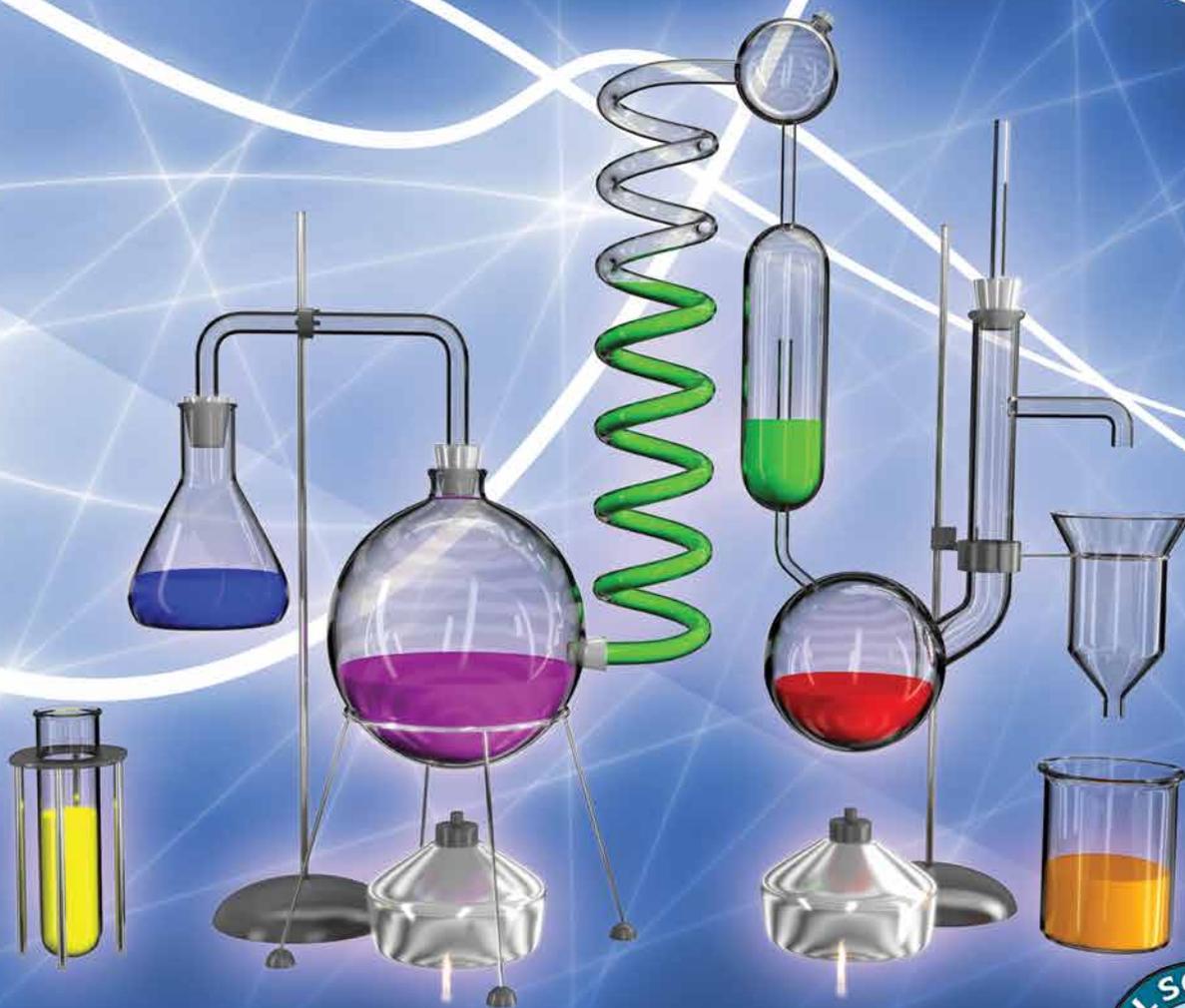


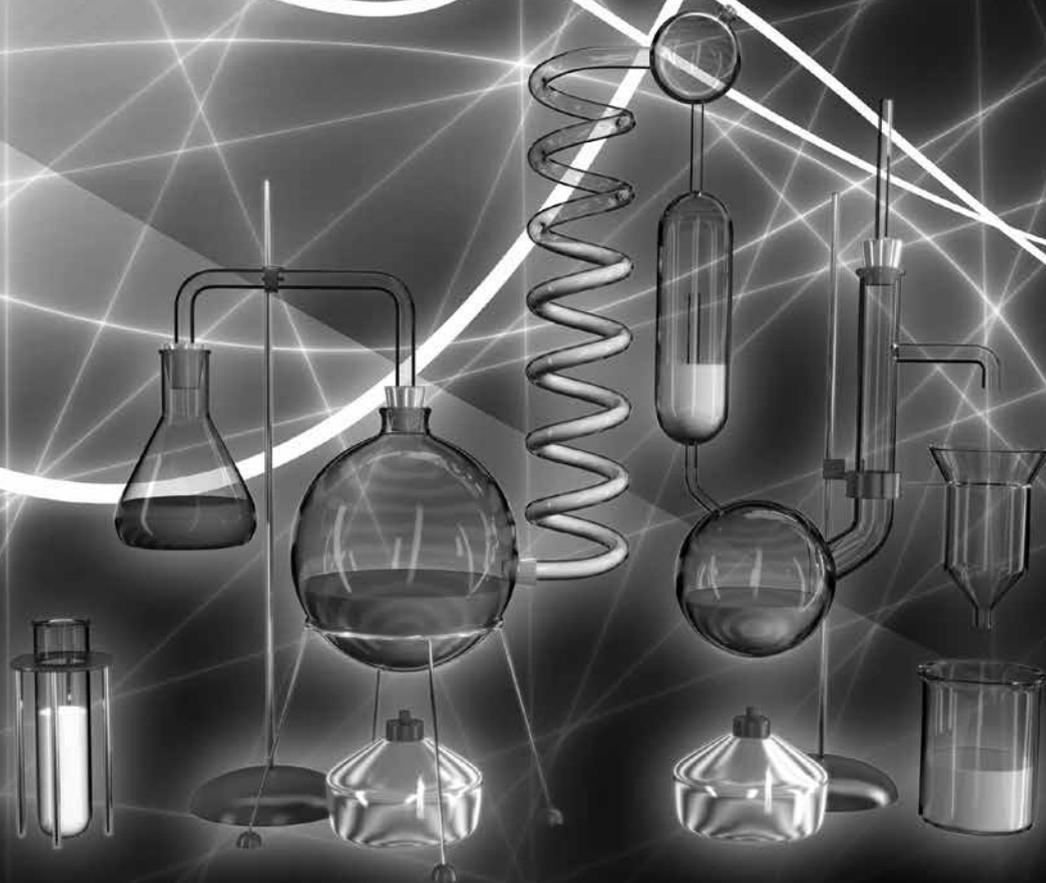
21 SUPER SIMPLE Chemistry EXPERIMENTS



Rebecca W. Keller, PhD



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Illustrations: Rebecca W. Keller, PhD

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What are Super Simple Science Experiments?

Super Simple Science Experiments are experiments that focus on one aspect of scientific investigation. Doing science requires students to develop different types of skills. These skills include the ability to make good observations, turning observations into questions and/or hypotheses, building and using models, analyzing data, using controls, and using different science tools including computers.

Super Simple Science Experiments break down the steps of scientific investigation so that students can focus on one aspect of scientific inquiry. The experiments are simple and easy to do yet they are *real* science experiments that help students develop the skills they need for *real* scientific investigations.

Each experiment is one page and lists a short objective, the materials needed, and a brief outline of the experiment, and includes any graphics or illustrations needed for the experiment. The skill being explored is listed in the upper right hand corner of each page. Any additional pages required are included at the back of the book.

Getting Started

Below is a list of the materials and equipment needed for all of the chemistry experiments in this book. You can collect all the materials ahead of time and place them in a storage bin or drawer.

Materials at a Glance

Foods	Materials	Equipment
apple baking soda bread celery chewing gum gumdrops lemon juice marshmallows, large marshmallows, small milk peanut butter potatoes, several red cabbage, 1 head salt soda pop, "healthy" soda pop, brown soda pop, clear soda, club sugar, white table vinegar, apple cider vinegar, clear water, carbonated water, distilled water, filtered water, mineral water, tap water, well	Super Simple Science Experiments Laboratory Notebook balloons ballpoint ink pen, black ballpoint ink pens, various colors bean seedlings in soil (2) borax coffee filter paper, white cotton cloth glue, white iodine, 2% tincture (sodium iodide) isopropyl alcohol liquid laundry starch matches pencil pond water popsicle stick small candle soap string, white tape toothpicks	container, mason jar container, quart size containers or jars, clear cooking pot freezer knife measuring cups measuring spoons mixing spoon pie dishes, shallow (2) scissors stopwatch

Laboratory Safety

Most of these experiments use household items. However, some items, such as iodine, are extremely poisonous. Extra care should be taken while working with all chemicals in this series of experiments. The following are some general laboratory precautions that should be applied to the home laboratory:

Never put things in your mouth without explicit instructions to do so. This means that food items should not be eaten unless tasting or eating is part of the experiment.

Use safety glasses while working with glass objects or strong chemicals such as bleach.

Wash hands before and after handling chemicals.

Use adult supervision while working with iodine and while conducting any step requiring a stove or a knife.

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1. Sodium

using resources

Objective

To become familiar with the periodic table of elements by learning about the element sodium

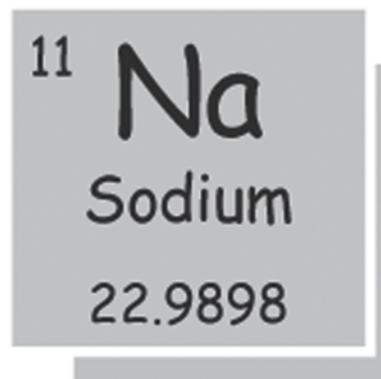
Materials

pencil

Super Simple Science Experiments
Laboratory Notebook

Questions

- 1 Look at the information for the element sodium shown in the illustration to the right. This is how the individual elements are often shown in a periodic table.
- 2 The number of protons is found in the upper left hand corner. How many protons does sodium have? _____
- 3 The atomic weight is found below the elemental name. What is the atomic weight? _____
- 4 The symbol for sodium is found above the elemental name. What is the symbol for sodium? _____
- 5 The number of electrons equals the number of protons. How many electrons does sodium have? _____
- 6 The number of neutrons equals the atomic weight minus the number of protons (rounded to the nearest whole number). How many neutrons does sodium have? _____



Results and Conclusions

The periodic table of elements organizes chemical information about the elements. Knowing how to use the periodic table to quickly find the information it contains is an essential skill in chemistry. The symbol for an element often comes from the first letter of the elemental name. However, the symbol for sodium comes from the Latin word *natrium*.