Oxygen:

symbol _____  atomic number _____
______ protons  ______ electrons
electron distribution ___________________________

Oxygen has ______ valence electrons.

Electron Dot Diagram - atom's _____________ surrounded by _______
to represent its _______________ electrons

example electron dot diagrams:  O       Li

Problem Set 1:

Lewis Structure: diagram representing the arrangement of ____________
electrons in a ________________.

Most atoms need _____ valence electrons to become stable. The exceptions are H
and He which need only ______ valence electrons to be stable.
Lewis structure for $H_2$:  

\[ \text{H} \equiv \text{H} \]

- shared pair
- 2 electrons belonging to both ________
- represented by a ______ between symbols

Lewis structure for $Cl_2$:

Each Cl atom has ____ valence electrons, giving a total of ______ valence electrons to work with.

\[ \begin{array}{c}
\text{Cl} \\
\text{Cl}
\end{array} \]

- _______ pair
- unshared pair
- electrons belonging to only one ______
- represented by 2 dots

Lewis structure for $HCl$:

\[ \text{H} \quad \text{Cl} \]

When more than two atoms bond, you must determine which is central.
The central atom is:
- frequently ________
- never ________
- often atom with ______________ electronegativity

Lewis structure for $CH_3I$:

(There are a total of ______ valence electrons to work with.)

Problem Set 2:
Lewis structure of ethene, $C_2H_4$ (has total of _____ valence electrons)

```
H   H
C   C
H   H
```

<table>
<thead>
<tr>
<th>type of bond</th>
<th>pairs of electrons shared</th>
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Problem Set 3:

Polyatomic Ion: _____________ bonded group of ions with a ________

ex: $NO_3^-$ (has gained _____ electron to give a total of _____ valence electrons to work with)

```
[     O     1-
    O     O     N   O
```

Work Problem Set 4 on back:

The Chemistry Quiz

CR1.   CR2.   1.   2.   3.   4.   5.