

Step 1: Describe Your Big Question

What are you investigating?

Define your topic.

Why did you choose this topic?

Explain what made you interested to find out more.

What did you expect the outcome to be?

Give your “best” guess — or hypothesis — based on your observations of the subject and the beginning research you did after you picked your question.



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Step 2: Explain the Hows and Whys

How did you test your hypothesis?

Demonstrate *how* you went about proving or disproving your initial best guess.

Why did you test it that way?

Briefly explain *why* you made the choices you did — and also why you chose not to do other kinds of tests or research.



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Step 3: Present Your Information

What did you find out?

Show your results with words and visual aids.

What might your results mean?

Present your analysis of the data.



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Step 4: Conclude with New Questions

What was it all about?

Review what you explored.

Should you keep going?

Explain what further investigating you could do to continue to learn more about your topic.

What new questions do you have?

Include new questions you are interested to ask based on what you've learned.

If you did it again, what would you do differently?

Reflect on what you learned from the experience and what you might have done differently knowing what you know now.



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Step 5: Show Your Sources

Record your outside sources with a bibliography.

Here are examples of how to show your sources:

BOOKS

By a single author:

Marks, Paula. *The Human Genome Project*. New York: St. Martin's Press, 1995.

By two authors:

Polsky, Phillip E., and Lauren Shaeffer. *A Guide to Rocks and Minerals*. Oxford, MS: University of Mississippi, 1999.

By three authors:

Martin, Linda, Shelia Daar, and Mary Williams. *Montana's Glacier National Park. West Glacier, MT: Falcon Publishing Company, 2001.*

By more than three authors:

Ferrara, John E., et al. *Hyraxes and Kopjes*. Los Angeles: Rainbow Press, 2000.

By an unknown author:

Exploring the Everglades. Boston: Harcourt Brace, 2003.

By an editor:

Ronan, Colin A., ed. *Science Explained*. New York: Henry Holt, 1998.

ENCYCLOPEDIAS

Trainen, Martha. "New York State." *Encyclopedia Americana*. 1999.

MAGAZINES

Moffet, Mark. "Poison-Dart Frogs: Lurid and Lethal." *National Geographic* May 1995: 98-101.

NEWSPAPERS

McMahon, Hugh. "New Find in Long Island's Jurassic Park." *Newsday* 27 October 1998: B2.

JOURNAL ARTICLES

Chu, John. "Habitat Use and Separation Between the Giant Panda and the Red Panda." *Journal of Mammology* 81.2 (2000): 438-455.

WEB SITE ARTICLES

Wenner, Elizabeth. *Dynamics of the Salt Marsh*. Department of Natural Resources. Retrieved from the World Wide Web on 21 December 2003.
<http://water.dnr.state.sc.us/marine/pub/seascience/dynamic.html>

PERSONAL INTERVIEW

Williams, Julie. Interviewed by Kolea Zimmerman. Volcano, Hawaii, 2 December 2002.

Bibliography examples care of the American Museum of Natural History's Young Naturalist Awards.
