

## Project Guidelines



### What is a science fair?

Science fairs provide opportunities for kids to creatively explore an area that interests them—to do science themselves! Thinking of a project, asking a question about an area or field of study, determining a way to test the answers to their questions, and creating a colorful display are all ways to get students excited about science and learning. Creating a science fair project encourages even more questions about science and closer attention to things around them.

### Where do I start?

Thinking of your science fair project can be fun and challenging. First, think of an area that interests your child, or they are curious about. Make sure it is a subject they are interested in.

K-2 students can also participate by submitting a science poster for display only. Examples include:

- The Five Senses
- Planets of our Solar System
- Dinosaurs of the Jurassic
- Model of the Digestive System

However, what is really fun when doing a science fair project is to ask a question that leads to an experiment. This process of answering questions by creating an experiment that really narrows down cause and effect is called The Scientific Method. This is what science is all about!

Here are examples which turn one of the above poster subjects into one that asks a question:

- Which of the five senses is used most?
- How high is Venus in the night sky?
- Why did dinosaurs get so big in the Jurassic Period but then smaller during the Cretaceous?
- How long does it take for food to go through the digestive system?

## Science Fair Project Guide for Cowlshaw Elementary School

### How do you get some answers? (The Scientific Method)

Oooh... the **Scientific Method**.....Does it sound a little scary? Well, it's not. It's just the way that scientists get from asking a question to finding an answer. Here's a short outline of how it works.

- First, ask your **Question**
- Then make a guess—**Hypothesis**
- Take a look with experiments—**Observations**
- Write down observations—**Data**
- Make a **picture** of what you observed—charts, graphs, tables, or photographs
- Decide what it means – **Conclusions**



### Pick your project!

Ask a question! This is probably going to be the title of your science fair project. Need some help with getting ideas? Ask a question that leads to an experiment!--Remember that an experiment compares things. It is important to ask the question in a way that you can compare or measure things to get an answer. You might need to work on your question and ask it a few different ways before you figure out the best way to ask it so that it leads to a measurable answer.

### Research your topic!

Next you need to research your topic. Find out as much as you can about your topic. Read books on it, find magazines or newspapers, talk to people you know, do online searches to help you find more information.



Suppose your project is “Which paper towel really lasts longer?” It would be a good idea to do some research on how paper towels are made. Perhaps write to the different paper towel companies and ask about their equipment or where their paper comes from. You could even try to make your own paper towels and test those against the national brands.

If you are in Kindergarten and you are really interested in dinosaurs, you could do research by going to the Field Museum to see Sue and the Rockford Dinosaur museum to see Jane (T-Rex fossils). Talk to the guides at the museum to find out more information. Take pictures of both to see how they are the same and how they are different.

### **State your hypothesis!**

Since you’ve done a bit of research, you probably have some ideas about how your experiment will turn out. Make a guess and write it down. State your hypothesis in a way you can measure or check.

### **Do your experiment!**

Now you need to check your hypothesis to see if it is correct or not. (A little sneaky hint here: being wrong is ok...sometimes it’s easier to check it that way) Set up your experiment so that you are changing only one thing and the rest of it stays the same. The thing you change is called your variable because you are varying or changing it.

### **Gather your results!**

Record the results of your experiment using charts, graphs, photographs, or measurements. Feel free to record your data in more than one way.

### **Draw your conclusions!**

What happened with your experiment? Did it turn out the way you thought it would or were you surprised? What did you learn? Write it down. It doesn’t have to be long. Just think about it and state it in a clear way.