

Test for Introduction to Crystals Activity

Name _____ Teacher _____
 Class _____ Date _____

Check one:

Pretest

Posttest

1. What kinds of forces are at work at the atomic level in crystal building?

Response includes...	
Electrostatic forces, including van der Waals attractions and the positive and negative charges of fully charged ions.	2
Only mentions one type of force	1
other	0

2. How do crystals differ from one another and how are they similar?

Explanation Score

Explanation Score	Response includes...
Complete (3)	Similar: ionic and metallic crystals all have regular arrays of atoms AND Differ in the way electrons are shared. Ionic crystals are made when ionic atoms of opposite charge are attracted and metallic share electrons across all the atoms.
Mostly complete (2)	Lists similarities (shape and structure) and differences are how they share electrons but does not explain differences.
Partial (1)	Lists similarities OR differences but not both, or one of the reasons is wrong or inaccurate.
Incorrect (0)	Other

3a. Industrial processes always require crystal purity for their crystals.
 (Circle one.) T F

Selects False.	1
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Selects True	0
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3b. Why might this matter?

Response includes...	
Defects can influence the rate and direction of electron flow through a crystal. They can regulate certain processes so you might purposely put in defects to make crystals respond in a certain way.	2
Depends on what crystal is used for (but doesn't explain why it might depend.).	1
other	0