

# LINDA VISTA ELEMENTARY SCHOOL

## SCIENCE FAIR January 29-February 1, 2019 INSTRUCTION PACKET



Welcome to the wonderful world of science!!

Participating in our Linda Vista Science Fair is fun, and you will learn fascinating things about our world. You are being asked to use your curiosity and ask questions. Then, we ask for you to look for the answers, and tell us what you have learned. Now, that is what a science fair project is all about. ENJOY!!

### **GRADES 4 & 5 – MANDATORY PROJECT**

Upper grades are required to do a project and it must be an **experiment**, not a demonstration. You must design an experiment to test a hypothesis. You will briefly present your project to a science fair judge and your teacher may ask you to present it to your class.

\*You may choose a partner and do a project together. No more than two students per group, please.

### **GRADES K, 1, 2, 3 – VOLUNTARY PROJECT**

Your project is voluntary. You may perform an experiment, demonstrate a scientific principle, or share information. You will not be judged on your project, but you might be asked to share your project with your class.

### **PARENTS & GUARDIANS**

This is your child's project, so your guidance and positive comments will be helpful to your child. However, projects that appear to reflect your work, instead of your child's, will defeat the purpose and spirit of the science fair – for the students to learn!!

**OK, LET'S GET STARTED!!**

## Step One: Select an idea for your project

Think about science topics that interest you and ask questions – what would you like to know more about? Talk with your teacher, parents, or librarian. There are great books and websites available with ideas for science fair projects. Also, you can be really creative and come up with your own topic. \*\*\*No live animals, reptiles or insects of any kind are allowed.\*\*\*

## GRADES 4 and 5 (MANDATORY PROJECT)

You must perform an experiment with a hypothesis – which is just a fancy way of saying you must ask a question and then guess what the answer is. Then, you perform your experiment to see if your guess or hypothesis was proven right or not.

A hypothesis is your guess as to what the result of an experiment might be. For example, you may be interested in plants, so you might ask the question, “What happens if you give plants different amounts of sunlight?” So, your hypothesis, or guess, might be: “More sunlight makes plants grow larger.” You test this by exposing the same type of plants to different amounts of sunlight, and then measure and record their growth.

Another example: Let’s say you are a camper and want to know which materials will keep your food coldest when you are backpacking. Your hypothesis, or guess, might be “Natural materials make better insulators of cold food than man-made or store-bought materials.” You would then test to see if your food stayed colder in a paper sack versus a plastic sack, or wrapped in cotton cloth versus aluminum foil. After completing the experiment, you would evaluate your results to see if your hypothesis was correct or not.

## GRADES K, 1, 2 and 3 (VOLUNTARY PROJECT)

A project is not mandatory, but you can have fun!

You can choose to perform an experiment OR present a demonstration. Showing the effects of mixing certain household chemicals together to produce a reaction that comes pouring out of a mini-volcano is always a Science Fair favorite! Use your curiosity about the world to pick an idea to explore. Show us the effect of gravity or inertia on your slot cars! Show us the combinations of colors that make up each of your colored markers. The possibilities are endless!

**Displaying a Science Fair Project**

**Title:** Do Geranium Plants Need Light?

**Purpose:** To find out if geranium plants need light.

**Hypothesis:** Geranium plants need light.

**Procedure:**  
1. I chose two healthy geranium plants that were the same size.  
2. I put plant A near a sunny window.  
3. I put plant B in a closer window.  
4. I watered both equally.  
5. I observed and recorded changes in the plants for one week.

**Results:**

Day	Plant A	Plant B
1	healthy	healthy
4	healthy	leaves beginning to turn yellow
7	healthy	yellow leaves

**Conclusions:** Geranium plants need light to stay green.

**Who helped you:** My mother grew the geranium plants for me.

**Materials:** Geranium Plant

**Research paper:** Do Geranium Plants Need Light?

**What you did:** 1. I chose two healthy geranium plants that were the same size. 2. I put plant A near a sunny window. 3. I put plant B in a closer window. 4. I watered both equally. 5. I observed and recorded changes in the plants for one week.

**What you thought would happen:** Geranium plants need light.

**What you wanted to find out:** To find out if geranium plants need light.

**What happened:** Geranium plants need light to stay green.

**Charts and tables:** Results table showing plant health over 7 days.

**What you learned:** Geranium plants need light to stay green.

**Pictures and drawings:** Drawings of Plant A and Plant B.

**Teacher:** Reproduce this page and the "Science Fair Time Line" page. Send them home with students to inform parents about the science fair and to help students prepare their projects. You may wish to use this chart with Frank Schaller's "The Scientific Method" bulletin board set (FS-9492) and "Work Like a Scientist" chart (FS-6427).

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**FS-247E Displaying a Science Fair Project**

**WARNING! DO NOT WAIT UNTIL THE LAST MINUTE TO START YOUR PROJECT! START EARLY AND CHOOSE A TOPIC THAT YOU ARE INTERESTED IN. TAKE THE TIME TO ENJOY TESTING YOUR IDEAS.**

**Step Two: Doing your Science Fair Project**

You should share your topic with your teacher or a grown-up before you start. Your topic should be appropriate and suitable for an experiment. If your topic is “Can bacteria grow in outer space?” you might have difficulty getting to outer space to perform the experiment. However, if your topic is, “Can bacteria grow without light?” you should be able to design an experiment to test growth of germs in a box without light.

When you perform your experiment, write down the results – or DATA – and keep it for your project display. Use photos, drawings, or journals to record what happens when you test something in your experiment. Like a real scientist, you can choose to record your thoughts, questions and results in your own journal or diary.

Then, write a brief summary of what you did and what you learned when you examined the data (results) of your experiment.

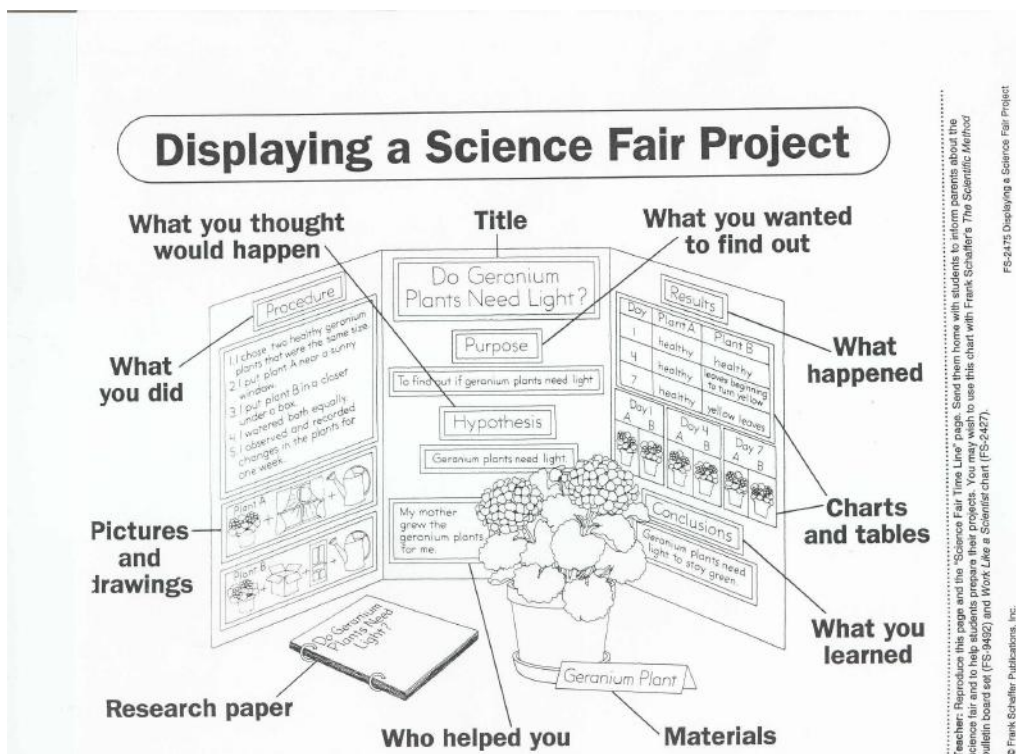
**Step Three: The Display**

Use the traditional 3-fold project display boards (which fold out to 36” x 48” or smaller) found in many craft and office supply stores or design your own display with similar dimensions. Just make sure it can stand up on its own and is not too wobbly.

**PUT YOUR NAME AND GRADE ON THE FRONT OF YOUR PROJECT**

Neatness and content are more important than the display materials selected. If you need electricity or special display area for your project, please contact **Julia Knutson** at **juliacwaters@yahoo.com**, and she will help make arrangements for your project.

Your project display should show:



- A project title
- A written hypothesis (for grades 4 & 5) or project description (grades K – 3)
- Your observations, measurement, results (DATA)
- Graphs, charts, drawings, photos, or tables
- Equipment used on the experiment or demonstration
- Your summary or conclusions
- You can also display related articles or books

**PLEASE NOTE THE FOLLOWING REQUIREMENT:**

You do not have to have all of those items to display, but you will be required to have, and will be graded on, the following items:

1. Project title
2. Written hypothesis
3. Conclusion
4. Name & grade on FRONT OF PROJECT

**Step Four: Setting up your display on Tuesday, January 29, 2019**

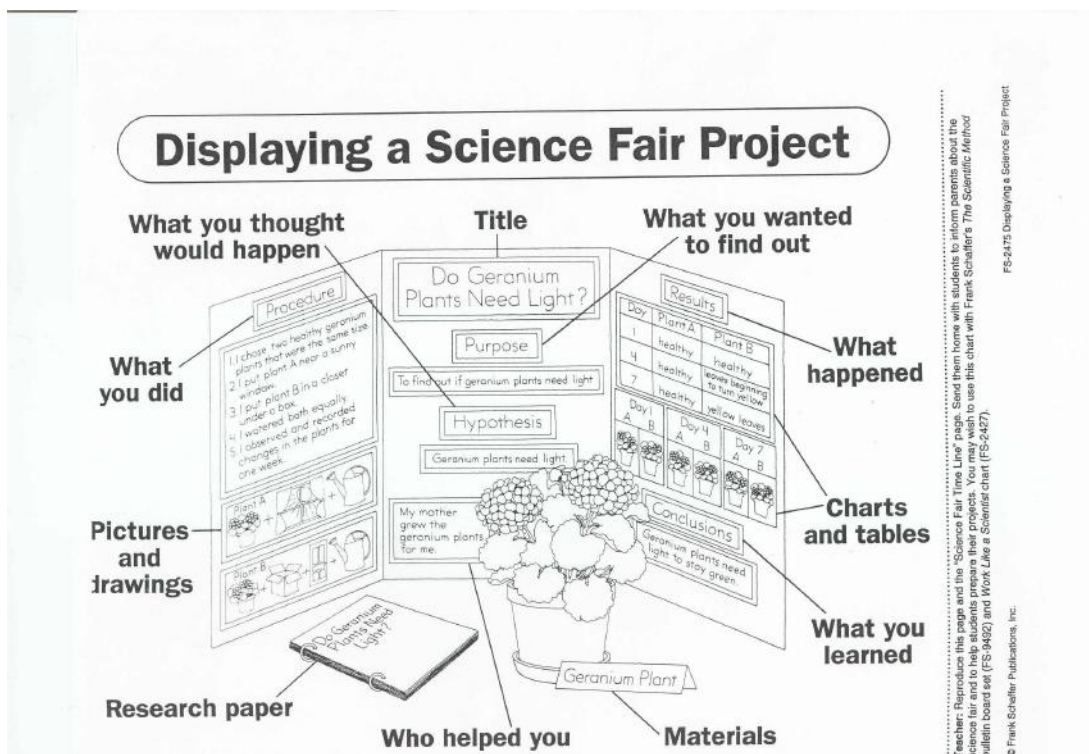
You will set up your project between 7:35 a.m. – 7:50 a.m., lunchtime, or after school until 2:30 p.m. Please set up in the area designated for your grade.

**Step Five: Presenting your project to the judges-- 4th and 5th grade only:**

**All 4th grade students will present their project to the judges on Wednesday, January 30, and 5th grade students will present to the judges on Thursday, January 31.**

Judging begins at 8:00 a.m. on Wednesday and Thursday and continues most of the day. You will be called to present your project for two minutes to the judges at some point during the school day.

**Be prepared to:**





- Introduce yourself and your project
- State your hypothesis (4<sup>th</sup> & 5<sup>th</sup> grade students) and why you chose it
- Describe your experiment
- Show your data (results, measurements, findings)
- Tell what you learned and whether your findings agree or disagree with your hypothesis

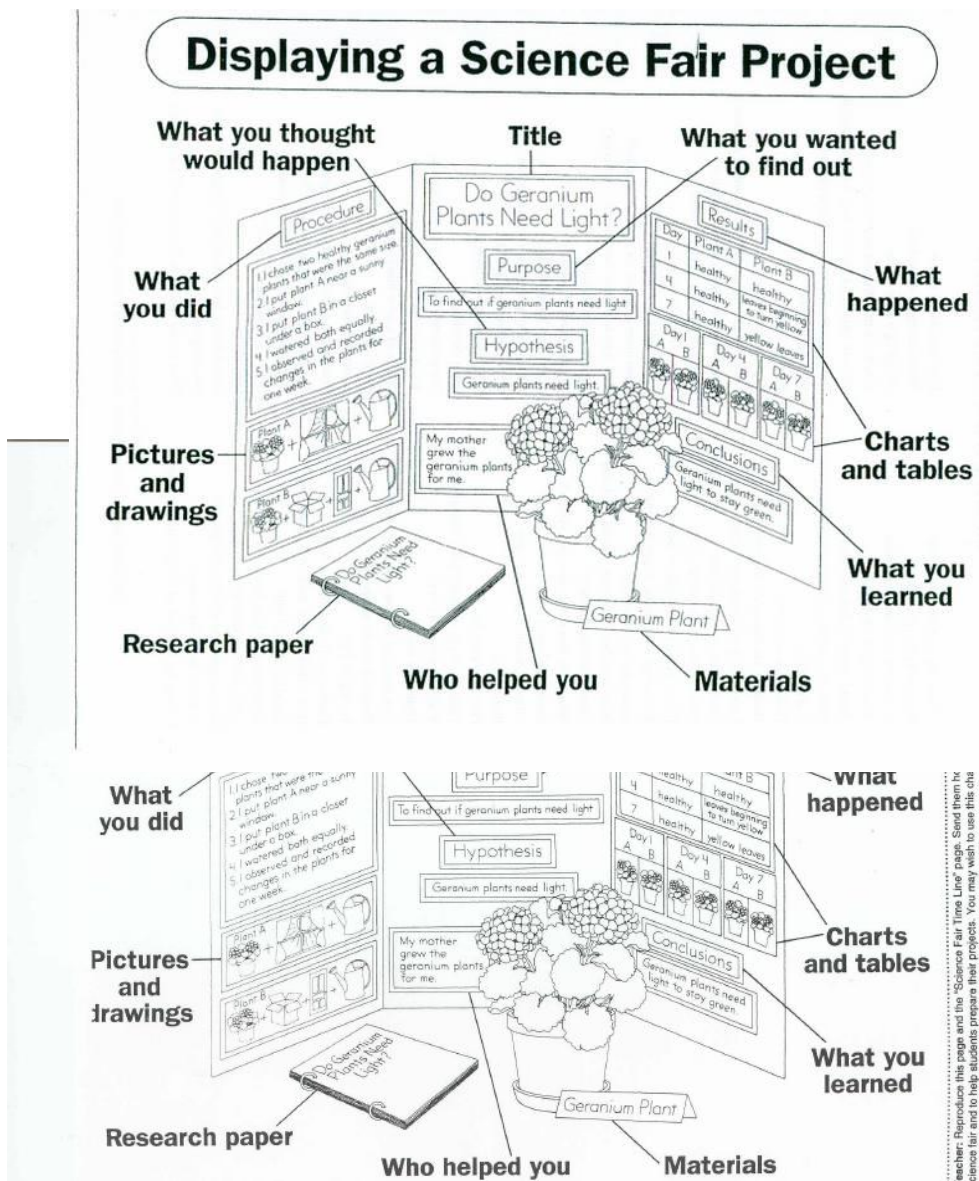
Please practice this with an adult so you are well prepared!

**Step Six: Visit the Science Fair:**

The LV Science Fair will be open to view projects on Thursday, January 31, in the evening from 5:30 p.m. to 7:30 p.m. during our second annual Science Night, and again on Friday, February 1, from 8:00 a.m. to 2:15 p.m. Parents, grandparents, friends, relatives, and neighbors are welcome to come and see what the Linda Vista scientists have learned and can teach us.

**PLEASE NOTE! ALL PROJECTS MUST BE TAKEN HOME BY 2:30 p.m. ON FRIDAY, FEBRUARY 1st. PLEASE MAKE ARRANGEMENTS FOR TRANSPORTING THEM HOME.**

The Science Fair cannot be responsible for projects left behind. All projects left after 2:30 will be discarded.



Teacher: Reproduce this page and the "Science Fair Time Line" page. Send them to science fair and to help students prepare their projects. You may wish to use this chart bulletin board set (FS-9482) and Work Like a Scientist chart (FS-6487).  
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