

Launch Lab: Crystalline
Columns Answer Key**Answers to Analysis Questions**

1. You should observe the formation of a solid on a glass plate. The mass of the solid grows larger with each drop of solution.
2. Sodium acetate trihydrate is ionic.
3. As the solution was dripped onto the crystal, more ions were added to the ions already bonded together, increasing the size of the compound mass. Water evaporated from the drops as they fell, causing the ions to come out of solution readily.
4. The crystal on the plate provides beginning ions for the ions in the solution to bond to. It is a “seed crystal.”
5. Stalagmites and stalactites are formed from drip-water in caves that contain high concentrations of mineral ions (mostly calcium carbonate). As the water evaporates, the ions precipitate out. Dripping causes successive layers to form as the ions of CaCO_3 bond with the crystals already formed, adding new layers.
6. Possible answers might include: the size of the atoms or ions will be different in different compounds; the bonds will vary according to the ions and electronegativities. You might also suggest that the composition of the atoms and differing bonds will result in different shapes for the smallest unit of the compound.