*Villa Montessori Science Fair*



*Elementary II Guidelines 2019*

Elementary II is pleased to announce that we will be hosting a science fair on Thursday, April 25, 2019. You will choose an area of science that interests you and complete an experiment, demonstration, paper, and display board to share what you have learned with your school, family, and friends.

To prepare for the big event, you will choose a topic on which an experiment can be designed and implemented.

You must complete the following portions of the project:

* **Science Journal –** These will be made in class and will be used to record ideas, notes, illustrations, and data.
* **Science Experiment –** This experiment must follow the Scientific Method.
* **Written Report –** This is an edited written report of the entire project. It includes background research as well as the results of the experiment.
* **Tri-fold Board –** These boards can be purchased at office supply stores, as well as Target, Walmart, Michael’s, etc. You will use the board to display how the Scientific Method was used for your experiment.
* **Demonstration –** This is something you are able to show numerous times during the Science Fair to supplement your experiment.

**Science Fair General Guidelines**

* You must perform an experiment that follows the Scientific Method
* Your full project will consist of the above mentioned experiment and the following:
  + Tri-fold board showing all the steps of the Scientific Method
  + Written Report
  + Demonstration
* You may not bring anything that is hazardous to school. This includes dangerous chemicals, open flames, and highly flammable materials. Live animals will not be permitted at school.
* Students are encouraged to select experiments and projects that involve a minimum of adult help. If your experiment requires dangerous chemicals or open flames, you must have adult supervision at home. Your demonstration at school cannot include these dangerous items.

**Receipt of Science Fair Packet**

Student’s Name:

We have received the Science Fair Packet and we have reviewed it together. We understand the expectations at home and at school. As the adult supervisor and helper, I will provide support and guidance as necessary.

Parent Signature Date

Student Signature Date

**Science Fair Due Dates and Rubric**

|  |  |  |  |
| --- | --- | --- | --- |
| **Assignment** | **Date Due** | **Points Possible** | **Points Earned** |
| Signature page stating you read the Science Fair Planning Guide | 2/8 | **5** |  |
| Science Fair Planning Guide pages 4, 5, & 7 | 2/22 | **15** |  |
| Journal Check – Experiment data, observations, illustrations, etc. | 3/22 | **25** |  |
| Journal Check – Final experiment data, observations, illustrations, etc. (Planning Guide, pages 10-11) | 3/29 | **25** |  |
| Written Report – Rough Draft (See Written Report Rubric page) | 4/12 | **30** |  |
| Project Work Plan: Description | 4/17 | **10** |  |
| Written Report – Final Draft | 4/22 | **50** |  |
| Live Demonstration | 4/22 - 25 | **50** |  |
| Tri-fold Presentation Board – Neat & tidy, shows steps of Scientific Method as applied to your experiment, shows all the components listed on Planning Guide page 12. | 4/22 | **50** |  |
| Oral Presentation | 4/22 – 25 | **50** |  |
| ***Total Points Received (out of 310)***  300 | | |  |

**Parents are invited to the Elementary II Science Fair on Thursday, April 25, 2019, from 6:30 pm to 8:00 pm.**

**Written Report Final Draft Rubric**

This is the scale used when evaluating:

***5***—This is their absolute best work, shows the student challenged themselves, followed directions, did more than was needed and no adjustments are necessary.

***4***—Very good work, shows strong effort, instructions followed, and minor adjustments could have made it better.

***3***—The student completed the work but did not put full or extra effort into it; mostly followed the instructions and there were several adjustments that could have been made to improve the work.

***2***—Student did the bare minimum of work required, put very little effort into the work, did not follow instructions, and major adjustments are needed to improve the work.

***1***—Work was poor and shows very little effort, none of requirements met.

**Written Report Requirements Points**

**Title Page** – Correctly formatted and includes: Name of student, Teacher’s Name, School name, Date of project, and Title of Experiment.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **1** | **2** | **3** | **4** | **5** |
|  |  |  |  |  |
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| **1** | **2** | **3** | **4** | **5** |
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| **1** | **2** | **3** | **4** | **5** |
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| **1** | **2** | **3** | **4** | **5** |

**Table of Contents** – Contains a numbered list and all six topics: Abstract, Introduction, Experiments and Data, Conclusion, Sources, and Acknowledgements.

**Abstract** – About 1 page, written in first- or third-person, and contains the following sections: Title, Statement of Purpose, Hypothesis, Brief Procedure, and Results.

**Introduction** – Contains the Statement of Purpose, Hypothesis, reasons and experiences that led you to choose this experiment, background info, and is written in first- or third-person.

**Experiment and Data** – Steps of experiment in paragraph form, and shows data in table and graphs.

**Conclusion** – Summarizes results. Analyzes whether hypothesis is supported or not. Considers future applications. About 1 page.

**Bibliography** – At least three resources, and follows format provided.

**Acknowledgements** -- A paragraph thanking those who helped.

**Format** – Typed, 12-14 point Arial, double-spaced, 1-in margins.

**Editing** – Paper has been edited for readability and content, and proofread for sentence structure, spelling, capitalization, and punctuation.

**Total points possible: 50**

**Science Fair**

**Trifold Presentation Board Rubric**

This is the scale used when evaluating:

***5***—This is their absolute best work, shows the student challenged themselves, followed directions, did more than was needed and no adjustments are necessary.

***4***—Very good work, shows strong effort, instructions followed, and minor adjustments could have made it better.

***3***—The student completed the work but did not put full or extra effort into it; mostly followed the instructions and there were several adjustments that could have been made to improve the work.

***2***—Student did the bare minimum of work required, put very little effort into the work, did not follow instructions, and major adjustments are needed to improve the work.

***1***—Work was poor and shows very little effort, none of requirements met.

**Tri-fold Board Requirements Points**

**Title** – Name of your project/experiment, name of student, teacher’s name, school name, and date of project.

|  |  |  |  |  |
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| **1** | **2** | **3** | **4** | **5** |
| **1** | **2** | **3** | **4** | **5** |
| **1** | **2** | **3** | **4** | **5** |
| **1** | **2** | **3** | **4** | **5** |
| **1** | **2** | **3** | **4** | **5** |
| **1** | **2** | **3** | **4** | **5** |
| **1** | **2** | **3** | **4** | **5** |
| **1** | **2** | **3** | **4** | **5** |
| **1** | **2** | **3** | **4** | **5** |
| **1** | **2** | **3** | **4** | **5** |

**Purpose** – Reason for the project, your question, what you want to find out.

**Hypothesis** – Prediction that you make before conducting the experiment.

**Written Report** – Include a copy in a pocket on your board.

**Books and Resources** – List of the books you read and websites you used, as well as any interviews.

**Materials** – List of the supplies needed for the experiment.

**Procedure** – Steps or directions you used to conduct the experiment.

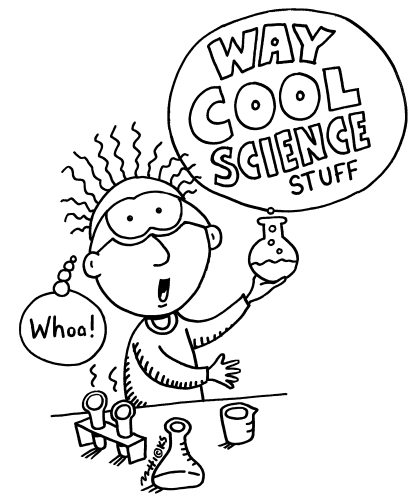
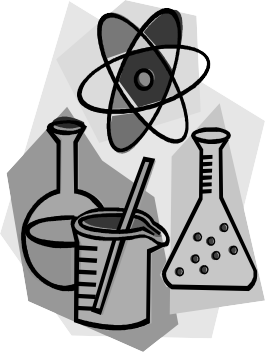
**Variables** – Parts of the experiment that will stay the same, what will be tested to get the results.

**Conclusion** – What happened? Did it work? Was your hypothesis correct? What did you learn?

**Pictures** – Pictures, pictures, pictures!

###### Total points possible: 50

Okay, now get to work on your project!!



What’s that? You still need help getting started?

Introducing:

The Most Fabulous, Scientific, All Helpful, Kid Friendly and Most Excellent Science Fair Project Planner Known to Kid Kind:

Elementary Science Fair Planning Guide

Just follow these easy steps and you too can create a wonderful award winning science project, thought up entirely by you!!!

VERY IMPORTANT: *Before you turn this page, recruit an adult to help you. They come in very handy, especially if you are nice to them and tell them you won’t blow up any- thing….*

*My adult’s name is*

From this point forward you are now… A SCIENTIST!!

Lora Holt Copyright 2006

The Elementary Science Fair Planning Guide

By Lora Holt With help from Tim Holt Inspired by past EPISD science packets.

[Thank you Margaret Johnson and all past EPISD Science Gurus]

Translated by Morayma Esquivel and Alma Veronica Ortega

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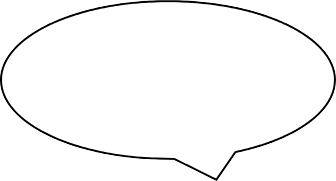
##### Types of Science Projects:

There are two types of science projects: Models and Experiments. Here is the difference between the two:

DON’T DO THIS…...

BORING !!!!!

**A Model, Display or Collection:**



There are three types of volcanoes:

**Model or Display**

**Bad Choice for the Science Fair!**

Shows how something works in the real world, but doesn’t really test anything. Examples of display or collection projects can be: “The Solar System”, “Types of Dinosaurs”, “Types of Rocks”, “My Gum Collection.” Examples of models might be: “The Solar System” or “How an Electric Motor Works”, “Tornado in a Bottle”, etc.

COOL!!!!! DO THIS



**Question**

Which laundry detergent will get my whites whiter?

**Materials: Brand X Brand Y Brand z**

**Procedure: 1.**

**2.**

**3.**

**Hypothesis**

I think that brand x laundry deter- gent will get my whites whiter because it has…..

**Conclusion**

I found out that brand x detergent was actually….

**Results**

**Which laundry detergent works best?**

**Experiment**

**Great Choice for the science fair!**

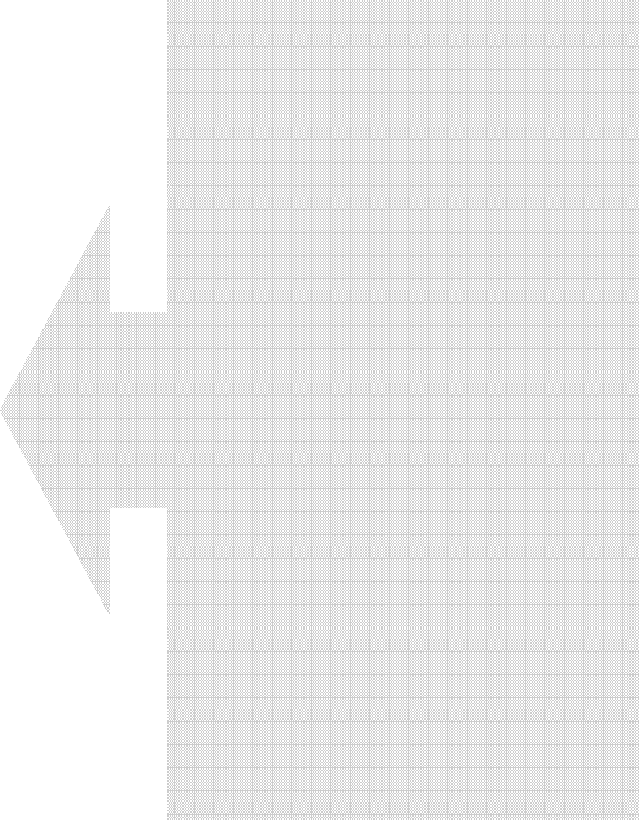
**An Experiment:**

Lots of information is given, **but it also has a project that shows testing being done and the gathering of data.**

Examples of experiments can be: “The Effects of Detergent on the Growth of Plants”, “Which Paper Towel is More Absorbent” or “What Structure can Support the Most Weight”.

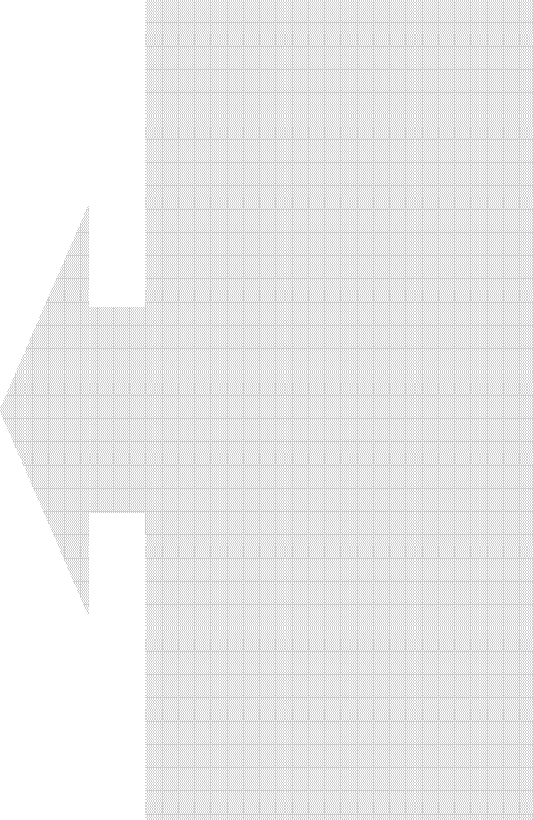
You have an experiment if you are testing something several times and changing a variable to see what will happen.

We’ll talk about variables later….



**Compile proof by recording data**

from doing your experiment many times.

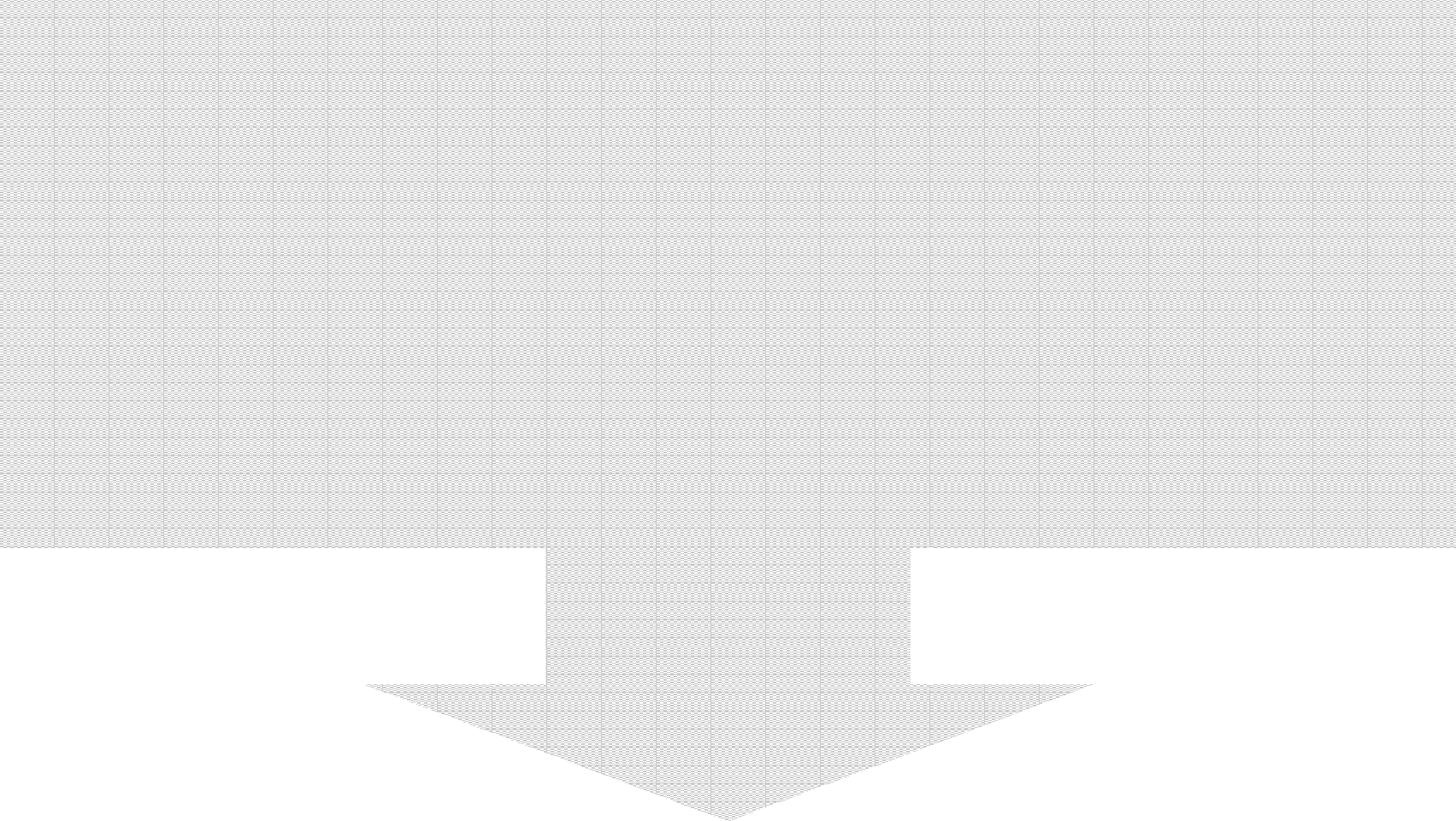


**Organize your data in tables and graphs**

So that it’s easy to see the results.

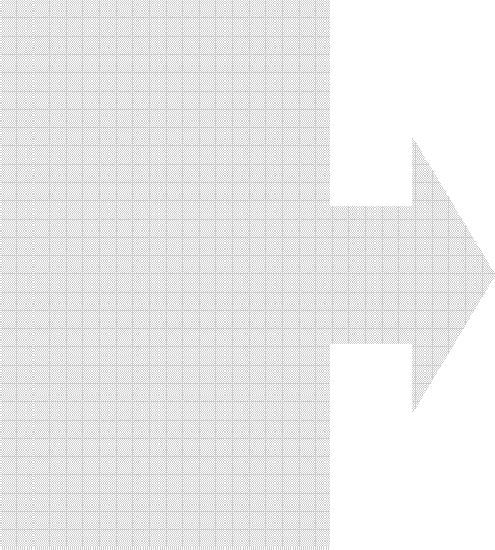
So What is the

Scientific Method?



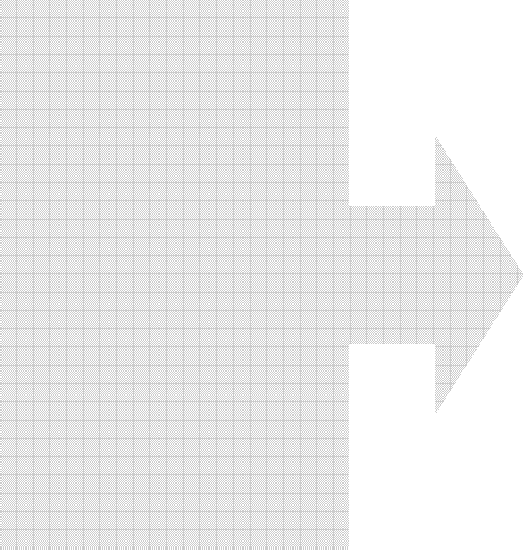
**Conduct the experiment**

to find out if you were right.

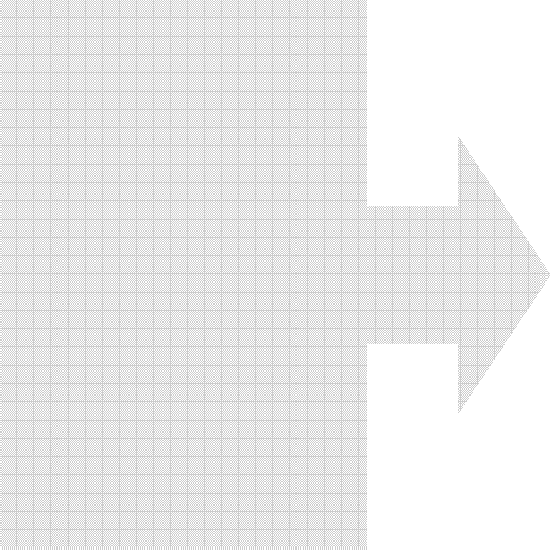


**Find a problem** Ask a

“How does” question.

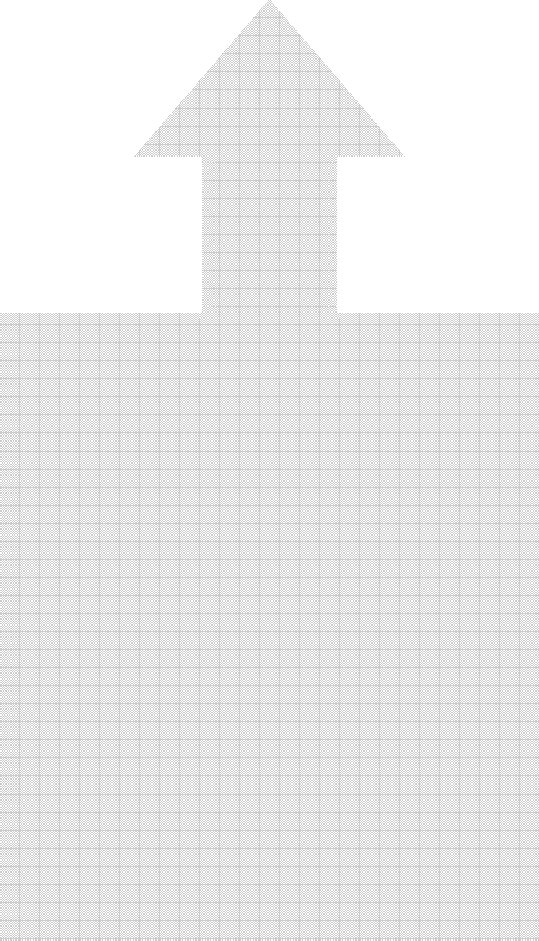


**Research the problem** and find out all you can.



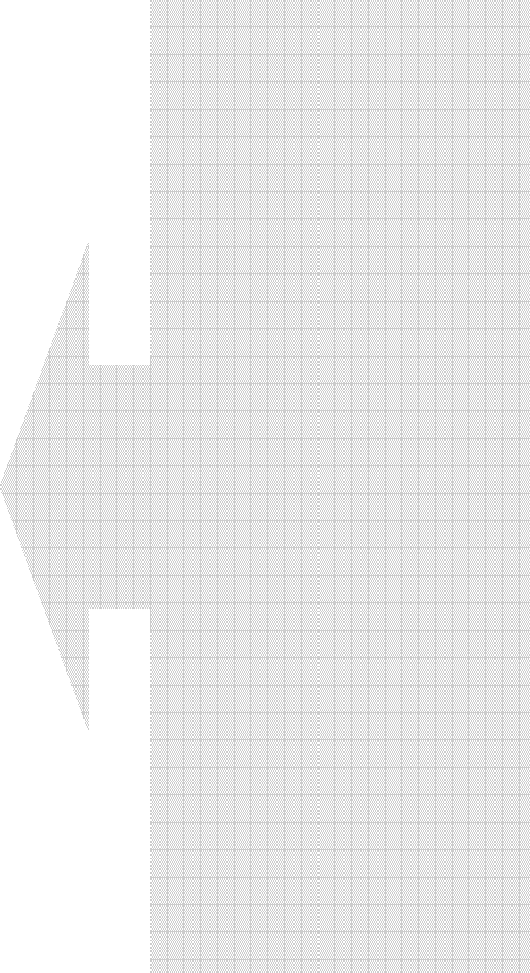
**Make a Hypothesis** Predict what might happen based on

what you know.



**Write about what you learned and how it applies to the real world**

Maybe come up with another problem...



**Form a conclusion**

Check your hypothesis against the results. Were you right?

**Page 3**

Choosing a category that interests you…

Life science: This category deals with all animal, plant and human body questions that you might have and want to do an experiment about. Remember that it is against Science Fair Rules to inten- tionally hurt an animal during an experiment. If you are dealing with animals, please let an adult assist you. It is okay to do experiment on plants, as long as they don’t belong to someone else, like don’t do an experiment on your mom’s rose bushes unless you ask her first...

Life science also includes studying behaviors, so it’s a perfect category to try taste tests, opinion surveys, animal behavior training (or training behavior in humans...like baby brothers or sisters...)

Physical Science: If you like trying to figure out how things work, then this is the category for you! It includes topics about matter and structure, as well as electricity, magnetism, sound, light or any- thing else that you might question, “How does it work and what if I do this to it, will it still work?” *But remember, you always need to ask an adult first (and always make sure there is one of those adults with you when you try it.)*

Physical Science also includes the composition of matter and how it reacts to each other. These are the science experiments that may have bubbling and oozing going on, like figuring out what is an acid and what is a base. It is a perfect category to try to mix things together to see what will happen.

*Again, if you are experimenting with possibly dangerous things, you need to recruit an adult to help you out.*

Earth and Space Sciences: This category is really awesome because it covers all sorts of topics that deal with the Earth or objects in space. This includes studying weather, Geology (which is the study of everything that makes up the Earth, like rocks, fossils, volcanoes, etc..), and the study of all that is in space, including the stars, our sun and our planets. Unfortunately this topic is also where most kids get confused and do a collection or model project instead of an “Experiment,” so be careful!!!

Now It’s Your Turn:

**Write down your favorite Science Fair Category and what it is you want to learn more about:**

**My favorite Category was**

**(Life Science, Physical Science, Earth and Space Science)**

**I want to do an experiment involving:**

**Page 4**

Step 1: Coming up with a

Good Question…

Now that you have picked out a topic, it’s time to write a question or identify a problem within that topic. To give you an idea of what we mean, you can start by filling in the question blanks with the following list of words:

The Effect Question:

**What is the effect of on ?**

sunlight on the growth of plants

eye color pupil dilation

brands of soda a piece of meat

temperature the size of a balloon

oil a ramp

The How Does Affect Question:

**How does the**

**affect ?**

color of light the growth of plants

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 |
| foods | do | meal worms prefer |
| detergent | makes | the most bubbles |
| paper towel | is | strongest |
| peanut butter | tastes | the best |

Now it’s your turn:

Create your Science Fair question using the “Effect Question”, the “How does Affect Question” or the “Which/What and Verb Question”:

**Page 5**

Step 2 : Doing the Research and forming a

Hypothesis

So you’ve picked your category and chosen a topic. You even wrote a question using our cool fill in the blank template. Now it is time to research your problem as much as possible. Becoming an expert at your topic is what real scientists do in real labs.

How do you become an expert? 

**YOU READ!!!!**

READ about your topic. READ encyclopedias. READ magazine articles and books from the library. READ articles from the internet. 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.

You’ll need that list for later (Bibliography).

**YOU DISCUSS!!**

Talk about it with your parents. Talk about it with your teachers. Talk about it with experts like Veterinarians, Doctors, Weathermen or others who work with the things you are studying. Sometimes websites will give you e-mail addresses to experts who can answer questions…. *But again, do not write to anyone on the internet without letting an adult supervise it.* (\*hint: take pictures of yourself interviewing people)

Whew…..

When you think that you can’t possibly learn anymore and the information just keeps repeating itself, you are ready to...

Write a Hypothesis 

Now it is time to PREDICT what you think will happen if you test your problem. This type of “SMART GUESS” or PREDICTION is what real scientists call a HYPOTHESIS. Using this fancy word will amaze your friends and have you thinking like a full fledged scientist.

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 her/his prediction.)

**Page 6**

Now it’s your turn:

Write down the problem and create a Hypothesis based on what you have researched.

**Problem**:

**Research:** My problem is about this subject: (sample topics could be magnetism, electricity, buoyancy, absorbency, plant growth, or other scientific topics that relate to your problem. If you are having problems determining what your topic is, ask your teacher or an adult to help you on this one….)

**Books I found in the library on my topic are:**

Title: Author:

**Internet sites that I found on my topic are:**

**People I talked to about my topic are:**

**Some important points that I learned about my topic are**







**Hypothesis:** I think that (will happen) because (my research shows)

##### Step 3: Testing your Hypothesis by doing an experiment

Designing an experiment is really cool because 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, so you’ll have to take plenty of pictures as you go through these seven very simple steps.**

First: ***Gather up your materials***: 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 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 or manipulated variable.** The independent variable is the factor you are testing. The results of the test that you do are called the **dependent or responding variables.** The responding 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.

Fourth: ***TEST, TEST, TEST.*** Remember that the teachers 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 five 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.*** Write down or record the results of the experiment every time you test it. You also need to organize it in a way that it is easy to read the results. Most scientists use tables, graphs and other organizers to make the results easy to read. It’s much easier to recognize patterns that might be occurring in your results. (Besides, it impresses the teachers 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. There is nothing worse than 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 science journal:** A science journal is a type of science diary. In your journal, you can record observations, collect research, draw and diagram pictures, and jot down any additional questions you might have for later.
* **Have the right tools to do the job: M**ake 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 the way a good scientist like you would keep track of your experiment trials. Remember, you are testing at least 5 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 need a row for every time you did the experiment and a column identifying the independent variable (what you tested) and the responding variable (the result that happened because of the independent variable).

|  |  |  |
| --- | --- | --- |
| **Plant** | **Amount of water per day** | **Size it grew in two weeks** |
| (controlled variable) | (independent variable) | (responding variable) |
| Plant A | none | .5 cm |
| Plant B | 5 ml | 2 cm |
| Plant C | 10 ml | 5 cm |
| Plant D | 20 ml | 7 cm |

* **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**. There is nothing worse than a bad graph. There are all types of graph designs, but those below seem to be easy to use for science fair experiments.
  + **Pie graphs** 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 teachers 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).

**Growth in CM**

growt h cm

8

6

4

2

0

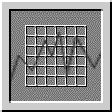
Pl ant A

Pl ant B

Pl ant C

Pl ant D

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
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* + **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, or 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? 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?

**Page 9**

Materials: (take pictures!)

Now it’s your turn

**List the Materials that you will need for your science experiment here:**

1.

2.

3.

4.

5.

6.

7.

8.

9.

10.

Variables:

**List the variables that you will control, the variable that you will change and the variables that will be the results of your experiment:**

**My controlled variables are (the stuff that will always stay the same):**

**My independent variable is (this is the thing that changes from one experiment to the next, it is what you are testing):**

**My responding variables might be (in other words, the results of the experiment):**

**\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

Procedure: **(the steps…. Don't forget to take pictures)**

**List the steps that you have to do in order to perform the experiment here:**

\_1st….

\_2nd

\_3rd

\_4th

\_5th….

**Page 10**

Design a table or chart here to collect your information

(Did we mention that you needed to take pictures of you doing the actual experiment?)

Conclusion:

Now tell us what you learned from this and if you were able to prove your hypothesis. Did it work? Why did it work or why didn’t it work? What did the results tell you? Sometimes not being able to prove a hypothesis is important because you still proved something. What did you prove?

Application:

(How does this apply to real life?)

It’s important to know about this experiment because…...

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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…

Your display board is like an advertisement for all your hard work. So take our advice: **BE NEAT!!** The teachers like to see a nice, easy-to-read display, that has neat writing, easy-to-read graphs and tables and you guessed it…. lots and lots of pictures!! (Did you remember to take pictures?)

MAKING A MOUTH WATERING DISPLAY

This is an example of a tidy Science Fair Display Board. It is just an example. Depending on your information and the amount pictures, tables and graphs, you may have a different layout. Just make sure it is neat.

**#1**

**#11**

**#9**

**#6**

**#11**

**#8**

**#2**

**#3 #9**

**#7**

**#11**

**#5 #10**

**#11**

**#4 #11**

**Display Beauty Secrets:**

#1. **Title** (name of project)

#2. **Purpose:** Reason for the project…. your question, what you want to find out.

#3. **Hypothesis:** A prediction that you make of the results before conducting the experiment.

#4. **A report** of your research on the subject.

#5. **Books and Resources:** A list of the books you read and websites you used. Also list your inter views.

#6. **Materials:** a list of the supplies needed for the experiment.

#7 **Procedure:** The steps or direc- tions that you used to conduct the experiment.

#8. **Variables:** The parts of the ex periment that will stay the same and what will be tested to get the results.

#8. **Results:** Graphs or charts showing what happened after you conducted your experiment.

#9. **Conclusion:** Tell what happened. Did it work, were you right about the hypothesis? What did you learn?

#10. **Application:** Explain how your experiment relates to the real world.

#11. **Pictures,** pictures, pictures...

* + - Use a computer to type out your information, but if you can’t, write out your information in your best writing. Printing the titles is usually best. If you are using a computer, make sure the fonts are readable and only use one or two.
    - Use spray adhesive or glue stick to paste up your papers. It is less messy!
    - Mount white paper, pictures, graphs and tables on colored papers (making sure the colored paper is larger so it creates a border for the white paper).

Colored paper Creates border

White paper, pictures or graph/tables

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Science Fair Rules and Regulations

Safety Rules First

1. Number one rule… think safety first before you start. Make sure you have recruited your adult to help you and supervise the experiment.
2. Never eat or drink during an experiment and always keep your work area clean.
3. Wear protective goggles when doing any experiment that could lead to eye injury.
4. Do not touch, taste or inhale chemicals or chemical solutions.
5. Respect all life forms. Do not perform an experiment that will harm an animal.
6. Always wash your hands after doing the experiment, especially if you have been handling chemicals or animals.
7. Dispose waste properly.
8. Any project that involves drugs, firearms, or explosives are not permitted.
9. Any project that breaks district policy, and/or local, state or federal laws are not permitted.
10. Use safety on the internet! Never write to anyone without an adult knowing about it. Be sure to let an adult know about what websites you will be visiting, or have them help you search.
11. If there are dangerous aspects of your experiment, like using sharp tools or experimenting with electricity, have an adult help you or have them do the dangerous parts. That’s what adults are for, so use them correctly. (Besides, it makes them feel important!)

Science Fair Rules

1. Only one student per project.
2. Adults can help, in fact we want them to get involved. They can help gather materials, supervise your experiment and even help build the display. However, you should do the majority of your project.
3. Experiments are recommended over collections and models. You will not score very high unless you do an experiment, so save the models and collections for a class project. You will be scored on the use of the Scientific Method (we told you that on page 2.)
4. You cannot perform the experiment live. You can, however, mount things on your board in a type of 3D display, but remember that your board has to be able to stand by itself, so don’t get carried away. If you do mount things on the board, make sure you have things mounted securely so they don't fall off. YOU MAY NOT MOUNT ANY FOOD OR ORGANIC MATERIALS!
5. Displays must be on display boards or tri-fold boards. They can be no longer than 100cm in height, 180 cm in length and 75cm deep. They must stand alone. See the display making page if you need a diagram.
6. Limit your presentation to 12 minutes at the most, 5-7 minutes on speaking and the rest for the judges to ask questions.

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**Websites**

**Internet Public Library** http://www.ipl.org/div/projectguide/ Are you looking for some help with a science fair project? If so, then you have come to the right place. The IPL will guide you to a variety of web site resources, leading you through the necessary steps to successfully complete a science experiment.

**Discovery.com: Science Fair Central**

http://school.discoveryeducation.com/sciencefaircentral/

This site pro- vides a complete guide to science fair projects.

**Try Science**

http://www.teacherstryscience.org/kids

Student section of a teacher website. Science resource for home that gives you experiments to try and tons of helpful links all related to science.

**Discovery Kids: Science Activities**

http://discoverykids.com/category/science/

Brought to you by Discovery Kids, this site gives you lots of ideas on how to do some yucky projects, like making paper out of bugs, that you can turn into experiments! Which bugs make the smoothest paper?

**Experimental Science Projects: An Introductory Level Guide** http://www.miniscience.com/SciProjIntro.asp

An excellent resource for students doing an experiment- based science fair project. There are links on this page to a more advanced guide and an example of an actual experiment-based project.

**Science Fair Primer**

<http://users.rcn.com/tedrowan/primer.html>

A site to help students get started and run a science fair project.

**The Ultimate Science Fair Resource**

http://www.sciencebuddies.org/

A variety of resources and advice.

**What Makes A Good Science Fair Project** <http://www.usc.edu/CSSF/Resources/Good_Project.html> A website from USC that gives a lot of good tips and ideas to think about regarding what makes a good science fair project. Advice for students as well as teachers and parents is included.

**Neuroscience for Kids: Successful Science Fair Projects**

<http://faculty.washington.edu/chudler/fair.html>

Site made by Lynne Bleeker a former science teacher, science fair organizer, and judge. Gives a thorough and detailed description of the steps to a successful science fair project.

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