

Reading Selection

Chemicals Are All around Us



Think about the five unknowns you tested. You may not realize it, but we use these chemicals every day!

Do you like pickles? Well, when pickles are made, one type of **alum** helps keep them so crisp that they crunch when you bite into them. Also, if you fall off your bike and cut your knee, alum may be in the medicine you put on it. It helps heal cuts and scrapes.

Alum has another important use: it helps purify water, making it clean and safe for you to drink. How does it work? When we add alum to a tank of dirty water, it sticks to the dirt and mud. This helps form globs that sink to the bottom. Then the clean water flows off the top.

Flat as a Tortilla?

Of course, **baking soda** is used for baking. Without it, biscuits, cakes, and muffins wouldn't rise—they'd look more like tortillas! Baking soda also cleans things. Try it on your toothbrush instead of toothpaste. And, if you're bitten by a mosquito or stung by a bee, have an

adult put baking soda into your bath water. It will help take away the pain and itching, and your bite will heal faster.

Do you remember what happened when you added water to the green unknown—**talc**? The water drops beaded up and a film formed. The water wouldn't mix well with the talc. That's why parents like to use nice, soft, scented talcum powder under babies' diapers. Talc protects the babies' skin and helps keep them dry.

And, if parents run out of talcum powder, they can use **cornstarch** to powder the baby. (Remember, cornstarch didn't mix well with water, either. Your tests results were thick and sticky.) We also use cornstarch to make foods stick together when we cook. Without it, the gravy on your mashed potatoes might be watery, not thick.

You Can't "Beet" Sugar!

You already know that candy and other sweets contain **sugar**. But where does the

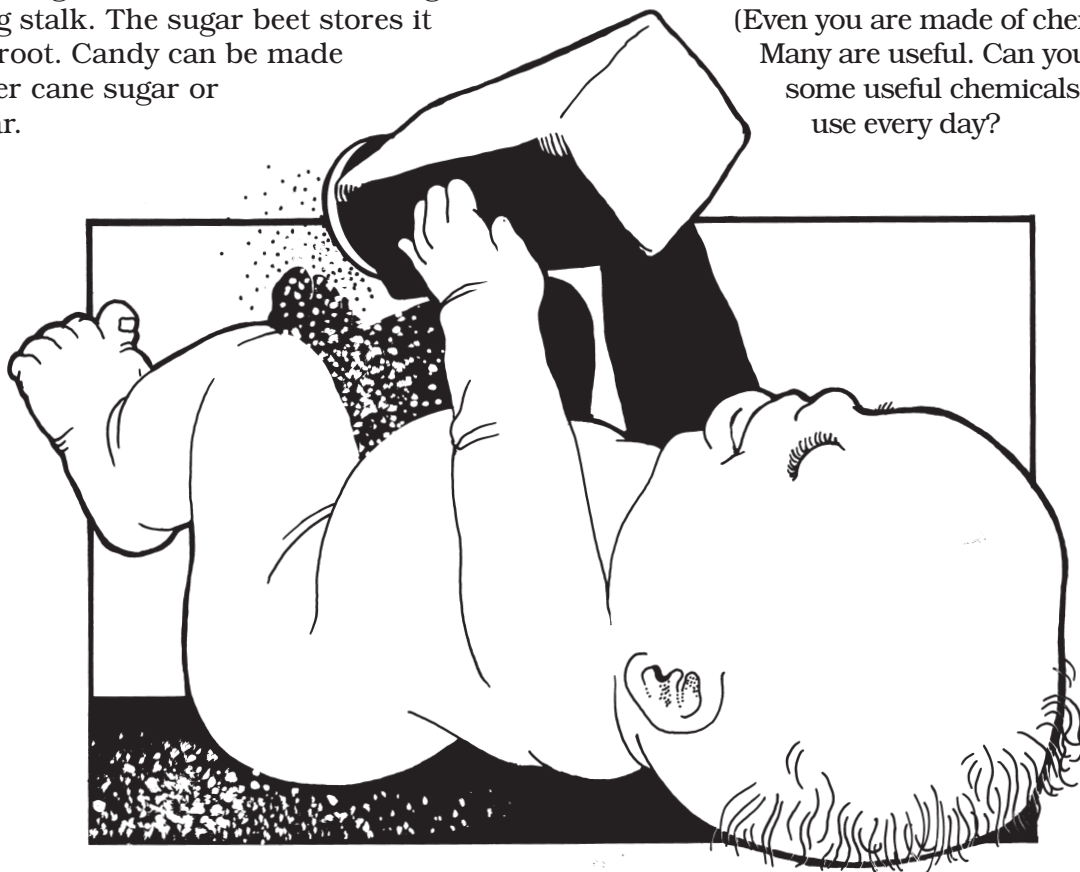


sugar come from? It comes from green plants. Sugar helps these plants grow. However, some green plants (like sugarcane and sugar beets) make more sugar than they need. The sugarcane stores the extra sugar in its long stalk. The sugar beet stores it in its fat root. Candy can be made with either cane sugar or beet sugar.

Chemistry is the study of chemicals and how they affect each other. You now know more about chemicals, especially the ones you've been testing, than you did before. There are lots more chemicals—everywhere.

(Even you are made of chemicals!)

Many are useful. Can you think of some useful chemicals you use every day?



Record Sheet 12-A

Name: _____

Date: _____

Chemical Information Sheet

1. I am made of crystals. When I am mixed with water, I dissolve. Some crystals may settle on the bottom, but the water is clear. When I am heated, I melt, turn golden brown and then black, and smell like caramel.

I am the _____ unknown.

I am *sugar*.

2. I fizz and bubble when vinegar is added to me. I do not burn when I am heated. When red cabbage juice is added to me, I turn green.

I am the _____ unknown.

I am *baking soda*.

3. I do not dissolve in water. When my water mixture is filtered, I am left in the filter paper. I turn purple-black when iodine is added to me. When I am heated, I turn brown.

I am the _____ unknown.

I am *cornstarch*.

4. I do not easily mix with water. When my water mixture is filtered, I am left in the filter paper. I have a pleasant smell. I do not burn when I am heated.

I am the _____ unknown.

I am *talc (baby powder)*.

5. When I am mixed with water, I dissolve. When the water mixture is left standing for a few days, I reappear as beautiful crystals. I turn bright purple when red cabbage juice is added to me.

I am the _____ unknown.

I am *alum*.