

Part 2: Read this and do this: Now that you've gathered information about the properties of ionic compounds from section 5.3, work to fill in the table and respond to the questions that follow. Mrs. Young will do a sample with you. Once you finish this page you'll be ready for your quiz!!

**Part 1: Conductivity**

Draw the Lewis dot diagram for the following ionic compounds. Remember that the total (+) charges and (-) charges should be equal! Then write the chemical formula and determine the number of ions present in the compound.

Chemical name (show Lewis "movement" of electrons here)	Lewis Dot diagram (final)	Chemical formula	Number of ions present
Potassium chloride	$[K]^+ [Cl]^-$	KCl	2
Sodium sulfide	$2[Na]^+ [S]^{2-}$	Na <sub>2</sub> S	3
Aluminum bromide	$[Al]^{+3} 3 [Br]^{-1}$	AlBr <sub>3</sub>	4
Magnesium phosphide	$3[Mg]^{+2} 2 [P]^{-3}$	Mg <sub>3</sub> P <sub>2</sub>	5

1. Make a hypothesis about the number of ions present and the strength of conductivity in ionic compounds.  
 a. If the number of ions ↑, then the conductivity increases because There are more ions present?

2. Are ionic compounds able to conduct electricity in the solid phase? NO  
 Why or why not? NO mobile ions

**2: Structure determines properties take your notes here from board →**



↳ Ionic bonds are strong it takes a lot of energy to break them  
 ↳ therefore ionic compounds have very high melting & boiling points

The ionic compound NaCl forms when electrons from sodium atoms are transferred to chlorine atoms, creating Na<sup>+</sup> and Cl<sup>-</sup> ions that form a three-dimensional solid that is held together by attractive electrostatic interactions.

covalent compounds... draw H<sub>2</sub>O based on this structure what can you predict about the ability of this compound to conduct electricity?  
 $H-O-H$  can't conduct bcs no ions