

Periodic Properties of Halogen

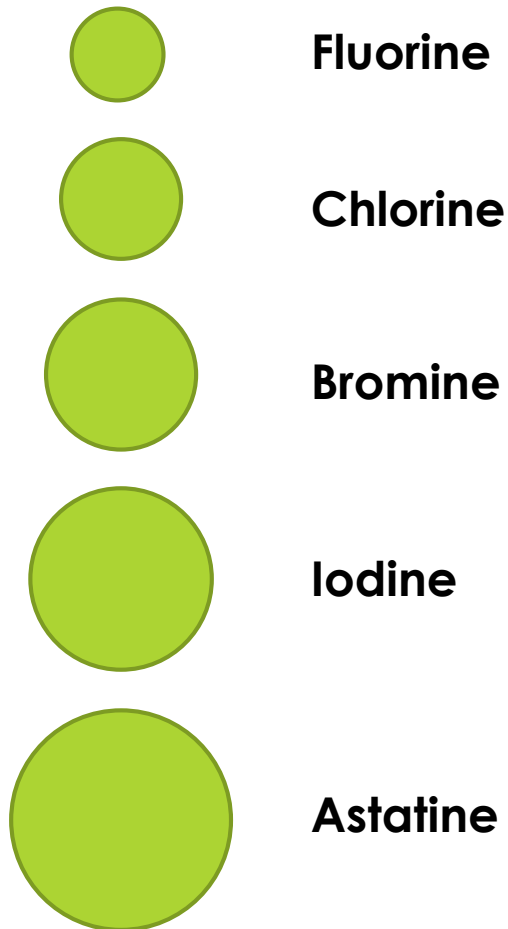
MIGMA TSHERING

Learning Objective:

- ▶ **Atomic Size**
- ▶ **Electronegativity**
- ▶ **Ionization Energy or Ionization Enthalpy**
- ▶ **Electron Affinity**

Atomic Size

Atomic Size



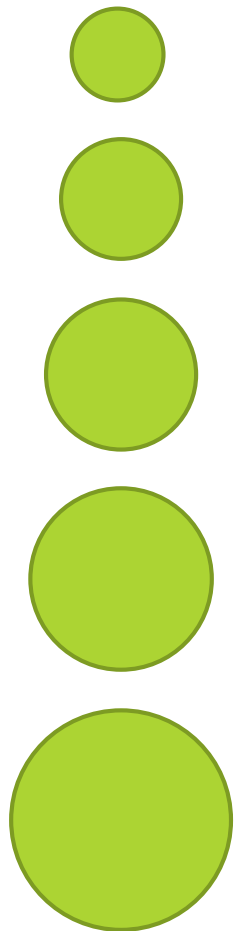
I
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c
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e
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s

Q1. The increasing order of atomic size

$F > Cl > Br > I > At$

True/False

Atomic Size & Attraction



Fluorine

Chlorine

Bromine

Iodine

Astatine

**I
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**D
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Electronegativity

▶ Tendency

▶ To attract

▶ Shared pair of electrons



Attraction



High Attraction



**High
Electronegativity**

**Low
Electronegativity**

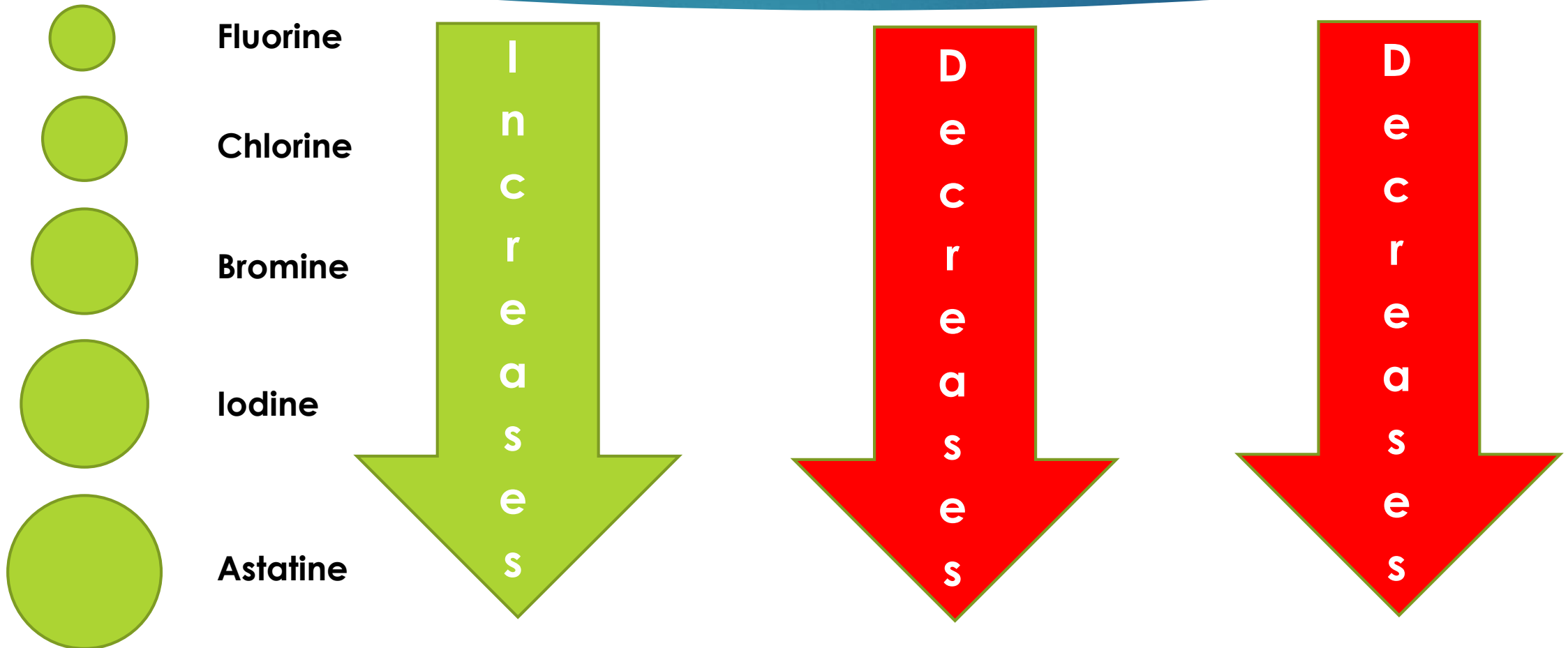


Low Attraction

Atomic Size

Attraction

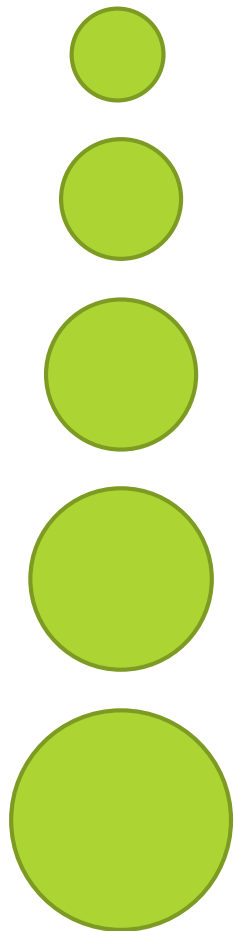
Electronegativity



Atomic Size

Attraction

Electronegativity



Fluorine

Chlorine

Bromine

Iodine

Astatine

Q2.
Iodine is less electronegative than Fluorine.

True/False

S

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Ionization Energy/Enthalpy

- ▶ Energy required
- ▶ To remove
- ▶ Electron

← **Energy**

High Energy = **High Ionization Energy**

Low Ionization Energy = **Low Energy**

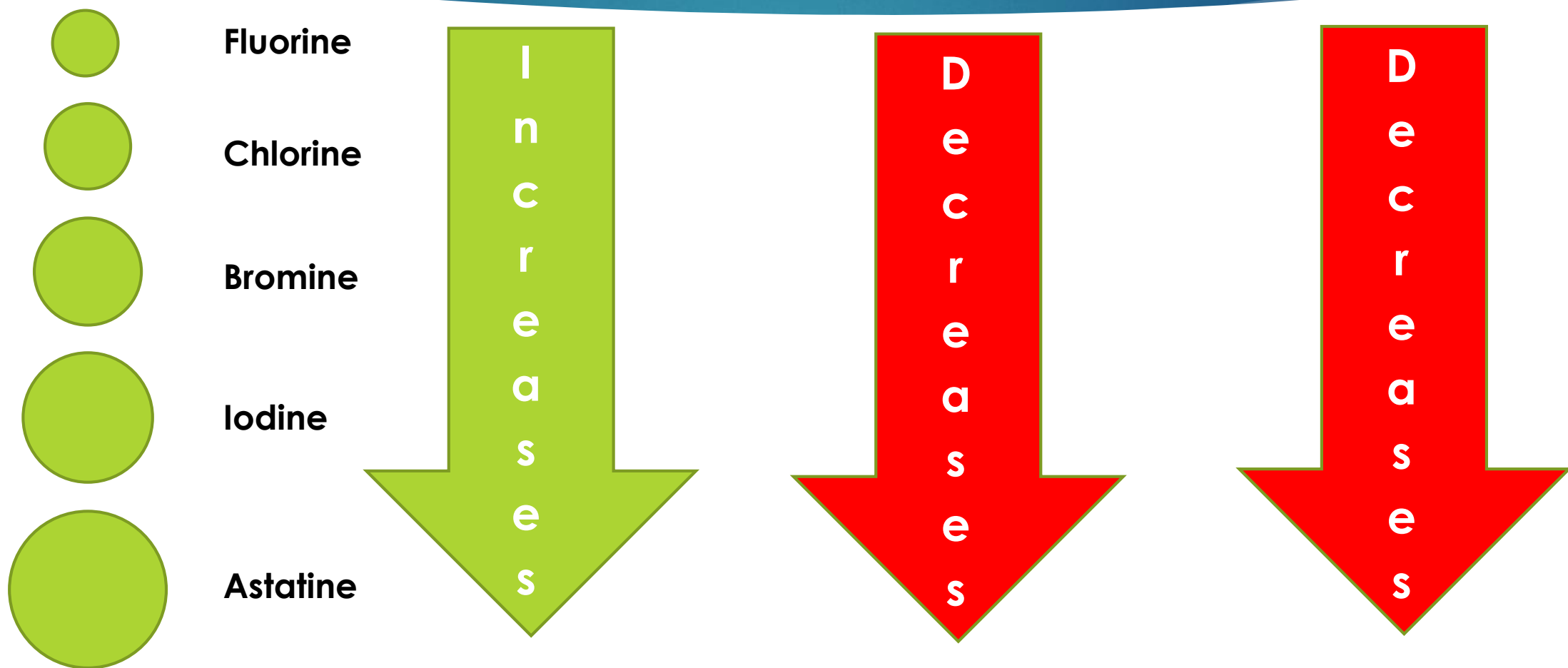
Attraction is **LOW**

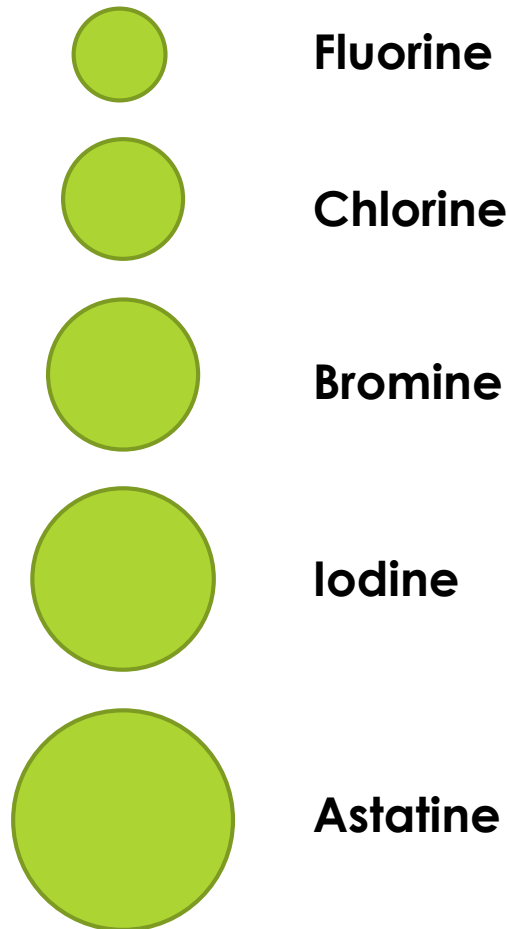
Attraction is **HIGH**

Atomic Size

Attraction

Ionization Energy



Atomic Size**Attraction****Ionization Energy**

Q3. The decreasing order of ionization energy is



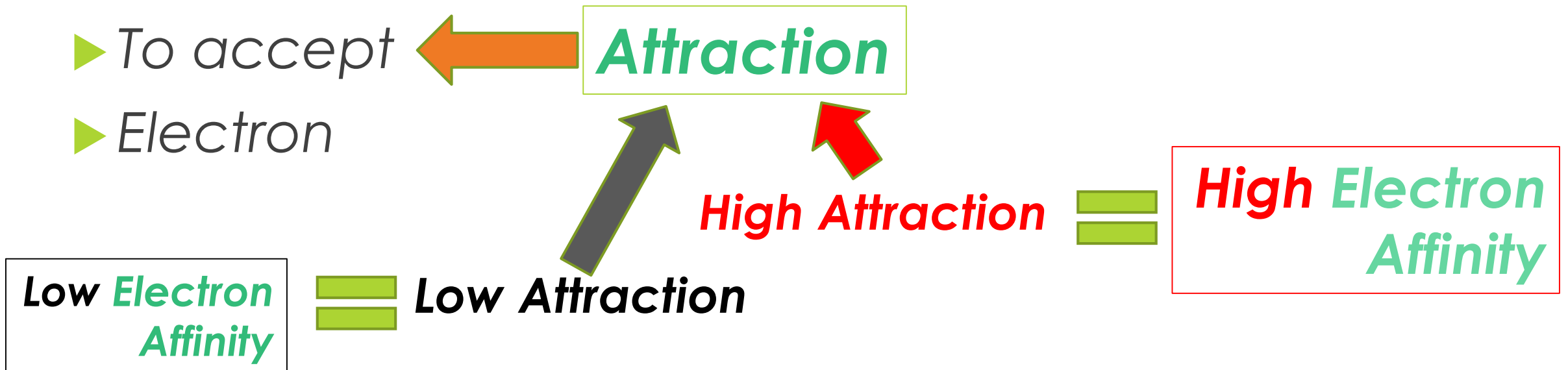
True/False



**D
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s**

Electron Affinity

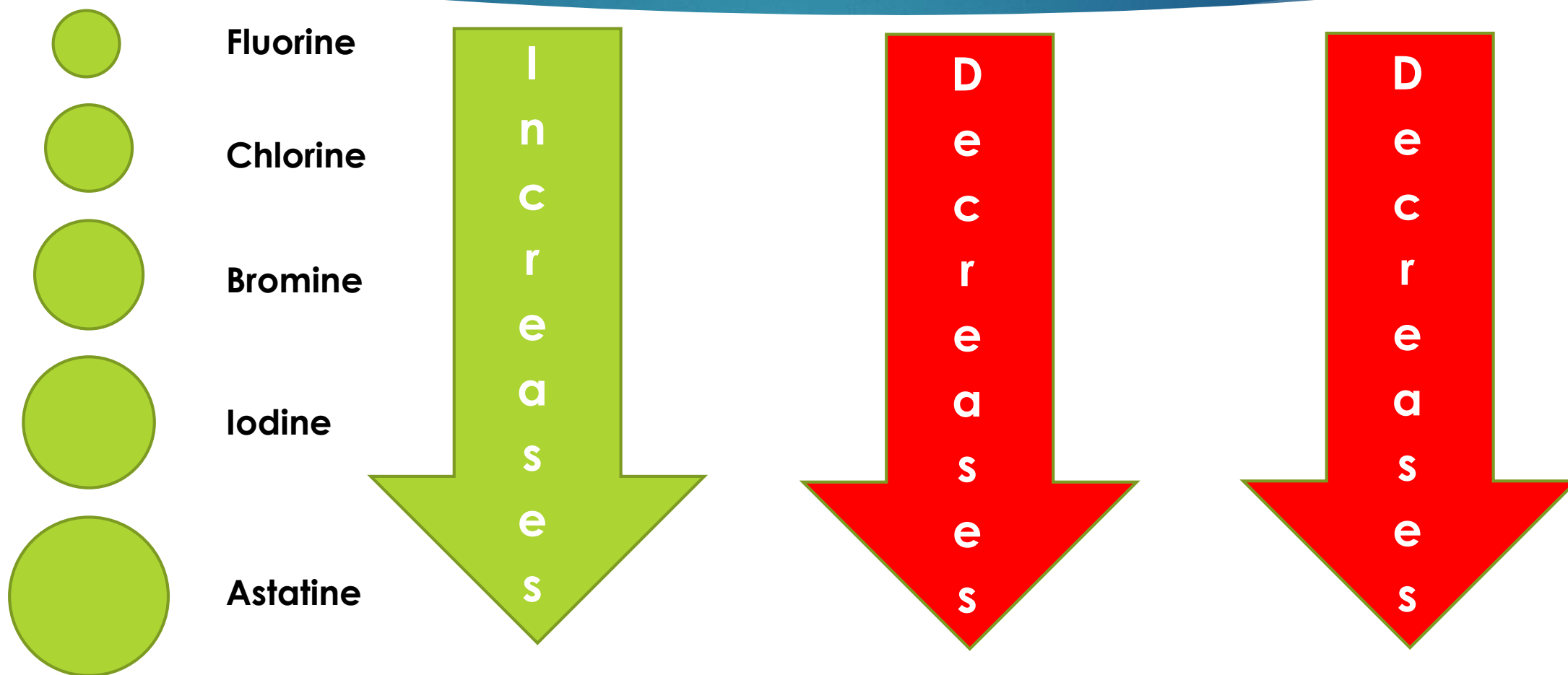
- ▶ Ability of an atom
- ▶ To accept
- ▶ Electron



Atomic Size

Attraction

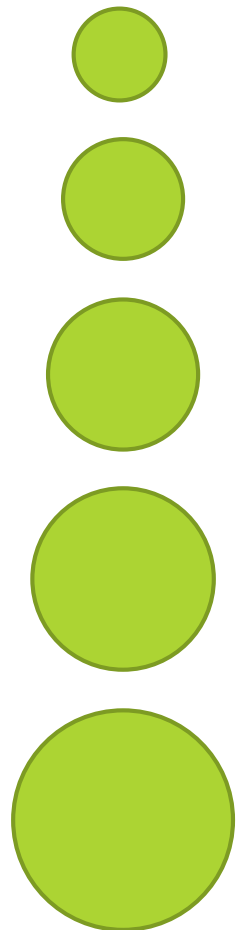
Electron Affinity



Atomic Size

Attraction

Electron Affinity



Fluorine

Chlorine

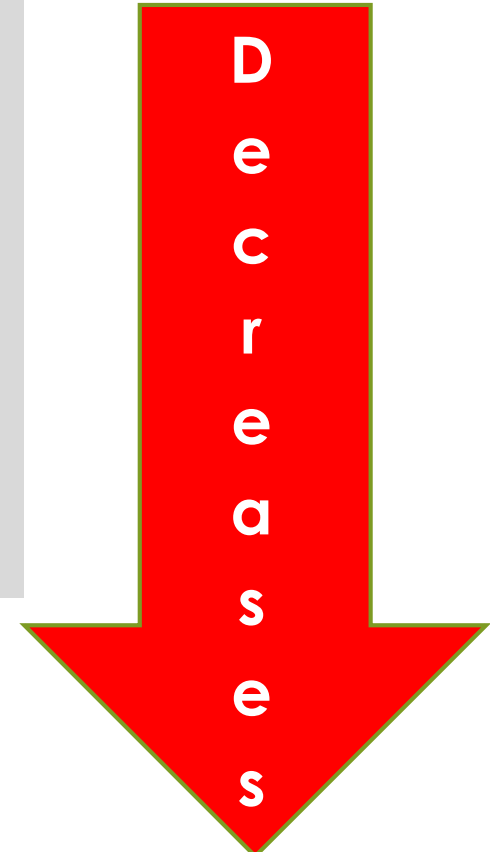
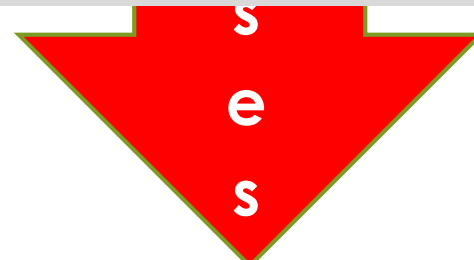
Bromine

Iodine

Astatine

**Q4. Electron affinity
Bromine is lesser than
Chlorine.**

True/False



Answer

Q1. The increasing order of atomic size

F > Cl > Br > I > At

True/False

Ans.: The increasing order of atomic size

F < Cl < Br < I < At

Q2. Iodine is less electronegative than Fluorine.

True/False

Q3. The decreasing order of ionization energy is



True/False

Q4. Electron affinity Bromine is lesser than Chlorine.

True/False