

THE SCIENTIFIC METHOD

The scientific method is a step-by-step process that scientists use to answer questions and solve problems. Following these steps will help you design and perform a top-notch experiment and keep your science project on track.

1

Make an Observation:

What do you see around you that is interesting but not fully explained?

2

Ask a Question: What do you wonder about your observation?

Write it down in the form of a research question. For example, "How does (something) affect (something else)?"

3

Research a Topic: Use the library, the Internet, and experts to

learn more about your question. Perhaps you'll find the answer. If you do, think up another research question. If you don't, it's time to experiment.

4

State Your Hypothesis: Come up with a possible answer

to your research question. The experiment you perform will test whether this hypothesis is true.

5

Plan an Experiment: Write a procedure listing the detailed

steps you will follow. Identify your experiment's variables. These are characteristics that change or could be changed. Gather the supplies you will need.

6

Perform the Experiment: Follow your procedure.

Perform multiple trials to ensure your results are reliable.

7

Record and Analyze Your Data: Keep a

record of what you observe. Use tables, charts, graphs, and diagrams to display data clearly. Note any patterns you find.

8

Draw Conclusions: What did you learn from your data?

Did your data support or disprove your hypothesis?

9

Communicate Your Results:

Write a report to explain your findings. Create a display to share your results with science-fair judges, teachers, and classmates.

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