

**Grade Eight Science Fair Information 2017-2018**

Dear Parent and Student:

Attached you will find the science fair forms that will be used during the grading process for Grade Eight at Clark-Shaw Magnet School. Please review these forms with your student and return the bottom of this form to Ms. Irby or Mrs. Miller. Pay special attention to the SF rubric since recent changes have been made. These changes will assure the continued development of your student relative to exploring scientific methods and enhancing his/her critical thinking.

There will be a Parent Q & A meeting **Thursday August 31, 2017 (7<sup>th</sup> & 8<sup>th</sup> grade)** in the gym at 5:30 p.m. This meeting is to inform parents more about the science fair projects and answer any additional questions parents may have about the science fair projects.

Thank you,

Science Department

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Date \_\_\_\_\_

I have read and discussed the attached science fair forms with my student. We both understand the information, and I will contact my student's science teacher if any questions or concerns develop during the experimental process.

Science Teacher \_\_\_\_\_ Period \_\_\_\_\_

Student Name (Print) \_\_\_\_\_

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

Parent/Guardian (Print) \_\_\_\_\_

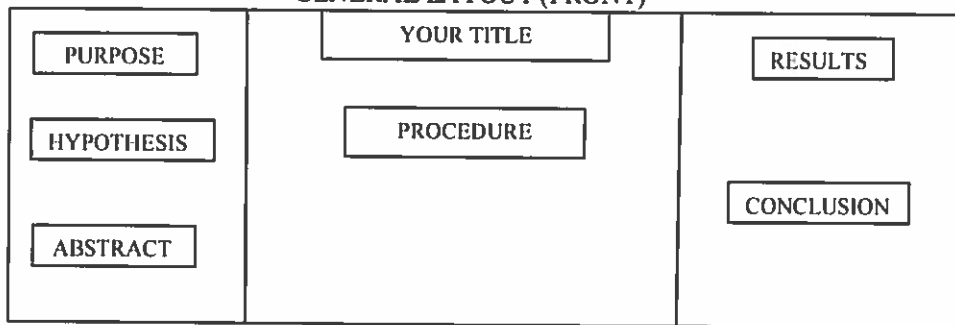
Parent/Guardian (Signature) \_\_\_\_\_

# Science Project Checklist for Success

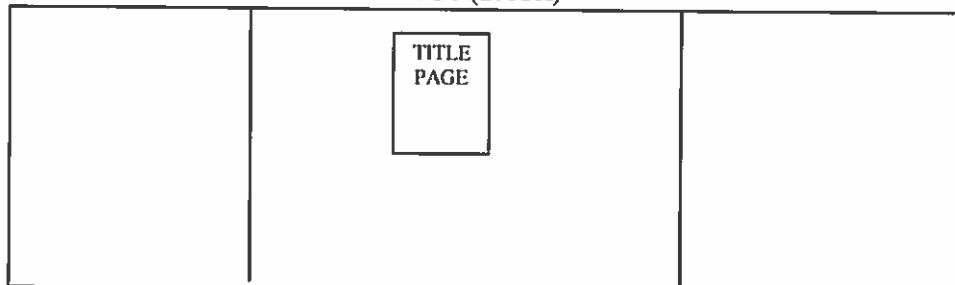
## I. Display board — Reads like a book: Top Left↓; Top Middle↓; Top Right↓ (see diagram at bottom)

- ✓ Title: Should be on Title Board (Related to topic; Can be "catchy")
- ✓ Purpose: Left side, top (Statement of the problem or question your project was designed to explore, includes the problem, what was tested, and how/why you chose the topic)
- ✓ Hypothesis: Left side, middle (Prediction with a scientific reason based on the scientific research facts that support it; *NOT common knowledge*)
- ✓ Abstract: Left side, bottom (Summary essay: See Section II) \* Remember to print 3 copies of abstract: 1 copy for display board, 1 copy for Science teacher, and 1 copy for math component.
- ✓ Procedure: Middle section, below title (Describe the experiment: Include a materials list, photos of experiment in progress, step-by-step description of how the experiment was conducted including the control, how many trials were performed (10 trials min), samples of materials used, etc.).  
**Must have photos of experiment on the display board.**
- ✓ Results: Right side, top (Summary paragraph including relationship between independent/dependent variable, plus at least one graph that best represents results of experiment—make sure it is labeled with a title, a label on each axis, and metric units) \* Remember to print 2 copies of graph in color: 1 copy - display board and 1 copy - for math component
- ✓ Conclusion: Right side, bottom (Interpretation of results—broad statement of facts learned that relates results to both the purpose statement and to the hypothesis).
- ✓ Font size should be at least 22 for board components.
- ✓ Check for neatness, correct spelling, and grammar. **NO STAPLES!!!!**
- ✓ Must have photos with captions showing your personal timeline.
- ✓ **DO NOT** show photos that could identify you (your face).
- ✓ Put a title page on the back of the display board in the center section (see section II for title page instructions).
- ✓ Log book should be kept and turned in with display board (see section IV for log book directions).
- ✓ Board must be a 36" x 48" tri-fold project display board.

GENERAL LAYOUT (FRONT)



LAYOUT (BACK)



## II. Abstract — A summative essay that describes your project.

- ✓ Title page (center the following information on the page: Project Title, Student's Name, Class/Subject, Teacher's Name, Class period, and Date) \* Remember to print 3 copies of title page: 1 copy for abstract (science teacher), 1 copy for back of display board, and 1 copy for math component.
- ✓ Use *block paragraph* form (DO NOT use headings)
- ✓ Write in 3<sup>rd</sup> person, past tense (NO I, we, me, etc.)
- ✓ NO LONGER than 250 words (one page, single-spaced body, double-space between block paragraphs) Be sure to include the following information *in this order*:
  - Purpose (introductory statement of the reason for investigating the topic of the project, includes the problem, what was tested, and how/why you chose the topic — your personal reason for exploring topic)
  - Hypothesis (includes expectations based on scientific research that support them)
  - Procedure (summary of the experiment, what was being measured, and the number of times tested)
  - Results (report data trend with actual metric measurements, including a summary of results such as average measurements from all trials)
  - Conclusion (includes interpretation of results related to the purpose and to the hypothesis)
- ✓ Check for spelling, grammar, and neatness
- ✓ Remember to print 3 copies of abstract: 1 copy for display board, 1 copy for Science teacher, and 1 copy for math component.

## III. Presentation — Practice at home first

- ✓ Time should be between 4 - 7 minutes for 8<sup>th</sup> graders
- ✓ Describe everything on the display board
- ✓ Describe your experimental apparatus and/or photos of the experiment in progress (must have photos and/or a demo to provide evidence that the experiment was actually conducted)
- ✓ Speak loudly, clearly, with correct pronunciation and grammar, facing your audience (class)
- ✓ NO GUM

## IV. Log Book - Must be kept and turned in along with display board.

- ✓ A log book is your recording document for the entire experimental process, from beginning to end.
- ✓ Should include Experimental Procedure (materials list & steps of experiment)
- ✓ Should include the data collected during the entire course of the experiment. Data should be in metric units. Date and Time each entry.
- ✓ Should include any & all observations made while doing the experiment. Date and Time each observation entry.
- ✓ Title on Log Book must match Title on Display Board.

NOTE: Students must decide whether they plan to enter the school science fair at the time of their presentation. *All students are encouraged to enter the fair.* Those who choose to participate will declare a category for their project to be judged from the following list:

Behavioral and Social Sciences  
Physical Science (Physics)  
Physical Science (Chemistry)

Environmental Science  
Math & Computer Science  
Earth/Space Science

Engineering  
Botany  
Zoology

## Science Fair Project Restrictions

- Middle School students **will not** attempt projects using the following:
  - Vertebrate animals - (fish, amphibians, reptiles, birds, and mammals, their parts, tissues, or blood)
  - Recombinant DNA
  - Pathogenic agents
  - Controlled substances (including alcohol, steroids, drugs, etc)
  - Growing bacteria or fungi
  - Humans (other than simple observation without contact or identification)
- No live organisms, including plants **may be exhibited** at the fair. Projects involving the use of live organisms may display photographs, drawings, charts, or graphs to illustrate conditions, developments, and results of investigation.
- Other items that **will not be displayed** at the fair:
  - Taxidermy specimens or parts
  - Preserved vertebrate or invertebrate animals
  - Human/animal parts or body fluids
  - Food of any sort
  - Sharp items (knives, needles, etc.)
  - Flammable materials
  - Laboratory/household chemicals
  - Glass containers
  - Anything potentially hazardous or offensive
  - Batteries with open tops or bare electrical wires
  - Open flames
  - Exposed knife switches
  - Poisons, drugs, controlled substances
  - Photos that would allow identification of persons
  - Liquid, including water filled containers - photographs of apparatuses are preferred to the apparatuses themselves.
- Under no circumstances will firearms of any kind be allowed in our Fair.

# SI Reference Sheet

To convert from °F to °C, you can:

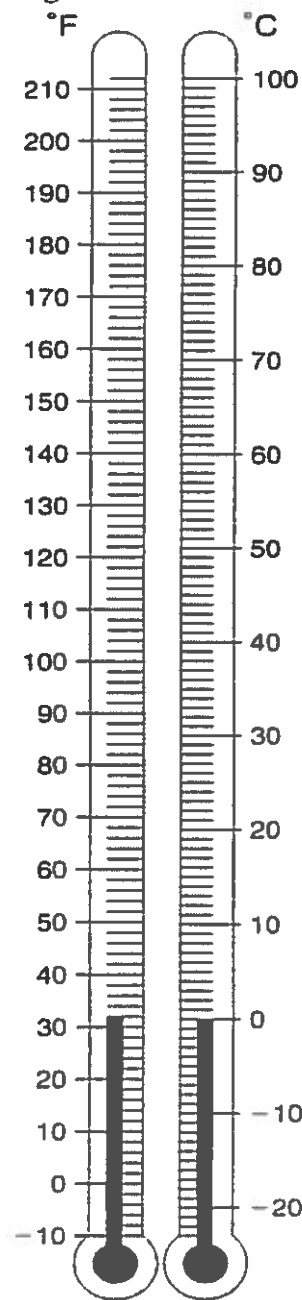
1. For exact amounts, use the equation at the bottom of Table 3, or
2. For approximate amounts, find °F on the thermometer at the left of Figure 1 and determine °C on the thermometer at the right.

Table 3

SI Metric to English Conversions			
	When you have:	Multiply by:	To find:
<b>Length</b>	inches	2.54	centimeters
	centimeters	0.39	inches
	feet	0.30	meters
	meters	3.28	feet
	yards	0.91	meters
	meters	1.09	yards
	miles	1.61	kilometers
	kilometers	0.62	miles
<b>Mass and weight*</b>	ounces	28.35	grams
	grams	0.04	ounces
	pounds	0.45	kilograms
	kilograms	2.20	pounds
	tons	0.91	metric tons
	metric tons	1.10	tons
	pounds	4.45	newtons
	newtons	0.23	pounds
<b>Volume</b>	cubic inches	16.39	cubic centimeters
	milliliters	0.06	cubic inches
	cubic feet	0.08	cubic meters
	cubic meters	35.31	cubic feet
	liters	1.06	quarts
	liters	0.26	gallons
	gallons	3.78	liters
<b>Area</b>	square inches	6.45	square centimeters
	square centimeters	0.16	square inches
	square feet	0.09	square meters
	square meters	10.76	square feet
	square miles	2.59	square kilometers
	square kilometers	0.39	square miles
	hectares	2.47	acres
	acres	0.40	hectares
<b>Temperature</b>	Fahrenheit	$\frac{5}{9} (^{\circ}\text{F} - 32)$	Celsius
	Celsius	$\frac{9}{5} ^{\circ}\text{C} + 32$	Fahrenheit

\* Weight as measured in standard Earth gravity

Figure 1



# GRADING RUBRIC FOR GRADE 8 SCIENCE FAIR PROJECT

Name \_\_\_\_\_ Period \_\_\_\_\_ Order# \_\_\_\_\_

Project Title \_\_\_\_\_

Display Board Due Date: 12/04/2017 (8<sup>th</sup> grade)

Submitted on: \_\_\_\_\_ Date of Presentation: January \_\_\_\_\_ 2018

Plan to enter science fair: Yes \_\_\_\_\_ No \_\_\_\_\_ Category/Science Fair \_\_\_\_\_

## DISPLAY BOARD: 100 Test Points

Title Page (attached to middle-back of display board)/Title on Title Board	0	3	5
Purpose (the problem, what was tested, how/why <i>you</i> selected the topic)	0	5	10
Hypothesis (expectations based on cited, scientific research; <i>NOT common knowledge</i> )	0	5	10
Abstract (refer to Abstract Rubric on back of sheet/minimum 22 font on display board)	0	5	10
Procedure (experiment, materials used/steps taken/state independent/dependent variable, the control, & number of times tested) <b>OBSERVER SHOULD BE ABLE TO REPEAT PROCESS WITH YOUR PROCEDURE</b>	0	10	20
Trial manipulated variable tested- <b>MINIMUM OF TEN TIMES</b>	0	10	15
Results (must include graph & summary paragraph) <i>Summary paragraph to include stated relationship between independent/dependent variable</i>	0	5	10
Conclusion (facts learned/relates results to purpose/extends results to hypothesis)	0	5	10
Photos with captions showing your personal timeline (avoid personal identity)	0	5	10

/100

**\*\*\*\*FONT SHOULD BE AT LEAST 22 FOR BOARD COMPONENTS--INCREASE HEADER SIZE TO SCALE\*\*\*\***

## PRESENTATION: 100 Test Points

Time (4-7 minutes for 7 <sup>th</sup> & 8 <sup>th</sup> graders)	0	5	10	15	End	
					Begin	
					Total	
Demonstrates Subject Knowledge						
Describes all board components	0	5	10	15		
Explains experiment/process	0	5	10	15		
Science content responses (must support information)	0	5	10	15	20	40
Displays Presentation Etiquette (speaking tone/grammar/pronunciation & audience awareness- <b>(DO NOT CHEW GUM OR READ BOARD)</b> )	0	5	10	15		

/100

Name \_\_\_\_\_ Period \_\_\_\_\_ Order # \_\_\_\_\_

Project Title \_\_\_\_\_

**LOG BOOK: 100 Test Points \*\*\*\*A notebook of your experimental process\*\*\*\***

Experimental Procedure listed (materials list & steps of experiment)	0	5	10	15	20
Data collected during the entire course of the experiment.	0	5	10	15	20
Data should be in metric units. Entries include date and time.	0	5	10	15	20
All observations were recorded. Entries include date and time.	0	5	10	15	20
Title on front of log book matches title on display board.	0	5	10	15	20

/100

**ABSTRACT: 100 Test Points \*\*\*\*A summative essay that describes your project\*\*\*\***

- Block Paragraphs
- No Headings
- Maximum 250 words
- One page
- Third Person
- Third Person tense
- Single-spaced body
- Double-space between paragraphs

Title Page (Order: Project Title, Student's Name, Class/Subject, Teacher's Name, Period, and Date) 0 5 10

\*\*\*\*\*The Following Information Should Be Included In This Order\*\*\*\*\*

Purpose (the problem, what was tested, how/why <i>you</i> selected the topic)	0	5	10	15
Hypothesis (expectations based on cited, scientific research; <i>NOT common knowledge</i> ) 20	0	5	10	15
Experiment (includes procedure, what was being measured, and the # of times tested)	0	5	10	15 20
Results (includes a summary of outcome, a noted data trend after experimentation)	0	5	10	15 20
Conclusion (includes facts learned, interpretation of results related to the purpose & the hypothesis)	0	5	10	15

/100

\*\*\*\*\*CHECK FOR SPELLING, GRAMMAR ERRORS, NEATNESS\*\*\*\*\*

Display Board: \_\_\_\_\_/100

Presentation: \_\_\_\_\_/100

Abstract: \_\_\_\_\_/100

Log Book \_\_\_\_\_/100

TOTAL: \_\_\_\_\_/400

**PLEASE BE AWARE THAT THIS RUBRIC FORM IS DIFFERENT FOR GRADE EIGHT. ALTHOUGH WE STRIVE FOR CONSISTENCY AS A DEPARTMENT, WE AGREE THAT THIS IS A PROCESS WITH INCREASING RIGOR AND EXPECTATIONS.**

# 2017-2018 Science Fair Project

## Checkpoint Dates

- **August 29** (Tues): **6<sup>th</sup> grade** Parent Q & A meeting in Gym at 5:30 p.m.
- **August 31** (Thurs): **7<sup>th</sup> & 8<sup>th</sup> grade** Parent Q & A meeting in Gym at 5:30 p.m.
- **September 7** (Thurs) - **Ideas Form** due (1st quarter science lab grade) / For Gr 6 Life Science Classes
- **September 28** (Thurs) - **Project Proposal Form** due (1st quarter science lab grade) / For Gr 6 Life Science Classes
- **October 26** (Thurs) - **Research Plan** due (2nd quarter science lab grade) / For Gr 6 Life Science Classes
- **November 9** (Thurs) - **Data Checkpoint** due (2nd quarter science lab grade) / For Gr 6 Life Science Classes---**Grade Eight Data Table & Photos** due (2<sup>nd</sup> quarter lab grade)
- **November 30** (Thurs) - **Final Abstract** due to Science Teacher (3rd quarter science test grade) / For Gr 6 Earth Science Classes  
\*Remember to print 3 copies: 1 copy for display board, 1 copy for science teacher, & 1 copy for math component—Each copy should have the appropriate teacher listed on the title page!
- **December 4** (Mon) - **Gr 8 Display Boards & Log Books** due (3rd quarter science test grade each) / **Gr 8 Math Components** due to math teacher (3rd quarter math test grade)
- **December 5** (Tues) - **Gr 7 Display Boards & Log Books** due (3rd quarter science test grade each) / **Gr 7 Math Components** due to math teacher (3rd quarter math test grade)
- **December 6** (Wed) - **Gr 6 Display Boards & Log Books** due to Earth Science Teachers (3rd quarter science test grade each) / **Gr 6 Math Components** due to math teacher (3rd quarter math test grade)
- **January 4** (Thurs) - **Project Presentations begin** (3rd quarter science test grade) / For Gr 6 Earth Science Classes
- \* **February 1-2** (Thurs/Fri) **Clark-Shaw Science and Engineering Fair & Open House**
- **TBA – Application Deadline** for the **Mobile Regional Science Fair**
- \***February 9** (/Fri) **Mobile County Public School Science Fair Hosted by Clark-Shaw**
- **March TBA-Mobile Regional Science and Engineering Fair (10 counties)**



## • TBA - State of Alabama Science and Engineering Fair in Huntsville AL

► Science Fair projects are **required** of all middle school students at Clark-Shaw Magnet School. Failure to complete a project may result in a failing grade in science for 3rd quarter and will adversely affect the student's science grade during 1st and 2nd quarters as well. The math and language arts components of the project will also affect grades in those classes.

Our policy for ALL SCIENCE FAIR COMPONENTS AND THE FINAL BOARD/PROJECT IS AS FOLLOWS:

### \*Late Work Policy:

1 day late: Deduction 50 pts (exceptions at teacher's discretion). 50/100

2 days late or beyond: Student will receive 0 on that component (exceptions at teacher's discretion) 0/100

....we will accept a component and/or the Final Project 1 day late with a 50% reduction in grade and we will not accept them after that... (At teacher's discretion)

► We will **not** make copies of project components and students are **NOT** allowed to make copies in the Library on the day a project component is due. Be sure to print extra copies of the components that are needed for math & language classes.

► The Clark Library will sell display boards and accessories. More information will be available at a later date.