

Chapter 3: Vegetables



FoodMASTER

Food, Math, and Science Teaching Enhancement Resource
Supported by NIH Science Education Partnership Award (SEPA)





Food Explorations Lab I: Exploring Acids & Bases

Teacher Preparation – Before Starting Lesson

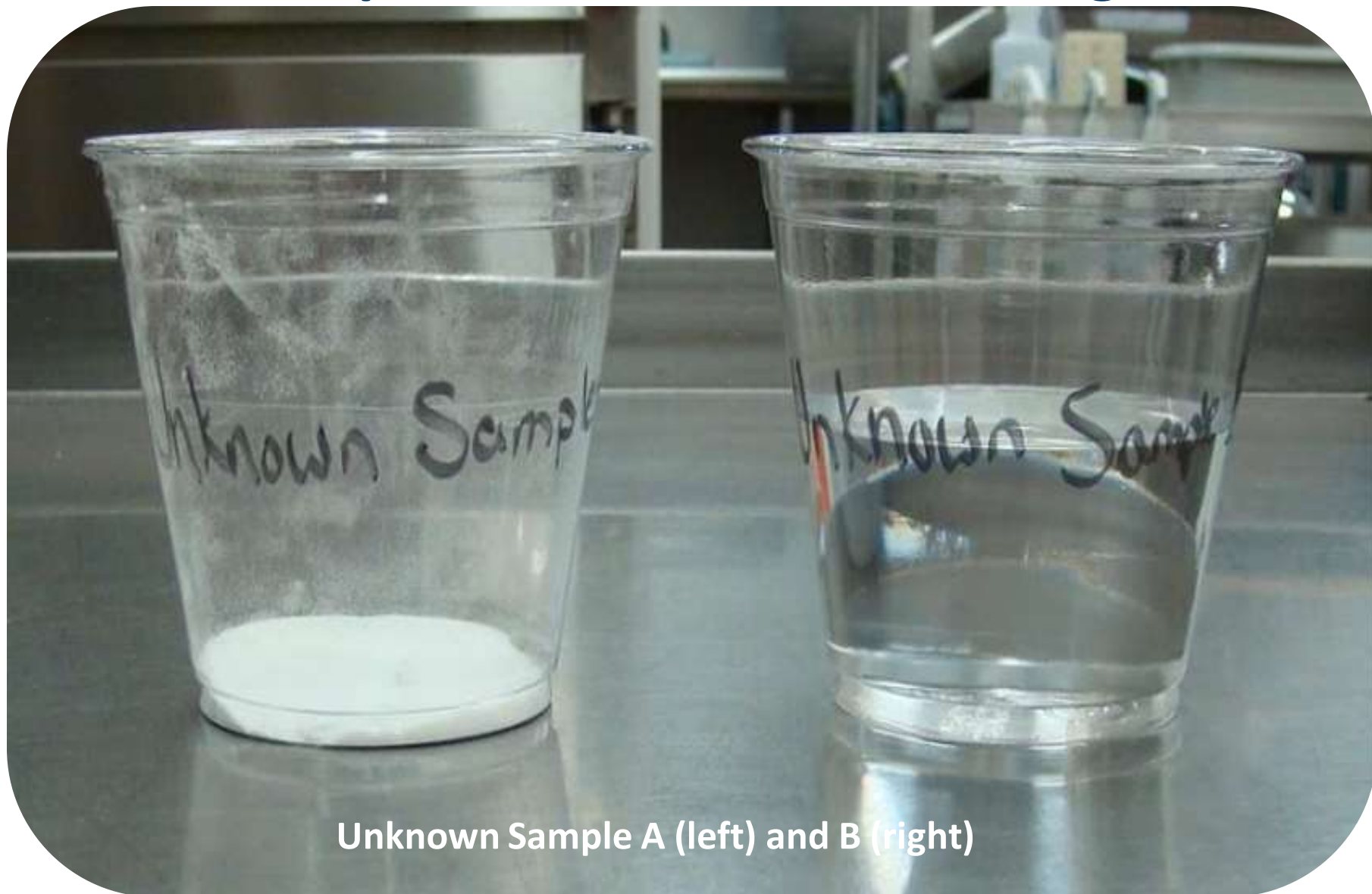


Boil shredded red cabbage in large pots for 5 minutes and pour liquid into pitcher (this will be the pH indicator). The water should be a deep purple color.



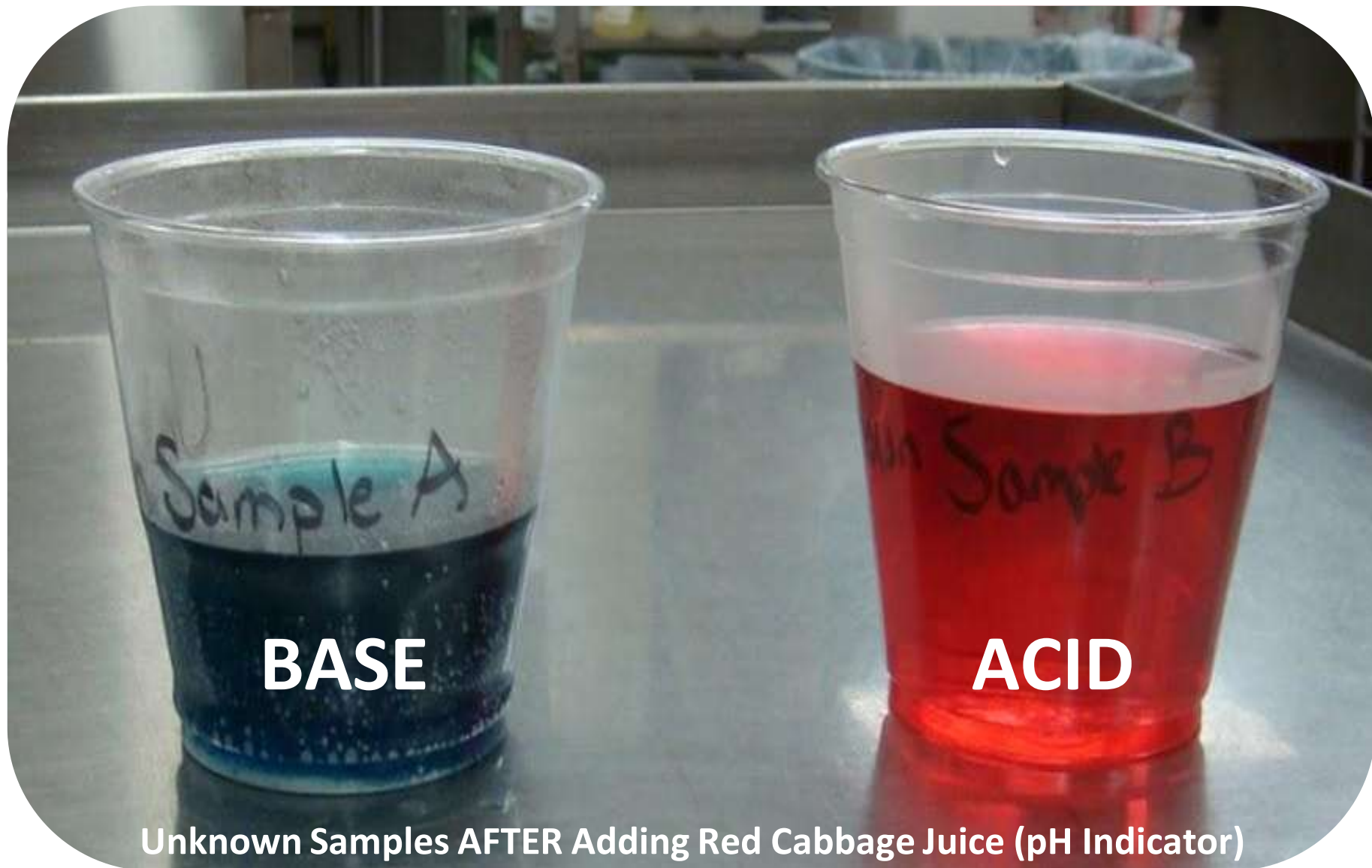
Red Cabbage Juice

Teacher Preparation – Before Starting Lesson



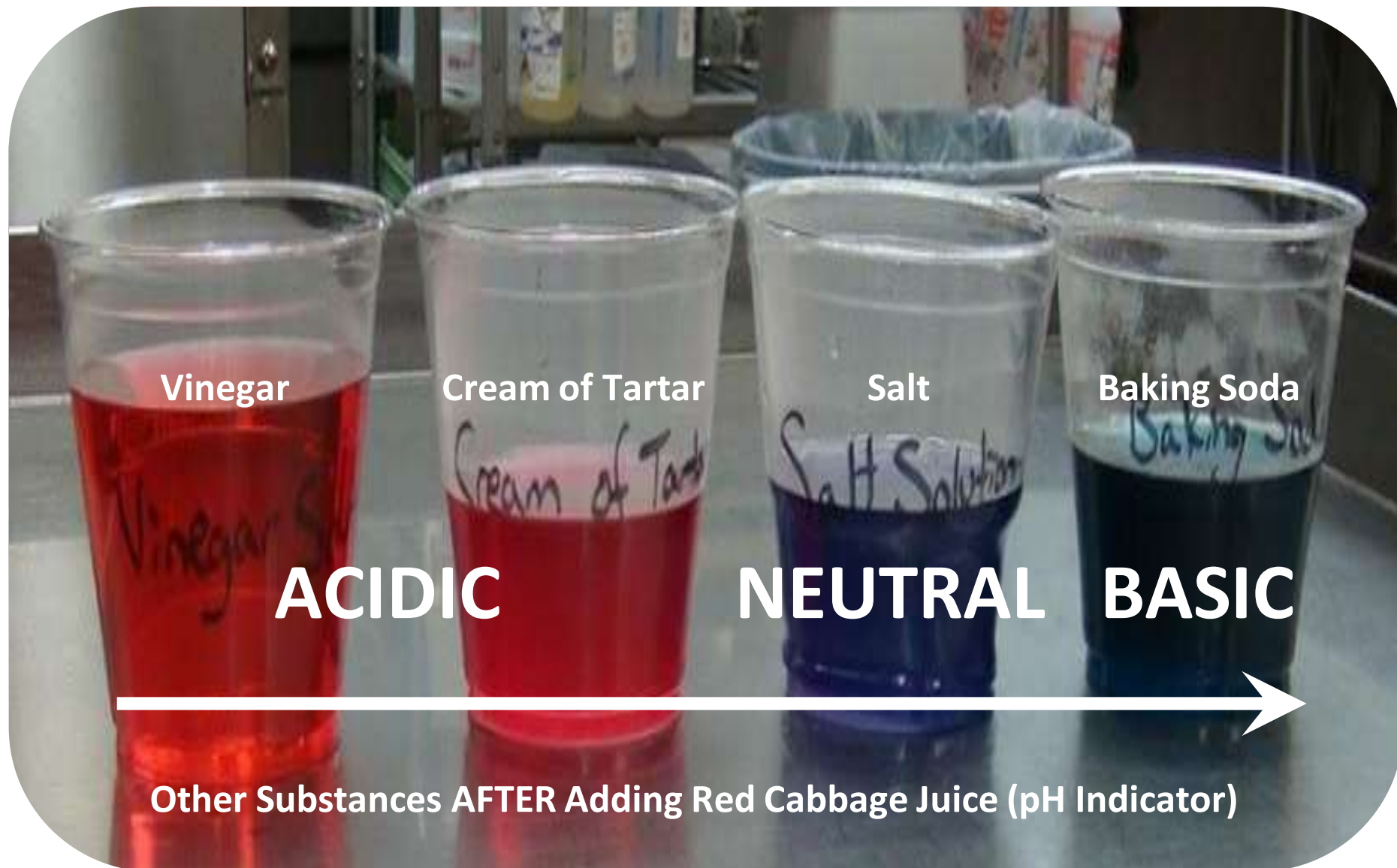
Unknown Sample A (left) and B (right)

Student Lab Investigations: Part A



Unknown Samples AFTER Adding Red Cabbage Juice (pH Indicator)

Student Lab Investigations: Part B



Student Lab Investigations Part I: Exploring Acids & Bases

Red Cabbage Color changes with pH



Student Lab Investigations: Part B



Sample B = Vinegar

Sample A = Baking Soda

Identifying Unknown Samples by Comparing to Known Samples



Food Explorations Lab II: Cooking with Acids & Bases

Teacher Preparation – Before Starting Lesson



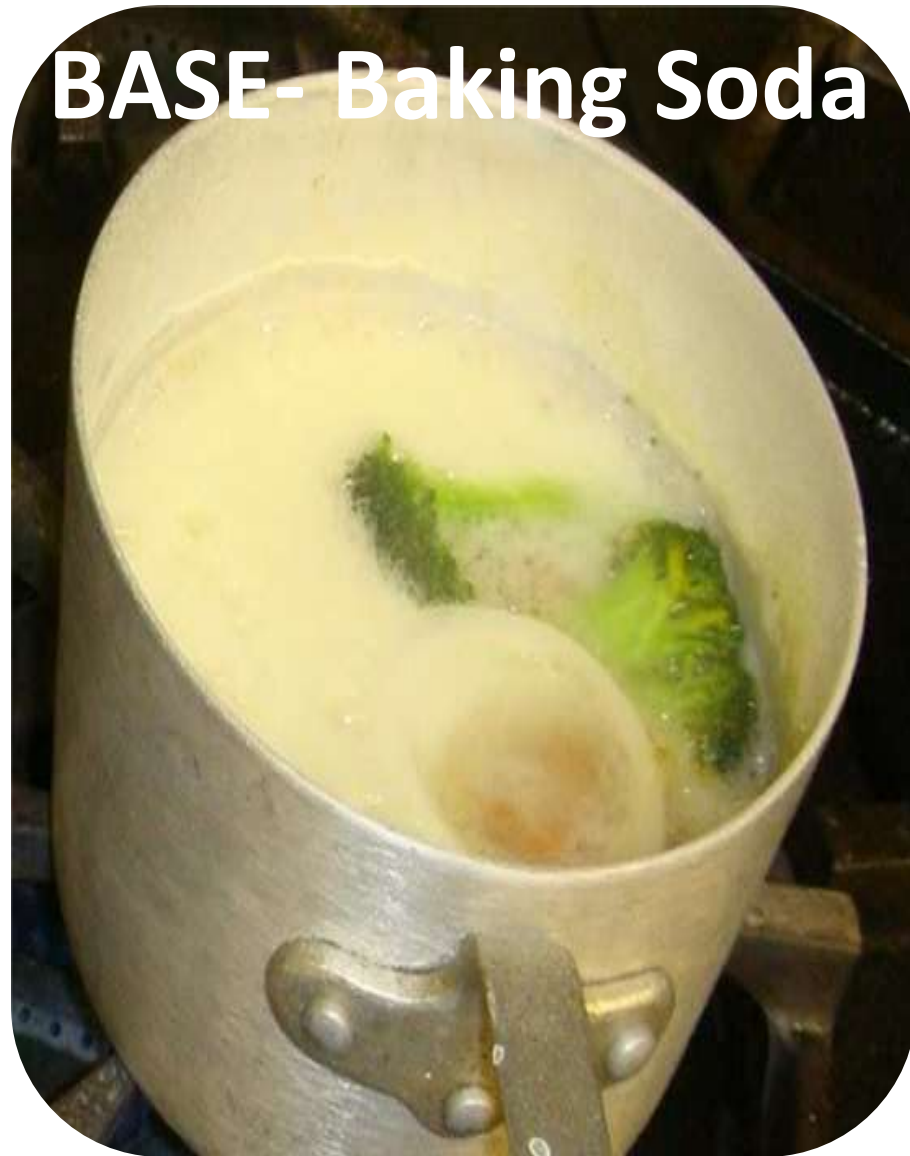
1. Cut broccoli, carrots, and white onion into small pieces for each group. **2.** Make a zip lock bag of raw vegetables containing 1 sprig of broccoli, 2 small carrots, and 1 piece of white onion for each group. **3.** Make a zip lock bag of very thinly sliced onion (to be used for microscope activity). To cut, lay a piece of onion flat on a cutting board. Run the blade of a knife across the top of the onion to slice a thin piece. **4.** Begin boiling vegetables before or at the start of the lesson. Vinegar and baking soda can be added before boiling.

Student Lab Investigations

ACID - Vinegar



BASE- Baking Soda



Example Vegetable Recipe Photograph



Red Cabbage Raw



Red Cabbage Cooked with Vinegar

Student Lab Investigations

