

# LETTER TO FAMILY

---

Cut and paste onto school letterhead before making copies.

---

## *Science News*

Dear Family,

Our class is beginning a new science unit, **Mixtures and Solutions**. We will be studying basic concepts in chemistry, and finding out how materials interact with each other. Students will learn what happens when simple materials, such as gravel, salt, and water, are put together. They will also learn techniques for separating the resulting mixtures and solutions. As our studies continue, we will investigate combinations of materials, such as baking soda and calcium chloride (the salt used to melt ice on roads), that react when mixed to produce new products—chalk, carbon dioxide gas, and table salt. We will engage in an engineering challenge dealing with desalination.

One of the most demanding intellectual activities in the enterprise of science is developing descriptive, explanatory models to advance the understanding of complex natural phenomena. Models provide intellectual structures to important ideas that are inaccessible to direct observation. But bringing understanding to the inaccessible is a critically important dimension of science. We expect students to develop their first, primitive models of the particulate nature of matter. Their models at this level will be incomplete and limited, but expect them to have some interesting intellectual experiences as they grapple with explanations for the commonplace phenomena they observe.

You can bring chemistry to life at home by exploring familiar household materials in a scientific way. Some of the interesting chemicals you may have on hand include baking soda, baking powder, alum, table salt, Epsom salts, flour, sugar, cornstarch, and vinegar. Add to these a few pieces of “laboratory equipment,” such as jars, margarine tubs, plastic cups, and spoons, and you are ready to extend the classroom experiences into your home. Reminder: Just as we do at school, you and your student should review and follow important safety procedures, even when working with familiar materials.

- Have a plan before starting an investigation.
- Avoid skin contact with experimental materials. Clean up spills immediately. Rinse with water if materials contact skin, eyes, or clothes. Wash hands after completing experiments.
- Never taste the experiments.

The US Consumer Product Safety Commission (CPSC) requires the following label to be on student sheets associated with the use of these chemicals in the FOSS investigations: calcium chloride, citric acid, diatomaceous earth, Epsom salts, and kosher salt. It is a reminder to students to exercise particular safety precautions when working with materials in the classroom.

**WARNING** — This set contains chemicals that may be harmful if misused. Read cautions on individual containers carefully. Not to be used by children except under adult supervision.

Watch for the Home/School Connection sheets I will be sending home with your student. These suggest ways for the whole family to investigate interesting aspects of chemistry. We are looking forward to many weeks of exciting investigations with mixtures and solutions. You can get more information on this module by going to [www.FOSSweb.com](http://www.FOSSweb.com).

Sincerely,