SCIENCE

NAME: PERIOD: DATE:

How to Make a Dot Diagram (Quick Version)

What is a Dot Diagram?

A dot diagram shows how many electrons are in the outer energy level of an atom.

People use dot diagrams to figure out how atoms will react with other atoms.

In a dot diagram, the "dots" represent electrons in the atom's outer energy level.

How to Make a Dot Diagram

1. Find the column number of the element. (Use your periodic table.)

2. To see how many electrons (dots) you need, follow the steps below:

- If your element is Helium then you will use 2 dots (Helium has 2 electrons in its outer level)

- If the column number is 1 or 2 then you will use that many dots. (Ex. column 1 = 1 dot)

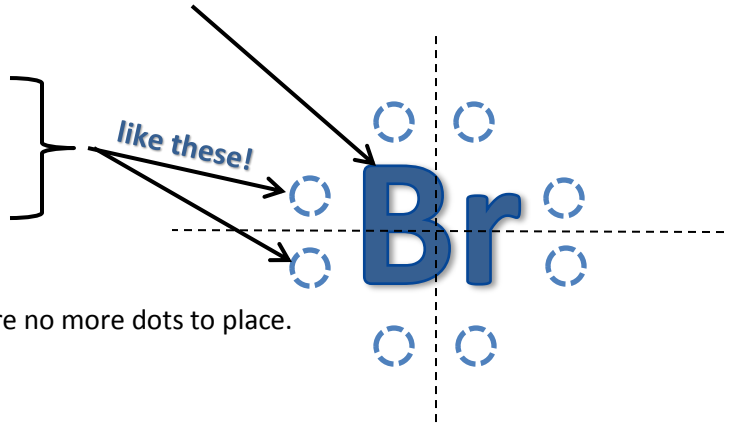
- if the column # is 13, 14, 15, 16, 17, or 18 then subtract 10 from the column number and use that many dots. (Ex. Carbon is in column 14 so it uses (14 – 10 = 4) 4 dots.)

3. Place the dots around the chemical symbol of the element in any of the 8 positions.

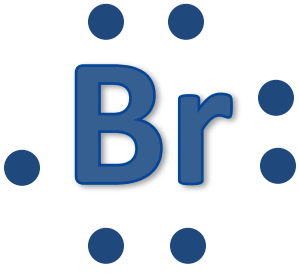
The chemical symbol goes in the middle. (Let's use Bromine. The symbol is Br.)

There are eight positions to place the dots:

- 0, 1, or 2 on top
- 0, 1, or 2 on the bottom
- 0, 1, or 2 on the right
- 0, 1, or 2 on the left



Then place dots in any of the eight positions until there are no more dots to place.



Bromine gets 7 dots because it is in column 17. (17 – 10 = 7)

Calcium (to the right) would get 2 dots because it is in column 2.