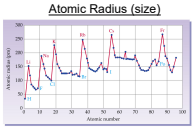
Trends in the Periodic Table

Atomic Radius (size)



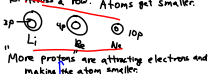
A. Down a column of the per. table.

B. Across a row of the table

A - down column - Atomic size increases
Reason?

More E levels

B. Across a row. Atoms get smaller.



More protons are attracting electrons and making the atom smaller.
Nuclear charge

Examples -

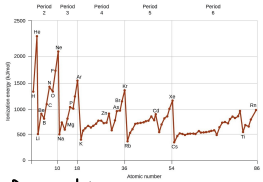
1. which atom is larger, F or Cl? why?
   Cl is larger because it has more E levels.
2. Which is smaller, Na or Al?
   Al is smaller. 11P 13P
   It has a stronger nuclear charge which pulls e⁻ in tighter.

Questions - P 175 #52, 62

Trends in the Periodic Table

Ionization Energy

Definition - E needed to remove an electron.



A. Down a column, ionization E decreases.
Electrons removed come from higher E levels.

B. Across row, ionization E increases because nuclear charge (protons) increase & hold e⁻'s tighter.

Examples -
① Which has greater ionization E, F or Cl?
(F) has fewer E levels, it's e⁻ is closer to nucleus & harder to remove.
② Which has greater I.E. Si or Ar?
Ar has a greater nuclear charge.
It is harder to remove an electron.

Complete all questions (on answer sheets)