

# MEMORIAL SCHOOL

## 2017 ACADEMIC EXPO

January 30, 2017

Dear 8<sup>th</sup> Grade Parents/Guardians,

Please keep the evening of **Thursday, April 6, 2017** available so that you may attend the Memorial School Academic Expo! The Expo will be held from **7:00 pm to 8:00 pm**. Students will be expected to attend and present their projects at the Expo.

During the next few weeks your child is required to complete a science project which uses the scientific method to solve a problem. Science projects are primarily independent study assignments involving experimentation on a topic of individual interest. The educational benefits to the student who completes a project are numerous including developing skills in writing, oral presentation, creative thinking, and problem solving. Students may work independently or with a partner (see Partner Agreement on page 4).

Most of the work will be completed at home. Close supervision will help your child develop good time management skills and will ultimately result in a quality project. Please monitor his/her progress, provide encouragement, and sign off on the specific due dates. Your support is key to a successful project. Please do not allow your involvement to extend any further in order to assure equity and promote student learning!

Please look through the following information and discuss the expectations with your child. **Next, sign and return the Entry Form (p. 9) and Partner Agreement Form (p. 10) (due Tuesday, February 14, 2017)** so that we know that you have received this form and are aware of the project and who your child is working with. This complete packet is also posted on the Memorial webpage. If you have any questions, do not hesitate to email your child's science teacher or leave a message with the front office.

Sincerely,

Memorial School Science Teachers

## **CHECKPOINT DATES**

### **Mark your Calendars!!!**

1. \_\_\_ Entry Forms and Partner Contract due ***Tuesday, February 14, 2017***. (Quiz Grade)
  - One per pair
  - Pages 9 and 10
  
2. \_\_\_ Purpose and Hypothesis due ***Tuesday, February 28, 2017***. (Quiz Grade)
  - One per student
  - Page 11
  - Purpose: A detailed statement that explains the purpose of the project and why it was chosen
  - Hypothesis: A short, concise guess of what you think will happen and why
  
3. \_\_\_ Materials and Procedures due ***Tuesday, March 7, 2017***. (Quiz Grade)
  - One per student
  - Page 12
  - Materials: List the materials needed
  - Procedures: List the steps needed to be taken from beginning to end of the project
  
4. \_\_\_ Observations and/or Raw Data due ***Tuesday, March 14, 2017***. (Quiz Grade)
  - One per student
  - Page 13
  - Observations: Statements and descriptions of what you have observed
  - Raw Data: Measurements, numbers, or any information you have gathered in regards to your project
  
5. \_\_\_ Final Project (Tri-fold, Abstract, and Oral Presentation) accepted between ***Monday, March 27 ~ Thursday, April 6, 2017***. The specific date for your class will be determined by your teacher. (Test and Lab Grade – **NO lates will be accepted**)

**NOTE: Minus 10 points for each day late (does NOT apply to the final project).**

## **RULES**

1. All students of all grades are required to participate.
2. Students may work independently or with one partner in the same grade.
3. Relatives and friends may guide or advise a student with his/her science fair project, but remember that this is a student project.
4. Caution and safety practices are to be observed and followed at all times.
5. The following are prohibited:
  - live animals
  - open flames
  - unapproved substances or chemicals
  - volcanoes
  - oobleck, gloop, or slime
  - lava lamp
  - potato/lemon clock or battery
  - color changing/tie dye milk
  - dry ice bubble
  - density cube
  - any baking soda/vinegar reactions
6. Absolutely no late projects will be taken. There will be a four day window for submission.
7. If you have any questions or concerns, please contact your science teacher.
8. Students are expected to attend the Expo on the evening of Thursday, April 6, 2017.

## **CHECKLIST**

1. \_\_\_ Think of a problem or choose a topic you would like to explore.
2. \_\_\_ Form a hypothesis, or an educated guess to what the result may be.
3. \_\_\_ Gather the materials necessary for the project.
4. \_\_\_ Consider the procedures for the project and follow them.
5. \_\_\_ While working on the project, make sure to collect data, make graphs, and/or take pictures.
6. \_\_\_ Once the project is completed, analyze your data and take note of your results.
7. \_\_\_ Draw a final conclusion.
8. \_\_\_ Work on the tri-fold. Make sure each heading and the required information is neatly presented on the tri-fold in order. Refer to the diagram of the tri-fold in this packet before you paste everything on.
9. \_\_\_ Type up your abstract and make sure to include a bibliography. Give credit where it is due. Plagiarizing will NOT be tolerated. Be sure to explain the science behind your project.
10. \_\_\_ Attend the Expo on the evening of Thursday, April 6, 2017.

## **PARTNER AGREEMENT**

By signing the contract, I understand that:

- I do not have to work with a partner, but I have the choice to work with a partner who is in the same grade.
- I have read through this packet and am aware of the check point dates, my responsibilities, and the rules.
- I must meet all of the deadlines for the science fair checkpoints.
- Other than the final project (tri-fold and final abstract), I must turn in my own copy of the work.
- I have to work in a cooperative manner with this person through the entire project.
- If my partner and I are in two different classes, we will give two separate presentations and will be responsible to explain the project in its entirety.

See page 10 for the actual contract that needs to be turned in by ***Tuesday, February 14, 2017.***

## **DIRECTIONS**

You may choose to do one of the following as your project:

- Science Investigation
- Create an invention or design a model

### **Science Investigation:**

1. Think of a question based on a scientific problem
2. Come up with a hypothesis (or educated guess) to your question
3. Design and perform an experiment to test the hypothesis
4. Document and analyze the results
5. Draw a conclusion

The key to a good investigation is a “testable question.” A testable question is a question that can be answered by conducting an experiment, collecting data, and making sense of the data. The table below shows examples of testable questions and how they could be addressed.

<b>Testable Questions</b>	<b>Independent Variable (can be changed)</b>	<b>Controlled Variables (cannot be changed)</b>	<b>Data Collected</b>
Which combination of lubricants will work best on a wheel?	Individual lubricants and combinations of lubricants	Wheel size, axel type, thrust to start the wheel	Distance wheel will spin for each combination of lubricants
Which detergent removes stains the best?	Type of detergent, type of stain	Type of cloth, physical process of stain removal	Stain fading over time for combinations of detergents and stains

### **Creating a Model/Invention:**

1. The model or invention has to serve a purpose and solve a real problem.
2. The change or solution must be measurable (in other words, you have to be able to prove that a difference was made).
3. The model or invention has to either be a complete original or an improvement on a previous invention.

Thinking up invention ideas can be a fun exercise. Look in the kitchen or the garbage, visit a hardware or home improvement store. Look for simple devices that solve a problem (like “chip clips”) or poorly designed products that just don’t work. Improving the local bridge may not be possible, but using a model to show it could be improved is. Just as with an investigation, you must outline and document every step along the way.

## **ABSTRACT**

Five paragraph abstract:

- Paragraph 1: introduction/ reason why you chose the project
- Paragraph 2: purpose/hypothesis
- Paragraph 3: procedures
- Paragraph 4: data/results
- Paragraph 5: conclusion

### **Format:**

- Must be written in third person (No "I," "we," "me," or "my")
- Double spaced
- 1 inch margins
- 12 point font (Times New Roman, Arial, or Calibri)
- 5 to 8 sentences per paragraph
- Bibliography attached at the end (directions are on the next page)
- Absolutely NO plagiarizing

## **TRI-FOLD**

This is how your tri-fold should be set up.

<p><b>Purpose, problem OR question</b></p>  <p><b>Hypothesis</b></p>  <p><b>Materials</b></p>	<p><b>Title</b></p>  <p><b>Data, graphs and/or pictures go here.</b></p>	<p><b>Procedure</b></p>  <p><b>Results</b></p>  <p><b>Conclusions</b></p>
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## **BIBLIOGRAPHY FORMATS**

### **Book:**

Author's last name, first name. *Book title*. Additional information. City of publication: Publishing company, publication date

### **Example:**

Allen, Thomas B. *Vanishing Wildlife of North America*. Washington, D.C.: National Geographic Society, 1974.

### **Article:**

Author's last name, first name. "Article title." *Periodical title* Volume # Date: inclusive pages.

### **Example:**

Kanfer, Stefan. "Heard Any Good Books Lately?" *Time* 113 21 July 1986: 71-72.

### **Internet:**

Author's last name, first name (if available). "Title of work within a project or database." *Title of site, project, or database*. Editor (if available). Electronic publication information (Date of publication or of the latest update, and name of any sponsoring institution or organization). Date of access and <full URL>.

### **Example:**

Devitt, Terry. "Lightning injures four at music festival." *The Why? Files*. 2 Aug. 2001. 23 Jan. 2002 <<http://whyfiles.org/137lightning/index.html>>.

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## **GRADING**

You will be graded on the following:

- Tri-fold
- Abstract
- Oral presentation

Please refer to the rubric on page 8.

## Science Fair Rubric

0 = No Evidence    1 = Some Evidence    2 = Clearly Evident		
<b>Tri-fold</b>		
The display board includes the following:		
• Title	0	1    2
• Question/Problem	0	1    2
• Hypothesis	0	1    2
• Materials	0	1    2
• Procedures	0	1    2
• Data/Graphs	0	1    2
• Results	0	1    2
• Conclusions	0	1    2
The sections are in the correct order.		
Neatness		
Effectiveness		
Proper punctuation, spelling, and capitalization		
<b>Display Total:</b>		/24
<b>Oral Presentation</b>		
Speaks clearly	0	1    2
Voice Projection	0	1    2
Eye Contact	0	1    2
Knowledge of Material	0	1    2
<b>Oral Presentation Total:</b>		/8
<b>Abstract</b>		
The abstract includes the following:		
• Introduction	0	1    2
• Question/Problem	0	1    2
• Hypothesis	0	1    2
• Materials	0	1    2
• Procedures	0	1    2
• Data/Graphs and Results	0	1    2
• Conclusions	0	1    2
• Bibliography	0	1    2
Proper punctuation, spelling, and capitalization		
<b>Abstract Total:</b>		/18
<b>Subtotal:</b>		/50
<b>Deductions:</b>		
<b>Total:</b>		/50



## **ENTRY FORM**

- Fill out the form neatly and hand it in to one of your science teachers.
- Hand in **ONLY** one form per pair by ***February 14, 2017***.

**Grade:** \_\_\_\_\_

**Student One:**

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

Science Teacher and Period: \_\_\_\_\_

**Student Two:**

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

Science Teacher and Period: \_\_\_\_\_

**Title of Project:**

\_\_\_\_\_

**Brief Description About the Project:**

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Do you need an electrical outlet? \_\_\_\_yes \_\_\_\_no (plugs must be in good shape)

**Teacher use only:**

Location: \_\_\_\_\_

Project #: \_\_\_\_\_

## **PARTNER CONTRACT FORM**

### ***Directions:***

- Read the contract (page 4) and look through the rest of the packet.
- Student One fill out the form neatly and pass it on to Student Two.
- Student Two fill out the form neatly and hand it in to one of your science teachers.
- Hand in one form per pair by ***February 14, 2017.***

### **Student One:**

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

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

Science Teacher and Period: \_\_\_\_\_

Parent's Name: \_\_\_\_\_

Parent's email address: \_\_\_\_\_

Parent's phone number: \_\_\_\_\_

Parent's signature: \_\_\_\_\_

### **Student Two:**

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

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

Science Teacher and Period: \_\_\_\_\_

Parent's Name: \_\_\_\_\_

Parent's email address: \_\_\_\_\_

Parent's phone number: \_\_\_\_\_

Parent's signature: \_\_\_\_\_





