**Lab: Limiting And Excess Quantities TEACHER NOTES**

The reaction (not given to students) is:

Zn + 2HCl 🡪 ZnCl­2  + H2­ (g)

The Zinc metal should be in excess in this reaction

Evidence: zinc remains at the end

Evidence: test the solution with pH indicator – should not be acidic.  
 (Also could add more of one reactant and see if the reaction resumes)

STUDENT PROCEDURES:

1. Weigh the pieces of zinc
2. Measure 10.0mL of 3.0M HCl.
3. Weigh the empty reaction container.
4. Add acid and zinc.

OPTION 1:

-after the reaction, weigh the products. The mass lost = mass of H2 produced. This relates back to the limiting reactant (acid)

OPTION 2:

-after the reaction, capture, rinse, dry, and weigh the leftover Zn.

Calculate mass of Zn used, which relates back to the limiting reactant (acid).