Electronegativity: the ability of an atom in a chemical compound to attract (pull) electrons.

Fluorine is the most electronegative element on the periodic table, making it the most reactive.

Trend Down the Family/Group: Decreases as you move down a family because the valence electrons are farther away from the protons and there is more electron shielding, both of which decrease the effective nuclear charge (Zeff). (Adding rings)

Trend Across the Period/Row: Increases as you move across a period because adding protons increases Zeff, while electron shielding remains constant. (Adding p+ but not rings)

Ionization Energy: the energy required to remove an electron from another atom or ion.

Electronegativity & Ionization Energy are directly related to each other, so the trend is the same for both.