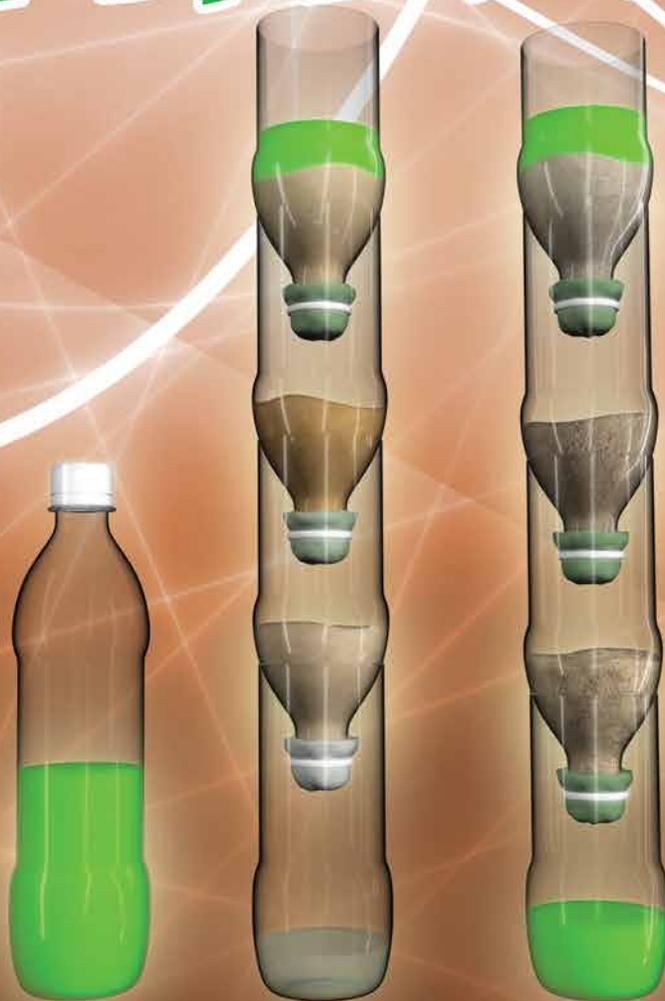


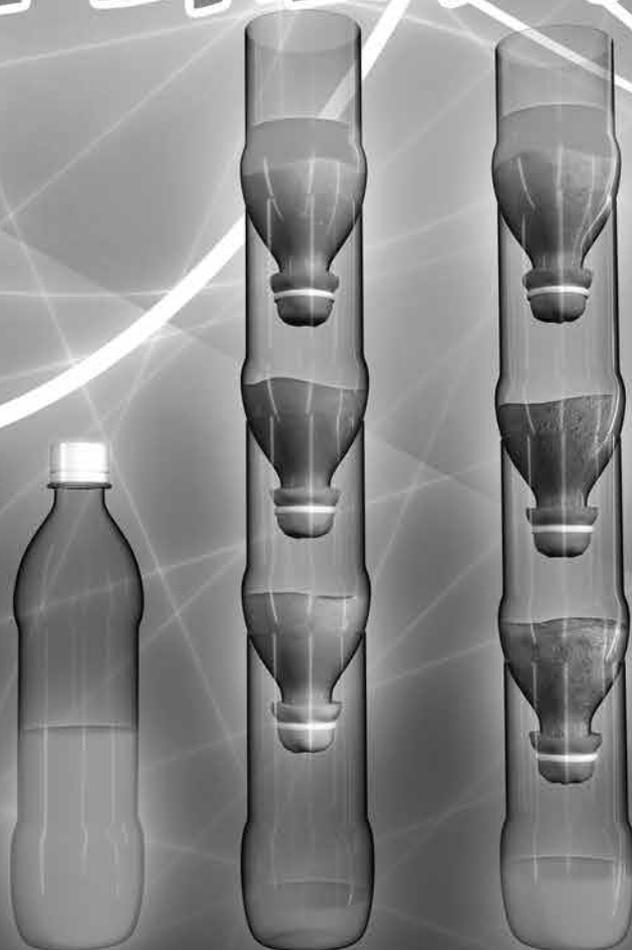
21 SUPER SIMPLE Geology EXPERIMENTS



Rebecca W. Keller, PhD



21 SUPER SIMPLE Geology EXPERIMENTS



Rebecca W. Keller, PhD





Illustrations: Janet Moneymaker
Photographs: Rebecca W. Keller, PhD

Copyright © 2014 Gravitas Publications, Inc.

All rights reserved. No part of this publication may be reproduced, stored in a retrieval system, or transmitted, in any form or by any means, electronic, mechanical, photocopying, recording, or otherwise, without prior written permission from the publisher. However, this publication may be photocopied without permission from the publisher only if the copies are to be used for teaching purposes within a family.

21 Super Simple Geology Experiments
ISBN: 978-1-941181-26-3

Published by Gravitas Publications, Inc.
www.gravitaspublications.com



What Are Super Simple Science Experiments?

Super Simple Science Experiments are experiments that each focus on one aspect of scientific investigation. Doing science requires the development of 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 you can focus on one aspect of scientific inquiry. The experiments are simple and easy to do, yet they are *real* science experiments that help you develop the skills needed for *real* scientific investigations.

Each experiment is one page long and lists an objective, the materials needed, a brief outline of the experiment, and any graphics or illustrations needed for the experiment. The skill being explored is shown in the upper right hand corner of each page.

The recommended companion book, *Super Simple Science Experiments Laboratory Notebook*, is a great place to record all the results of your experiments. It contains blank pages, lined pages, graph pages, and boxes for drawings.

Getting Started

Below is a list of the materials for all the geology 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	
Super Simple Science Experiments Laboratory Notebook backpack balloon chalk, 2 pieces compass container, plastic freezer dough, stiff, or modeling clay hand lens hose with spray nozzle or bucket of water jar, 2 jar with lid knife milk carton, 2 liter (1/2 gallon), 2 nail, steel pencil pencils, colored penny, copper plant, small vegetable or herb, 2-3 of the same type plaster of Paris	rocks, igneous* (basalt, pumice, obsidian, granite) rocks, metamorphic* (quartzite, marble, gneiss, slate) rocks, minerals* (choose several—calcite, quartz, hematite, mica, graphite, talc, pyrite, gypsum) rocks, sedimentary* (sandstone, limestone, breccia, shale) rocks, student-collected ruler snack food soil samples, student-collected soil additives (e.g., clay, silt, sand, organic matter) stones, three approx. 2.5 cm (1 inch) streak plate* treasure (toy, coin, etc.) trowel, garden, or spoon vinegar, apple cider, 60 ml (1/4 cup) water water bottle water softener, 1 tbsp. (e.g., Calgon liquid)

* A streak plate and a rock kit that contains samples of minerals, igneous, sedimentary, and metamorphic rocks can be purchased from Home Science Tools <http://www.hometrainingtools.com/> or a local rock shop

Table of Contents

Title	Page
1. Observing Your World	1
2. Hidden Treasure	2
3. How Hard Are Minerals?	3
4. What Color Are Minerals?	4
5. Testing Rocks	5
6. Igneous Rocks	6
7. Sedimentary Rocks	7
8. Metamorphic Rocks	8
9. Identifying Rocks	9
10. Soils	10
11. Soil and Water	11
12. Soil and Plants	12
13. Testing Soil	13
14. Making Garden Soil	14
15. Landforms	15
16. Mechanical Weathering	16
17. Chemical Weathering	17
18. Landslides, Flows, and Creeps	18
19. Making a Contour Map	19
20. Using a Compass	20
21. Putting It All Together: A Day Hike	21

1. Observing Your World

Objective

To observe your surroundings and notice the geological features near you.

Materials

pencil

Super Simple Science Experiments Laboratory Notebook

Experiment

- 1 Take your notebook and pencil and carry them with you while you go outside and walk around your house. Notice what is nearby. Is there dirt? Grass? Concrete? In your Laboratory Notebook, record what you see.
- 2 Next, walk around your neighborhood. Notice if there are trees, hills, paved or dirt roads, rocks, boulders, ditches, or any other features you find interesting. Record what you see
- 3 Now that you have observed the area around your house and neighborhood, draw a map of the area you've explored. Is your house in the center? On one end or the other? Make your map as detailed as possible including buildings, roads, boulders, hills, rivers, or any other features you find interesting.

Results and Conclusions

The first step in learning about geology is to observe the area where you live. By walking around your neighborhood, noticing manmade and geological features that are nearby, taking notes, and making a map of the area you explore, you can begin to learn about the geology of your area.

