

## Steps to Drawing a Bohr Diagram

- 1) Find the element you're drawing a Bohr Diagram for on the Periodic Table
- 2) Determine the element's atomic number (from the element's box on the periodic table).
- 3) The atomic number is the same as the number of electrons that element has. That's how many electrons you need to draw.
- 4) Determine how many shells (or energy levels) the element's atom will have: Elements in the first period will have one shell, in the second period, two shells, and so forth.
- 5) Draw a nucleus with your element symbol in the middle.
- 6) Draw the appropriate number of shells around the nucleus, as circles
- 7) Place the electrons on the shells, noting how many electrons each shell can hold. See table below. The formula is  $2n^2$  ( $2n$  squared, where  $n$  is the shell number)

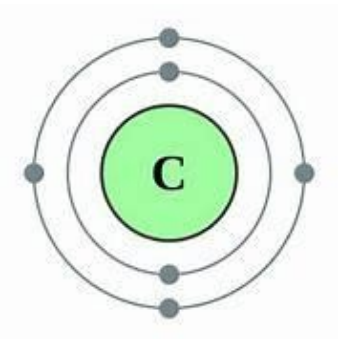
Shell Number	Maximum Number of Electrons
1	2
2	8
3	18
4	32

### Example 1: Carbon

Atomic number 6 (so carbon has 6 electrons)

Carbon has 2 shells because it is in period 2

- First shell will have 2 electrons
- Second shell will have the remaining (Carbon has 4 valence electrons)



## Example 2: Aluminum

Atomic number 13 (so Aluminum has 13 electrons)

Aluminum has 3 shells because it's in period 3

- First shells will have 2 electrons
- Second shell will have 8 electrons
- Third shell will have the remaining 3 electrons (The 3 electrons in the outer shell are the valence)

