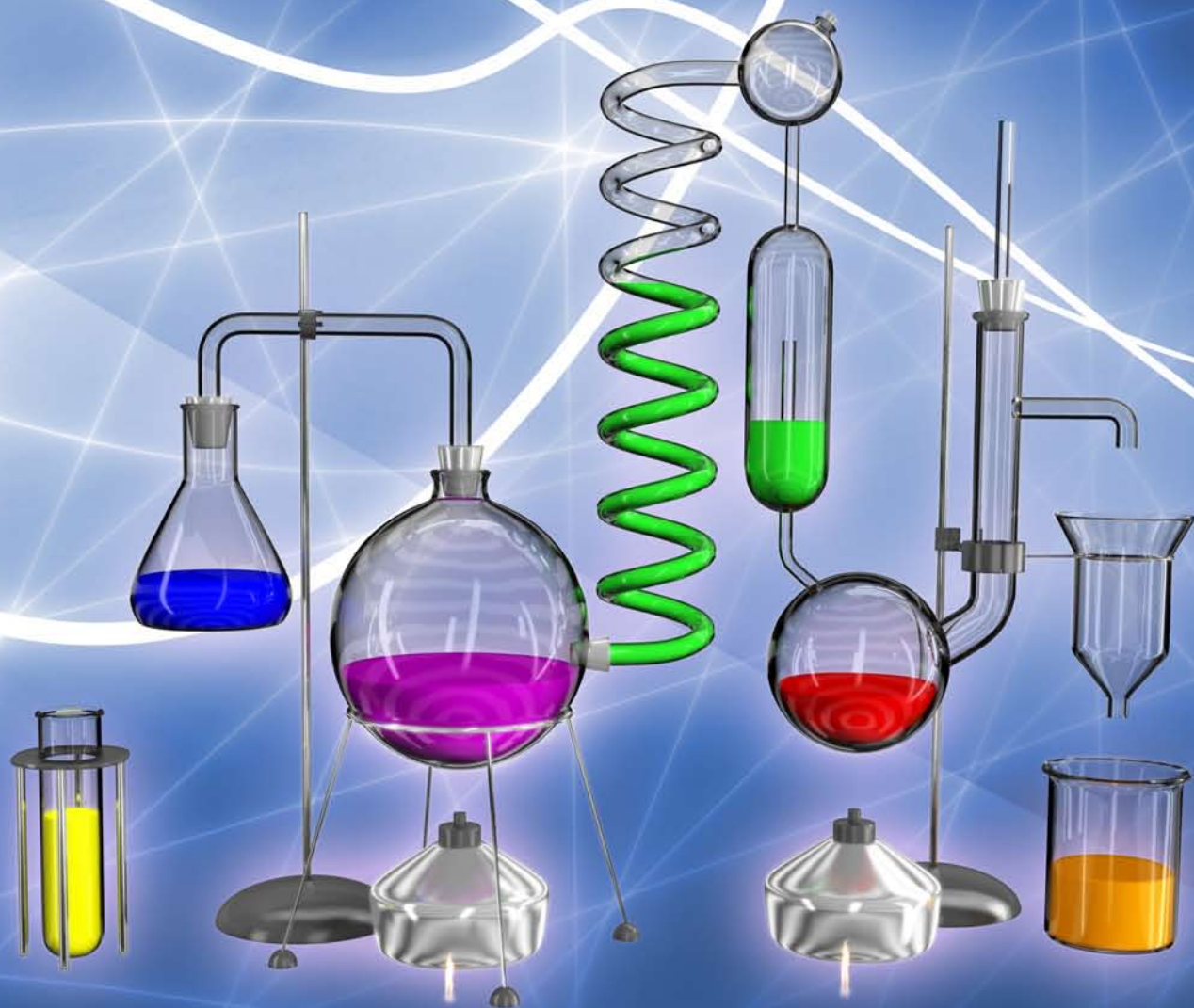


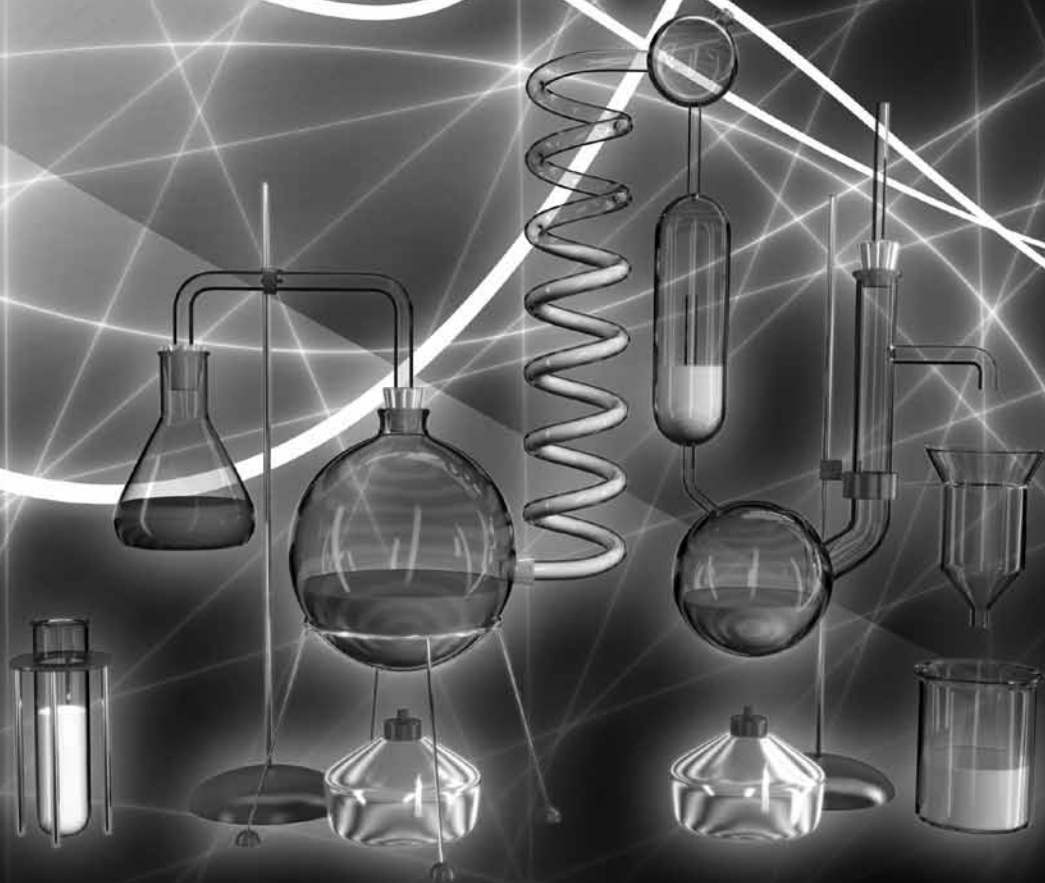
21 SUPER SIMPLE Chemistry EXPERIMENTS



Rebecca W. Keller, Ph.D.



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Illustrations: Rebecca W. Keller, Ph.D.

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

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.

Table of Contents

1. Sodium	1
2. Lead	2
3. Model of glucose	3
4. Single, double and triple bonds	4
5. Methane	5
6. Benzene	6
7. Growing a sugar crystal	7
8. Testing for acids	8
9. Testing for bases	9
10. Soda pop test	10
11. Water test	11
12. Combustion	12
13. Separating ink	13
14. Testing for starch	14
15. Cold balloons	15
16. Polymer cross-linking	16
17. Polymer cross-linking with Borax	17
18. Gumdrops model of DNA	18
19. Acid rain	19
20. Osmosis	20
21. Everyday chemistry	21
Periodic table of elements	22

1. Sodium

using resources

Objective

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

Materials

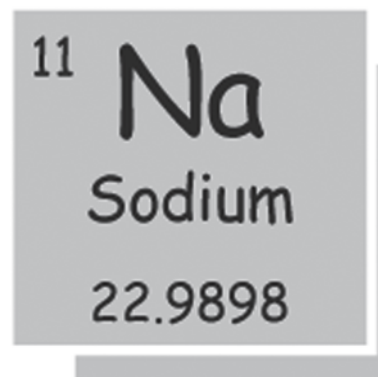
pencil

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*.