

2018  
Crestwood  
Elementary  
School  
Science Fair  
Guide



# Important Dates

Wednesday, November 29, 2017 .....	6:30pm -7:30pm.....	Parent Informational Meeting in Library
Friday, December 15, 2017 .....		Entry Form due to Classroom Teacher
Wednesday, January 10, 2018 .....		Project help in Library(by appointment)
Wednesday, January 24, 2018 .....		Project help in Library(by appointment)
Wednesday, February 7, 2018 .....		Project help in Library(by appointment)
Wednesday, February 21, 2018 .....		Project help in Library(by appointment)
Friday, February 23, 2018 .....		All projects due (delivered to the library)
February 26-27, 2018 .....		Judging in library (judges needed)
Thursday, March 1, 2018 .....	6:30pm-8:00pm.....	Crestwood Science Night in Gym
Thursday, March 8, 2018 .....	7:00pm-7:30pm.....	Science Fair Award Ceremony & Project Pickup
Tuesday thru Sat April 24 – 28, 2018 .....		Greater St Louis Science Fair at Queeny Park

## Table Of Contents

What is an Investigation?.....	Page 3
Step 1: Coming up with a good question.....	Page 3
Step 2: Doing the research and forming a hypothesis.....	Page 4
Step 3: Testing your hypothesis by doing an experiment.....	Page 5,7
Time out: How do you collect data?.....	Page 6
Step 4: The presentation and why you need all those pictures.....	Page 7-8
Final Words.....	Page 8
Appendix A: Academy of Science judging criteria.....	Page 9-11
Appendix B: How to figure out independent and dependent variables.....	Page 12
Appendix C: Examples of how to form a hypothesis.....	Page 13
Appendix D: Entry form and display box order form.....	Page 14
Appendix E: Academy of Science safety form.....	Page 15
Appendix F: Helpful resources for project ideas.....	Page 16
Appendix G: Contacts for Help for Projects and Wednesday After School Project Help.....	Page 17
Appendix F: Suggested Project Completion Timeline.....	Page 18

# What is an Investigation?

There are basic methods of gaining knowledge that are shared among all branches of science. At the heart of all science is the scientific investigation, which is done by following the scientific method. A scientific investigation is a plan for asking questions and testing possible answers. And by the way, if we say write, typing is acceptable and so is getting your helper to write for you. The steps are as follows:

## Step 1: Coming Up With A Good Question...

To give you an idea of what we mean you can start off by filling in the question blanks with the following list of words:

The Effect Question:

What is the effect of \_\_\_\_\_ on \_\_\_\_\_?  
brands of soda                      a piece of meat  
temperature                      the size of a balloon

The How Does Affect Question:

How does the \_\_\_\_\_ affect \_\_\_\_\_?  
Humidity                      the growth of fungi  
color of a material                      its absorption of heat

The Which/What and Verb Question

Which/What \_\_\_\_\_ (verb) \_\_\_\_\_?  
paper towel                      is                      most absorbent  
detergent                      makes                      the most bubbles

**What me Worry?** Your Journal/Logbook and Display Tell Your Story For You!



# Step 2: Doing The Research And Forming A Hypothesis...

So How do you become an expert?

## **You read and discuss your topic!!!!**

READ about your topic. Take note of any new science words you learn and use them. It makes you sound more like a real scientist. Keep Track of all the books and articles you read. Talk over the information with your student and help them write their background information. Students in grades K-2<sup>nd</sup> will need to have 1 paragraph of information, while students in grades 3<sup>rd</sup>- 5<sup>th</sup> will need to have 2-4 paragraphs.

## **What is a bibliography?**

A bibliography is an alphabetical list of all materials consulted in the preparation of your project. Students in grades K-2<sup>nd</sup> will need to have 1-2 sources. While students in grades 3-5 will need to have 3-5 sources. Hint: Wikipedia is a good place to start, but NOT a good source for your bibliography because it is known to have errors.

Bibliography entries will need to be written using **MLA Format** for grades 3-5.

For students in kindergarten through grades 2, list the source type and the title.

Example: Book – The Discovery Channel: Wicked Weather

For students in grades 3 through 5, use the MLA format.

Example: Shulman, Mark. Discovery Channel: Wicked Weather.

Des Moines: Meredith, 2006.

A web resource for formatting your bibliography is given in Appendix F.

## **Write A Hypothesis:**

Now it is the time to PREDICT what you think will happen if you test your problem. This type of “SMART GUESS” or PREDICTION is what is called a **HYPOTHESIS**.

So how do you begin? Well, just answer this very simple question:

What do you think will happen, (even before you start your experiment)?

**Example Problem:** Which Paper Towel is more absorbent?

**Example Hypothesis:** I think Brand X will be more absorbent because it’s a more popular brand, it is thicker and the people I interviewed said that the more expensive brands would work better

(This hypothesis not only predicts what will happen in the experiment, but also shows that the “Scientist” used research to back up his prediction.) Examples of hypotheses are given in Appendix C.

# Step 3: Testing Your Hypothesis By Doing An Experiment...

You get to use your imagination to come up with a test for your problem, and most of all, you get to prove (or disprove) your Hypothesis. **Now Science Fair Rules state that you cannot perform your experiment live (like at school), so you'll have to take plenty of pictures as you go through these seven very simple steps. All of these steps should be recorded in your science journal/logbook.**

**First: Gather up your materials (Material list):** What will you need to perform your experiment? The safest way to do this is get that adult you recruited to help you get the stuff you need. Oh, did we mention to take pictures or draw pictures of your materials? This will come in handy when you are making your board display.

**Second: Write a PROCEDURE.** A procedure is a list of steps that you did to perform an experiment. Why do you need to write it down? Well it's like giving someone a recipe to your favorite dish. If they want to try it, they can follow your steps to test if it's true. Scientists do this so that people will believe that they did the experiment and also to let other people test what they found out. Did we mention to take pictures of yourself (but not of your face please) doing the steps?

**Third: Identify your variables.** The variables are any factors that can change in an experiment. Remember that when you are testing your experiment you should only **test one variable at a time** in order to get accurate results. In other words, if you want to test the affect that water has on plant growth, then all the plants you test should be in the same conditions, these are called **controlled variables**: same type of dirt, same type of plant, same type of location, same amount of sunlight, etc. The only variable you would change from plant to plant would be the amount of water it received. This is called the **independent variable**. The independent variable is the factor you are testing. The results of the test that you do are called the **dependent variable**. The dependent variable is what happens as a result of your test. Knowing what your variables are is very important because if you don't know them you won't be able to collect your data or read your results. Examples of variables are given in Appendix B.

**Fourth: TEST, TEST, TEST.** Remember that the judges expect your results to be consistent in order to be a good experiment, in other words, when you cook from a recipe you expect the outcomes to be the same if you followed the directions (or procedure) step by step. So, that means you need to do the experiment more than once in order to test it properly. We recommend three times or more. More is better! Don't forget to take pictures of the science project being done and the results.

**Fifth: Collect your DATA.** This means write down or record the results of the experiment every time you test it. Be sure to organize it in a way that it is easy to read the results. Most scientists use tables, graphs and other organizers to show their results. Organizing makes the results easy to read, and much easier to recognize patterns that might be occurring in your results. (Besides, it impresses the judges when you use them.) But don't make a graph or table because we asked you to, use it to benefit your project and to help you make sense of the results. Avoid having graphs and tables that have nothing to do with answering the question of a science project.

## Time Out: How Do You Collect Data?!?!?

**Keep a laboratory notebook:** A laboratory notebook is a type of science diary that you can keep. It is especially useful if your experiment is taking place over a long period of time. We suggest you keep a notebook/journal/logbook if your experiment is over a period of a week or more. In your notebook, you can record observations, collect research, draw and diagram pictures and jot down any additional questions you might have for later. You should put the title of your experiment on the cover of your lab notebook. You will need to date everything that you write down and also describe what any pictures are showing. You also should mark the main sections of your laboratory notebook so that the judges can easily find your hypothesis, background information, procedure, variables, etc. Here is a good source to help further with doing a laboratory notebook:

[http://www.sciencebuddies.org/science-fair-projects/project\\_laboratory\\_notebook.shtml](http://www.sciencebuddies.org/science-fair-projects/project_laboratory_notebook.shtml)

**Have the right tools to do the job:** Make sure you have the stuff you need to take accurate measurements like rulers, meter tapes, thermometers, graduated cylinders or measuring cups that measure volume. **The recommended standard of measurement in science is metric so if you can keep your measurements in meters, liters, Celsius, grams, etc., you are doing great!**

**Tables, charts and diagrams** are generally the way a good scientist like you would keep track of your experiment trials. Remember you are testing at least 3 times or more. A table is organized in columns and rows and **ALWAYS** has labels or headings telling what the columns or rows mean. You will probably need a row for every time you did the experiment and a column telling what the independent variable was and the dependent variable. Microsoft Excel is a good tool to use to make tables and graphs.

**Be accurate and neat!** When you are writing your tables and charts please make sure that you record your data in the correct column or row, that you write neatly, and most of all that you record your data as soon as you collect it **SO YOU DON'T FORGET WHAT HAPPENED!!!!** Sometimes an experiment might be hard to explain with just a table, so if you have to draw and label a diagram (or picture) to explain what happened, it is recommended that you do.

**Use the right graph for your experiment.** Graphs are a very effective way to visually summarize relationships in your data. There are all types of graph designs, but these seem to be easy to use for science fair experiments.

**Pie charts** are good to use if you are showing percentages of groups. Remember that you can't have more than 100% and all the pieces need to add up to 100%. This type of graph is great if you are doing surveys

**Bar graphs** are good to use if you are comparing amounts of things because the bars show those amounts in an easy to read way. This way the judges will be able to tell your results at a glance. Usually the bars go up and down. The x axis (or horizontal axis) is where you label what is being measured, (like plant A, B, C and D) and the y axis (or vertical axis) is labeled to show the unit being measured (in this case it would be centimeters that the plant grew)

**Line graphs** are good to use if you are showing how changes occurred in your experiments over time. In this particular case, you would be using the x axis to show the time increments (minutes, hours, days, weeks, months) and then you would use the Y axis to show what you were measuring at that point in time.

## .... And Now back to the Experiment Steps

**Sixth: Write a Conclusion:** tell us what happened. Was your hypothesis right or wrong or neither? Were you successful, did it turn out okay? Would you change anything about the experiment or are you curious about something else now that you've completed your experiment. And most of all, **TELL WHAT YOU LEARNED FROM DOING THIS.**

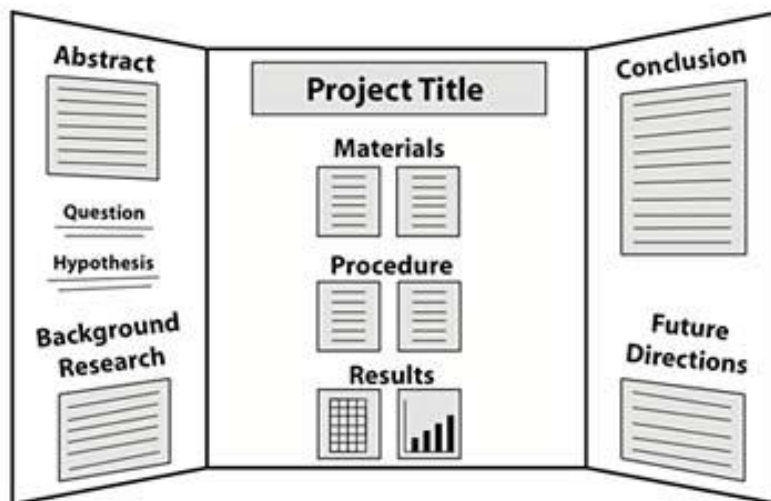
**Seventh: Understand its Application.** Write about how this experiment can be used in a real life situation. Why was it important to know about it?

## Step 4: The Presentation or Why you needed all those pictures....

### But First, a school Fable....

Sammy and Sally both baked cakes for the bake sale with the same cake mix and by following the same directions. When Sammy got his cake out of the oven, he carefully took it out of the pan, smoothed the chocolate frosting neatly and decorated his cake so that it looked delicious. Sally on the other hand, smashed her cake slightly when getting it out of the pan and globbed the frosting on parts of the cake. As you may have already guessed, everyone wanted some of Sammy's cake and no one wanted Sally's. Sally couldn't figure out why, because she tasted both and they both tasted the same...

You may have become the leading expert of your topic and had the most interesting experiment results, but if you don't make your science project look delicious for the judge's eyes to see, well, your chances of winning the contest will crumble like Sally's cake. Your display board is kind of like an advertisement for all your hard work. So, take our advice: **BE NEAT!!** The judges like to see a nice, easy to read display that has neat writing or typing, easy to read graphs and tables and you guessed it....lots and lots of pictures!! (Did you remember to take pictures?)



This is an example of how a display board should be laid out.

## **Tips for a successful display board:**

1. Organize the information like a newspaper. It should flow from left panel to right and be able to be easily read.
2. If you have access to a computer, please type out all your information. Please do not use any hard to read fonts or funky colors. It is recommended to use Arial or Times New Roman 14pt or 16pt, as they are easy to read from a distance. You can use a smaller font size for captions.
3. If you would like to add color to your display, a little goes a long way. Choose one color and/or pattern to matte your typed pages too.
4. Use spray adhesive or a glue stick to attach things to the board as they will not wrinkle the paper or make as big of a mess as liquid glue.
5. Can be no larger than 47 ¼ inches high, 15 ¾ inches deep, and 23 5/8 inches wide. .
6. Displays cannot contain any of the following: anything that needs to be plugged in, anything breakable, chemicals, liquids, powders, live specimens (take pictures to display in their place), no valuables, no faces of students, and no staples.
7. Displays must contain an identification card which is attached to the bottom right hand corner of the display (this will be given to you at school) and a bibliography
8. Displays should pass the “Shake Test” (pick up the project and give it a good shake. All pieces must stay on.)

## **Finally**

Have fun! Learn about something that excites you. And don't worry if this is new or you are unsure how to proceed – WE ARE HERE TO HELP! See Appendix G, Pg 17



# Appendix A:

## Rubrics for Scoring Projects

### **What Is A Rubric?**

A Rubric is a "... document that articulates the expectations for an assignment by listing the criteria, or what counts, and describes that level of quality from excellent to poor." In our case, the Academy of Science uses scoring sheets or rubrics to judge or score projects.

Two rubrics are used, one for grades K-2 and one for 3-5. Both are shown below.

Judges give 10 points for having a signed safety and guidelines form (Appendix E). These are easy points to earn so we have included that form for you. The parent/guardian must print their name and sign it. Then you need to tape it to the inside cover of your logbook.

**GRADES K-2**  
Judging Criteria  
**Experiment**  
**Observation**



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Row: \_\_\_\_\_ Position: \_\_\_\_\_  
Sequence Number: \_\_\_\_\_

Project Elements	Description of Criteria	Possible Score	Score
<b>DISPLAY BOARD</b>			
<b>SCIENTIFIC PROCESS:</b>			
Testable Question	Asks a specific, measurable, cause & effect question or clear purpose of project given.	0-5	
Prediction	Predicts a reasonable outcome as a result of a specific change.	0-5	
Procedure	Describe process. High score would indicate that the project can be repeated after reading.	0-5	
Background	Describe why this project was selected and describe research.	0-5	
Trials/Samples	At least 3 trials or samples are shown OR 3 observations made.	0-5	
Constant Conditions	Identify independent variable, dependent variable and constant conditions.	0-10	
Data and identification	<ul style="list-style-type: none"> <li>• Use photos/charts/graphs /illustrations to show data.</li> <li>• All data should be labeled.</li> <li>• Demonstrates appropriate application of mathematical and statistical methods.</li> <li>• High score would show that data is clear, accurate, detailed and the parts are well labeled.</li> </ul> <i>(Note to student: Items that are valuable or valued by the student are not to be displayed – use photos/illustrations instead)</i>	0-15	
Conclusion & Reflection	Reflects what the student has learned. Were there any surprises? What would you do differently or to continue the project?	0-10	
<b>LOGBOOK:</b>			
Signed Safety Form & guidelines	All projects are required to have a signed safety form (placed on the inside cover of log book). Students should also provide detailed descriptions on how they followed the safety guidelines in their logbook.	0-10	
Dated Entries	High score indicates that student has written process, observations and data in log book during experiment or observation.	0-15	
<b>OVERALL CREATIVITY/INNOVATION/ENGAGEMENT:</b>			
Creativity/Innovation/Engagement	Student demonstrates an understanding of the subject matter or innovative/creative way of approaching their project.	0-15	
Total Possible Score		0-100	
<b>TOTAL SCORE: _____</b>			

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# GRADES 3-5

## Judging Criteria

### Experiment or Observation



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Row: \_\_\_\_\_ Position: \_\_\_\_\_

Sequence  
Number: \_\_\_\_\_

Project Elements	Description of Criteria	Possible Score	Score
<b>DISPLAY BOARD</b>			
<b>SCIENTIFIC PROCESS:</b>			
Testable Question	Asks a specific, measurable, cause & effect question or clear purpose of project given.	0-5	
Prediction	Predicts a reasonable outcome as a result of a specific change.	0-5	
Procedure	Describe process. High score would indicate that the project can be repeated after reading.	0-5	
Background	Describe why this project was selected and describe research. Shows evidence student understands project. Explains why project is important	0-5	
Trials/Samples	At least 3 trials or samples are shown OR 3 observations made.	0-5	
Constant Conditions	Identify independent variable, dependent variable and constant conditions.	0-10	
Data and identification	<ul style="list-style-type: none"> <li>• Use photos/charts/graphs /illustrations to show data.</li> <li>• All data should be labeled.</li> <li>• Demonstrates appropriate application of mathematical and statistical methods.</li> <li>• High score shows data is clear, accurate and parts are well labeled.</li> </ul> <p><i>(Note to student: Items that are valuable or valued by the student are not to be displayed – use photos/illustrations instead)</i></p>	0-15	
Conclusion & Reflection	Reflects what the student has learned. Were there any surprises? What would you do differently or to continue the project?	0-10	
<b>LOGBOOK:</b>			
Signed Safety Form & guidelines	All projects are required to have a signed safety form (placed on the inside cover of log book). Students should also provide detailed descriptions on how they followed the safety guidelines in their log book.	0-10	
Dated Entries	High score indicates that student has written process, observations and data in log book during experiment or observation.	0-15	
Bibliography	Include Bibliography with at least 3 sources	0- 5	
<b>OVERALL CREATIVITY/INNOVATION/ENGAGEMENT:</b>			
Creativity/Innovation/Engagement	Student demonstrates an understanding of the subject matter or innovative/creative way of approaching their project.	0-10	
Total Possible Score		0-100	
<b>TOTAL SCORE: _____</b>			

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# Appendix B:

## Independent and Dependent Variable Examples and Sample Testable Questions:

1. Sally wants to know if the amount of Orange soda she drinks will affect how happy she is.

Independent Variable: amount of soda

Dependent Variable: happiness

Testable Question: How does the amount of orange soda I drink affect how happy I am?

2. John is testing to see if the color of his shoes will affect how fast he can run.

Independent Variable: color of shoes

Dependent Variable: how fast he runs

Testable Question: How does the color of my shoes affect how fast I run?

3. Alice wants to know how the fluffiness of her cookies is affected by the amount of flour she uses in her recipe.

Independent Variable: amount of flour

Dependent Variable: fluffiness

Testable Question: How does the amount of flour I use affect how fluffy my cookies are?

4. Albert is testing to see if the type of vegetable he eats affects how much sleep he gets.

Independent Variable: type of vegetable

Dependent Variable: amount of sleep

Testable Question: How does the type of veggie I eat affect how much sleep I get?

5. Nancy wants to know if the type of shoe she wears affects how high she can jump.

Independent Variable: type of shoe

Dependent Variable: how high she jumps

Testable Question: How does the type of shoe I wear affect how high I jump?

6. Bob wants to see if the number of math problems he solves affects his quiz grades.

Independent Variable: number of math problems

Dependent Variable: quiz grades

Testable Question: How does the number of math problems I solve affect my quiz grades?

7. Shirley is testing to see if the scent of lip gloss affects how long it stays shiny.

Independent Variable: scent

Dependent Variable: how long gloss stays shiny

Testable Question: How does the scent of the lip gloss affect how long it will stay shiny?

# Appendix C:

## How To Write A Hypothesis:

Write a hypothesis for the following scenarios. Remember, you should be specific and write as LITTLE as possible. DO NOT include the words "If I test..." OR "I think..."

1. Sally wants to know if the amount of Orange soda she drinks will affect how happy she is.

If I drink 1 gallon of orange soda  
Then I will be very happy  
Because I will have a lot of sugar.

2. John is testing to see if the color of his shoes will affect how fast he can run.

If I wear red shoes  
Then I will run 15 miles per hour  
Because red is a fast color.

3. Alice wants to know how the fluffiness of her cookies is affected by the amount of flour she uses in her recipe.

If I put 10 grams of flour in my cookies  
Then the fluffiness will not be much  
Because I didn't put in enough flour.

4. Albert is testing to see if the type of vegetable he eats affects how much sleep he gets.

If I eat celery  
Then I will sleep 10 hours  
Because celery makes you sleep longer.

5. Nancy wants to know if the type of shoe she wears affects how high she can jump.

If I wear Adidas  
Then I will jump 20 feet  
Because the soles of the shoe have memory foam.

# Appendix D:

## SCIENCE FAIR 2018

### ENTRY FORM & DISPLAY BOX ORDER FORM

Name: \_\_\_\_\_ Grade: \_\_\_\_\_

Teacher: \_\_\_\_\_ Room #: \_\_\_\_\_

Parent E-mail for Science Fair updates: \_\_\_\_\_

Project Title or Theme/Idea: \_\_\_\_\_

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I plan to enter an Investigation project, with a logbook, that might qualify for the Greater St. Louis Science Fair at Queeny Park *that has scientific relevance.*

\_\_\_\_\_  
Student Signature

\_\_\_\_\_  
Parent/Guardian Signature

\*\*\*\*\*

**Please turn in this form to your teacher!**

Teacher's Name: \_\_\_\_\_

\_\_\_\_\_ # of display boxes @ \$3.00 per box

\_\_\_\_\_ amount enclosed (cash or check: made out to Crestwood Elementary School)

Please return this form to your classroom teacher by:

**December 15, 2017**

If you have any Science Fair questions, contact Parent Coordinator Bill Schelinski.  
bill.schelinski@yahoo.com

# Appendix E:



**Academy of Science - St. Louis Science Fair**  
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## SAFETY FORM

First and foremost, the parent or teacher supervising should use his or her best judgment to ensure the safety of the student and any subjects (human or other animals). Also, to ensure the safety of visitors to the Fair, students should include photographs on projects, rather than displaying breakable, valuable or potentially harmful objects—including chemicals, bacteria or any kind of food.

**Parents and teachers assume responsibility  
For the safety of the student and any test subjects involved in the project.**

*Students should complete the safety form and attach it to the inside cover of their logbook. Students should also provide detailed descriptions on how they followed the safety guidelines in their logbook.*

### Guidelines:

No animal (this includes invertebrates) should be harmed or caused pain.  
All safety procedures need to be recorded in your logbook.  
A signed safety form must be included on the inside cover of your logbook.  
Safety gloves should be used for any testing with food or chemicals.

**EYE PROTECTION:** Safety glasses should be used for any experiments with chemicals or if any kind of splash may come in contact with your eyes

**ALLERGIES:** Remember human subjects may be allergic to different substances. Always ask about allergies. Experiments with humans need an additional signed permission form. Human subjects under age 18 need signed parental permission to participate (see website for additional human subject permission form).

**FIRE:** Projects are not allowed that involve fire or burning objects (see website for exception for Grades 6-12).

**HUMANS:** No experiments should be done on humans that can cause any potential harm to the human. Exceptions include observational type studies such as thinking type exercises, etc. Human subjects under age 18 need signed parental permission to participate.

Bottom line...it is ok as long as there is no possible way that any person can be harmed.

**BACTERIA:** Due to the potential for inhaling or coming in contact with harmful bacteria, students should avoid projects where they collect bacteria and then grow bacteria cultures. While this can be done safely, the potential exists for a very harmful pathogen to be inhaled or come in contact with the student.

**OTHER:** No experiments should be done using firearms. Experiments cannot include prescription drugs, illegal drugs or alcohol.

Parent/Guardian Signature: I acknowledge that the above safety precautions have all been followed and that this project was completed in a safe manner. I also acknowledge that no animals (vertebrates or invertebrates) were harmed in any way.

Parent Print Name: \_\_\_\_\_ Signature: \_\_\_\_\_

**\*\*\*Print out form and attach on inside cover of Logbook\*\*\*  
You may fold over the bottom of form to protect your identity during project judging**

# Appendix F:

## Suggested Science Fair Project Books

Note: This List is compiled from the St. Louis County Library, Junior and Children's Sections, Dewey Decimal 507's and 530's

- Ace Your Sports Science Fair, Madeline Goodstein
- Star Wars Science Fair Book, Samantha Margles
- Mythbusters Science Fair Book, Samantha Margles
- Candy Experiments, Lorelee Levitt
- Amazing Science Experiments, E. Richard Churchill
- Solids, Liquids, and Gases Experiments Using Water, Air, Marbles and More, Robert Gardner
- Try This! 50 Fun Experiments for the Mad Scientist in You, Elizabeth Snoke Harris
- Super Science lab - More Than 30 Mind-Blasting Experiments, Richard Hammond
- Save the Earth Science Experiments – Science Fair Projects for Eco-Kids, Elizabeth Snoke Harris

## Suggested Websites

- <http://www.sciencefairstl.org> (Greater St. Louis Science Fair website)
- <http://nces.ed.gov/nceskids/graphing/> (graphing website)
- <http://www.plotvar.com/> (graphing website)
- <http://www.easybib.com> (bibliography generator)
- <http://www.education.com/science-fair> (ideas)
- <http://www.sciencebuddies.org> (ideas)



# Appendix G

## **Contacts for Help for Projects and Wednesday After School Project Help**

**Main Contact to help with scheduling: Bill Schelinski,  
bill.schelinski@yahoo.com, Home 314-821-2404**

**Lisa Kemp, Lisamkemp@gmail.com, Cell 314-602-0779- text or email  
preferred**

**Megan Sprung, msprung13@gmail.com**

**Chrissie Stewart, Chrissie2-72@hotmail.com, Cell 314-681-3737**

# Appendix H

## Crestwood Elementary Science Fair 2017-2018 Suggested Timeline for Completion of an Investigation Project

### **Check Point #1 Complete by: Wednesday, January 3**

Write up your Testable Question. The problem of the Investigation is stated as a question.

### **Check Point #2 Complete by: Wednesday, January 10**

Complete your Research and Bibliography. The research will consist of background information that is researched about the Testable Question. This should be 2-4 paragraphs of information.

### **Check Point #3 Complete by: Wednesday, January 17**

Complete your Hypothesis and identify Variables. After completing their research, the student will make a hypothesis of what he or she thinks is going to happen while performing the Investigation (experiment). The Hypothesis should be written using an "If...Then..." statement. Example: "If I decrease the temperature of the liquid, then it will turn into a solid". Variables must be identified as Dependent, Independent, and Constant.

### **Check Point #4 Complete by: Wednesday, January 24**

Identify and write up: Materials needed to complete the investigation, and a Step by Step Procedure of how the Investigation/experiment will be performed. While performing the experiment, the student should perform repeated trials (at least 3). This assures that enough data is gathered to gain accurate data. Present the results of the trials in chart form, either a bar graph, line graph, or pie chart.

### **Check Point #5 Complete by: Wednesday, February 7**

Complete the 1) Conclusion, 2) Safety Precautions Statement and 3) Scientific Worth Statement. The Conclusion is an answer to the original Testable Question. This answer may or may not agree with your Hypothesis. For example, "If I decrease the temperature of the liquid, it will turn into a solid", it may be that it didn't. It might have stayed a liquid. Explain why the results happened the way they did. This is where Research comes in too. The Scientific Worth will address the effects of the Investigation on the student's lives. What did he or she learn? Why was the Investigation done? How does the information relate to their life?

### **Check Point #6 Complete by: Wednesday, February 21**

Create the project board and make sure it passes the Shake Test. Make sure signed safety form is included in the logbook.

**Project Completion Friday, February 23, Bring projects to the school library.**

**Project Judging Starts Monday, February 26**

**Crestwood Science Fair Award Ceremony Thursday, March 8<sup>th</sup>**

Updated November 8, 2018

**SCIENCE FAIR 2018**  
**ENTRY FORM & DISPLAY BOX ORDER FORM**

Name: \_\_\_\_\_ Grade: \_\_\_\_\_

Teacher: \_\_\_\_\_ Room #: \_\_\_\_\_

Parent E-mail for Science Fair updates: \_\_\_\_\_

Project Title or Theme/Idea: \_\_\_\_\_

I plan to enter an Investigation project, with a logbook, that might qualify for the Greater St. Louis Science Fair at Queeny Park *that has scientific relevance.*

\_\_\_\_\_  
Student Signature

\_\_\_\_\_  
Parent/Guardian Signature

\*\*\*\*\*

**Please turn in this form to your teacher!**

**Teacher's Name:** \_\_\_\_\_

\_\_\_\_\_ **# of display boxes @ \$3.00 per box**

\_\_\_\_\_ **amount enclosed** (cash or check: made out to Crestwood Elementary School)

Please return this form to your classroom teacher by:

**December 15, 2017**

If you have any Science Fair questions, contact Parent Coordinator Bill Schelinski. [bill.schelinski@yahoo.com](mailto:bill.schelinski@yahoo.com)