Focus Question: How can we use ions to form neutral compounds?

Find two ions that would have a neutral charge if you put them together. Use the sentence stems below:

- 1. It takes \_#\_ ions from the **second** column and \_#\_ ions from the **seventh** (or seventeenth) column to make a neutral compound.
- 2. It takes \_#\_ ions from the **third** column and \_#\_ ions from the **sixth** (or sixteenth) column to make a neutral compound.

Write the symbol for the element's ion with the correct charge as a superscript.

- 1. fluorine
- 2. sulfur
- 3. potassium
- 4. magnesium
- 5. nitrogen
- 6. chlorine
- 7. oxygen
- 8. rubidium
- 9. calcium
- 10. phosphorus

It takes	_#_	ions of	(element)	and	_#_	ions of	(element)	to make a neutral	I compound.
-	_		-\ /_				-\ /_	-	

First element	Second element			
Li	CI			
Mg	0			
AI	N			
к	S			
Са	F			
AI	0			

## Do the following:

- 1. Explain how you would rank these elements from least to greatest atomic radius: Na, Si, Cl
- 2. Explain how you would rank these elements from least to greatest distance from nucleus to valence electrons: Na, Si, Cl
- 3. Which of the elements (Na, Si, Cl) will have the lowest force between its nucleus and valence electrons?
- 4. Use your answers from above to explain which of the elements (Na, Si, Cl) is most likely to lose an electron.
- 5. Use your answers from above to explain which of the elements (Na, Si, Cl) is most likely to gain an electron.
- 6. Use the Coulombic forces expression to explain why the ion that gains an electron and the ion that loses an electron will form a compound together.