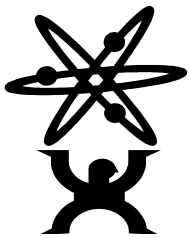
Name: _____

Valence Electrons Practice

The ***valence electrons*** are the electrons in the outermost energy level. They are always the outermost electrons.
Atoms that LOSE electrons are called **cations** and have an overall **positive** charge.
Atoms that GAIN electrons are called **anions** and have an overall **negative** charge.



Determine the element's number of valence electrons (# of electrons in the "outermost" shell).

Example: Carbon has 4 valence electrons, carbon__4__

1. fluorine _____
2. lithium _____
3. phosphorus ___
4. francium _____
5. calcium _____
6. carbon _____
7. nitrogen _____
8. iodine _____
9. silicon _____
10. oxygen _____
11. argon _____
12. barium _____
13. potassium _____
14. aluminum _____
15. helium _____
16. hydrogen _____
17. magnesium ____
18. xenon _____
19. sulfur _____
20. boron _____
21. bromine _____

22. What are valence electrons of an atom used for?

23. Which groups on the periodic table want to lose electrons? What kind(s) of elements are these groups?

24. Which groups on the periodic table want to gain electrons? What kind(s) of elements are these groups?

25. Why do the elements from question 23 want to lose electrons? Why do the elements from question 24 want to gain electrons? (HINT: The answer is the same for both questions.).

26. How many valence electrons do the Alkaline Earth metals have? Are these elements very reactive? Explain your answer.

27. What is the name of the atoms that lose electrons? What is their overall charge?

28. What is the name of the atoms that gain electrons? What is their overall charge?