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| **Lesson Plan:**  |

**Big Ideas**

1) Not all acids and bases dissociate completely in water, the more they dissociate in water, the stronger they are

2) The stronger the acid/base, the more they "don't want"/"want" their proton

**PLOs**

**D3** analyse balanced equations representing the reaction of acids or bases with water

**D4** classify an acid or base in solution as either weak or strong, with reference to its electrical conductivity

**D5** analyse the equilibria that exist in weak acid or weak base systems

**D6** identify chemical species that are amphiprotic

**Material and equipment needed**

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| --- | --- | --- | --- | --- |
| Hover Cam | Notes | White Boards | Speaker | Kute Tuesday |
| Kahoot | AcidBase video | Markers | Milk | Food coloring |
| Dish soap |  |  |  |  |

**Assessment Plan:**

**Formative -** Inquiry question and Kahoot

**Hook and Introduction**

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| --- | --- | --- | --- |
| **Time** | **Activity** | **Teaching notes** | **Assessment** |
| 5 min | * "Kool" Kayoubi (Tuesday)
 | * Milk and food coloring demo
 |  |

**Development**

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| **Time** | **Activity** | **Teaching notes** | **Assessment** |
| 5 min | * Johnson's video
 |  |  |
|  15 min | * Kahoot
 | * Questions designed based on material from last class
 | * Kahoot tracks rights and wrongs
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| 10 min | * Notes on Ka/Kb expression
 | * Have students notice the how the K expression corresponds to the strength of the acid
 |  |
| 10 min | * Inquiry question
 | * Have students come up with ideas to answer the following question:Which solution will conduct more electricity? What is the conflict here?How would you make solution 1 more conductive than solution 2?How would you make solution 2 more conductive than solution 1? (2 ways)How could you quantify how many ions are in each solution?
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| 5 min | * Discussion on response
 | * high concentration vs. strong acid/base
 | * Check if students can point out the dilemma
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| 15 min | * Notes on how to write Ka expression and the appropriate chemical reaction
 | * Stronger the CA, weaker the CB value
* Using the chemical reactions and the Ka values
* Summary relating acid strength, conductivity, Ka values and CB strength
 |  |
| 15 min | * Work on writing these chemical equations and constants
 | * Students use white boards to practice
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| 5 min | * Video?
 | * If time - show video
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**Closure**

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| **Time** | **Activity** | **Teaching notes** | **Assessment** |
| 5 min | * Check in with the class
 | Structure of next class:Group work: tutorial style - group hands in solved problems at end of class = quiz markGood idea to practice questions assigned | **HWK** Rest of worksheet 4-2 |