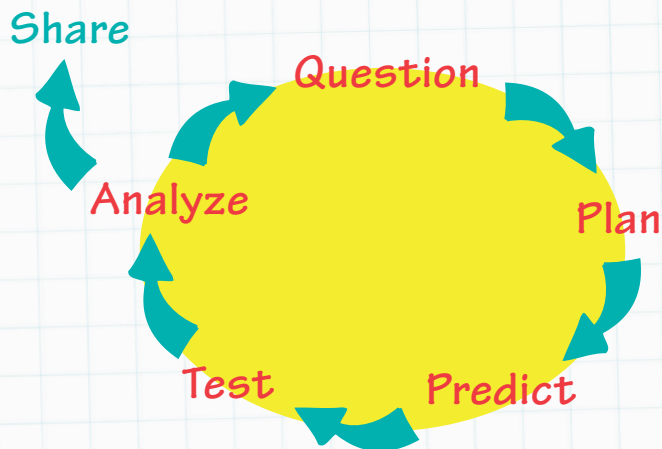


SciGirls Want to Know

Scientific Inquiry Process

Here is the **SciGirls'** scientific inquiry process, the same steps all scientists use when tackling a new problem. Encourage your girls to follow these steps as they approach each **SciGirls Challenge**.



Question The **SciGirls Challenge** lays out the initial question for investigation, but girls might come up with new questions as they work their way through the process. Steer them away from questions that have simple yes/no answers toward ones they can answer through their own investigations.

Plan Research ideas by consulting experts, reviewing books, browsing the Internet, and then brainstorming with others. Each group should choose one idea and plan an investigation that tests one variable at a time, includes multiple trials, and has a clear way to measure results.

Predict This important step is sometimes forgotten. Ask girls what they think will happen before diving in. It's OK to disagree. Different predictions make the experiment more interesting and discussing predictions can improve critical thinking skills.

Test Let the experimentation begin! Be sure to encourage girls to write down every observation and result in their science journals.

Analyze After each test, analyze the data. A failed test can still lead to important results—and new ideas. Encourage girls to make calculations, organize their data in a table or chart, and discuss. This evaluation sometimes raises new questions and starts the entire process over again.

Share Encourage girls to be creative when making charts, graphs, or models to share their results. Have them use these visual aids to tell an effective story. Allow time for feedback and discussion, which could open new doors for future investigations.



Throughout this guide, the projector points you to videos on the companion DVD. Or you can watch online at pbs.org/teachers/scigirls.