

BOARD OF EDUCATION

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SOUTH COUNTRY

CENTRAL SCHOOL DISTRICT



SUPERINTENDENT OF
SCHOOLS

Antonio Santana

ADMINISTRATIVE OFFICES

189 Dunton Avenue
East Patchogue, NY 11772
(631) 730-1510
FAX: (631) 286-6394
www.southcountry.org

January 22, 2024

Dear Parents and Students:

I am excited to announce the South Country Elementary Science Fair. Students in Grades K-5 may choose to participate in the Science Fair as they wish to complete a project done at home. Participation is voluntary.

The Science Fair will take place on Thursday, March 14, 2024 in each of our four elementary buildings. Projects are due to your child's building on Wednesday, March 13, 2024. First place winning students from each elementary building in Grades K-5 will be eligible to participate in the Brookhaven National Laboratory Elementary Science Fair Competition, which takes place on Saturday, June 8, 2024.

After school on March 14 and during the day on March 15, each building will provide an opportunity for parents and community members to view the students' projects. Judging will take place on March 15, and the winners of each grade level will be announced on March 18, 2024. Students will need to take their projects home in the afternoon on Monday, March 18.

The primary purpose of a science fair project is to encourage students to think critically and then investigate. Through following the scientific method or engineering design process, students learn how to learn. More information about the scientific method and the engineering design process is listed later in this document. It is also important for each science fair participant to complete his or her own work.

If your child wishes to participate in the science fair, please complete the form on the next page and submit it to your child's teacher by **Friday, February 2, 2024**.

We are excited to provide district students with this opportunity!

Sincerely,

A handwritten signature in black ink that reads "Jack Burke". The signature is fluid and cursive.

Jack Burke
Director of STEM
South Country Central School District

SOUTH COUNTRY ELEMENTARY SCIENCE FAIR 2024

Please return this completed page to your child's teacher by Friday, February 2, 2024

I have decided that my child will participate in the South Country Elementary Science Fair. My child will submit their completed project by 9:30 am on Wednesday, March 13, 2024. I understand that my child will take the project home at dismissal on Monday, March 18, 2024.

Student Name: _____

Teacher Name: _____

Parent/Guardian Signature: _____



Information on Creating Science Fair Projects

A listing of web resources is provided later in this document for ideas about the process of creating Science Fair projects. The following are components that students will need to be mindful of when creating their projects.

Engineering and Design Process

When students are creating a Science Fair project they should follow the engineering and design process shown here:

- Identify a need or a problem
- Research the problem and brainstorm possible solutions
- Choose a solution
- Design a solution
- Test your solution
- Evaluate or your solution

Scientific Method (A Controlled Experiment Process)

Students should follow the Scientific Method in developing their projects.

- **Create a Title** – The name given to your project - be creative
- **Determine a Question** - A clear & concise statement of the problem you are investigating: stated as a question
- **Develop a Hypothesis** - A positive statement predicting the results or outcome of the experiment please be very specific (if... then... because/why you think that...)
- **State the Controlled variable(s)** - The condition(s) that is kept the same for each group - it's used for comparing if stays the same so as not to influence the outcome of the experiment
- **State the Independent/manipulated variable** - The one condition that the experiment varies (changes) to test the hypothesis (it's the one thing that will be different for each group)
- **State Dependent variable** - The condition that is used to measure the effect of the manipulated variable (it's the thing you will be measuring > time, length, speed, etc...)
- **List the Materials/equipment** - A list of items needed to conduct the experiment
- **Identify the Investigating & testing procedures** - A plan for organizing and conducting the experiment;
- **List all of the steps** - Step by step process for conducting the experiment

- **State the Analysis/results** - Collect & record data; observations; create charts, graphs, tables diagrams, etc.
- **State the Evaluation/conclusion** - Interpret your results - Does your data support your hypothesis?
 - Why or why not? Provide any answer to the problem statement which may or may not support the hypothesis but is based on the results obtained in the experiment.
 - What would you have done differently if you could do the experiment again?
 - How would you expand on this study in the future?
 - Further inquiry - what would you want to further investigate?

Creating the Project Board

Student projects will need to be submitted on a Standard cardboard tri-fold project board (36" x 48").

The following information should be included on the board:

- **Title** - What is the title of your project? Do not include your name or any other identifying information.
- **Introduction** - What is the project about? What is the problem you are trying to solve, or question you are trying to answer".
- **Background** - How did you come up with this idea?
- **Hypothesis** - What do you think will happen and why?
- **Materials** - What materials were used?
- **Procedure** - What did you do?
- **Data** - What information did you record? Best represented in a table, chart or graph
- **Discussion** - What is the significance of the results?
- **Conclusion** - Did the results support your hypothesis? Why or why not?
- It is recommended that students keep a journal to record their data and submit it with their board.

Resources for Creating Science Fair Projects

- Brookhaven National Lab (BNL) - <http://www.bnl.gov/sciencefair>
- Science Fair Central - <http://www.schooldiscovery.com/sciencefaircentral>
- Introduction to doing a Science Fair Project - <http://www.scifair.org>
- The American Museum of Natural History Young Naturalist Awards 2000-
<http://www.amnh.org>
- Regeneron Science Talent Search - <https://www.societyforscience.org/regeneron-sts/>
- The International Science and Engineering Fair Site - <http://www.cciserv.org/isef/>
- Project Resource Guide - <http://www.ipl.org/div/projectguide/>
- The Science Fairs - <http://www.physics.usc.edu/ScienceFairs>
- Ultimate Science Fair Resource - <http://www.scifair.org>
- The Resources for Future Engineers site - <http://www.futureengineers.com>
- Create a Graph - <http://nces.ed.gov/nceskids/graphing/index.asp>
- Science Bob - <http://www.sciencebob.com>
- Reeko's Mad Scientist Lab - <http://www.reekoscience.com>

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Judging Rubric

Criteria	4	3	2	1
Originality of Question	Original idea going beyond a traditional or existing idea.	Different perspective on a traditional idea.	Expanding an existing idea.	No originality.
Hypothesis/ Define the Problem	Thoroughly developed with reasoning. Ex. "I think...because..." or a clearly defined problem to be solved or question to be answered.	Sufficiently developed.	Partially developed.	Major flaws.
Procedures/ Engineering Design Solutions	Easy to follow sequence of the Scientific Method or Engineering Design Process.	Somewhat easy to follow sequence of the Scientific Method or Engineering Design Process.	Somewhat difficult to follow because of lapses in the sequence of the Scientific Method or Engineering Design Process.	Difficult to follow, with no sequence of the Scientific Method or Engineering Design Process.
Investigation Trials	Experiment was performed 3 or more times and/or sample size was exceptional, or engineering design was tested 3 or more times.	Experiment was performed 2 times and/or sample size was adequate, or engineering design was tested 2 times.	Experiment was performed 1 time and/or sample size was minimal, or engineering design was tested 1 time.	Experiment was performed incompletely, or engineering design was not tested.
Data Collection	Project captures a dated sequence of the process, including all observations, data collection, and changes to the project in the form of a logbook, journal, or on the project.	Project captures a dated sequence of the process with moderate detail.	Project contains minimal documentation.	No documentation is provided.
Data Analysis	Data directly relates to the hypothesis/question/problem and is clearly presented in the form of a table, chart, or other graphic organizer.	Data is reasonably presented and shows a good relationship to hypothesis/question/problem.	Data is minimally presented and shows some relationship to hypothesis/question/problem.	Data is not presented and no relationship to hypothesis/question/problem is evident.
Conclusion	A logical conclusion has been drawn based on the data	A reasonable conclusion has been drawn based on the	A fairly reasonable conclusion has been drawn based on the	The conclusion drawn or solution designed is not shown to relate

	collected or the design(s) being tested.	data collected or the design(s) tested.	data collected or the design(s) tested.	to the data collected or design(s) tested.
Evaluation/ Applications	The experiment or design raises a new hypothesis/question/problem AND has real-world applications.	The experiment or design raises a new hypothesis/question/problem OR has real-world applications.	The experiment or design minimally describes real-world applications.	The experiment or design does not raise a new hypothesis/question/problem and does not have real-world applications.
Presentation <i>(Overall Impression)</i>				