descriptions of what the student(s) did, problems encountered and solved	Crystal characteristics	signed
	Mineral water. There were 3 seed crystals. I chose	triangular size: 2x1.5x 2cm 1cm thick	
	The biggest one and the shape was a square. The triangle and the		
	sides were 2x1.5x 2cm and the crystal was 1cm		
	thick. I used a tree and pencil to suspend it.		
	200ml solution, demin water.	Hexagone size: 2.5x 2.5cm 1.5cm thick	
	1 seed crystal.		
	Shape: hexagone 2.5x2.5cm. 1.5cm thick. 200ml solution		
21/6/20 17:01	mineral water lots of tiny crystals at the bottom of the beaker.		

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Date/Time	Descriptions of what the student(s) did, problems encountered and solved	Crystal characteristics	signed
	Chose 1 as seed crystal.		
17:31 12/18/20	150 mL water took big crystal out + lots of little crystals on the bottom of beaker	hexagon 1.7cm clear	
19:07	a couple of small crystals, 120 mL	hexagon about 2 cm. clear.	
	Crystals grow better in demineralised water.		

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Date/Time	Descriptions of what the student(s) did, problems encountered and solved	Crystal characteristics	signed
	demin. & smaller crystals at the bottom, 130 mL of solution.	incorrecs, hexagon.	
		3.5 x 3 cm clear on the sides, cloudy mostly	
		Diamond shape.	
7/17/20 15:15	water level just above 100 mL. Lots of water evaporated.	Further crystals did not form	
29/7/20 18:31	Water evaporated lots of little crystals grew on top of both crystals.	Shape not nice similar size	
	Starting to grow another crystal using demin water.		
16:40 2/8/2020	lots of crystals on the bottom of beaker.		

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