7th Annual Nash Elementary

SCIENCE FAIR

Thursday, March 30th

6 p.m. – 8 p.m.

(Set-up from 4:00 – 5:50 p.m.)

REGISTRATION PACKET

PLEASE READ THOROUGHLY!

NASH ELEMENTARY PTA SCIENCE FAIR

Information Packet and Sign-Up Sheet

Open to all students grades K-5!

On Thursday, March 30th Nash Elementary PTA will host the annual Science Fair! This is an exciting opportunity to explore those questions you've always wondered about, and to share your findings with other curious kids and grown-ups, just like a real scientist!

Any Nash student grades K-5 may participate. Students may participate individually or as a group. Parents may help, but the project should be the student's own inquiry and presentation. Projects need to be done at home. All students who participate will receive a t-shirt, award ribbon and prize.

There are 4 project types to choose from:

1. **Experiment**: You'll do an experiment to test an idea. For example, "Which brand of paper towel is the most absorbent?"
2. **Model**: In this type, you'll show a scientific principle through the use of a model or device you build. For example, build a model of the space shuttle and show how the design influences the way it flies.
3. **Research**: Here you will show a scientific concept or idea through the use of written or other printed means. The research project will be full of documentation which becomes the project itself.
4. **Collection:** This project is one where you will display a collection of something and show a scientific principle related to the collection. For example, you may show a collection of rocks that have been classified according to how they were formed in the earth (igneous, metamorphic, or sedimentary).

The following prizes will be awarded in each grade group:

- **Nobel Prize** – "Best in Show" will be awarded as outlined below:
  - One Nobel Prize will be awarded in each grade grouping – K/1st, 2nd/3rd, 4th/5th
  - *Nobel Prize Winners will win a one-year FAMILY membership to the Museum of Science and Industry in Chicago!*
- **Einstein Award**
- **Senior Scientist Award**
- **Junior Scientist Award**

<u>Set-up and Judging</u>

1. Students set-up projects on Thursday, March 30th from 4:00 – 5:50 p.m. **MAKE SURE YOUR PROJECT INFORMATION FORM (INCLUDED IN THIS PACKET) IS FILLED OUT AND ATTACHED TO THE BACK OF YOUR PROJECT!**
2. ***NEW THIS YEAR*** Once all registrations are received a judging schedule will be drafted. Each student will receive a window of time that their project will be judged. Be sure to include your email address to receive your student's judging window!
3. Projects will be presented to the judges by each student when it is their turn. Once the project has been presented, the student is free to leave. Students may stay until judging is complete to see the awarding of the Nobel Prizes.
4. Judges will award the prizes after all judging is complete.
5. Nobel Prize winners will be announced on Friday, March 31st.
6. Students will visit the fair with their classrooms on Friday, March 31st.

7. All projects must be taken home at the end of the day on March 31st. Any projects left behind will be disposed of.
8. ***NEW THIS YEAR*** ***ONLY*** students participating in the fair will be permitted in the gym during the fair. Siblings and friends will NOT be permitted to enter the gym. This will ensure a quiet and respectful environment for our hardworking scientists and judges.
9. ***NEW THIS YEAR*** Parents will only be permitted to observe during their child's designated judging time and from a designated parent viewing area.

Project Pointers

1. Students should provide a neat and orderly display.
2. Drawings, pictures, and other explanations are helpful.
3. Color and neat lettering will help improve your project.
4. Make sure all words are spelled correctly.
5. Take the time to do a good job! Be neat, creative, and most of all, HAVE FUN!

Your Presentation to the Judges

Your oral presentation to the judges is an important aspect of your science fair project. The following outline should help your presentation be successful. You never get a second chance to make a first impression! Make sure you practice, practice, practice!

1. Introduce yourself: "Hello, my name is…." (A handshake will let the judges know you are professional.)
2. Explain the title and type of your project: "My project is an experiment and the title is…"
3. Explain the purpose of your project: "The purpose of my project is to…"
4. Tell the judges how you got interested in your topic.
5. Explain your procedure, or what you did.
6. Describe your constant (s) and variables.
7. Explain any charts or pictures, results and conclusions.
8. Say "thank you" when you are finished.

For questions about the Science Fair, please contact a member of the Nash Elementary PTA Science Fair Committee at nashsciencefair@gmail.com.

YOU WILL FIND PROJECT SPECIFIC GUIDELINES ON THE FOLLOWING PAGES.

EXPERIMENT GUIDELINES

1. Ask yourself a **question**. What are you trying to find out? Usually this is limited to one concept.
   Example: What effect will different amounts of water have on the growth of plants?

2. Make an educated guess or **hypothesis** as to what you think the answer might be. Using the background information that you have, what do you THINK will happen? You could include your reasons why.
   Example: The more water a plant receives, the more it will grow.

3. Plan your **procedure**. What exactly are you going to do and how will it be completed?
   Example: 5 plants will be used. They will all be marigold plants. The containers will all be 5' plastic containers. Each plant will receive a different amount of water every other day (1 – 10 mL, 2 – 20 mL, 3 – 30 mL, 4 – 40 mL, 5 – 50 mL). The growth of the plants will be measured in millimeters.

4. What will be your **variable,** or the thing that changes? This is usually the major part of your question.
   Example: Amount of water.

5. What will be your **constants**, or the things that will remain the same throughout the experiment? It is very important that everything is the same EXCEPT for what you are testing (variable).
   Example: Seeds, type of containers, watering schedule.

6. **Log** (journal) – Keep track of each thing that you do and each thing that you see or notice.
   Example: 2/1/14: Planted flower seeds and gave each plant the required amount of water.
   2/4/14: Watered each plant using proper amount of water.
   2/7/14: Plants have started to grow. Measured each height.

Pot 1	*Pot 2*	*Pot3*	*Pot 4*	*Pot5*
2mm	*3mm*	*1mm*	*1mm*	*1mm*

7. **Results** – Tell us what happened. Give as much information as possible.
   Example: The plant receiving 20 mL of water every other day grew the highest. Plants 3, 4, and 5 all died.

8. **Conclusion** – Now that your experiment has ended, what does it all mean? Was your original hypothesis right or wrong? Explain why.
   Example: Too much water for a plant is not good. Too little water is also not good for marigold plants. It is important to give marigolds the right amount of water.

9. **Future Possibilities** – What could you do for future experiments to learn more about this?
   Example: Does the temperature or dryness in the room have an effect on how much water a plant should get? Would a plant need more water in a hot or dry room?

10. **Title** – Create a title for your project. It should be catchy and interesting and grab your audience's attention.
    Example: Are plants good swimmer?

Experiment Display

The display board is an important part of the project. The more information the judges can see, the better it will be. Don't forget to bring your experiment (even the parts that didn't work!). The judges will also be asking questions of every student, so make sure you fully understand your project.

Your display should include:

- Title
- Question
- Hypothesis
- Procedure
- Constants
- Variables
- Log
- Results
- Conclusion
- Possible Future Experiments
- Project Information Form (included in this packet)

Students should provide a neat and orderly display.

- Drawings, pictures or other explanations are helpful.
- Color and neat lettering will help improve your project.
- Make sure all words are spelled correctly.
- Take the time to do a good job
- Be neat, creative, and most of all, HAVE FUN!

MODEL GUIDELINES

1. Ask yourself a **question**. What are you trying to find out? Usually this is limited to one concept.
   Example: Does the shape of a car affect how quickly it can drive in the wind?

2. Make an educated guess or **hypothesis** as to what you think the answer might be. Using the background information that you have, what do you THINK? You could include your reasons why.
   Example: Cars need to be flat in front like a tall wall to push the air like a defensive linebacker.

3. Plan your **research.** Exactly where are you going to look for your material? You should use at least 4 sources, with at least three different types, i.e., encyclopedias, science magazines, science books, expert interviews, etc.
   Example: Check out at least two books from the library on cars, find a magazine that explains types of cars, and use an encyclopedia.

4. Take **notes** - How will you keep track of the information?
   Example: Use index cards to take notes from sources.

5. **Organize** – list **major findings**.
   Example: Seeds, type of containers, watering schedule.

6. **Conclusion** – Now that your research is done, what does it all mean? Was your original hypothesis right or wrong? Explain why.
   Example: Air has weight. It needs to travel over the car for the car to move quickly. A flat front car is not a good idea when you are trying to drive through wind because the wind becomes the defensive linebacker. If a car slopes up at an angle, it cuts into the wind and forces the air to travel over the car.

7. **Build your model** – Make sure it shows what you've learned.
   Example: Don't just build a model car. Build two cars, one aerodynamic and one not.

8. **Demonstration** – How are you going to show that your model works?
   Example: Show how the air acts over and around them.

9. **Future Possibilities** – What could you do for future research or experiments to learn more about this, or how could you improve it even more?
   Example: Does it matter how tall the car is? Is a small car more aerodynamic than a van? Than an SUV?

10. List **sources** – Write names of books, encyclopedias, and magazines with authors, page numbers and date of publication.
    Example: Race Car Aerodynamics, by J. Katz, pgs. 103-117, 2001.

11. **Title** – Create a title for your project. It should be catchy and interesting and grab your audience's attention.
    Example: Light as Air Weighs a Ton

Model Display

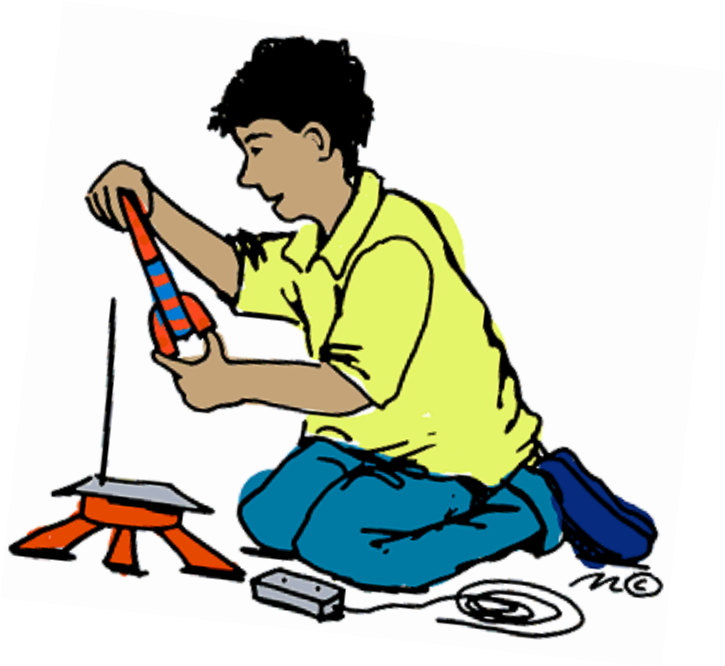
The display board is an important part of the project. The more information the judges can see, the better it will be. Don't forget to bring your model! The judges will also be asking questions of every student, so make sure you fully understand your project.

Your display should include:

- Title
- Question
- Hypothesis
- Major Findings
- Figures or Diagrams (example: drawings of airflow over cars)
- Conclusion
- Possible Future Research Experiments
- Sources
- Project Information Form (included in this packet)

Students should provide a neat and orderly display.

- Drawings, pictures or other explanations are helpful.
- Color and neat lettering will help improve your project.
- Make sure all words are spelled correctly.
- Take the time to do a good job
- Be neat, creative, and most of all, HAVE FUN!



RESEARCH GUIDELINES

1. Ask yourself a **question**. What are you trying to find out? Usually this is limited to one concept.
   Example: Does that green stuff that grows in my pool have any use?

2. Make an educated guess or **hypothesis** as to what you think the answer might be. Using the background information that you have, what do you THINK? You could include your reasons why.
   Example: Mom calls it algae and makes me clean the pool when it's there, so it must be like soap scum. It has no use.

3. Plan your **research.** Exactly where are you going to look for your material? You should use at least 4 sources, with at least three different types, i.e., encyclopedias, science magazines, science books, expert interviews, etc.
   Example: Use an encyclopedia, check out at least two books from the library on algae, visit local marine biology museum and interview scientist.

4. Take **notes** - How will you keep track of the information?
   Example: Use index cards to take notes from sources.

5. **Organize** – **Outline** and **categorize** or group similar findings together. Make major headings and subheadings.

Example:	*Types of Algae*	*Uses of Algae*
	Green	*Food for fish*
	Brown	*Food for humans*

6. List **major findings** – Summarize at least three major findings. Explain them in detail.
   Example: 1. Algae grows because…..
   2. You can find algae in many common household items, they put it in ice cream to keep it from melting and in toothpaste to keep it smooth.

7. **Conclusion** – Now that you have collected your research and organized it, what does it all mean? Was your original hypothesis right or wrong? Explain why.
   Example: Algae has many uses – without it we wouldn't enjoy many of the things that we have.

8. **Future Possibilities** – What could you do for future research or experiments to learn more about this?
   Example: While algae might be nice in ice cream, I hate cleaning it out of my pool. What can I do to keep it from growing?

9. List **sources** – Write names of books, encyclopedias, and magazines with authors, page numbers and date of publication.
   Example: Benefits of Algae, by Martin McFire, pgs 6-42, 1999. Interview with Dr. Robert Spire, Ph.D. (Marine Biologist).

10. **Title** – Create a title for your project. It should be catchy and interesting and grab your audience's attention.
    Example: Pool Scum – It's What's for Dessert

Research Display

The display board is an important part of the project. The more information the judges can see, the better it will be. The judges will also be asking questions of every student, so make sure you fully understand your project.

Your display should include:

- Title
- Question
- Hypothesis
- Outline of Information
- Major Findings (at least three)
- Figures or Displays (example: list where you find different algae; ice cream box with algae circled in ingredients)
- Conclusion
- Possible Future Research or Experiments
- Sources
- Project Information Form (included in this packet)

Students should provide a neat and orderly display.

- Drawings, pictures or other explanations are helpful.
- Color and neat lettering will help improve your project.
- Make sure all words are spelled correctly.
- Take the time to do a good job
- Be neat, creative, and most of all, HAVE FUN!

COLLECTION GUIDELINES

1. Ask yourself a **question**. What are you trying to find out? Usually this is limited to one concept.
   Example: What's the use of bugs?

2. Make an educated guess or **hypothesis** as to what you think the answer might be. Using the background information that you have, what do you THINK? You could include your reasons why.
   Example: All bugs are just pests.

3. Plan your **research.** Exactly where are you going to look for your material? You should use at least 4 sources, with at least three different types, i.e., encyclopedias, science magazines, science books, expert interviews, etc.
   Example: Use an encyclopedia, check out at least two books from the library on bugs, find a science magazine about bugs.

4. Take **notes** - How will you keep track of the information?
   Example: Use index cards to take notes from sources.

5. **Organize** and **categorize** - List **major findings**.
   Example: Some bugs eat other bugs. Some bugs make flowers grow. Some bugs taste great.

6. **Conclusion** – Now that your research is done, what does it all mean? Was your original hypothesis right or wrong? Explain why.
   Example: Bugs have a lot of uses…..

7. **Build your collection** – Make sure it shows what you learned. Divide the parts of the collection into classes and subclasses.
   Example: Don't just catch a bunch of bugs and throw them together. Categorize them based on what they do.

8. **Future Possibilities** – What could you do for future research or experiments to learn more about this? Or how could you improve it even more?
   Example: What would happen if we no longer had some of those bugs. What happens if we have too many of them?

9. List **sources** – Write names of books, encyclopedias, and magazines with authors, page numbers and date of publication.
   Example: Big Book of Bugs, by DK Publishing, pgs. 2-198, 2000.

10. **Title** – Create a title for your project. It should be catchy and interesting and grab your audience's attention.
    Example: When Bugs Don't Bug Us

Collection Display

The display board is an important part of the project. The more information the judges can see, the better it will be. Don't forget to bring your collection! The judges will also be asking questions of every student, so make sure you fully understand your project.

Your display should include:

- Title
- Question
- Hypothesis
- Major Findings
- Methods of Classification
- Listing of Classes and Subclasses
- Conclusion
- Possible Future Research or Experiments
- Sources
- Project Information Form (included in this packet)

Students should provide a neat and orderly display.

- Drawings, pictures or other explanations are helpful.
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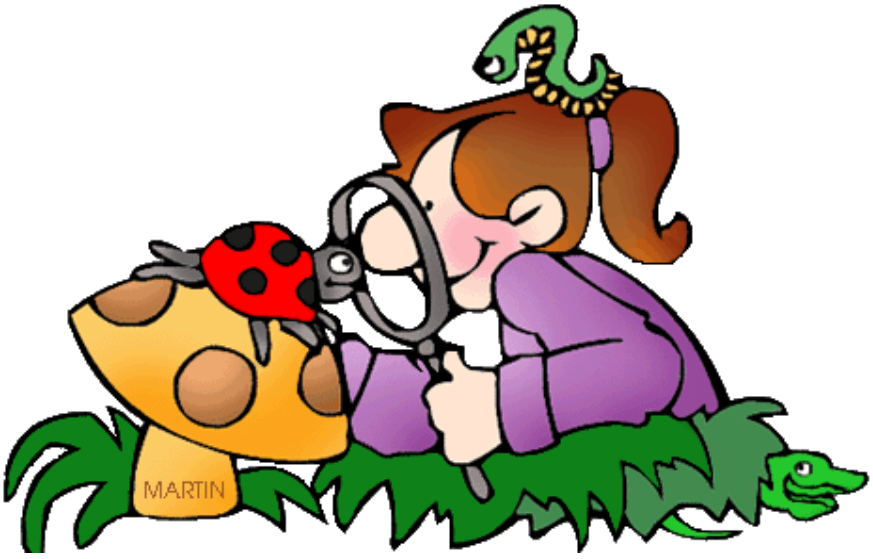


*****ATTACH THIS TO YOUR PROJECT*****

NASH ELEMENTARY PTA SCIENCE FAIR
PROJECT INFORMATION FORM

PROJECT TITLE _____

Student Name(s) _____

_____

Teacher _____

Grade _____

TYPE OF PROJECT:

_____ **Experiment**

_____ **Model**

_____ **Research**

_____ **Collection**

Project Question

_____

_____

_____

_____

Project No. _____

DO NOT FILL IN THIS BOX
To be filled in by Science Fair Personnel.

Nash Elementary PTA Science Fair Entry Form

Grades K-5

Entry Form Deadline: Friday, March 10th

Please note the deadline and submit this form ASAP. Late entries may be permitted at the discretion of the Science Fair Committee however the participant may not receive a t-shirt (depending on availability). A separate form must be submitted for each project. **EACH STUDENT MUST submit a form! Students working in a group much EACH submit a form and indicate their partner's name(s).**

Forms may be submitted at school OR via email to nashsciencefair@gmail.com.

Student Name _____

Project Partners (if applicable) _____

Teacher(s) _____ Grade _____

T-Shirt Size (Choose one) _____ YS _____ YM ____ YL _____ YXL _____ AS _____ AM _____ AL

Type of project you will be entering (check one):

_____ Experiment

_____ Model

_____ Research

_____ Collection

Please check if you will be using:

_____ Chemicals

_____ Electricity

_____ Water

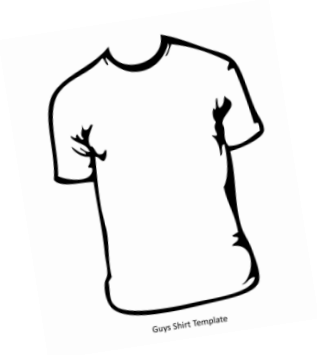
Parents/Guardians

My child_____has permission to display a project in the Nash Elementary PTA Science Fair on March 30th, 2016. I understand that it is the child's responsibility to set up the project between 4:00 and 5:50 p.m. on March 30th. Judging will begin at 6:00 p.m. The child may leave as soon as their project is judged. It is also the child's responsibility to take down their own project after school on March 31st. Any projects left behind will be disposed of.

Signature_____Date_____

*E-Mail_____Phone #_____

If you have questions, please contact a member of the Science Fair Committee at nashsciencefair@gmail.com.



Nash Elementary PTA Science Fair

EXTRA Science Fair T-Shirt Order Form

BY POPULAR DEMAND!

Every science fair participant will receive a FREE 2017 Science Fair t-shirt. Parents of science fair participants are able to purchase additional t-shirts for $10 each. This order form **MUST BE TURNED IN by Friday, March 10th**. Orders will not be accepted after that date.

Student Name _____

Teacher/POD_____

Parent Name _____

Email Address__

SIZE	QUANTITY		COST		TOTAL
Adult Small		X	$10	=	
Adult Medium		X	$10	=	
Adult Large		X	$10	=	
Adult Extra Large		X	$10	=	
Adult XXL		X	$12	=	
				GRAND TOTAL	

Make checks payable to "Nash PTA". Do not send cash!