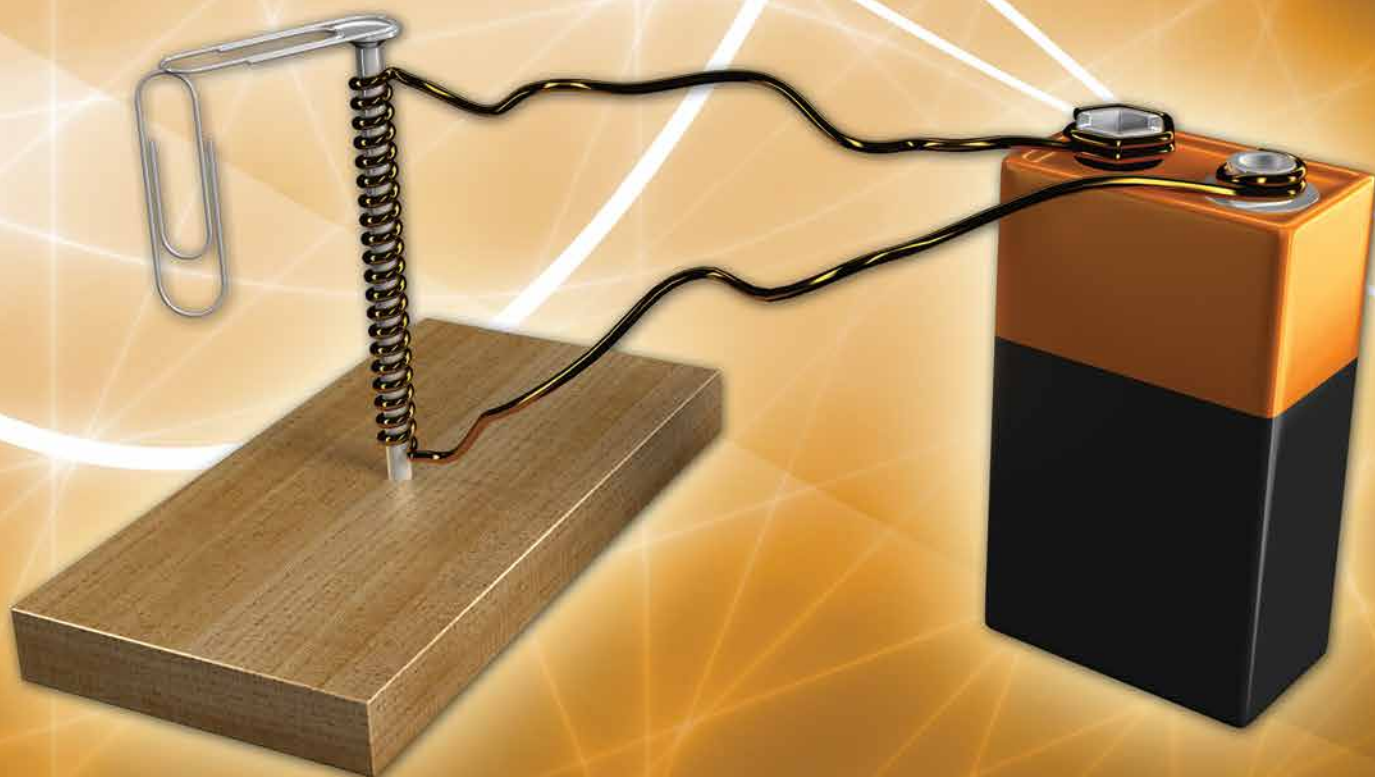


# 21 SUPER SIMPLE Physics EXPERIMENTS

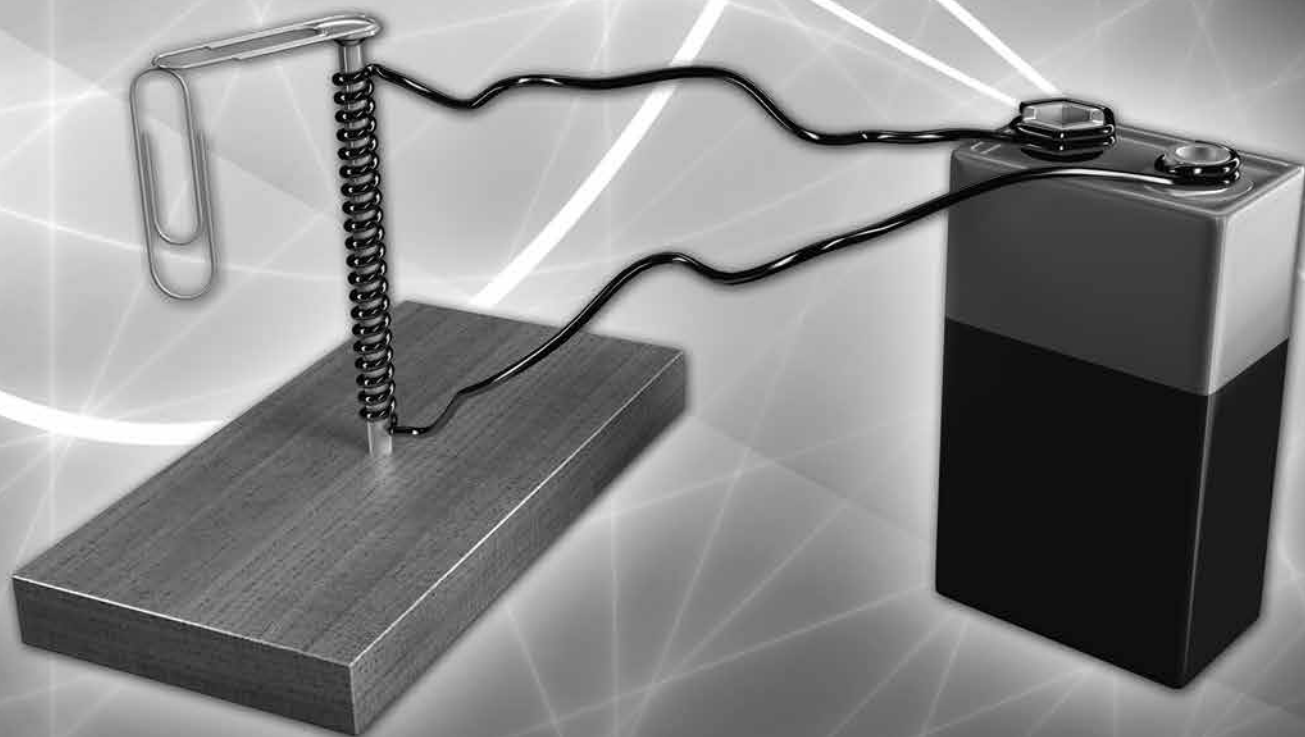


Rebecca W. Keller, PhD





# 21 SUPER SIMPLE Physics EXPERIMENTS



Rebecca W. Keller, PhD





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Marjie Bassler

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## 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

On the next page is a list of the materials needed for all the physics experiments in this book. All the materials can be collected ahead of time and placed in a storage bin or drawer.

**Materials at a Glance***Super Simple Science Experiments**Laboratory Notebook*

balloon  
balls, two or more pairs of different types:  
    basketball  
    tennis ball  
    ping pong ball  
    baseball  
bathtub  
battery, AA  
block, small  
books, several, or 2 chairs  
boulder or other large, heavy object  
bowl  
chair, 1-2  
eggs, 4 hardboiled  
magnets, 2 bar magnets with  
    N and S poles marked  
marble, 1 small and 1 large  
marking pen  
metal items such as:  
    coins  
    nail, iron  
    nails, aluminum or steel  
    paper clip  
    other metallic items  
objects, several heavy  
paper  
pencil, long  
pencils, colored  
plastic wrap  
pole, steel  
potatoes, 4.5 kg (10 lb.) bag  
prism  
rocks, 2  
ruler  
screw  
spool, small  
stopwatch  
string, strong, about 2 m (6')  
table  
tape, strong adhesive  
toy bucket  
toy car

vegetable oil  
wheelbarrow or wagon  
wooden board or plank, .3 m x 1.2 m x  
    2.5 cm thick (1' x 4' x 1")  
wooden cove moulding, 1 m (3') long  
wooden cove moulding, 3 pieces,  
    each .3 m (1') long  
watermelon, large

## suggested items:

    tennis ball  
    feather  
    banana  
    water balloon

available from Home Science Tools  
(as of this writing)

[www.hometrainingtools.com](http://www.hometrainingtools.com)

    bulb, 1.5 volt, EL-LAMP1.5  
    bulb holder, EL-BULBHD1  
    alligator clip leads (2), EL-ALCLIP2  
    battery holder for AA battery,  
        EL-BATHAA1  
    iron filings, CH-IRON

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# 1. What Goes Up Must Come Down

making observations

## Objective

To observe whether or not different objects will fall to Earth when thrown.

## Materials

suggested items:

tennis ball

marble

crumpled piece of paper

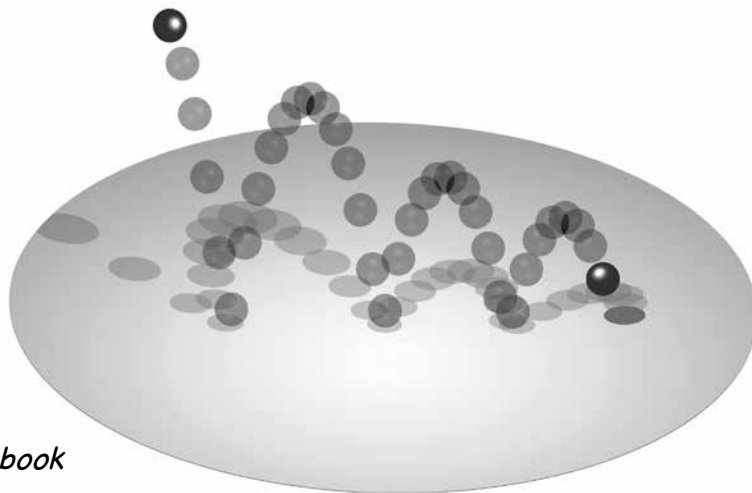
feather

banana

water balloon

*Super Simple Science*

*Experiments Laboratory Notebook*



## Experiment

- 1 Write the name of each item in your *Laboratory Notebook*. Leave enough room below each item name to record your observations.
- 2 Throw the item up in the air. Notice how it travels and then observe if it comes back down. Record your observations in your *Laboratory Notebook*.
- 3 Answer the following questions in your notebook.
  1. Do you think all objects will fall back to Earth when thrown?
  2. Can you name any objects that might stay in the air when thrown?
  3. Do you think you would observe the same result if you were on top of a tall mountain, near the ocean, or at the bottom of a valley?

## Results and Conclusions

*Gravity* is a force that acts on all objects. When an object is thrown, it will move upwards for awhile until gravity takes over and pulls it back down. Even lightweight objects, such as a feather, will fall to the Earth.