Name	Date	Per
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WORKSHEET: Chemical Bonding – Ionic & Covalent!

REMEMBER...

Ionic Bondbetween a Metal and Non-Metal(M + NM)Covalent Bondbetween a Non-Metal and Non-Metal(NM + NM)

PART 1: Determine if the elements in the following compounds are metals or non-metals. Describe the type of bonding that occurs in the compound.

Compound	Element 1 (metal or non-metal?)	Element 2 (metal or non-metal?)	Bond Type
NO ₂	N = non-metal	O = non-metal	covalent
NaCl			
SO ₂			
PI ₃			
MgBr ₂			
CaO			
H ₂ O			
K ₂ O			
AIF ₃			
O ₂			
CuCl ₂			
NO ₂			
CO ₂			
HF			
Rb ₂ S			
NBr ₃			
Fe ₂ O ₃			
CCI ₄			

1) barium oxide (Ba and O) 4) sodium oxide (Na and O) Formula: Formula:_____ 2) calcium chloride (Ca and CI) 5) sodium nitride (Na and N) Formula: Formula: 3) aluminum oxide (Al and O) 6) magnesium phosphide (Mg and P) PART 3: Use Lewis dot structures to show the covalent bonding in the following pairs of elements. Once you have determined the structure for the molecule, write its structural formula in the space provided; use a dash to represent a shared pair of electrons, and dots to show unshared electrons. 1) nitrogen triiodide (NI₃) Final Answer: Show work here...HINT: nitrogen is in the middle! 2) carbon tetrabromide (CBr₄) Show work here...HINT: carbon is in the middle! 3) dihydrogen monoxide (H₂O) Show work here..HINT: oxygen is in the middle!

PART 2: Use Lewis dot structures to show the ionic bonding in the following pairs of elements. Show the transfer of electrons using arrows. Write the correct chemical formula for the ionic compound that forms.