



Launching young readers!

Reading Rockets

Literacy in the Sciences: Activity No. 2
Steps in the Scientific Process
By: Reading Rockets

One way parents can help children become interested in science is by explaining the scientific process. The scientific process is the way scientists go about asking and answering scientific questions by making observations and doing experiments. It starts with asking a question.

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Step 1: Ask a question

For the first step, help your child form a question, hopefully one that can be answered! Good questions start with question words: How, What, When, Who, Which, Why, or Where? For example, which cup holds the most water? Which of these four objects do you think will float in water?

Step 2: Do background research

For young kids, background research can include talking together about what they already know about the question they're asking. Maybe you have a book or have seen a show about the topic. The goal for this step is to engage your scientist in some thinking.

Step 3: Construct a hypothesis

A hypothesis is nothing more than a good guess at an answer to the question from Step 1. Ask your child, "Do you think the red cup or the blue cup will hold more

water?" "Do you think the nail will sink or float? Do you think the tin foil boat will sink or float?"

Step 4: Test your hypothesis by doing an experiment

Here comes the part you and your child have been waiting for! Help your scientist carry out the experiment. Encourage your child to be a careful observer of everything that happens. Talk about the steps to the experiment. "First, let's fill up our pitcher with water. Then, slowly pour the water into the cup."

Step 5: Analyze the data and draw a conclusion

This step is all about results. What happened in the experiment? Ask your child, "Did the foil sink or float?" "Which cup held the most water?" At this stage, help your child answer the question developed in Step 1.

Step 6: Share your results

Encourage your child to talk with siblings and other caregivers about the experiment. Have him talk about the steps used to conduct the experiment and what he learned.

Science experiments can be quick and fun to do at home. Sharing the scientific process with your child will help him begin to think and plan as scientists do.

Recommended children's books



<http://www.amazon.com/exec/obidos/ASIN/0142411930/readingrocket-20>

Boy, Were We Wrong About Dinosaurs
By Kathleen V. Kudlinski

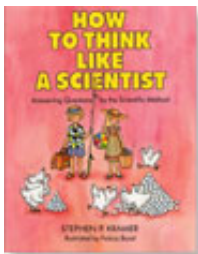
This is a very kid friendly introduction to how a scientific theory is formed through the careful collection and analysis of evidence — and how new evidence can turn a theory upside down.

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How to Think Like a Scientist
By Stephen P. Kramer

Using everyday situations as examples, the author shows kids how to ask the right questions and set up a valid experiment — two critical pieces of the scientific method.



- [Purchase](#)

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I See Myself

By Jerry Pallotta

The child becomes the scientist in this picture book for preschoolers — a young girl finds out about vision, light, and reflection by playing with a mirror, a flashlight, and a bouncing ball. Part of the Science Play series, which encourages hands-on discovery about the world.

- [Purchase](#)

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The Magic School Bus and the Science Fair Expedition

By Joanna Cole

Ms. Frizzle has a mission: her students need science fair projects. What better way to get ideas than to learn from some of the all-time greats? The class heads to the museum to see the exhibit Great Scientists Through the Ages, where — suddenly — Galileo comes to life! An excellent introduction to scientists and what they do.

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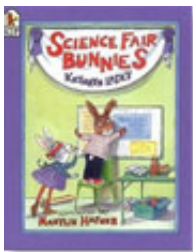
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The Simple Truth About Scientists

By Donna Farland

Bust all those myths and find out how real scientists use their sharp observation and predicting skills, test, collect data, and describe what they learn.

- **[Purchase book](http://www.amazon.com/exec/obidos/ASIN/0972417028/readingrocket-20)**



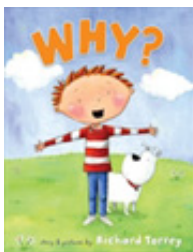
<http://www.amazon.com/exec/obidos/ASIN/0763617350/readingrocket-20>

Science Fair Bunnies

By Kathryn Lasky

This entertaining story featuring the inquisitive Clyde and Rosemary introduces children to scientific reasoning, logic, predicting, experimenting, recording observations, charting data, and analyzing results.

- **[Purchase book](http://www.amazon.com/exec/obidos/ASIN/0763617350/readingrocket-20)**



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Why?

By Richard Torrey

All scientific inquiry begins with a question, something at which Jack is quite adept. He wonders why crackers have holes, why feet stink, and why hair doesn't hurt when cut. This book is sure to generate even more inquisitiveness about children's everyday experiences.

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"You may have tangible wealth untold. Caskets of jewels and coffers of gold. Richer than I you can never be — I had a mother who read to me." — Strickland Gillilan