**Bohr and Lewis Compounds: Extra Practice (Science 10)**

1. Draw the Bohr and Lewis diagrams for each of the following compounds.
2. Cl2 (covalent)
3. HF (covalent)
4. CaF2 (ionic)
5. NF3 (covalent)
6. Draw these ionic compounds:
7. MgO
8. Li3N
9. Ionic compound between sodium and sulfur
10. Ionic compound between beryllium and nitrogen
11. Complete the following table. Molecules are all covalently bonded.

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| --- | --- | --- | --- | --- | --- |
|  | Chemical Formula | Total Valence Electrons | Lewis Diagram | # Lone Pairs | # Bonding Pairs |
| a) | CH4 |  |  |  |  |
| b) | O2 |  |  |  |  |
| c) | NH3 |  |  |  |  |
| d) | SiH­4 |  |  |  |  |
| e)\* | CN– |  |  |  |  |
| f)\* | C2H4 |  |  |  |  |
| g)\* | CO32- |  |  |  |  |

\*Challenge: optional

1. Explain why the diatomic elements (H, I, Br, O, N, Cl, F) exist in nature as covalently bonded molecules H2, I2, Br2, O2, N2, Cl2, F­2.