

# AP Chemistry Daily Videos

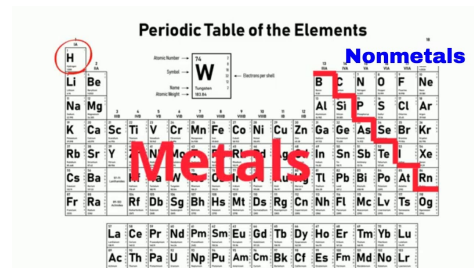
## 2.1 Types of Chemical Bonds

### Video #1

1. How is electronegativity different than ionization energy? What is electronegativity an important concept to understand chemical bonds?

2. Why do atoms form chemical bonds?

3. Make sure you can identify where metal and nonmetals are located on the periodic table. What special name are elements given that are on the "staircase" that separates these two groups?



4. Why is Hydrogen highlighted in this image?

5. Complete the following table:

Type of Bond	What happens to the electrons in this bond?
Ionic	
Covalent Nonpolar	
Covalent Polar	Be sure to describe what $\delta^-$ and $\delta^+$ mean?
Metallic	What does "sea of electrons" mean?

6. How can you use electronegativity to predict the type of bond?

7. What is a dipole and which way does the arrow always point towards? Give an example.
8. Go to the [Phet simulation](#) and write down one of the most important things you learned from it.
9. What happens when the electronegative values are equal or nearly equal between atoms? Give an example.

### Video #2

1. Pause the video at 0:35 and attempt the problem, then evaluate how you did and identify any errors.

Which of the following claims about a P-Cl bond is true? The electronegativity of P is 2.5 and Cl is 3.0.

- The partial positive charge is on the phosphorus.
- The dipole arrow points toward the phosphorus.
- There is a sea of electrons between phosphorus and chlorine.
- The bond between phosphorus and chlorine is nonpolar.

2. Pause the video at 1:28 and attempt the problem, then evaluate how you did and identify any errors.

Without looking at electronegative values, which bond is most polar?

- Si-Si
- Si-P
- Si-S
- Si-Cl

3. Pause the video at 1:58 and attempt the problem, then evaluate how you did and identify any errors.

A student claims that  $F_2$  is more polar than  $H_2$  because fluorine has a higher electronegativity than hydrogen. Do you agree with this claim? Explain why or why not?

Element	Electronegativity
Hydrogen	2.1
Fluorine	4.0