***Lesson Plans for the Week of: 1/16/17 Teacher: Hough Course: Physical Science Period: 1,2,7/8***

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| Elements of  a Lesson | **Monday** | **Tuesday** | **Wednesday** | **Thursday** | **Friday** |
| Objective/  Focus/  Essential  Question | No School | PS.2b,e  Describe acids | PS.2b,e  Describe bases; differentiate between acids and bases—properties and formulas  Describe use of litmus paper  pH, acidity, basic-ness, alkaline as chemical properties—use benchmark as prompt? | PS.2b,e  --define indicators  --differentiate between strong and weak when referring to acids and bases  --apply pH in order classify a substance as an acid or a base | PH.1j,k,l; 2b,e,f  --categorize materials as acids (strong or weak) or bases (strong or weak) using pH |
| Lesson/Act.  Type of Presentation |  | Belllwork: identify a balanced equation; balance a chemical equation  Return work  Whole group:  Show Roger Rabbit segment to show preconceived notions about acids  Define acids, , focusing on formulas and properties  If time permits, Define litmus paper—show use | Whole group:  Define bases, differentiate between them, focusing on differences in formulas and properties  Define litmus paper—show use  provide examples and uses  exit pass  Return previous day’s work about balancing chemical equations | Whole group  A) define indicator as a tool for telling whether a substance is an acid or a base: litmus paper, pH paper, plus others including natural substances like the juice of red cabbage; hydrangea  B) define pH—it indicates the concentration of hydrogen ions in a substance; range and what the numbers mean; integrate the meaning of strong and weak acids/bases in terms of pH numbers using diagram; note that pH and the strength of the acid or base is a chemical property  C) model using the number line to determine if a substance is acid, base, neutral | Whole group:  Bellwork: A) pH is physical or chemical property; B) given a pH of 8.5, is the substance an acid, a base, or neutral?  Whole group:  Explain activity  Individual (or small group):  Students will test substances and will categorize them as acids or bases using pH |
| Evaluation |  | Exit pass: difference between acids and bases; examples | Exit pass: difference between acids and bases; examples | Student results of classwork | Completed worksheet |
| Extension/  Homework |  |  |  |  |  |
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MATERIALS:

Monday:

Tuesday: Phet simulations balancing chemical equations; Judge Doom segment of Roger Rabbit off YouTube; notes about acids, litmus paper; blue/red litmus paper

Wednesday: Notes

Thursday: pH paper, litmus paper

Friday: Lemon juice, vinegar, baking soda, cola, bleach, ammonia, water; teacher made worksheet; pH paper; litmus paper; test tubes and racks