

What Is a Science Project?

Scientists all over the world make new discoveries by using the scientific method. Now, you can join their ranks! A science project is your chance to choose a subject of interest to you and study it using methods like those professional scientific researchers use.

You may choose to study a topic such as how lighting affects plants or how much of the air is oxygen. Whatever you choose to do, the worksheets on pp. 35-60 will lead you through each step of the scientific method and through each phase of the project. The worksheets will even help you choose your subject if you can't decide what to do. So, don't worry! The project is entirely yours. Your parents and teachers will be around to help you if you need it. You'll also have plenty of tools such as timelines and progress reports to help keep you on track.

Explore Your World The whole point of a science fair is to give you a chance to explore on your own. Exploration can be a lot of fun. Instead of reading about composting in a book, you can do experiments comparing store-bought fertilizer to compost that you have made. You may try to figure out what weather patterns would be like if the Earth were square. Or, you can discover what types of plants attract butterflies. Maybe you'll build a machine to test the difference between old golf balls and new golf balls. The fact is that your science project presents *your* creative solution to a question or problem. So good luck, and have a blast!



THE SCIENTIFIC METHOD

The steps of the scientific method that you'll be using appear below. Each step is explained in Phases 1-5 of this packet.*

- Purpose:** developing an investigative question
- Hypothesis:** making an educated guess about the answer to the investigative question based on research
- Experiment:** testing the hypothesis, collecting data, and making observations
- Analysis:** organizing data from the research and experimentation and looking for patterns
- Conclusion:** determining if the hypothesis is supported or disproved by the experimental results
- Communicating the Results:** sharing the conclusion with others

*In Chapter 1 of your textbook, these steps are called Ask a Question, Form a Hypothesis, Test the Hypothesis, Analyze the Results, Draw Conclusions, and Communicate Results.