

## Science Outside the Box recipe for

# Mystery Chemicals

### What you need:

white foam egg carton or several small paper cups

$\frac{1}{2}$  cup vinegar

2 Tablespoons baking soda

$\frac{1}{4}$  cup ammonia +  $\frac{1}{4}$  cup water

purple cabbage juice

2 Tablespoons cream of tartar

3 droppers or small spoons

**Safety note: wear eye protection for this experiment.**

### What to do:

- Put a spoonful of purple cabbage juice in five sections of your egg carton or in five small cups. You will test four kitchen chemicals with the cabbage juice and leave one portion to compare colors.
- Add a spoonful of baking soda to one portion of cabbage juice. Write down what you see.
- Add vinegar to the next portion of cabbage juice. Record your results.
- Test cream of tartar and ammonia in two more portions of cabbage juice. What happened?
- Try the three challenges, then rinse your solutions down the drain and wash your hands.

	baking soda	vinegar	cream of tartar	ammonia
purple cabbage juice				

Challenge 1: Make a pink solution turn blue or green. HOW DID YOU DO IT?

Challenge 2: Make a blue or green solution turn bright pink. HOW?

Challenge 3: Make any solution fizz. HOW?

## Why does it work?

Purple cabbage juice is an acid-base indicator. It turns red or pink with acids and blue or green with bases. You can make fizzy bubbles of carbon dioxide  $CO_2$  with baking soda and any acid.