

# ACID OR BASE?

## TOXIE'S ON THE CASE!



Hi, everybody! It's me, Toxie! I'm in the middle of a very important case right now...would you mind giving me a hand?

Awesome! I'm glad you're on the hunt with me!

What are we trying to find? Well, we need to figure out a way to test things around the house and see if they're acids or bases! Come on!

What's that? You don't know what acids and bases are? Hmm...

Well, it all started the other day when Mom was making cupcakes. Mmm mmm! I LOVE cupcakes! They're my favorite thing to eat! I sat on the counter and watched her make the batter, and she added some LEMON JUICE. When I read the ingredients, what did I see?

"CITRIC ACID"

Acid? Oh, no! I told mom I thought acids were dangerous. She told me some acids are OK for us to eat. She said that some can even be good for you...like lemon juice! So, I decided to start an experiment.

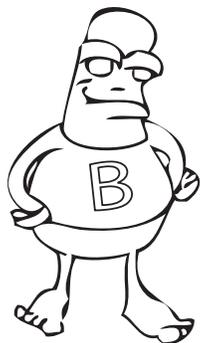
How do I explain it?



The first thing I did was go to the library. I checked out a book about acids and bases, and learned what they were.



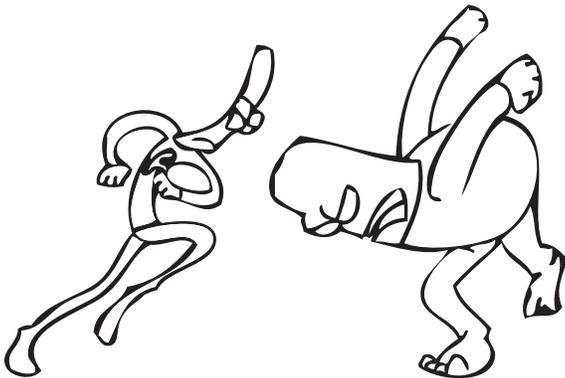
This is an Acid



This is a Base



Acids and bases are chemicals. Acids are fine when they're around other acids. Bases are fine when they're around other bases.



When we mix them together...

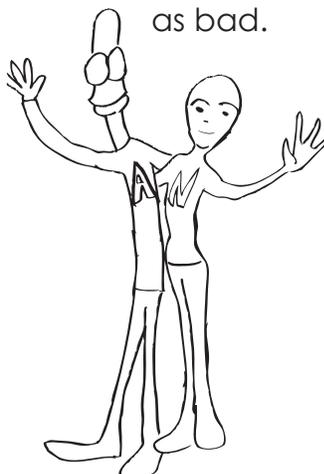


They make a chemical reaction!

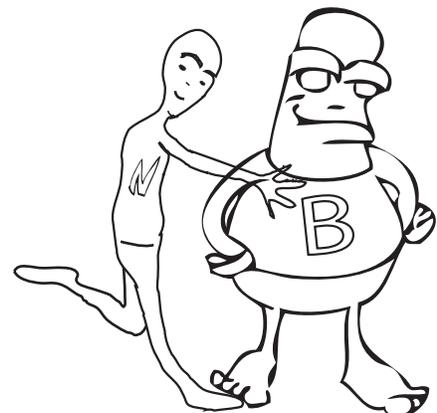
This is a NEUTRAL. Neutrals are chemicals that don't bother other chemicals



When an Acid mixes with a Neutral, the Acid is not as bad.



The same goes for Bases!



The book said that an easy way to test whether something is an acid or a base is to take some red cabbage, soak it in some water, and make a special dye called LITMUS. Litmus is used by scientists to test whether things are acids or bases. Your teacher has some litmus samples ready, and we're going to test some household things right now!



There is a special measurement for testing acids. It's called the pH scale. The scale works kind of like a ruler, with numbers from zero to fourteen. Things that are acids will be a LOW number (from ZERO to SIX). Things that are bases will be a HIGH number (from EIGHT to FOURTEEN). Neutral things will be the MIDDLE number, SEVEN. But how will we know? Simple!

The purple dye your teacher has will change colors when it mixes with different chemicals. If your teacher drops an ACID into the dish, the water will turn PINK. If your teacher drops a BASE into the dish, the water will turn BLUE!

Your teacher has chosen six different household items and will test them using your litmus water. Their names are on the board. Write them down, and in the boxes next to them, use a PINK crayon to color in the ACID box. Use a BLUE crayon to color in the BASE box. Use a YELLOW crayon for the NEUTRALS.

	A	B	N
_____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
_____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
_____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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