



2026-2027
Science Fair Information Packet
4th - 8th Grades



Rhodes School

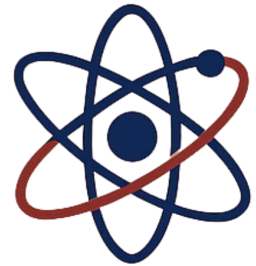
for the Performing Arts

September 2, 2026

Dear RSPA Parents and Students,

Welcome to the Science Fair! In addition to learning how to think critically and developing positive attitudes about themselves and their work, students gain the following benefits from participating in the science fair:

- ☐ Reinforcement of grade-level science, literacy, and math skills
- ☐ Fostering curiosity, awareness, and creativity
- ☐ Increased scientific knowledge
- ☐ Learning research techniques
- ☐ Growth in the ability to work independently
- ☐ Having fun with science!



Science Fair projects are produced at home, and while parental support is essential, the following guidelines should be used when considering how much help to provide students.

- 2nd and 3rd graders should be able to do at least 50% of the project alone.
- 4th - 8th graders should be doing almost the entire science project by themselves.

There are two links on the school website. Please ensure you choose the correct grade level for your scholar (rhodesschool.org) for Science Fair packets this year. The packet will be a guide to help your student prepare a project and exhibit for the school Science Fair.

The packet includes:

- Types of Science Projects: You may use one of these ideas or choose one of your own
- Schedule of Assignments (MUST be turned in on time, as these are steps to ensure the work is being done with fidelity)
- Project Ideas (only a guide)
- Definitions & Science Fair Ideas
- Oral Presentation Rules (each student will present during class)
- Assignment forms, Resource pages, & Rubrics

The first step is to help your child decide what science project he/she wants to do. Please review this packet carefully with your child, then choose a project your child is interested in and that you deem appropriate for his/her grade and ability level. Need ideas or help? The packet lists several ideas and suggestions, and you may also contact your child's Science teacher with questions or help with project ideas.



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Once you choose your project, fill out the project plan form and turn it in to your teacher by **September 16, 2026**. Use the due date schedule/checklist (pg.6) to help you follow the process and meet deadlines. Each deadline signifies that an assignment needs to be returned to the teacher and will be taken for a grade. Please send a written request or email to your student's homeroom teacher if you need a hard copy of the Science Fair packet. The Science Fair packet can be found on the school website at rhodesschool.org.

Good luck & have fun!

PLEASE SIGN AND RETURN:

STUDENT NAME: _____

TEACHER: _____

GRADE: _____

Topic Choice: _____

I have reviewed RSPA's Science Fair information and all due dates with my child and understand that a final project **MUST be submitted on November 5, 2026 (REQUIRED)**. I further acknowledge that my child understands his/her responsibility to complete much of the work for his/her project at home, according to the enclosed timeline. I also understand that a rubric will be used to evaluate my child's completed project.

Parent/Guardian Signature _____

Date _____

Student Signature _____

Date _____

Due: September 16, 2026



TYPES OF ACCEPTABLE PROJECTS

1. **Experiment or Investigation:** This is the most common type of project, where you use the [scientific method](#) to propose and test a hypothesis/ask a testable question. After you accept or reject the hypothesis, you draw conclusions about what you observed.

Example: Which type of lotion is softer, Vaseline or Suave? Hypothesis: Suave is softer. Conduct an experiment to test the hypothesis and report on the findings.

2. **Research:** In this project, you collect information about a topic and present your findings.

Example: A research project can be an excellent project if you use the data to answer a question. An example would be polling people to ask about their beliefs on religious freedom in America, then drawing conclusions about what the results mean or how they may relate to some of our current laws or laws that should be in place. -Must include charts or graphs.

3. **Model (2nd - 3rd GRADES ONLY):**

This type of project involves building a model to illustrate a concept or principle.

Example: The [vinegar & baking soda volcano](#), used to demonstrate the reaction between the various chemicals used in the project. Report on observations and findings.

4. **Invention (4th - 8th GRADES ONLY)** - information below is quoted from

<http://school.discoveryeducation.com/sciencefaircentral/Getting-Started/Inventions.html>

Invention is really about engineering a solution. For students, this can be:

- A problem they want to solve
- A process or physical design they want to improve

In designing and engineering a solution, students:

- Find a local problem or something that needs to be improved
- Research it to find out what others know
- Suggest a solution and explain why it should work
- Design the solution and the method for testing to see if it works
- Build and test the solution
- Collect data to be sure your solution made a change
- Make sense of the data – how do you know it worked, or didn't work?
- Develop a report and share it with your fellow scientists

Note that sometimes the invention is a model or a sample set. Once the model or design shows that the solution can work, it can be applied to the real world. Examples are: improving the aerodynamic design of a model car; controlling the spread of a pest; improving building design to better conserve energy.

As with investigations, the key to defining the project is to pose the right question. Students can ask themselves, "What bothers me?" "What have I heard other people complaining about?" Is it something that could be fixed or improved?"

Examples of Invention Projects

GENERAL SCIENCE TOPICS	PROBLEM EXAMPLES	DESIGN QUESTION
Gravity and Mass	My backpack is too heavy to carry.	How can I make it easier to get it to school?
Behavior	Our dog barks too much.	How can I get him to quiet down without hurting him?
Visibility	When I'm in a crowd, I can't see around me.	What can I do or use to help me see more?
Stabilizing Temperature	My juice gets warm in my lunchbox.	How can I keep it cold?
Human Accessibility	My younger brother and sister are too small to reach the light switches. I always have to turn on the light for them.	How can I make it so they can turn their bedroom room lights on or off?



Schedule of Assignments

Due Date	Assignment
Wednesday, September 2, 2026	*Science Fair packet available online; parents will review with students and choose a topic.
Wednesday, September 16, 2026	*Topic choice is due
Tuesday, September 22, 2026	Assignment #1 is due: Problem/Question & Hypothesis (science grade)
Tuesday, October 6, 2026	Assignment #2 is due: Materials & Procedures (science grade)
Tuesday, October 27, 2026	Assignment #3 is due: Data, Results & Conclusion (science & math grade). Assignment #4 is due: Written Report (science & ELA grade) Include the Problem/Question, hypothesis, materials, procedures, data, results and conclusion. What things went well/not so well, what would you do differently if given another opportunity? Add in real world connections/ how did/will this investigation or experiment make life better
Thursday, November 5, 2026 ALL Projects are due	Assignment #5 is due: Display Board Final Project-Oral Presentation
Wednesday, November 11, 2026	Science Fair Judging
Thursday, November 12, 2026	Science Fair Night - Winners Announced

Science Fair Topic Examples

(Students may select one of these topics or select their own)

1. How does the temperature of a tennis ball affect the height of its bounce?
2. How does the air pressure of a soccer ball affect how far it travels when kicked?
3. Does a metal baseball bat vibrate more than a wooden one?
4. How does the weight of a bowling ball affect how many pins the ball knocks down?
5. Which increases your heart rate more: walking up and down real stairs or using a stair-master?
6. How does yoga affect your flexibility?
7. How does fast dancing affect your heart rate?
8. How does humidity affect the curliness of hair?
9. How does a shampoo's brand affect the strength of hair?
10. How does the type of material affect how long a shirt takes to dry?
11. Which nail polish best resists chipping?
12. How does the fat content of cheese affect its stretchiness?
13. How does the length of time that a soda bottle is open affect its fizziness?
14. How does the temperature of water affect the time it takes to freeze into ice cubes?
15. How will the time spent chewing bubble gum affect its bubbles' maximum size?
16. How will adding different flavors of Kool-Aid® to water affect the water's boiling point?
17. Which brand of popcorn leaves the fewest unpopped kernels?
18. Does the flavor of gelatin affect the amount of time it takes to set?
19. How does playing video games affect hand-eye coordination?
20. What is the effect of toothpaste brand on teeth-cleaning power?
21. What brand of paper towel is most absorbent?
22. What brand of trash bag can withstand the most weight before ripping?
23. How does a light bulb's wattage affect the amount of heat detected above a light?
24. Under what color light do plants grow best?
25. Which brand of mouthwash kills the most bacteria?
26. Which brand of breath mint lasts longest?
27. How does the amount of sugar in homemade ice cream affect how fast it freezes?
28. In a blind taste test, can you tell the difference between nonfat, low-fat, and whole milk?
29. When you pour soda out of a newly opened soda bottle, which produces more fizz: regular or diet soda?
30. How does brand affect ketchup's flow?
31. Given the same amount of water, how does pot size affect the amount of time it takes to boil water?
32. Where is the best place to store home-baked cookies to keep them fresh longest?
33. How does the amount of yeast affect how high bread rises?
34. Which cereal brand stays crunchy in milk the longest?
35. Which brand of chocolate bar melts fastest in the sun?
36. Which type of bread turns moldy first: store-bought or bakery bread?



37. How does the type of container affect ice cream's melting time?
38. Which can support more weight: paper or plastic grocery bags?
39. Does the type of animal in a pet-store window affect the number of people who are attracted to the window?
40. Does the color of a terrarium affect a lizard's skin color?
41. Does the brand of kitty litter affect clumping?
42. Does listening to one type of music lower heart rate more than another type?
43. How old does chewed gum have to be before it stops sticking to shoes?
44. Which frozen dessert melts slowest: ice cream, frozen yogurt, or sorbet?
45. How does the tension in a violin's strings affect its pitch?
46. How does the size of a drum affect its pitch?
47. How does a person's age affect his or her flexibility?
48. How does a person's age affect his or her ability to see at night?
49. How does the amount of air in a bicycle's tires affect how long it takes the bike to brake?
50. How does the size of a bicycle's tires affect how far it travels given a specific amount of pedaling?
51. How does hair's curliness affect its strength?
52. How does color affect a person's mood?
53. How does the time of day affect your body's temperature?
54. How does the type of music that a person listens to while exercising affect how hard he or she works out?
55. Does one type of food fill you up faster than another?
56. Which grows faster: fingernails or toenails?
57. Does gender affect lung capacity?
58. If you are right-handed or left-handed, do you also prefer a certain foot?
59. Does the surface of a tennis court affect the height that a tennis ball bounces?
60. Does the time of day affect your flexibility?
61. How does air temperature affect your flexibility?
62. Does a no-name stain remover work just as well as a brand name?
63. Which is a better insulator: wool, cotton, or down feathers?
64. How do various ski waxes affect the amount of friction between the ski and the snow?
65. Does playing Sudoku puzzles improve your performance on other types of puzzles?
66. How does shutter speed affect the color of a photograph?
67. How can you speed up the ripening of tomatoes?
68. What effect does watering have on how fast a plant grows from a seed?
69. How does gravity affect the direction of a plant's growth?
70. Do all plants seek out light?
71. How does the weight of a paper airplane affect its ability to fly?
72. How does a parachute's material affect the speed at which it falls?
73. How does the anticipation of a tickle affect you?
74. How does the weather affect your mood?
75. Which type of soap removes more grease: dish soap, hand soap, or shampoo?
76. Which type of fruit is more acidic: lemons, oranges, or watermelon?
77. What type of ground layers limit erosion most: sand, gravel, or soil?
78. How does the speed of a river's current affect the size of the grains on the riverbed?
79. How does the type of music played in a store affect the number of purchases made by customers?
80. In what type of lighting does a plant grow best?
81. What difference do low-phosphorous fertilizers have on a lake's pollution levels compared with standard fertilizers?



Technology Integration: Show Your Science in Action!

Technology can be a powerful tool for helping you **document, explain, and showcase your Science Fair investigation!** As a **Curious Scientist Investigator**, you are encouraged to think creatively about how technology can make your project more engaging and help judges see your scientific process.

Document Your Investigation

Throughout your project, consider using technology to capture your work. You may:

-  Take **photographs** of your experiment, materials, observations, and results.
-  Record **short video clips** showing your experiment or investigation in action.
-  Record a **short explanation** of your hypothesis, procedure, findings, or conclusion.
-  Create **digital graphs, charts, or data displays** to represent your results.
-  Create a **digital presentation or visual** to enhance your project.
-  Create a **QR code** that judges can scan to view your videos, photographs, digital presentations, or other approved project content.

Think Like an Innovator!

Judges want to see **innovation, creativity, and scientific thinking**. Technology should not replace your investigation—it should **enhance and document your scientific process**.

Think about how you can use technology to answer:

“How can I use technology to help others SEE my science?”

Your QR code could lead judges to a short video of your experiment, a photo timeline showing your investigation from beginning to end, or a digital presentation explaining what you discovered.

Remember: Your project should clearly demonstrate that **YOU conducted the investigation and understand your science**. Technology is a tool to help you communicate your work in an innovative way.

CSI Challenge

Curious Scientists Investigate... AND INNOVATE!

Don't just tell the judges what you did—**SHOW THEM!** Use technology creatively to bring your investigation to life and give judges a closer look at your scientific journey.



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Science Fair Ideas

1. **Society for Science:** See sample fair projects, look through other students' examples, and see the steps involved in judging projects.
<https://student.societyforscience.org/>
2. **Science Buddies:** Use the topic selection wizard to help you figure out what science projects interest you most. Once you have a topic, get help with doing research, setting up the experiments, and completing them.
<http://www.sciencebuddies.org/>
3. **Science Fair Central:** Includes cool project ideas, a science fair handbook, reviews of students' experiments, and more from Discovery Channel School. <http://school.discovery.com/sciencefaircentral/>
4. **Science Fair Project Resource Guide:** Samples, ideas, magazines, resources, and more. Includes a list of sites that explain the Scientific Method.
<http://www.ipl.org/div/kidspace/projectguide/>
5. **Scientific Method:** Describes the five steps of the Scientific Method that are helpful when creating a science fair project. Includes examples of wording and sample projects to explain certain steps.
<http://school.discoveryeducation.com/sciencefaircentral/Getting-Started/Investigation.html>
6. **Super Science Fair Projects:** Guide to projects, topics, experiments, and tips for successfully completing a science project, including the six steps of the Scientific Method. <http://www.super-science-fair-projects.com/>
7. **Cool Science Fair Project:** Suggestions and ideas on science projects.
<http://www.cool-science-projects.com/Science-Fair-Project-Ideas.html>



Definitions

1. Background Information/Research: Any essential information (e.g., definitions) that may be necessary to begin your investigation or to develop your hypothesis.
2. Bibliography: A list of references consulted during your project.
3. Conclusion: A statement telling what was learned as a result of the investigation.
4. Further Research: Ideas for further investigation.
5. Hypothesis: A scientific guess about the relationship between the manipulated variable and the responding variable. The hypothesis provides guidance for the student (the investigator) about what data to collect.
6. Manipulated Variable: A variable that is intentionally changed in a situation (e.g., different amounts of water or brand of paper towel used).
7. Materials: Any items needed to conduct the investigation.
8. Procedures: A complete list of steps followed during an investigation.
9. Recording Data: A complete record of all observations and measurements gathered during an investigation. Keep notes, charts, ideas, etc., in a journal of your project.
10. Responding Variable: A variable that is possibly changed as a result of the manipulated variable (e.g., height of plant growth or winning the game every time).
11. Results: A statement telling the outcome of the investigation.
12. Statement of the Problem (Question): A simple question that can be answered through an investigation.
13. Variable: A condition that varies or changes in a situation.

Oral Presentation

A lot of kids are scared of speaking in public or to a teacher/judge. Just imagine they are a fellow scientist who just wants you to share what you learned.

Relax, smile, and have fun. Remember, you are the expert, and you had fun doing the project. But if you are a little nervous, we have listed some things that you need to do during the presentation.

Helpful Hints:

- Look sharp, feel sharp, and you will be sharp. Dress nice that day, be polite, and speak clearly. You will show that you have confidence. Don't forget to look at your audience.
- Introduce yourself. Point to the title of your display. Tell your audience why you chose to study this.
- State the problem that you studied (your question). Tell them about your hypothesis (what you thought might happen).
- Talk about what you learned while researching your topic.
- Talk about the sources (books, websites, and interviews) that helped you understand your topic.
- Tell about your project and explain the steps you took to conduct your experiment. Be sure to mention all the materials involved and point out the pictures that you may have taken.
- If it applies, be sure to show them that you tested your experiment at least 3 times.
- Show them all of the cool graphic organizers that you made, like your tables and charts. Remember to point out the labeled parts of your graph or table to show that you know what it represents.
- Be sure to explain what your data means. Make sure you can read your graphs and tables. Let them know if you were surprised by the results, or if you know what would happen because you studied about it.
- Make sure you sound like an expert on your topic. Always use the appropriate vocabulary especially by using words from the Scientific Method, like: Problem, Hypothesis, Procedure, Results, and Conclusion.





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No poster boards. Only tri-folds will be accepted.

