

Name: _____ Ros# _____ Period _____ Date: _____

BEGINNING POLYATOMIC IONS

Complete the following by filling in the missing information in each row:

Acid Name	Acid Formula	Polyatomic Ion	Ion Formula	Charge on Ion
	HNO ₃			
		sulfate		
			C ₂ H ₃ O ₂ ⁻	
phosphoric acid				
	H ₂ CO ₃			
		borate		

Recall the number of hydrogens that were on the 7 original oxyacids. Write the formula of their polyatomic ion and show that this is now the ion's charge:

oxyacid	#of acidic hydrogens	-ate ion formula	charge	-ate ion name
boric acid	3	BO ₃ ³⁻	3-	borate
sulfuric acid				
carbonic acid				
phosphoric acid				
chloric acid				
nitric acid				
acetic acid				

Practice:

- The oxyacid that contains the element sulfur is called _____. From this acid comes the polyatomic ion named _____ with a charge of _____.
- The oxyacid that contains the element boron is called _____. From this acid comes the polyatomic ion named _____ with a charge of _____.
- The oxyacid that contains the element chlorine is called _____. From this acid comes the polyatomic ion named _____ with a charge of _____.
- The oxyacid that contains the element phosphorus is called _____. From this acid comes the polyatomic ion named _____ with a charge of _____.
- The oxyacid that contains the element nitrogen is called _____. From this acid comes the polyatomic ion named _____ with a charge of _____.
- The oxyacid that gives the acetate ion is called _____. This ion has a charge of _____.
- The oxyacid that contains the element carbon is called _____. From this acid comes the polyatomic ion named _____ with a charge of _____.

Now that you know the polyatomic ions that come from the 7 oxyacids, begin to write them in a chemical formula. Note that these ions are all negatively charged. They are all *anions/cations* (Circle one). Utilizing a periodic table and your knowledge of the *fixed charge ions* answer the following questions:

- How many sodium ions would be needed to balance the charge of a borate ion? ____
Help: Recall that the sodium ion is a +1 ion, the borate ion is a -3 ion. Now can you answer?
- How many calcium ions would be needed to balance the charge of a carbonate ion? ____
- If a compound was going to form between the magnesium ion and phosphate, how many of each would be needed to form a neutral compound? ____ magnesium ion ____ phosphate ion