

NOTE TO THE PARENTS

The experiments in this book are safe with appropriate supervision. Some require help from an adult. Children can carry out other experiments alone, if they are old enough. Look over the instructions first to see if your child may need supervision. Be sure your children who can read know which activities you do not want them to try by themselves.

Young children may not fully understand that bad things can happen to them. We don't want to scare our children away from science, but we must:

- Provide supervision when it is appropriate--for example, when using heat or mixing chemicals;
- Teach children not to taste anything unless they know it is good for them and is sanitary;
- Insist children wear goggles whenever fire or splatter could endanger eyes;
- Teach children to follow warnings on manufacturers' labels and instructions;
- Keep toxic or other dangerous substances out of the reach of young children;
- Teach children what they can do to minimize the risk of accidents; and
- Teach children what to do if an accident occurs.

Results

Each experiment comes with a record log to record all your findings. We suggest putting all the logs in a binder to keep them together so they can be a record of what you have done. Keeping records is an important part of science. It helps us remember what didn't work as well as what did work. Someone asked Thomas Edison if he was discouraged after trying thousands of experiments, without results, to make the incandescent light bulb work. He replied:

“Results! Why, I have gotten a lot of results. I know several thousand things that won't work.”

So before starting, get a binder to store your experiment observations. If your children cannot write yet, they can draw pictures of what they see, or you may want to take notes for them.

We should remember, too, that seeing isn't the only way to observe. Sometimes we use other senses; we hear, feel, smell, or taste some things (children should be careful, of course, about what they taste).

Science can be learned in many places and environments and just as easily from everyday experiences as from formal projects and experiments. We can get our children interested in science with simple toys, books, and objects around the house and have fun while we're doing it.

All the experiments in this book follow the steps of the scientific method:

- 1) Name the problem or question
- 2) Form an educated guess (hypothesis) of the cause of the problem and make predictions based upon the hypothesis
- 3) Test your hypothesis by doing an experiment or study (with proper controls)
- 4) Check and interpret your results
- 5) Report your results

So, pick out some experiments, find something that looks like fun, and go for it!

SCIENCE EXPERIMENT CATEGORIES








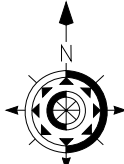

Below is a list of categories for each experiment.
It will also tell you if the experiment can be done inside our outside.








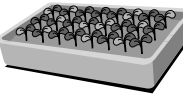


	INSIDE OR OUT	BIOLOGY	GENERAL SCIENCE	NATURE
1. Balloon Skewer	In		X	
2. Birdseed	In or Out			X
3. Buried Garbage	In			X
4. Can Crusher	In		X	
5. Carrot Top	In	X		
6. Catch A Web	In or Out			X
7. Chirp, Chirp	In or Out			X
8. Earth Magnet	In		X	
9. Earthworms	In			X
10. Feasting Yeast	In		X	
11. Fly Cycle	In	X		
12. Fungus Amungus	In		X	
13. Geodesic Design	In			X
14. Geotropism	In	X		
15. Pulpy Paper	In			X
16. Silly Seeds	In or Out			X
17. Spongy Sprout	In			X
18. Sun Clock	Out		X	
19. Thermo Test	In or Out		X	
20. Thirsty Plants	In	X		
21. Water, Land & Air Game	In			X
22. Waterfall	Out			X
23. Web Crawler	In			X
24. Wind Power	In or Out		X	
25. Worm Farm	In			X
		4	8	13

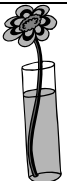
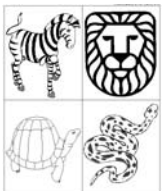


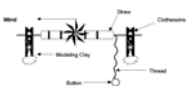
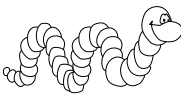
We color-coded the cardstock used for the experiment logs, to make it easy when filling the experiment kits. **Biology** experiment logs are printed on LIGHT BLUE cardstock, **General Science** experiment logs are printed on YELLOW cardstock, and **Nature** experiment logs are printed on LIGHT GREEN colored cardstock. Color-coding the experiment logs makes it easy to file them in the student's science binder.

EXPERIMENTS AT A GLANCE

Below is a list of the experiments in alphabetical order. I included a description of each experiment, area of science, general supplies needed for assembly and the number of masters needed. Please note that ALL the experiments below require a copied experiment log and answer sheet. Some of them, but not all, have some master graphics that will need to be copied.

	<p>1. Balloon Skewer Area of Science: General Science Description: Put a skewer through a balloon without popping it. General Supplies Needed: balloons, wooden skewers, sharp pin</p>
	<p>2. Birdseed Area of Science: Nature Description: Find out what birds are eating when you grow commercial bought bird food. General Supplies Needed: wild birdseed, potting soil, plastic cup</p>
	<p>3. Buried Garbage Area of Science: Nature Description: Make a garbage viewer to observe what happens to garbage when it gets buried in the ground. General Supplies Needed: potting soil, styrofoam, diaper, newspaper</p>
	<p>4. Can Crusher Area of Science: General Science Description: Learn how the air around us can crush a soda can. General Supplies Needed: two empty soda cans</p>
	<p>5. Carrot Top Area of Science: Biology Description: Cut the top off a carrot and watch it grow. General Supplies Needed: sand, disposable metal pie tin</p>
	<p>6. Catch A Web Area of Science: Nature Description: Observe intricate patterns on spider webs and draw them. General Supplies Needed: baby powder, pencils, drawing paper, black construction paper, glue stick</p>
	<p>7. Chirp, Chirp Area of Science: Nature Description: Learn how to determine the temperature using a cricket's chirp. General Supplies Needed: nylon knee high stocking, rubber band</p>
	<p>8. Earth Magnet Area of Science: General Science Description: Prove how the whole earth is a magnet. General Supplies Needed: cork, styrofoam pieces, needle</p>
	<p>9. Earthworms Area of Science: Nature Description: Learn why earthworms are important for helping to make our soil better. General Supplies Needed: plastic cup, potting soil</p>

	<p>10. Feasting Yeast Area of Science: General Description: Find out how yeast and sugar can inflate a balloon! General Supplies Needed: plastic water bottle, 2 balloons, 1 yeast packet, sugar</p>
	<p>11. Fly Cycle Area of Science: Biology Description: Learn and observe the life cycle of a fly. General Supplies Needed: knee high nylon stocking, rubber band</p>
	<p>12. Fungus Amungus Area of Science: General Description: Learn how to grow mold. General Supplies Needed: magnifying lens, straw</p>
	<p>13. Geodesic Design Area of Science: Nature Description: Make some amazing architectural structures out of toothpicks and mini marshmallows. General Supplies Needed: toothpicks</p>
	<p>14. Geotropism Area of Science: Biology Description: Learn how to germinate seeds and what is necessary for healthy plant growth. General Supplies Needed: clear plastic drinking glasses, paper towels, fresh pinto beans</p>
	<p>15. Pulpy Paper Area of Science: General Description: Make new paper from old newspaper. General Supplies Needed: foil, cornstarch, newspaper, crayons</p>
	<p>16. Silly Seeds Area of Science: Nature Description: Learn what seeds need to begin growing. General Supplies Needed: radish seeds, plastic sandwich bags, paper towels</p>
	<p>17. Spongy Sprout Area of Science: Nature Description: Learn how to make a seed sprout without soil. General Supplies Needed: new sponge, mustard seeds</p>
	<p>18. Sun Clock Area of Science: General Description: Learn how to tell time the "old" way. General Supplies Needed: pencil, white paper plate</p>
	<p>19. Thermo Test Area of Science: General Description: How can different types of fabric help keep us warm or cool? How to gloves and mittens keep our hands warm? General Supplies Needed: small pieces of wool, cotton, silk, fabric, rubber band</p>

	<p>20. Thirsty Plants Area of Science Biology Description: How do plants absorb water through their stems? General Supplies Needed: water bottle, blue and red food coloring</p>
	<p>21. Water, Land and Air Game Area of Science: Nature Description: Players name or act out the element with which an animal is associated with water, land, or air. General Supplies Needed: copies of 4 different masters</p>
	<p>22. Waterfall Area of Science: Nature Description: Learn how to measure rainfall and snowfall amounts. General Supplies Needed: 5" plastic ruler</p>
	<p>23. Web Crawler Area of Science Nature Description: Force a spider to spin a web right in front of your eyes. General Supplies Needed: Popsicle sticks, modeling clay</p>
	<p>24. Wind Power Area of Science: General Description: Learn how air can be used to move things. General Supplies Needed: straw, wooden skewer, buttons, thread, modeling clay, clothespins</p>
	<p>25. Worm Farm Area of Science: Nature Description: What do earthworms do that makes them good for our soil? General Supplies Needed: plastic cup, potting soil, sand, small flag</p>

