

THE SCIENTIFIC METHOD

The Scientific method is a series of steps used by scientists to investigate the natural world. It involves learning through observation and experimentation.

Step One: The Problem

1. Decide what you want to find out. Pick a topic that interests you.
2. Develop a question that can be investigated using experimentation.
3. Your question should be something you can measure
4. Start your log book

Step Two: Observe and Research

1. Observe the problem
2. Make inferences based on your observations
3. Do a literature search to find out what others have learned about the problem

Step Three: Hypothesis/Problem Statement

Predict a possible answer to the problem or define the goal of your project.

Example: If bean seeds receive more light each day they will grow faster.

Step Four: Experiment

1. Develop a procedure that has steps to be followed
2. List all materials needed
3. Identify all variables
4. Carefully record your observations in a journal

Step Five: Data

1. Check that you have enough data to answer your question
2. Do you need to confirm your results by retesting?
3. Organize your raw data
4. Summarize your results using graphs and tables

Step 6: Conclusion

1. What have you learned from your results?
2. Do your results support your hypothesis?
3. Do you need to carry out more research?

Step Seven: Communicate

Present your results as a poster, report, slide show, video or display.

Define or identify a problem

Observe and Research

Formulate a Hypothesis

Design and conduct an experiment

Collect and analyze data

Draw a conclusion

Communicate your results