**Acid Base Activity**

Part 1) Play with the simulation “Acid-Base Solutions”. Notice there are two tabs in the simulation (“Introduction” and “Custom Solution”)

(available at <http://phet.colorado.edu/en/simulation/acid-base-solutions>).

What kinds of solutions can be tested in the simulation?

What tests can be performed?

What do the tests measure?

What other information does the simulation include?

Part 3) After having completed the activity on the back of this page, return to this question:

Is it possible for a solution of weak acid and a solution of strong acid to have the same pH? If so, will the acid have a low pH, a neutral pH (near 7), or is any value possible?

Make an initial prediction and investigate with the simulation.

Part 2) Select and test different solutions. In each case describe your test & observations, then answer the question in terms of the particles in solution, the chemical equation, and numerical information. You may need to perform several experiments with different solutions to answer a given question. Be prepared to share your findings.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Question | Tests, Observations | Particle Description | Chemical Equation | Numerical Description |
| How is a base different from an acid? |  |  |  |  |
| How is a strong acid different from a weak acid? |  |  |  |  |
| How is an acid with a high initial concentration different from one with a low initial concentration? |  |  |  |  |