GRADE 8 / SHARED EXIT QUESTION

Exit question

Student code: _____ Ask your teacher for your code.

The field station receives two new samples. Use their composition cards to finish the models.

Work on your own. Use Figures 4 and 5. You may leave a part blank if you are not sure.

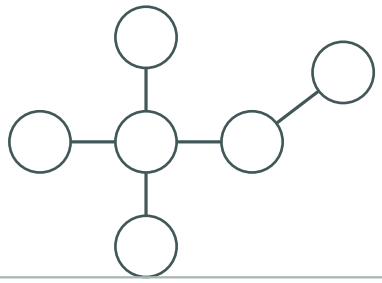
A. Build a methanol molecule

One methanol molecule has one carbon atom, one oxygen atom and four hydrogen atoms. Carbon joins three H atoms and the O atom. Oxygen joins carbon and the remaining H atom.

Use all six positions to model one methanol molecule. Use Figure 4.

H = hydrogen • C = carbon • O = oxygen

Figure 4. Methanol model



B. Extend a magnesium oxide crystal

This flat slice of a magnesium oxide crystal shows magnesium (Mg) and oxygen (O).

Use the part shown to fill both empty positions. Use Figure 5.

Element symbols - Mg = magnesium • O = oxygen

Figure 5. Magnesium oxide model

Mg	O	Mg	O
	Mg	O	Mg
Mg	O		O

C. Use the crystal model as evidence

A student calls each neighboring Mg and O pair in Figure 5 a separate molecule. Using only the given, filled positions, which two structural observations together best challenge that claim?

Select two correct answers.

- ☐ A. One Mg has several neighboring O positions.
- ☐ B. The pattern uses both Mg and O element symbols.
- ☐ C. The pattern ends as separate two-particle groups.
- ☐ D. A pattern extends through several rows and columns.
- ☐ E. Each Mg has exactly one neighboring O position.

Models use element symbols. Charges and exact molecular angles are omitted.