

The Scientific Method





What is the “scientific method?” What is it used for?
How many steps are in it? Are there seven steps, or more?
Why would this be helpful when I’m doing a project?
Will everything turn out for me the way that I expect?



The **scientific method** is a way to help you find the answers to scientific questions when they come to mind. When you've decided on a topic, then a question you must state. For example: "How long does it take a paper cup to disintegrate?"



Next, you must do some **research**. You can use the Internet, or visit your librarian the next chance that you get. If your topic is recycling, then find out what you can about landfills and recycling, and then continue with your plan.



After you have done your research, then comes the interesting part. You must make a prediction or **hypothesis**, and that is where you start. A hypothesis is a prediction or guess based on your early observations. Then you start experimenting and doing your investigations.



You will do detailed **experiments** to prove your hypothesis false or true.

You need to document each step you take, but you are not yet through.

Next, you must **analyze** all your results. How did your testing go?

What happened? Did you prove your point? What do your experiments show?



Sometimes things don't work out right and you must start anew. This is something that all scientists may find that they have to do. Just think it over one more time and try again once more. There may be a new direction that you need to explore.



When all your tests are finished, then you must draw a **conclusion**. Was your hypothesis true or false, or was there some confusion? Sometimes hypotheses can be partly false, and sometimes partly true. Report your findings as they are. That's the last thing you must do.



The scientific method can be a very helpful tool, whether you're making a cake at home or a science project at school. It's a way to find some answers if you want to be a sleuth. It helps you organize your inquiry. It's a way to find the truth.

1. A process to help you find answers in a scientific way is called what?
- digestive method
 - scientific method
 - physical method
 - exploratory method

Answer: _____

2. What is the first step in the scientific process?
- decide the conclusion
 - decide on the experiments
 - decide on a topic
 - decide your hypothesis

Answer: _____

3. After you decide upon a topic, what is the next step?
- state your conclusion
 - state a question
 - state your hypothesis
 - state your name

Answer: _____

4. What is another word for hypothesis?
- guess
 - answer
 - solution
 - conclusion

Answer: _____

5. When you have finished with your experiments, what step is next?
- publish your results
 - start over again
 - analyze your results
 - restate your results

Answer: _____

6. Which of these conclusions might you arrive at after your process?
- your hypothesis was true
 - your hypothesis was false
 - your hypothesis was partly true and partly false
 - all of the above

Answer: _____