

**STUDENT'S PACKET
FOR
THE
SCIENCE FAIR
PROJECT**

Science Learn@Home Packet

Teacher: Mrs. Charthern

Contact: chartmi@boe.richmond.k12.ga.us

Availability: Monday-Friday 9am-4pm

Science projects are due on February 26, 2021. A proposal will be sent home on January 11, 2021 for students to fill out with parents about their project. Students will need to do the science project on a powerpoint. The projects will be put into a powerpoint format when we return to school. Waiting to do the project when we get back to school is **unacceptable**. Information will be sent home on January 11, 2021. Students can log on sciencebuddies.com to look for projects and students may go to my webpage or Canvas to look for documents to complete the project, if needed. If you have any questions, feel free to email me. I am available Monday-Friday 9am-4pm to any questions you may have. My email address is chartmi@boe.richmond.k12.ga.us. I will also set up Zooms for students starting on the January 14, 2021, so that we can go over the information distributed on January 11, 2021.

Love you and stay safe,

Mrs. Charthern

Science Fair Checklist

Student _____

Teacher _____

Project Title _____

Components After teacher approval	Date Due	Date Completed	Parent initials	Teacher initials
1. Topic selection	1/14/2021			
2. Background	1/15/2021			
3. Problem Statement	1/19/2021			
4. Hypothesis	1/19/2021			
5. Materials list	1/19/2021			
6. Procedures	1/19/2021			
7. Conduction of the experiment and data collection	1/20/2021- 1/25/2021			
8. Completion of lab log	1/25/2021			
9. Data analysis	TBA			
10. Conclusions	TBA			
11. Abstract	TBA			
12. Bibliography	TBA			
13. Planning and construction of display	TBA			
14. Presentation	TBA			

TBA-To be determined when we return back to school on the 1/26/2021

SCIENCE PROJECT STEPS

1. Choose a topic. Be sure it interests you. Don't pick one because you think it will be easy. Talk it over with your parents and when you have decided, inform your teacher, and do not ask to change your topic later. Get your Registration form for your teacher signed by your parent and turn it in.
2. State your purpose as a question. What is it that you want to find out by doing this project?
3. Research your problem. Look at any books/websites that might help you, make observations by simply looking at things, talk to people, and find out as much as possible about your topic. Write down any ideas you have and where you got them. Also, keep note of all information needed for citing your resources.
4. Form a hypothesis. What do you think is going to happen? Based on what you know or found out from step #3, what do you think the results of your experiments will be? After doing the experiments, it may turn out that your guess was wrong. It is okay if this happens.
5. Plan your project. How will you test your hypothesis? What experiments will you do? How will you measure the results? Where will you keep your information? Be sure to keep notes and write down everything you do and what happens.
6. Collect all your materials. Find a place to keep things where others won't bother them. Let other family members know what you are doing so they don't throw your materials away by mistake.
7. Conduct your experiments. Remember, the more times you do an experiment the more reliable and accurate the results will be. Do each experiment at least three times and get an average of the results for your graph. Use something to measure your experiments: a ruler or yardstick if you are measuring distance, a clock to measure time, etc. Check the measurements to be sure you are correct.
8. Record your data. As you do your experiments, you will want to write down what you saw or found out. Organize this information in an orderly manner. Put the date, time, and any other useful information. Write your measurements clearly.
9. Draw conclusions. What did you learn from your experiments? Have you proved or disproved your hypothesis? You made a guess about what you thought would happen. Now tell what really did happen. You don't lose points if your guess turned out to be wrong.
10. Prepare your titles, charts, graphs, drawings, and diagrams. Make them large enough to see, neat, and colorful.
11. Construct your science fair display. Get your cardboard display board from your teacher so you can show all your work and have your hands free to point to sections when you give your presentation.
12. Prepare and practice your presentation. Be able to tell about what you used what you did in your experiments, and what you found out. Know it well enough that you don't have to read it from the display.
13. Plan a time line so you don't leave everything until the last minute. If you need help, tell your parents and your teacher, the earlier the better.
14. Relax and Enjoy yourself. You will do a GREAT job!

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Name: _____

Science Fair Project PROPOSAL (100) Points

Your Testable Question (Problem)

Your Hypothesis (If.....Then Statement)

Independent Variable (What you are purposely changing?)

Dependent Variable (The change that you measure)

Controlled Variables (What stays the same during the experiment?)

Procedures/Steps- Explain how you are going to test your questions. How are you going to obtain quantitative data (what tools/instruments will you use to make measurements?). Summarize your procedures in a *numbered* list. Attach another piece of paper if necessary.

Science Log Book

Keep all of your ideas, notes and data in your science log book. If you write something on a separate sheet of paper, glue it in to your log book. Include dates and titles on your entries. It may be a little "messy" but be sure you keep accurate information.

What type of project will you do?

Scientific Investigation using the Scientific Method - You ask a question that you can solve through experimentation.

Things to avoid: Demonstrations, Informational projects, explanation models or kits (no volcanoes, potato batteries, etc.)

Scientific Method

1. **Ask a question** – What do you want to know. It is important that you choose a testable question – one in which you will use data to find the answer.
2. **Conduct background research** – Search the literature to find information on your topic and to see what has already been done.
3. **Develop a hypothesis** – Make an educated guess as to what you think will happen.
4. **Conduct experiment and collect data** – Make sure you do a controlled experiment in which you use one variable to test your hypothesis.
5. **Analyze results** – Do you see any trends in your data? Make charts if appropriate.
6. **Draw conclusions** – What do the results tell us about your hypothesis?
7. **Present results.**

Examples:

How much weight can a toilet paper tube support? Which glue is the strongest?

Which uses more water: a bath or shower? Does age affect reaction time?

Under what color light do plants grow best?

#2. Research Your Topic

1. Go to the library or computer lab to learn more about your topic. You will need at least 3 good sources and they should not all be the same type (example: use a science book and 2 internet resources).
2. If you want to or are able to, talk to professionals in the field to get more information.
3. Take notes in your science log book. Make sure the notes are in your words, not copied from someone else.
4. Keep a list of resources. You will need this for the bibliography section of your report.

Book

Author's last name, first name. Title of book. Place of publication: Publisher, copyright year.

Blackwell, Laird R. Wildflowers of the Sierra Nevada and the Central Valley. Canada: Lone Pine Publishing, 1999.

Encyclopedia

"Title of article." Name of encyclopedia. Copyright year. Volume number, page(s).

"Golden Retriever." World Book Encyclopedia. 1999. Volume 8, p. 255.

Internet

Author's last name, first name. "Title of item." [Online] Available <http://address/filename>, date of document or download.

Distefano, Vince. "Guidelines for Better Writing." [Online] Available <http://www.usa.net/~vined/home/better-writing.html>, October 5, 2002.

Magazine or Newspaper

Article author's last name, first name. "Title or headline of article." Name of magazine or newspaper. Date of magazine or newspaper, page(s).

McGill, Kristy. "A Baltic Scramble." Faces. May, 2003, p. 27.

Resource #1

You must have 3 Resources



Resource:

Type of Resource: _____

Website: http://_____

Author: _____

Title: _____

Publishing Company: _____

Location of the Publishing Company: _____

Date of Publication: _____

Information found in your own words:

(Must be at least one paragraph summary.)

Resource #3

You must have 3 Resources



Resource:

Type of Resource: _____

Website: http://_____

Author: _____

Title: _____

Publishing Company: _____

Location of the Publishing Company: _____

Date of Publication: _____

Information found in your own words:

(Must be at least one paragraph summary.)
