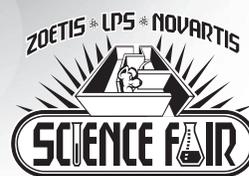
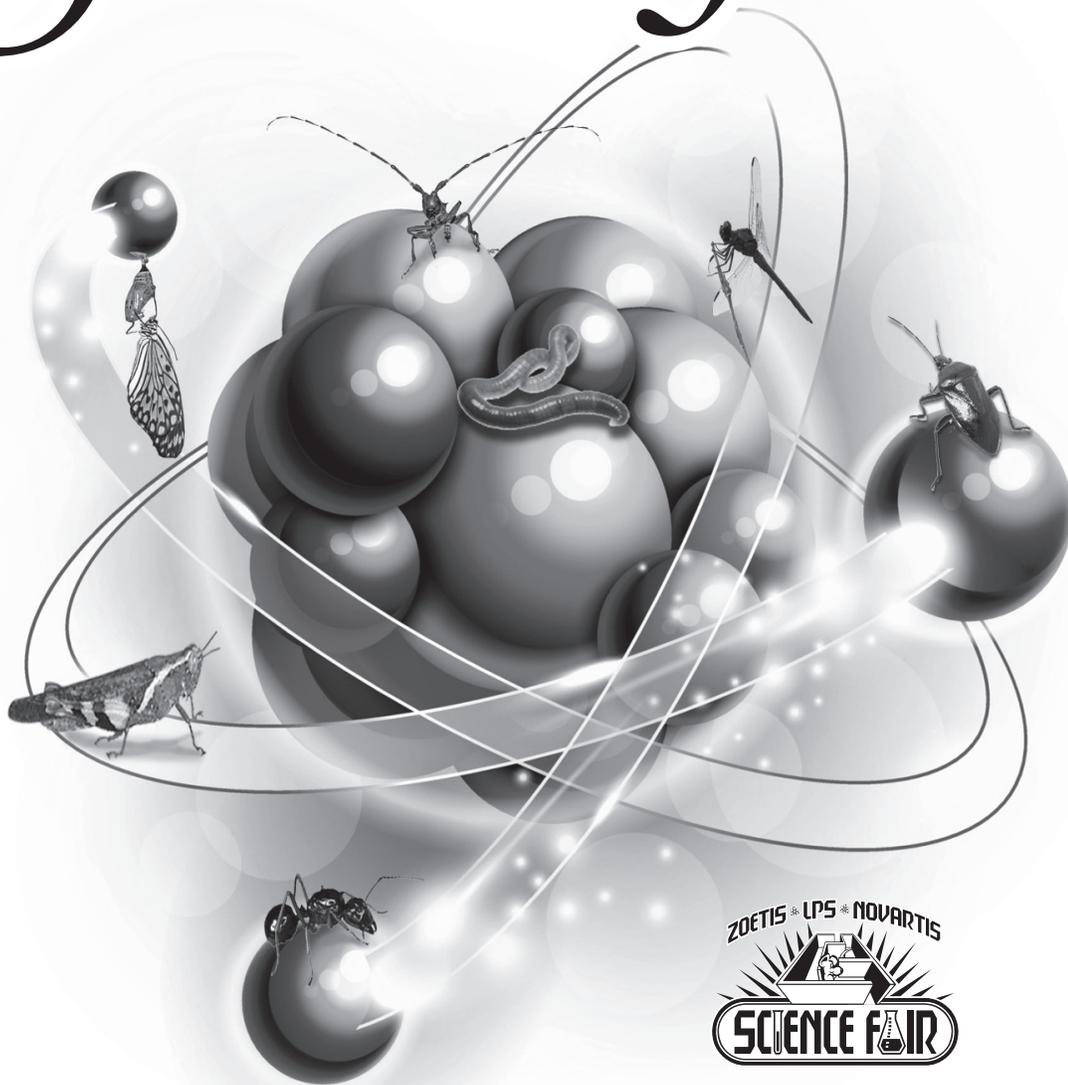


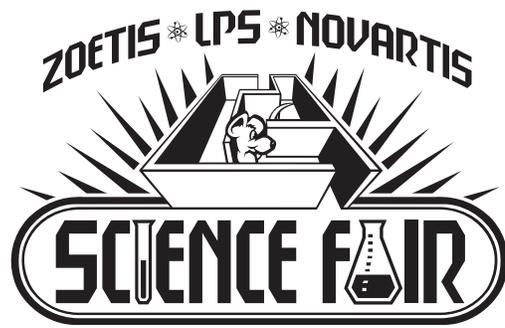
**Zoetis**  **LPS**  **Novartis**

# Science Fair

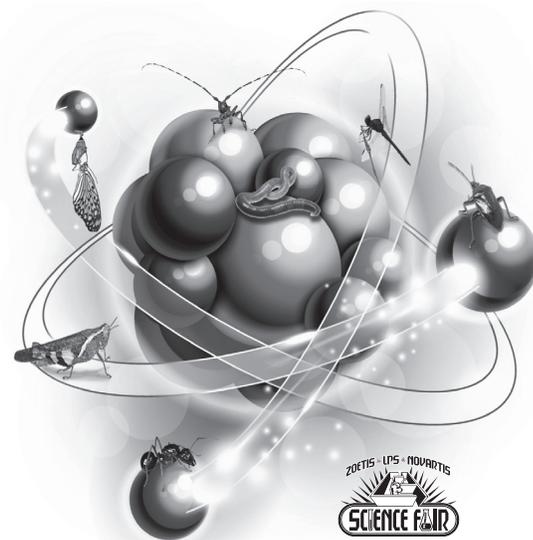


TEACHER  
GUIDEBOOK

LINCOLN PUBLIC SCHOOLS



# Welcome to the 2014 Zoetis/LPS/Novartis Science Fair! A Guide for Teachers



**Thursday, March 20, 2014**  
**Lancaster Event Center • 4100 North 84th Street • Pavilion 1**  
**Lincoln, Nebraska**  
**5:00-8:00 p.m.**

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# INFORMATION FOR CLASSROOM TEACHERS

**Date of Fair:** Thursday, March 20, 2014

**Location:** Lancaster Event Center • 4100 North 84th Street • Pavillion 1  
Lincoln, Nebraska

**Important Dates and Times:**

Student registrations due March 1, 2014

Student check in and set up at Lancaster Event Center–  
4:15-5:00 p.m.

Opening Ceremony–5:00-5:20 p.m.

Judging Time–immediately following the opening ceremony–  
approximately 5:30-8:00 p.m.

**What is provided?:**

Table space. No chairs provided.

T-shirt for each participant.

Certificate and ribbon for each participant.

**IMPORTANT!: No outside food may be brought into the Event Center! Make certain you share this with your students!**

## VIDEO

Make certain the students are able to view our LPS Science Fair video

***“Investigating with Milli Liter–Preparing  
Science Fair Projects”.***

It is an excellent introduction into preparing a display (either a demonstration or experiment) for the science fair. They are available in your school’s media center.

# COMMONLY ASKED QUESTIONS

## 1. Who can participate in the fair?

Any Lincoln Public School student in grades five through eight can participate in the science fair. There will be an Elementary Division (grade 5) and a Middle Level Division (grades 6-8).

## 2. How can I support the science fair?

You are a **key** promoter of the science fair. Keep encouraging your students to participate and complete a project. Write reminders on the board to remind them of time lines or suggestions of possible topics.

## 3. What else can I do?

As a promoter, talk to your students' parents about the fair. Include brief reminders in your weekly/monthly newsletters regarding the science fair. You might organize an informational meeting so that your parents can learn about the fair and receive answers about how they can help.

## 4. What is the time line for the fair?

Posters, student guides, teachers guides to buildings by–January 6, 2014

Begin discussions about fair in classrooms–January 2014

Students develop their projects–January, February 2014

Registration forms due at Meadow Lane–March 1, 2014

Science Fair–March 20, 2014

4:15 p.m. Student Check in and project set up time

5:00 p.m. Opening Ceremony

5:30-8:00 p.m. Project Judging

## 5. Does each student need a project display board?

Yes. If the science fair project is required as part of the science curriculum, then the school should supply boards without any cost to students. If the science fair is optional, it becomes an extra standard activity and the fee waiver policy applies. Low-income students may apply for the boards to be supplied to them without cost.

## 6. Who can I contact if I have a question about the fair?

Please contact one of the following LPS staff members.

Curtis Mann, Meadow Lane	402-436-1151
Kirsten Smith, LPSDO	402-436-1802
Betsy Miller, Irving	402-436-1214
Ann Jablonski, Kooser	402-436-1146
Chris Raasch, Kahoa	402-436-1147
Rob Rickert, Kooser	402-436-1146

# SCIENCE FAIR PROJECT IDEAS

The greatest hurdle facing most students when starting a science fair project is the selection of a topic. We have included some example project ideas. Your school's media center, the city library, the internet, and the LPS Science web site will have additional ideas for projects.

## Earth Science

- How does temperature affect the rate of evaporation?
- How does the size of its container affect the rate at which water evaporates?
- What kinds of particles are found in our air?
- What is the average speed of wind in Lincoln?

## Physical Science

- How does temperature affect the rate at which a banana ripens?
- How does the size of a fruit affect the number of seeds it contains?
- How does the method of popping affect the volume of popcorn?
- How does the brand of popcorn affect the ratio of popped to unpopped kernels?
- How does water temperature affect the rate at which sugar dissolves?
- How does the speed of a cart rolling down a ramp change with the angle of the ramp?
- How does the color of a surface affect the rate at which it absorbs or releases heat?
- How does the number of wraps of wire affect the strength of an electromagnet?

## Life Science

- How does an individual's foot length relate to his/her height?
- How does heredity influence fingerprint patterns?
- What is the best surface for lifting fingerprints?
- How does exercise affect blood pressure?
- How does the position in which a seed is planted affect the way its seedling sprouts?
- How does the sprouting time for a seed change with planting depth?
- Can a plant's response to gravity be changed?

**Science Buddies – [www.sciencebuddies.com](http://www.sciencebuddies.com)**



# THE JUDGING PROCESS ON FAIR DAY

1. Each project will be reviewed by at least two different judges. Judges will be teachers, administrators, and community members.
2. Judges are encouraged to walk around the display floor and view a variety of projects. This will give them a 'feel' for the overall quality of the projects and then they will evaluate the assigned projects. **Judging will not begin before the completion of the opening ceremony.**
3. Judges will have a folder with assigned judging forms included. From the student registration form and from our review of the student's topic question, we have assigned them to a demonstration or experimental evaluation form.
4. The judging forms are divided into several subsections each with differing point totals. The judges will read the descriptors and choose the one that fits best for the project.

Knowledge demonstrated by the student and the thoroughness of their display represents 70 percent of their score. The technical portion of the display represents 30 percent of their score.

Judges are encouraged to add additional comments to the judging form. The space may be limited but it is invaluable to the student to know what they did well and what needs to be improved.

Sample judging forms for experiments and demonstrations are found on the following pages. Please review these carefully with your students.

5. Judges may share with the students the score they have received but this should not be expected.
6. A group of volunteers will review each judging form at the conclusion of the science fair. They will be checking for errors in the addition of points awarded and will enter the total score on the master data list.
7. Judging forms will be returned to the student along with their certificates and ribbons. These should be in your building no later than Friday after the fair.





# ZOETIS-LPS-NOVARTIS SCIENCE FAIR EXPERIMENT JUDGING FORM

Lincoln Public Schools  
Lincoln Nebraska



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

Student Name(s) \_\_\_\_\_ Score \_\_\_\_\_

Topic \_\_\_\_\_

## SCIENTIFIC THOUGHT (VERBAL PRESENTATION)

Comments

### a. Knowledge of Scientific Fact or Theories

\_\_\_\_\_/25

- 23-25 Knowledgeable, shares information freely, good understanding of topic, able to answer questions.
- 20-22 Provides explanation of some facts and shows general understanding of topic.
- 17-19 Provides some facts with prompting.
- 15-16 Minimal information shared on topic.

Comments

### b. Planned and Organized

\_\_\_\_\_/15

- 14-15 Understands and utilizes the Scientific Method to complete project.
- 11-13 Demonstrates some knowledge of the Scientific Method.
- 8-10 Exhibits limited understanding of the Scientific Method with prompting.

Comments

### c. Explains Graphs, Charts, and Display

\_\_\_\_\_/10

- 9-10 Is able to explain graphs, charts, or other visual aids as they pertain to the project.
- 7-8 Is able to explain graphs, charts, or other visual aids with prompting.
- 6 Gives limited explanations to graphs, charts, or other visual aids.

## THOROUGHNESS OF DISPLAY (VISUAL PRESENTATION)

Comments

### a. Scientific Method and Sources of Information

\_\_\_\_\_/20

- 18-20 Display accurately reflects the use of the Scientific Method (hypothesis, procedure, results, conclusion) and includes sources of information.
- 16-17 Display reflects some evidence of the Scientific Method and includes sources of information.
- 14-15 Display reflects limited evidence of the Scientific Method and includes sources of information.

Points Earned-Page 1

\_\_\_\_\_/70



**THOROUGHNESS OF DISPLAY continued-experiment**

Comments

- b. Accurate and Complete Visual Aids**
- 9-10 Display includes two or more of following: graph, chart, photograph, illustration, or model that accurately reflects project.
  - 7-8 Display includes one of the following: graph, chart, photograph, illustration, or model that accurately reflects project.
  - 0 Display does not include a visual aid.

\_\_\_\_\_/10

**Technical Skill (VISUAL PRESENTATION)**

Comments

- a. Exhibit 'Catches the Eye' and Focuses Attention of Visitor**
- 5 Display 'grabs' your attention and interest.
  - 4 Display is neat and organized but not 'eye-catching'.
  - 3 Display is organized but lacks neatness.
  - 2 Display is unorganized and appears put together quickly.

\_\_\_\_\_/5

Comments

- b. Words are Spelled Correctly.**
- 5 All words are spelled correctly.
  - 4 1 or 2 words are misspelled.
  - 3 3 or 4 words are misspelled.
  - 2 5 or more words are misspelled.

\_\_\_\_\_/5

Comments

- c. Labels are Neat and Easy to read.**
- 5 Labels are attractive, neat, and easy to read.
  - 4 Labels are fairly easy to read.
  - 3 Labels are difficult to read.
  - 2 Few or no labels present.

\_\_\_\_\_/5

**ORIGINALITY**

Comments

- a. Original and Unique Ideas for Topic and Display**
- 5 Unique and original topic and display.
  - 3-4 Original topic and/or unique display.
  - 1-2 Some originality in topic and display.

\_\_\_\_\_/5

**Points Earned-Page 2**

\_\_\_\_\_/30

**Points Earned:**

Page 1 \_\_\_\_\_/70

Page 2 \_\_\_\_\_/30

Total Points \_\_\_\_\_/100

**Ribbon Earned:**

90-100 pts.

80-89 pts.

70-79 pts.

69 or below

Purple

Blue

Red

White



# ZOETIS-LPS-NOVARTIS SCIENCE FAIR DEMONSTRATION JUDGING FORM

Lincoln Public Schools  
Lincoln Nebraska



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

Student Name(s) \_\_\_\_\_ Score \_\_\_\_\_

Topic \_\_\_\_\_

## KNOWLEDGE (VERBAL PRESENTATION)

Comments

### a. Knowledge of Facts or Theories

\_\_\_\_\_/25

- 22-25 Knowledgeable, shares information freely, good understanding of topic, able to answer questions.
- 20-21 Provides explanation of some facts and shows general understanding of topic.
- 17-19 Provides some facts with prompting.
- 15-16 Minimal information shared on topic.

Comments

### b. Planned and Organized

\_\_\_\_\_/15

- 13-15 Shares information in an organized and sequential manner.
- 11-12 Shares information in a fairly organized and sequential manner.
- 9-10 Shares information with a prompting from the judge.
- 6-8 Shares information in an unorganized manner.

Comments

### c. Explains Visual Aids

\_\_\_\_\_/10

- 9-10 Is able to thoroughly explain visual aids as they pertain to the project.
- 7-8 Is able to explain visual aids with prompting.
- 6 Is unable to explain visual aids with prompting.

## THOROUGHNESS OF DISPLAY (VISUAL PRESENTATION)

Comments

### a. Complete and Concise Text with Sources Identified

\_\_\_\_\_/20

- 18-20 Display includes both visual and written information including at least three or more sources of information.
- 16-17 Display includes both visual and written information including two sources of information.
- 14-15 Display includes both visual and written information including one source of information.
- 10-13 Display includes both visual and written information without a source of information.

Points Earned-Page 1

\_\_\_\_\_/70



**THOROUGHNESS OF DISPLAY continued-demonstration**

Comments

- b. Accurate and Complete Visual Aids**
- 9-10 Display includes two or more of following: graph, chart, photograph, illustration, or model that accurately reflect project.
  - 7-8 Display includes one of the following: graph, chart, photograph, illustration, or model that accurately reflect project.
  - 0 Display does not include a visual aid.

\_\_\_\_\_/10

**TECHNICAL SKILL (VISUAL PRESENTATION)**

Comments

- a. Exhibit 'Catches the Eye' and Focuses Attention of Visitor**
- 5 Display 'grabs' your attention and interest.
  - 4 Display is neat and organized but not 'eye-catching'.
  - 3 Display is organized but lacks neatness.
  - 2 Display is unorganized and appears put together quickly.

\_\_\_\_\_/5

Comments

- b. Words are Spelled Correctly.**
- 5 All words are spelled correctly.
  - 4 1 or 2 words are misspelled.
  - 3 3 or 4 words are misspelled.
  - 2 5 or more words are misspelled.

\_\_\_\_\_/5

Comments

- c. Labels are Neat and Easy to read.**
- 5 Labels are attractive, neat, and easy to read.
  - 4 Labels are fairly easy to read.
  - 3 Labels are difficult to read.
  - 2 Few or no labels present.

\_\_\_\_\_/5

**ORIGINALITY**

Comments

- a. Original and Unique Ideas for Topic and Display**
- 5 Unique and original topic and display.
  - 3-4 Original topic and/or unique display.
  - 1-2 Some originality in topic and display.

\_\_\_\_\_/5

**Points Earned–Page 2**

\_\_\_\_\_/30



**Points Earned:**

Page 1	_____/70
Page 2	_____/30
<b>Total Points</b>	_____/100

**Ribbon Earned:**

<b>90-100 pts.</b>	<b>Purple</b>
<b>80-89 pts.</b>	<b>Blue</b>
<b>70-79 pts.</b>	<b>Red</b>
<b>69 or below</b>	<b>White</b>

# Bibliography of Resources

Use this form to record your sources of information. You may need to make additional copies.  
(This information must be included in your display.)

## Book:

Author \_\_\_\_\_

Title of Book \_\_\_\_\_

Publisher \_\_\_\_\_

Copyright \_\_\_\_\_

## Book:

Author \_\_\_\_\_

Title of Book \_\_\_\_\_

Publisher \_\_\_\_\_

Copyright \_\_\_\_\_

## Encyclopedia:

Author (if available) \_\_\_\_\_

Title of Article \_\_\_\_\_

Title of Encyclopedia \_\_\_\_\_

Edition \_\_\_\_\_ Date of Publication \_\_\_\_\_

## Encyclopedia:

Author (if available) \_\_\_\_\_

Title of Article \_\_\_\_\_

Title of Encyclopedia \_\_\_\_\_

Edition \_\_\_\_\_ Date of Publication \_\_\_\_\_

## Electronic Sources:

Author (if available) \_\_\_\_\_

Title of CD-ROM, video, web site \_\_\_\_\_

Year of Publication \_\_\_\_\_

## E-Mail Communication:

Writer's Name \_\_\_\_\_

Subject Heading \_\_\_\_\_

Type of Document \_\_\_\_\_

Date of Document \_\_\_\_\_

# Science Fair Display Board



## EXPERIMENTS



<p><b>Procedure</b></p> <p><b>Sources of Information</b></p>	<p><b>Title</b></p> <p>(Student Name)</p> <p>Question</p> <p>Hypothesis</p> <p>photos of project</p>	<p><b>Results</b></p> <p><b>Conclusion</b></p>
--	--	--



## DEMONSTRATIONS



<p><b>Information</b></p> <p>photos, charts, or diagrams</p>	<p><b>Title</b></p> <p>(Student Name)</p> <p>Question</p> <p>Sources of Information</p>	<p><b>Information</b></p> <p>photos, charts, or diagrams</p>
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# Zoetis/LPS/Novartis Science Fair Registration

March 20, 2014 • Lancaster Event Center–Pavilion 1  
Lincoln, Nebraska



Exhibit No. \_\_\_\_\_  
(For office use only)

## REGISTRATION DEADLINE: MARCH 1, 2014

(A registration form is required for each participant)

Exhibitor's Name \_\_\_\_\_

*(Please print first and last name)*

Partner With \_\_\_\_\_

*(Optional)*

Grade Level \_\_\_\_\_ School \_\_\_\_\_

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

Check one:  Experiment  Demonstration

Question to be answered: \_\_\_\_\_

Field of Science (Check one):  Life  Earth  Physical

I need an electrical outlet (Check one):  YES  NO

I agree to set up my exhibit between the hours of 4:15 p.m. and 5:00 p.m. on March 20, 2014. I will stay until 8:00 p.m. and dismantle my exhibit by 8:15 p.m. that evening.

**Required:**

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

Parent or Guardian Signature \_\_\_\_\_

Teacher Signature \_\_\_\_\_

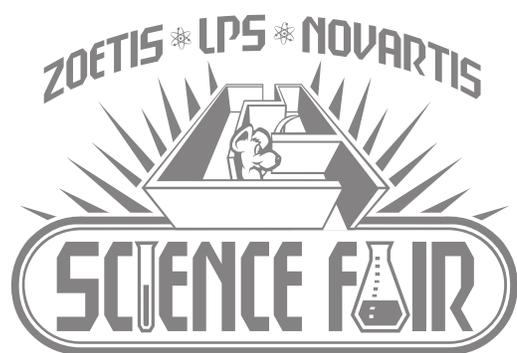
**REGISTRATION FORMS ARE TO BE SENT TO:**

**Curtis Mann**

**Meadow Lane Elementary School**

**7200 Vine, Lincoln, NE 68505**





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