

Topic	Properties of ionic substances	Level	GCSE (or any other course for students aged 14-16)
Outcomes	1. To explain the physical properties of ionic compounds: high melting point and conducting electricity when molten 2. To understand the terms used to explain the physical properties of ionic compounds		

Explaining properties of ionic compounds

Ionic compounds contain oppositely charged ions arranged in a giant lattice. Ionic substances have high melting and boiling points because there are many strong forces of attraction between oppositely charged ions. We call these strong forces ionic bonds. When we melt an ionic substance the thermal energy is used to break these strong ionic bonds. A molten ionic substance is able to conduct electricity because the ions are free to move.

1. Take turns with your partner to read the passage above.
2. Read the underlined words and think about their possible meanings.
3. Using the table below, circle the correct letter a,b,c,d next to the word to show the correct **meaning**.

compounds	oppositely	ions	lattice
a. chemicals	a. differently	a. atoms	a. salad
b. substances	b. similarly	b. protons	b. repeating pattern
c. elements	c. hugely	c. electrons	c. shape
d. none of the above	d. uniquely	d. atoms that have gained or lost electrons	d. structure

attraction	melt	molten	free
a. charm	a. heat	a. solid	a. no cost
b. pull	b. turn to liquid	b. hot	b. loose
c. lure	c. evaporate	c. liquefied	c. available
d. seduction	d. freeze	d. small	d. not in prison

Progress: further resources on bonding are available here:
<http://www.thescienceteacher.co.uk/bonding/>