# Data Tables

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#### Data Table 1. Elements

Element	Family or Group #	Number of Valence Electrons	Lewis Electron Dot Structure
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14.			
15.			
16.			
17.			
18.			

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Name\_\_\_

Formula	Valence Electrons for Each Atom	Total Number of Valence Electrons	Lewis Electron Dot Structure
1. H <sub>2</sub>			
2. HCl			
3. H <sub>2</sub> O			
4. NH <sub>3</sub>			
5. CH <sub>4</sub>			
6. CH <sub>2</sub> Cl <sub>2</sub>			
7. Cl <sub>2</sub>			
8. HOCl			
9. O <sub>2</sub>			
10.OH-			
11.H <sub>3</sub> O <sup>+</sup>			

## Data Table 2. Covalent Compounds

Formula	Valence Electrons for Each Atom	Total Number of Valence Electrons	Lewis Electron Dot Structure
12. NH <sub>4</sub> +			
13. SO <sub>4</sub> <sup>2-</sup>			
14. N <sub>2</sub>			
15. CHCl <sub>3</sub>			
16. C <sub>2</sub> H <sub>6</sub>			
17. CO <sub>2</sub>			
18. CH <sub>3</sub> OH			
19. H <sub>2</sub> O <sub>2</sub>			
20. C <sub>2</sub> H <sub>4</sub>			
21. C <sub>2</sub> H <sub>2</sub>			
22. SO <sub>2</sub>			

## Data Table 2. Covalent Compounds, continued

#### Questions

1. Use the completed Data Table 1 to write a general rule relating the placement of an element on the periodic table and the number of valence electrons.

2. Are there exceptions to the general rule proposed in #1? Why does this exception occur?

3. Why can any atom have no more than eight valence electrons?

- 4. Write the Lewis electron dot structures for the following elements:
  - A.Barium, Bad. Gallium, Gab.Tin, Sne. Potassium, K
  - c. Radon, Rn f. Iodine, I

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