

Parent Help

Science Fair projects are an opportunity for parents and children to engage in an out of class study of a topic chosen by the student. As your child works on his/her project, s/he may run into roadblocks. Please help your student figure out the solutions to these challenges with open-ended questions such as, "How do you think you could solve this?" or "Why do you think that happened?" rather than giving him/her the answer directly. The parent/guardian place is in the back seat, hands folded (make that clasped!) in your lap, with the student at the wheel (except, of course, for those trips to the craft store and transporting delicate 3-D models and tri-fold display boards). Below are some suggestions for helping at the appropriate level.

| Project Step | Helping at the right level | Going too far |
|-------------------------|---|---|
| Selecting a topic | Discuss with your child if the project is reasonable | Picking the topic and the question/problem |
| Background Information | Taking your child to the library Helping think of keywords for searches | Doing the internet search (for grades 3 and up) |
| Hypothesis | Asking how the hypothesis relates to the experiment | Writing the hypothesis yourself |
| Experiment | Assisting in finding materials Monitoring safety | Writing the procedure Doing the experiment |
| Designing Prototypes | Asking why a specific material or design is chosen | Drawing the prototypes |
| Building the Prototypes | Assisting in finding materials Monitoring safety | Building the prototype |
| Results | Asking your child how s/he will record the data | Creating a spreadsheet and making graphs yourself, even if your child types in the values |
| Conclusion | Reminding your child that the data should relate back to the hypothesis/problem | Announcing the conclusion |
| Report | Helping bring it to school | Determining the color scheme |

Sample Engineering Problems:

Invent a new product

Create a computer program to solve a problem

Build a robotic insect/arm

Design a device to measure wind

Build a working model of a body temperature monitor and alarm.

Develop a shower water temperature monitor.

Come up with some non-chemical methods of purifying water.

Websites

Science fair ideas and methods:

www.sciencefaircentral.com

Try Engineering

www.tryengineering.org/

Engineering is Elementary

www.eie.org/

eGFI (Engineering Go For It)

www.egfi-k12.org/