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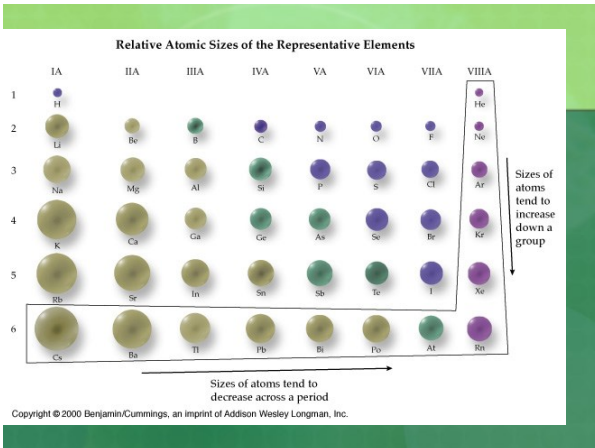
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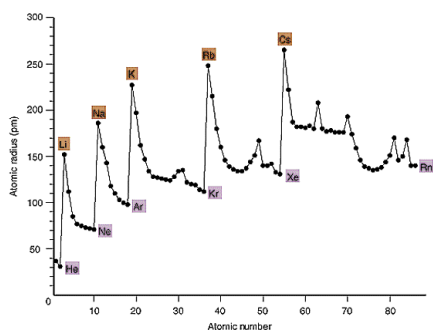
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## Graph of Atomic # vs Radius



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## Electron Affinity



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## Did anybody get that?

- Affinity: definition
- Valence shell: definition
- Examples:
  - Li                      F
  - Na                      Cl
  - K                        Br

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## Octet = 8

- Noble Gas Configuration

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## Electronegativity



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## Ionization energy

- Energy required to remove an electron from an atom in the gas phase.
- How much energy does it take to take an electron away?
- Li would it rather give an electron away and have the Noble Gas configuration of He OR would it rather gain electrons and take on the Noble Gas configuration of Ne?

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## Trends in ionization energies

- Ionization energies decrease down a group
  - Outermost electron occupies shell that is farther from the nucleus
  - Less tightly bound by the nucleus
- Ionization energies increase across a period
  - Electrons more tightly bound due to increasing effective nuclear charge

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## More trends

- Metals found toward the lower left of the periodic table
  - these elements have low ionization energies and can readily lose their electrons
- Non-metals found toward the upper right of the periodic table
  - these elements have high ionization energies and can readily gain electrons

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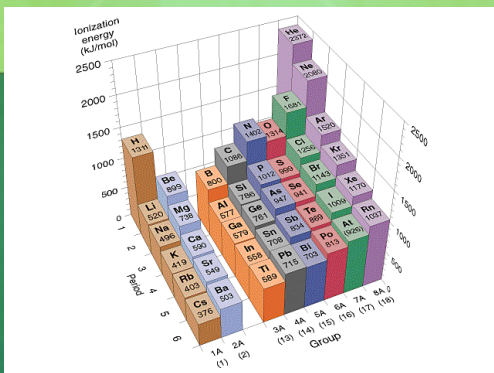
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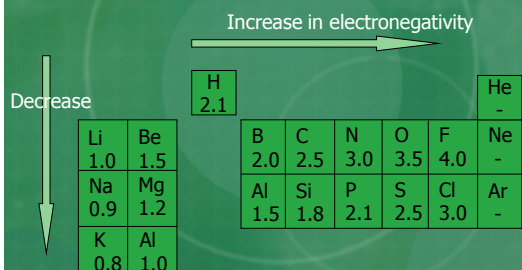
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# Electronegativity




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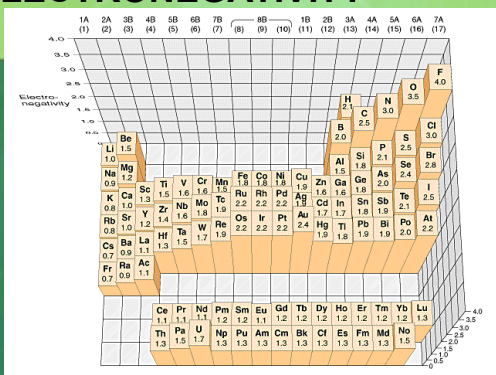
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# ELECTRONEGATIVITY




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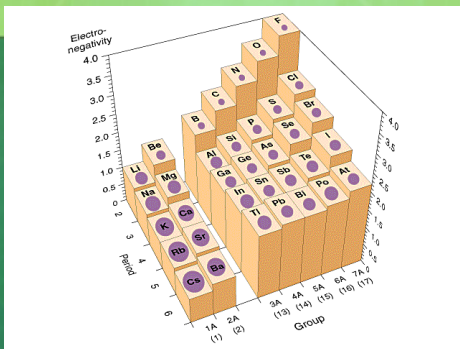
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# One more perspective with radii




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