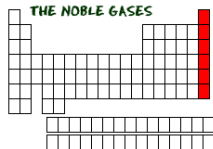


# Noble Gas Configuration

Mr. Sudbury

## Noble Gases

- ▶ The gaseous elements on the periodic table that have full valence (outer) electron shells.
  - The outer octet (8) is full.
  - This is the *s* and *p* orbitals.
- ▶ Noble gases **do not** react with other elements to form compounds.
- ▶ Noble Gases are stable.
- ▶ He, Ne, Ar, Kr, Xe, Rn

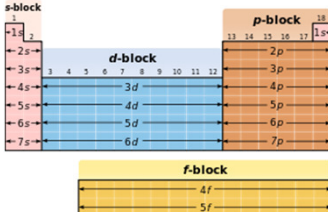
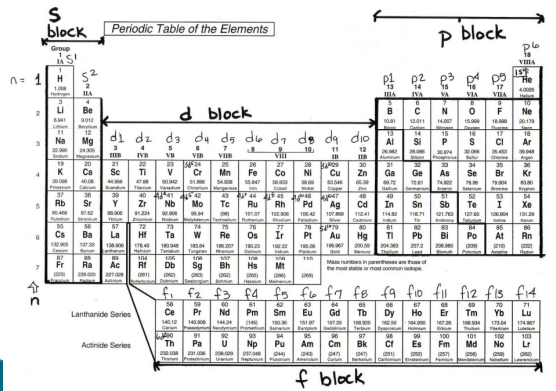


## Writing Noble Gas Configuration

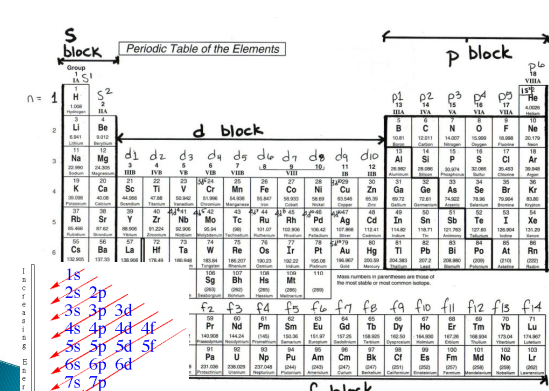
- ▶ Neon (10 electrons) =  $1s^2 2s^2 2p^6 = 10$  electrons
- ▶ Silicon (14 electrons) =  $[Ne] 3s^2 3p^2 = 14$  electrons
- ▶ Writing the noble gas configuration is a shortcut that lets you put the previous noble gas's element symbol in brackets and continue where it left off.
- ▶ Xenon (54 electrons) =
- ▶  $1s^2 2s^2 2p^6 3s^2 3p^6 4s^2 3d^{10} 4p^6 5s^2 4d^{10} 5p^6$
- ▶ Cesium (55 electrons) =  $[Xe] 6s^1$

## The Periodic Table

- ▶ The electron configuration of an element related to its location on the periodic table.

Periodic Table of the Elements



Periodic Table of the Elements

## The End

- Noble Gas Configuration

