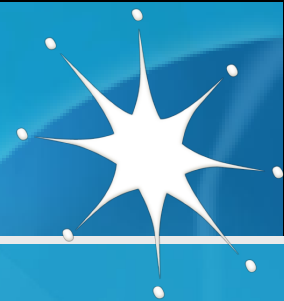


Modern Atomic Theory

Periodic Trends Atomic Size

Atomic Properties and the Periodic Table

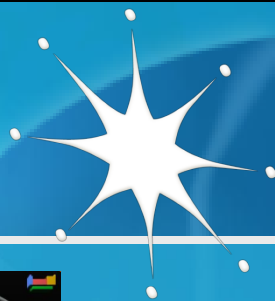


Atomic Size

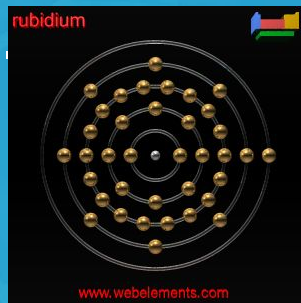
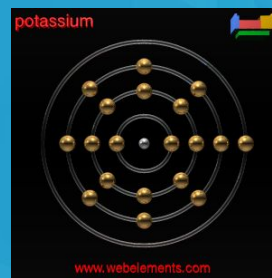
- The sizes of atoms vary.
- Atoms get larger as we go down a group and get smaller as we go from left to right.

| atomic size decreases | | | | | | | |
|-----------------------|----|----|----|----|----|----|----|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| H | | | | | | | He |
| Li | Be | B | C | N | O | F | Ne |
| Na | Mg | Al | Si | P | S | Cl | Ar |
| K | Ca | Ga | Ge | As | Se | Br | Kr |
| Rb | Sr | In | Sn | Sb | Te | I | Xe |
| Cs | Ba | Tl | Pb | Bi | Po | At | Rn |

Atomic Properties and the Periodic Table



- As you go down a group, the average distance of the electrons from the nucleus increases.
 - Atoms get bigger as electrons, and thus energy levels, are added.



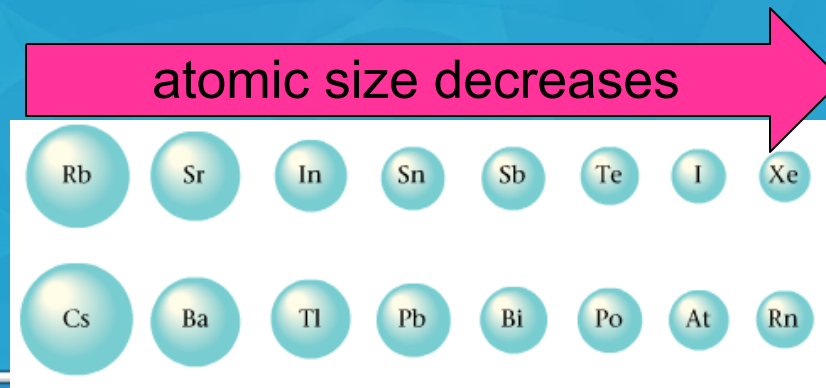
atomic size increases

| 1 | 2 |
|----|----|
| H | |
| Li | Be |
| Na | Mg |
| K | Ca |
| Rb | Sr |
| Cs | Ba |

Atomic Properties and the Periodic Table



- As you go across a row (period) of the periodic table, the atoms are gaining electrons.
 - Since the number of protons also increases, the increase in positive charge pulls the electrons closer to the nucleus.
 - The electron “cloud” is drawn in.



- The End