

CHAPTER 2	Investigation 2.A: Building Ionic Crystals Answer Key	BLM 2.1.4A
ANSWER KEY		

Answers to Analysis Questions

1. Answers may include converting a two-dimensional illustration to a three-dimensional model, and visualizing ions, bonds, or the correct angles to join the “ions” together.
2. You would not expect a wide variation in the models. If there are apparent differences, they should be caused by the difference in angles. The ion-to-ion ratios should be the same in every case.
3. By building three-dimensional models of crystals, you are able to see all of the faces and edges of the crystal by rotating the model in space. This appreciation is not obtained by looking only at two-dimensional pictures.

Answer to Conclusion Question

4. The following are some of the ways that models represent real crystals: they show individual ions in the same ratio; they illustrate the electrostatic attractions between ions; and they show the angles between the ions. The following are some of the ways that models are different from real crystals: atoms are mostly empty space; ions are not hard; bonds are not solid entities but represent an attraction between the nuclei of ions and electrons; and relative sizes are not always accurately represented.