

- ⑤ The fifth Enduring Understanding is directly related to our 4th unit of study, when learning about ATP nucleotide hydrolysis. The electron arrangement within the phosphate groups determines the ATP molecule's stability and therefore its chemical properties. ATP is a storage for energy in living organisms because of the weak bonds in phosphate groups, hence ^{its} instability. Some of ^{the} bonds between oxygen and phosphorus atoms in the 3 phosphate groups of ATP are easily broken to form new bonds because of repulsion between the like charge of oxygen atoms. When new, stronger bonds are formed, energy is exerted, and the new molecule, ADP, contains the energy. During ATP hydrolysis, you can understand the reaction in terms of energetic stability of ATP and water that forms ADP and P_i . (i.e. rxn is exothermic b/c bonds formed are stronger than bonds broken)
- great example for this EU.