

## How Does Your Crystal Grow

### ANSWER KEY

Name \_\_\_\_\_

Period \_\_\_\_\_ Date \_\_\_\_\_

Day 1:

Predictions:

1. Which color liquid will grow crystals in it first?

*The clear solution grows clear to white crystals. (Aluminum potassium sulfate)*

2. Which Petrie dish will grow crystals in it first? (on foil, off foil, lid on, lid off) Explain your reasoning. Put the different conditions of Petrie dish in order from the one to show crystals first to the slowest growing liquid sample.

*The lid off, on a paper towel dish will almost always grow first. This is due to increased ability for solution to lose heat to the surrounding atmosphere and evaporation rate increase.*

3. What will the shape of each color liquid's crystal be? Will they all be the same? All different? Sketch the shape you predict for each color in the observation chart under prediction.

*Aluminum potassium sulfate and potassium ferricyanide are both hexagonal. These will look like triangular faceted crystals when small. The alum will be clear to cloudy white, and the potassium ferricyanide will be deep blood red.*

*Copper sulfate will grow monoclinic crystals which are bright blue at first, turning a pale powder blue as the loose water to the atmosphere.*

*Nickel sulfate will grow long green needle shaped crystals (orthorhombic).*

4. What will be the difference between the crystals grown in the four Petrie dishes for any one color of liquid? Explain why you think this might be so.

*They will all have the same shape for any one solution. The size of the crystals will vary with how fast they lose heat and the solution evaporates.*