## Log book Guidelines

To do scientific research authentically it is important to observe and follow the procedures and rituals of a professional researcher for the project you are conducting. **Background research** is important; **Safety** is vital. And, your research is not considered meaningful by professionals if you have not kept accurate records that can be understood by others and by which others can duplicate your experiment.

During science competitions you will be asked for your **Research or Lab Notebooks.**  Having one properly filled out can make a difference as to how the judges view your project.

Use the following guideline to record data in your **Research or Lab Notebook:**

1. Use a bound notebook so that pages cannot be torn out.
2. Write in pen, not pencil.
3. Print, if you do not have clear handwriting.
4. At the beginning of each day of research write the following in the top margin of the notebook:
	1. your name
	2. the date
	3. time you start your research
	4. time you finish research for that day
	5. total number of hours of research for that day
5. Write exactly what **you** did, in the order it occurred. Include in very specific detail the following:
	1. theory or statement of the problem
	2. sources consulted
	3. safety procedures (be very detailed)
	4. equipment used
	5. techniques performed include any of the following in applicable situations
		1. animals - genus, species used in experimentation
		2. lasers – class of laser
		3. microbiology – detailed disposal techniques
		4. chemicals - % dilutions, disposal
	6. data collected including variable and units
	7. qualitative data (observations)
	8. problems and any solutions

**Note: if part of the experiment was performed by an authorized adult include that information in the log**

1. Include all necessary formulas, graphs, concepts, etc. that you learned or used in the lab.
2. Completely document all sources and references that were consulted. Be sure to include personal conversations and interviews either in person or by phone.
3. Think ahead. Include all plans for the next day’s work. Writing down your thoughts will help in cases of forgotten facts and ideas.
4. DO NOT DESTROY any of the information recorded in the book. Do not erase, white out, tear out pages, etc. In order to correct information that was mistakenly recorded, simply mark through it with a single line and then initial and date the change.
5. Sign your name at the bottom of every lab page, even if the day has not ended.