**L a b p H -T e s t I n g**

73

**What are acids and bases?**

They are compounds you find everywhere, yet have very different properties.

When you put **acids** into water, you create a solution. During this reaction, the acid will actually release one of its protons, or Hydrogen ions (H+). This means that the positive and negative ions are no longer balanced, causing the solution to become acidic.

Common acid traits are:

* tasting sour
* corrosive

When a **base** is put into water, it accepts a proton, forming a Hydroxide ion (OH-).

Common traits of bases:

* slippery to the touch
* bitter-tasting

**pH Scale**

As you can imagine, it’s important to know how acidic solutions are, so we know how to handle them. That’s where the pH scale comes in.

The scale ranges from 0 to 14 and solutions with a pH number less than seven are considered acidic (acids). Those with a pH number greater than seven are basic (bases/alkaline). If a solution happens to fall right in the middle, with a pH number of seven, it is neutral.

**Procedures**

• Write the name of the household substance you are testing. One per line.

• What I think the pH number is (before using an indicator).

 • Color after mixing with indicator Using colored pencils, markers, or crayons, fill in the box with the color that closest resembles the color the indicator has turned after mixing the two substances.

• What I think the pH number is (after using the indicator)

• Now that you have used an indicator, looking at the color, what do you think the pH number is?

• Actual pH number. Do some research to find out what is the actual pH number of this household substance.

• Acid or Base? Is this substance an acid or a base? Write in your answer.

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| --- | --- | --- | --- | --- | --- |
| Household Substance | What I think the pH # is (before indicator) | Color the indicator turned | What I think the pH # is(after indicator) | Actual pH # (after research) | Acid or Base? |
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Do a little more research and answer the following questions.

1. What pH should human blood be?
2. What pH should the water we drink be?
3. What do you think would happen to an ecosystem if the water had a pH of 5?
4. What does homeostasis have to do with pH in your body?