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| **Lesson Plan:** |

**Big Ideas**

1. Acid or base alone is different when they're mixed in water. Water acting as a weak acid/base sets pH/pOH limit even when strong acid/base is added.

**PLOs**

**E2** perform calculations relating pH, pOH, [H3O+], and [OH-]

**E3** explain the significance of the Ka and Kb equilibrium expressions

**E4** perform calculations involving Ka and Kb

**Material and equipment needed**

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| Powerpoint | Markers | White Boards | Speaker | Motivational (Musical) video | Ch4-3 worksheet |
| Crashcourse video |  |  |  |  |  |

**Assessment Plan:**

**Formative -**

**Hook and Introduction**

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| --- | --- | --- | --- |
| **Time** | **Activity** | **Teaching notes** | **Assessment** |
| 10:15 - 10:30 | * News/Video | * Funny Friday video (before class) * Crashcourse video |  |

**Development**

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| **Time** | **Activity** | **Teaching notes** | **Assessment** |
| 10:30-10:55 | * Kahoot | * Problems from past 2 lessons | * Kahoot |
| 10:55-11:20 | * Group learning | * Give everyone handouts (notes package, 4-3, and 4-4) * Break groups based on performance on exit slip from last class * Groups work through 4-3 if still need practice, or can jump straight to 4-4 + notes as aid * Start working with weakest group * Move steadily to stronger groups * Strong groups can work on new material as described below * Finding Ka/Kb from Kw - how might this calculation show relative strengths of CA from CB? * Ionization of HA/A- assumption * ICE tables | * Working with individual groups |

**Closure**

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| **Time** | **Activity** | **Teaching notes** | **Assessment** |
| 11:20-11:35 | * Intro to titrations | Show the class some of the basic equipment and tell the class the purpose of a titration.  Lab next Tues + Pre lab quiz  Quiz next Thurs  Unit test Fri after Easter long weekend |  |

HW: pg282 evens

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Worksheet 4-4