

SCIENTIFIC METHOD WORKSHEET

The scientific method is a way to ask and answer scientific questions by making observations and doing experiments.

Use this worksheet to keep organized as you explore and experiment in science. You can write some of your ideas on this paper, but it is a good idea to keep a science journal for your whole project.

The steps of the scientific method are to:

1. **Observe**
2. **Ask a Question**
3. **Do Background Research**
4. **Construct a Hypothesis**
5. **Test Your Hypothesis by Doing an Experiment**
6. **Analyze Your Data and Draw a Conclusion**
7. **Communicate Your Results**

OBSERVE: To get started on a science project, take your time and observe the world around you. What are you interested in? What are you curious about? What do you want to learn more about?

List possible ideas here:

ASK A QUESTION: Ask a question that will help you understand your topic better. It must be a question that can be tested. Try to make it a yes/no question if possible.

Write your question here:

DO SOME BACKGROUND RESEARCH: This will help you understand your topic better and conduct a better experiment.

You will need to take research notes on a separate paper.

WRITE A HYPOTHESIS: Write down what you think will happen when you conduct your experiment.

Write your hypothesis here:

TEST YOUR HYPOTHESIS BY DOING AN EXPERIMENT: There are many steps to take when conducting an experiment. Write your plan on a separate sheet of paper. *Use this guideline:*

1. Plan it out carefully. What are you going to do? How will you find the answer to your question? Write down your procedure including all steps, even small ones.

Note: It is important for your experiment to be a fair test. A "fair test" occurs when you change only one factor (variable) and keep all other conditions the same.

2. Plan a timeline so you are sure you have enough time to complete the experiment. Use a calendar.
3. List all materials needed.
4. Conduct the experiment.
5. Make observations and/or measurements. Record all observations carefully. Charts and graphs are a good way to keep track of your data.
6. Take some pictures that you can include in your display.

ANALYZE YOUR DATA AND DRAW CONCLUSIONS: What did you learn by doing this experiment? What did your data tell you? Was your hypothesis correct? *Write your conclusions here:*

COMMUNICATE YOUR RESULTS: Make a display of all you learned. Be neat and organized! Be sure to include:

- A title
- Your name
- The question you asked (This could be your title.)
- Your hypothesis
- Important background research
- Your procedure, written as a list.
- Your test results (Share your data in charts and graphs when possible.)
- Your conclusion
- Photos or drawings of what you did
- A display of some of the items you used in your experiment if possible.