WEST VIRGINIA STATE UNIVERSITY
1891
Center for the Advancement of STEM

Kitchen Chemistry

Acids & Bases

KEY TERMS

Chemistry – The study of matter

Matter – Anything that has mass and takes up space

Acid – A corrosive chemical compound that can react with a base

Base – A chemical compound that reacts with acids

pH – A measurement of how acidic or basic something is, using a scale of 0 to 14. A neutral pH is 7. Acids are anything below 7, and bases are anything above 7.

DISCUSSION QUESTIONS

- What did we discover?
- Do we think vinegar is a base or an acid? (acid)
- What about milk? (base)
- What about baking soda? (base)
- What about lemon juice? (acid)
- What about water?
- Water has a neutral pH which means it should be at 7.

WHAT YOU NEED AT HOME

- Red Cabbage
- A knife
- A pot
- Water
- A ladle, dropper, or spoon
- Various liquids and compounds to test around the home. (Ex.: water, vinegar, lemon juice, milk, and baking soda mixed in water.)

HOW TO DO IT

Make Indicator

- Chop up the red cabbage
- Boil it in a large pot with water until the liquid is reddish-purple in color
- Strain the cabbage water into a new container and allow it to cool to room temperature

Test Solutions

- Test various household liquids
- Pour liquids into different cups
- Add a little indicator solution to each cup
- Swirl the cup carefully or use a clean spoon to mix
- Note the color, and see where it falls on the pH indicator list.
- Remember Acids have a pH less than 7, and bases have a pH more than 7.
- Make sure to test plain water so you know how neutral pH 7 should appear.

pH	2	4	6	8	10	12
Indicator Color	Red	Redish-Purple	Blue-Purple	Blue	Blue-Green	Greenish-Yellow

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