Chemistry > Big idea CPS: Particles and structure > Topic CPS8: Ionic bonding

Key concept (age 14-16)
CPS8.1: Ionic lattice

Progression toolkit: Ionic lattice

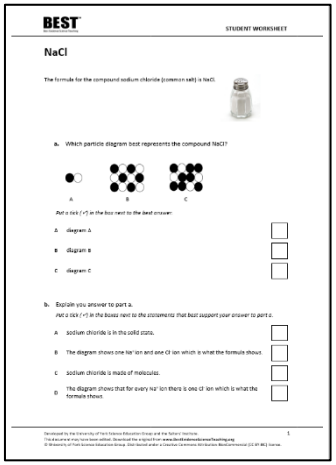
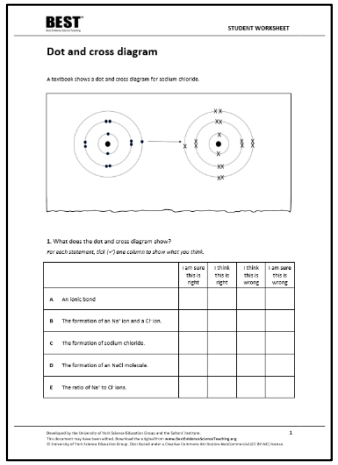
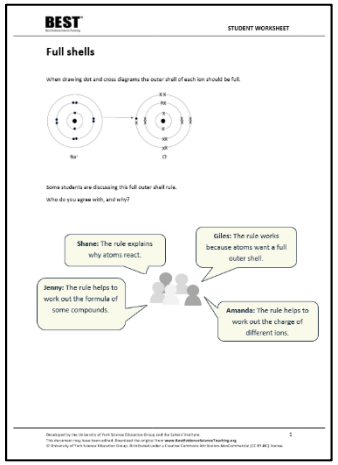
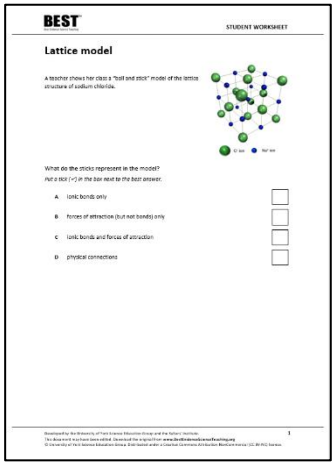
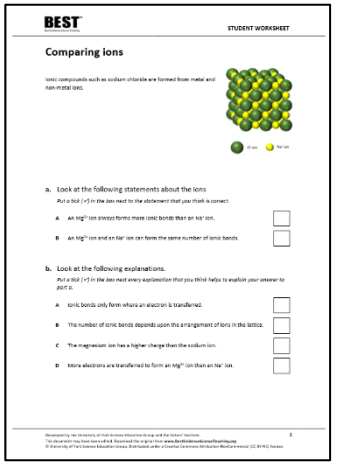
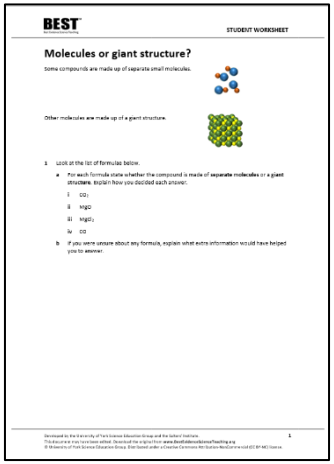
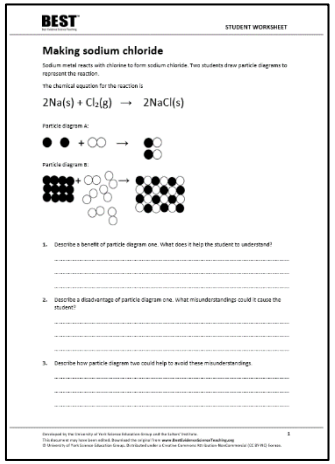
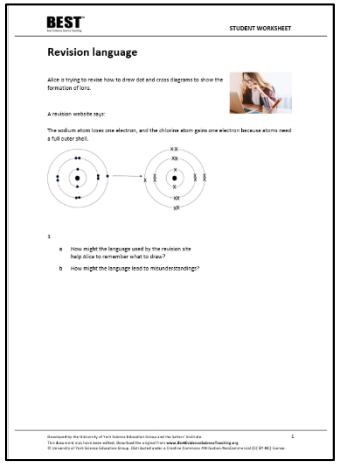
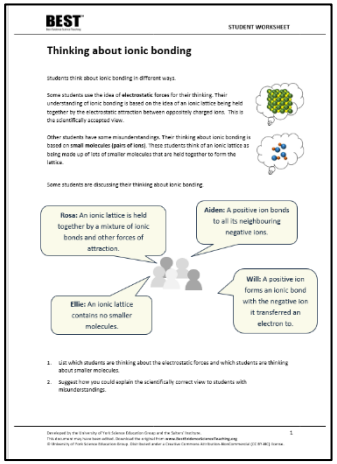
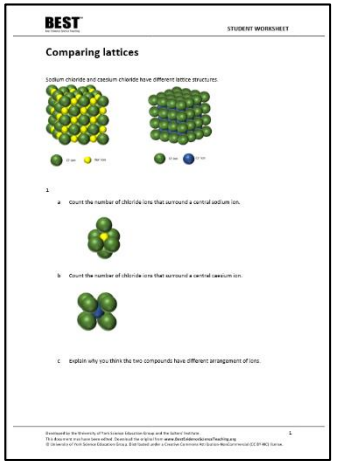
Learning focus	Ionic bonding occurs due to the electrostatic attraction between oppositely charged ions in an ionic lattice.				
As students' conceptual understanding progresses they can:	CONCEPTUAL PROGRESSION →				
	Interpret an ionic formula as representing the ratio of ions. **P**	Recognise the limitations of what is represented by a dot and cross diagram.	Recognise the uses and limitations of the idea of full outer shells.	Describe ionic bonding as the being the result of electrostatic interactions between oppositely charged ions in a tightly bound lattice.	Recognise that the number of ionic bonds formed by an ion is determined by the arrangement of ions in the lattice. **B**
Diagnostic questions	NaCl	Dot and cross diagram	Full shells	Lattice model	Comparing ions
Response activities	Molecule or giant structure?	Making sodium chloride	Revision language	Thinking about ionic bonding	Comparing lattices

Key:

P Prior understanding from earlier stages of learning

B Bridge to later stages of learning

Developed by the University of York Science Education Group and the Salters' Institute.
This document may have been edited. Download the original from **www.BestEvidenceScienceTeaching.org**
© University of York Science Education Group. Distributed under a Creative Commons Attribution-NonCommercial (CC BY-NC) license.

NaCl	Dot and cross diagram	Full shells	Lattice model	Comparing ions
				
Two-tier multiple choice	Confidence grid	Talking heads	Simple multiple choice	Two-tier multiple choice
Molecules or giant structure?	**Making sodium chloride**	**Revision language**	**Thinking about ionic bonding**	**Comparing lattices**
				
Application and practice	Critiquing a representation	Critiquing language	Talking heads	Challenge to thinking

© University of York Science Education Group. Distributed under a Creative Commons Attribution-NonCommercial (CC BY-NC) license.