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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 - 10:20 | * News/Video | * Motivational (Musical) Wednesday * https://www.youtube.com/watch?v=kzcAFtm-n0w (Call me maybe-parody) * https://www.youtube.com/watch?v=IAJsZWhj6GI (All about the base-parody) * https://www.youtube.com/watch?v=iM\_I6rtIgn0 (Let it Go-parody) * Pass white boards + Markers out as they're watching |  |

**Development**

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| **Time** | **Activity** | **Teaching notes** | **Assessment** |
| 10:20-10:40 | * Questions from practice | * Check if students have problems with homework questions. Good problems to go over (pg 239: #11) and (pg 245: #5) * Go over Kw = Ka \* Kb |  |
| 10:40-11:05 | * pH/pOH | * SIG FIG emphasis * Try a few sample problems * Chart on pg 252 * If have time: build intuition on how log works - have students try graphing an example - each unit 0.1M of acid/base you add will not give you the same unit change for pH/pOH | * See below |
| 11:05-11:25 | * Practice with pH/pOH | * Use white boards * Series of questions, 5min/each question, students show answer on their white board | * White board showing answer |

**Closure**

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| **Time** | **Activity** | **Teaching notes** | **Assessment** |
| 11:25-11:35 | * Video Summary | https://www.youtube.com/watch?v=LS67vS10O5Y  Lab next Tues  Quiz next Thurs  Unit test Fri after Easter long weekend |  |

HW: pg260: 3-17

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Worksheet 4-3