Mineral Growth Lab

Introduction:

The process of crystallization forms minerals, which is the growth of a solid from a liquid. During crystallization the atoms that make up the minerals come together in a specific arrangement. Crystallization of minerals can come from two different sources, magma and from water solutions. The rate at which magma cools and solidifies has an affect on the size of the formed crystals.

Purpose: The purpose of this lab is to determine why some crystals found in some rocks are large and why other crystals are small, or microscopic.

Hypothesis: Make a hypothesis that refers to different temperatures and the effect it may have on crystal size.

Materials:

- Thymol
- Petri Dishes
- Aluminum Foil
- Hot plate
- Ice bath
- Goggles

Procedure: *Develop a procedure to test your hypothesis!*

Data: Make an appropriate data section to record your qualitative observations.

Analysis Questions:

1. How does the temperature of the Earth change from the crust toward the inner core?
2. If lava cooled quickly on the surface of the Earth, what size crystals would you expect to see in the resulting rock? Why?
3. If magma cooled slowly beneath the crust of the Earth until it formed a rock, what size crystals would you expect the rock to have? Why?

Conclusion:

For the conclusion to this activity make sure to include the following:

- Restate the purpose of the lab
- What was your hypothesis and was it proved correct or incorrect?
- What were the results of the lab?
- What was the main point of the lab?
- Include any experimental error that may have occurred during the lab.