

Scientific Method for Kids

Scientific Method Steps Made Simple

Scientific language is often needed to explain natural phenomena as accurately as possible. Unfortunately, this can also complicate the process of learning the [scientific method for kids](#). On this page you will find a science for kids approach to applying the scientific method steps. Before we get to it though, we should cover a few basics first...

Firstly: What is Science Again?

Science is a way of thinking and a way of gathering knowledge about the world that is both accurate and reliable. It is the quest to understand and improve our knowledge of the world around us, and **how** the things in it work; or **why** they work the way they do. Here is a bit more information on [what science is](#).



Okay, Then What is the Scientific Method?

Picture science being a car driving towards a place called "knowledge." The scientific method is like the road map that you follow in order to get to that destination.

Okay, so how do you read this road map so that you can steer and navigate the car in a way that will lead you to your destination effectively? You're just about to find out. Below is a "scientific method for kids" guide that will lead you through the scientific method steps and through the process of carrying out your own scientific investigation.

A more detailed explanation of the [steps of the scientific method](#) is also provided just in case you would like to find out more and you will come across a guide for designing your own experiments as well. This might come in handy if you happen to be taking part in your school science fair.

Steps of the Scientific Method for Kids

Scientists use the scientific method to find answers to questions and to solve problems. Although there are many different versions of it in use today, you will find that what they are really based on is making observations, asking questions and looking for answers to questions through science experiments. In order to use the scientific method to find answers to your own questions, you will need to:

- **Make Observations**
- **Do Some Research**
- **Form a Hypothesis**
- **Test Your Hypothesis**
- **And Draw Conclusions**

Scientific Method for Kids: Making Observations

When using the scientific method to carry out your own investigations, one of the first things you will need to do is make observations and ask questions. How do you go about doing this? Simple... Just take a look at the things around you.

Does something make you curious? Does something seem strange to you? Do you wonder **what** causes something or **why** something happens? Ask yourself questions; Why is the sky blue? Why are the birds flying south for winter? What makes soda fizzy? The possibilities for observations and questions are endless.

Now as you make your observations, pay special attention to things that catch your attention. What you are trying to do in this step is find something that really interests you that you would like to find out more about.



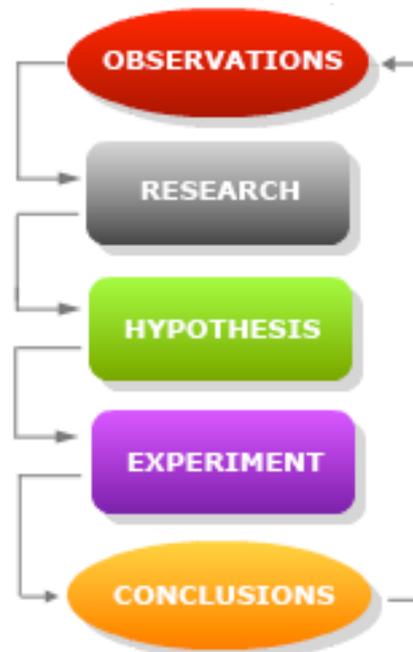
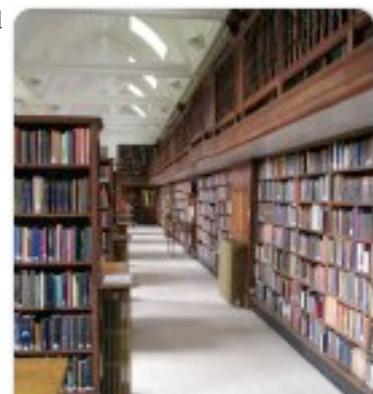
As an example of an observation, you might have noticed a colorful rainbow in the sky and might have thought to yourself: "I wonder **what** it is that causes rainbows to appear in the sky?" Or you might even have thought: "**where** do those colors come from?"

Scientific Method for Kids: Background Research

After you have made observations, asked questions and found something that really interests you that you would like to learn more about, the next step in the scientific method will be to do some background research to see what has already been discovered in your area of interest.

The library is a great place to start your background research. You'll find a wide variety of great resources, from books to magazines, to newspaper articles and even the internet. And don't forget the librarian; he will be able to point you in the right direction so that you can find the information you need.

Your science teacher will also be able to help you with the questions you have so don't forget to ask her for advice. And of



course your parents will be more than willing to help you in your search for more information.

Your "scientific method for kids" task in this step is to try and find out as much as you can about the observations you have made and the questions or problems you have identified. You might even be surprised to find that your question has already been answered.

In a lot of cases though, you will probably still have unanswered questions, and this will call for you to do some further investigation and carry out an experiment so that you can hopefully find an answer to your question.

Scientific Method for Kids: Forming a Hypothesis

Now that you have done a bit of background research and have gained some insight into your question, the next scientific method step will involve you forming a testable hypothesis. A hy-pot-the-what...? Sounds like something complicated doesn't it? Well it's really quite simple.

A hypothesis is similar to an educated guess. It is a preliminary answer to the question you have asked that you will test to see if it seems to be true. All you need to do to form your hypothesis is to take your original question, and turn it into an answer. For example, you might hypothesize that: **rainbows appear as a result of water in the earth's atmosphere "bending" the light from the sun.**

Keep in mind that it doesn't matter whether your hypothesis is "right" or "wrong". What you are trying to do here is form a hypothesis that you can test through an experiment. The results from your experiment will tell you whether the hypothesis was correct or not. So don't fuss too much over the wording. The most important thing is to just make sure that it is testable.

Scientific Method for Kids: Conducting Experiments

Here comes the real fun! Are you ready? In this step of the scientific method, you will be designing and conducting an experiment to test your hypothesis. Before you get stuck into it though, we should cover a few things about variables.

There are three types of variables that you need to consider when designing your experiment: **independent** variables; **dependent** variables, and **controlled** variables.

Independent variables are the things or factors you change in your experiment. You are completely in charge of them and they do not depend on anything else.

The dependent variable is the thing you measure whenever you make a change to the independent variable, and your control variables are the factors that you keep constant in each run of your experiment.

The way it works is that you will make a change to your independent variable. You will then measure the effect this change has on the dependent variable, and you will do this all while keeping the controlled variable unchanged. By repeating this process several times over, you can collect enough data from which to draw meaningful conclusions.



So go ahead and carry out your experiment. Make sure to record your observations and data in a well kept science journal or logbook.

This is not only good scientific practice, but it will also come in handy when it comes time to draw some conclusions.

If you are still unsure as to where to start, here is a great guide on how to design science experiments.

Scientific Method for Kids: Drawing Conclusions

The final steps of the scientific method will involve analyzing the data you have collected throughout your experiment and drawing conclusions on that data. The main aim here is to summarize the findings of your experiment and to determine whether the experimental evidence supports or refutes your original hypothesis.

What did you learn from your experiment? Did you happen to find the answers to your questions? How about your experimental results; did they agree with your hypothesis? If indeed they seemed to agree, to what extent did this take place?

Or was your hypothesis "way off?" If it was, there's no need to sweat; what you can do is repeat your experiment a few times over to see what the new results may reveal. This is good scientific practice and who knows? you might discover something even more interesting the next time around.

If you are really determined to get to the bottom of the issue, what you can do is form a new hypothesis and work through the scientific method steps again. You would have gained a lot of valuable information from your first experiment. What's more is that as you continue in this fashion; that is from observations to hypotheses to experiments, you will eventually hone in on a correct hypothesis.

More Scientific Method for Kids Resources

Hopefully, you now have a clearer understanding of the scientific inquiry process and how to go about applying it to your own science experiments. If you enjoyed this scientific method for kids article, below are a few additional science for kids resources you might also find useful.

Scientific Method Comprehension Worksheet

Have you read the [steps of the scientific method](#) or [scientific method for kids](#) articles? Great! You are ready to complete this worksheet.

Read the paragraphs below and fill in the blanks with the words that make the most sense. You will find the word that matches best in each of the word groups below.

variable scientific control biological	senses controls solutions solvents	theories experiments properties none of the above	meeting consideration laboratory conclusion
conclusion data experiment problem	variable factor hypothesis conclusion	data hypotheses structures expressions	solvent control deduction theory

The _____ method is a process that scientists use to help them test new ideas. The first step in this process usually involves defining the _____ .

The next step involves gathering information and making observations of natural phenomena. A way in which this can be done is by using one or more of the five _____ .

After initial observations have been made, the following step usually involves the scientist making an educated guess or a _____. This is a possible explanation of how or why the phenomena that have been observed occur.

Following this, an investigation may be carried out to determine the plausibility of the explanation. This is usually done through performing one or more activities that are collectively known as _____ .

Observations are made and recorded. These recorded observations are known as _____ .

After the observations have been made and recorded, the scientist then forms a _____ and in the process notes whether the observations made and the results recorded support or refute the hypothesis.

In future, other scientists may retest this hypothesis and if it turns out that after numerous retests, the hypothesis remains supported by experimental data, it may become known as a _____ .