
RAMSEY SCIENCE FAIR

Individual or Group Work Projects

As a science magnet school, it is encouraged that all students participant in this Science Fair opportunity. This packet should give you plenty of details and ideas but feel free to contact your child's teacher or Mandi Ferguson (aferguson@cdaschools.org) with any questions.

6 Steps of a Science Fair Project

1. **PROBLEM:** What is it that you are trying to do or solve? What is the question that you are interested in answering?
2. **HYPOTHESIS:** What do you think the answer to the question is? What do you believe will happen?
3. **EXPERIMENTS:** What plan are you going to follow to test your hypothesis? What steps are you going to take to answer your questions?
4. **RESULTS:** Record what happened throughout your experiment. Present your data. The use of graphs is always impressive.
5. **CONCLUSIONS:** Did your results prove your hypothesis? Did your experiment turn out the way you through it would? What did you learn from your experiment? What additional questions came to mind during your project?
6. **LOG BOOK:** Explains daily work and happenings of the project

Online Science Fair Resources

Note: There are many available online resources to give you and your child Science Fair project ideas. Below is a small list of websites to get you started. Have fun!!

- <http://www.all-science-fair-projects.com>
- <http://www.scienceproject.com>
- <http://www.easy-science-fair-projects.net>
- <http://www.yoursciencefairprojects.com>
- <https://www.sciencebuddies.org/>
- <https://www.education.com/science-fair/>

SCIENCE FAIR DATE:
**Thursday,
February 28, 2019**

Science Fair Schedule

8:15 a.m. Registration in Foyer

9:30 a.m. Judging Begins

Afternoon (Time TBA)
Classrooms Visit
Science Fair and
Award Assemblies

5:30 p.m. - 7:00 p.m.
Science Fair Open
for Parents and
Families to View

7:00 p.m.
Projects can be
taken home or
picked up the
following day

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Timeline for Completing a Science Fair Project

Week 1:

- Choose a topic to investigate or explore.
- Make a list of resources (*school library, community library, place to write, people to interview*) to possibly consult.
- Select necessary reading materials.
- Begin preliminary investigations.
- Start a logbook for keeping records. **(REQUIRED)**
- Ask lots of questions.
- Set up any experimental designs.
- Begin setting up your experiment or demonstration.

Week 2:

- Continue your experiment.
- Read materials and other necessary resources.
- Interview experts (*teachers, parents, etc.*) for more information.
- Continue recording observations and adding information to your logbook.
- Decide how to set-up your display unit (*see handout for ideas*).
- Decide what materials you will use in the display.

Week 3:

- Collect materials for your display.
- Continue recording observations in your logbook.
- Work on photographs or illustrations for the display. (*Remember - no photographs of the student scientists can be on the final display board.*)
- Verify information with experts (*teachers, professors, scientists, parents*).
- Begin setting up your display.
- Begin designing charts, graphs, or other visual aids for display unit.

Week 4:

- Complete your experiment.
- Complete graphs, charts, and visual aids for the display.
- Prepare signs, titles, and labels for the display.
- Mount graphs, charts, drawings and photographs. (*Remember - no photographs of the student scientist can be on the final display board.*)
- Record final observations in your logbook.
- Review your log entries to be sure they are all complete.
- Set up your project.
- Check, double check, and triple check everything.

SCIENCE FAIR PROJECT IDEAS - LEVEL 1

1. How much salt does it take to float an egg?	21. Do bigger seeds produce bigger plants?
2. What kind of juice cleans pennies best?	22. Which materials absorb the most water?
3. Which dish soap makes the most bubbles?	23. Do wheels reduce friction?
4. Do watches keep time the same?	24. What materials dissolve in water?
5. On which surface can a snail move faster - dirt or cement?	25. What is the soil in my schoolyard made of?
6. What brand of raisin cereal has the most raisins?	26. Does holding a mirror in front of a fish change what a fish does?
7. How can you measure the strength of a magnet?	27. What color of birdseed do birds like best?
8. Do ants like cheese or sugar better?	28. What holds two boards together better - a nail or a screw?
9. Can the design of a paper airplane make it fly farther?	29. Will bananas brown faster on the counter or in the refrigerator?
10. Do roots of a plant always grow downward?	30. Does temperature affect the growth of plants?
11. Can you tell what something is just by touching it?	31. Do mint leaves repel ants?
12. What kind of things to magnets attract?	32. Does a ball roll farther on grass or dirt?
13. What foods do mealworms prefer?	33. Do all objects fall on the ground at the same speed?
14. How long will it take a tsp. of food dye to color a class of still water?	34. Does anyone in my class have the same fingerprints?
15. Does a bath take less water than a shower?	35. Which travels faster - a snail or a worm?
16. Can you tell where sound comes from when you are blindfolded?	36. Which paper towel is the strongest?
17. Can plants grow without soil?	37. Can plants grow from leaves?
18. Does warm water freeze faster than cool water?	38. Which dissolves better in water - salt or baking soda?
19. In my class who is taller - - boys or girls?	39. Can things be identified just by their smell?
20. Do different types of apples have the same number of seeds?	40. Which type of battery do toys run longest?

SCIENCE FAIR PROJECT IDEAS - LEVEL 2

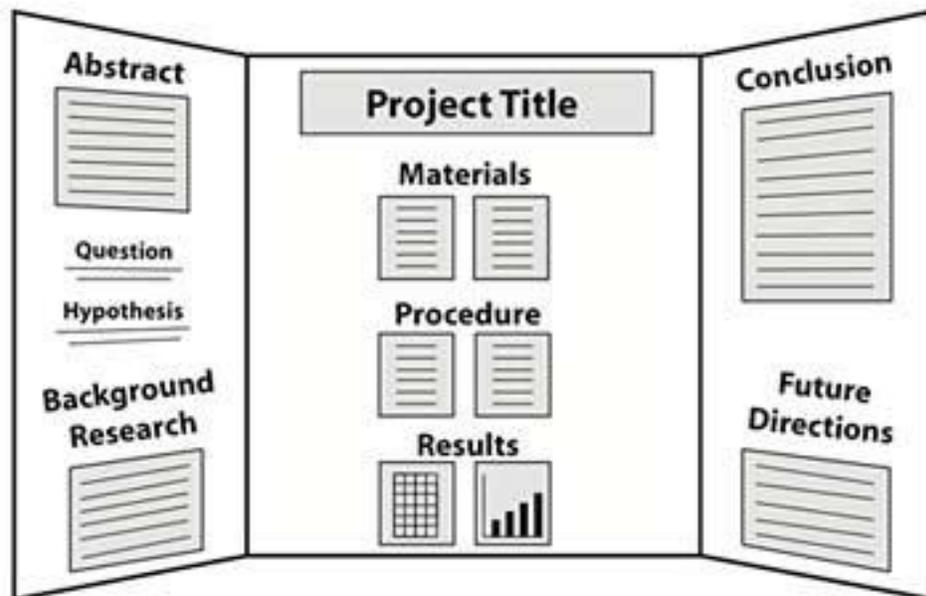
1. How far does a snail travel in one minute?	21. Does the color of water affect evaporation?
2. Do different types of soil hold different amounts of water?	22. Can you separate salt from water by freezing?
3. Will adding bleach to water of a plant reduce fungus growth?	23. How does omitting an ingredient affect the taste of a cookie?
4. Does water with salt boil faster than plain water?	24. Do suction cups stick equally to different surfaces?
5. How far can a person lean without falling?	25. Which student in class has the greatest lung capacity?
6. Can you tell time without a watch or clock?	26. How much weight can a grown plant lift?
7. How far can a water balloon be tossed to someone before it breaks?	27. Will water with salt evaporate faster than water without salt?
8. Does the shape of a kite affect its flight?	28. Does it matter in which direction seeds are planted?
9. Does an ice cube melt faster in air or water?	29. Which cheese grows mold fastest?
10. Does sugar prolong the life of cut flowers?	30. Do all colors fade at the same rate?
11. How much of an orange is water?	31. Which brand of diaper holds the most water?
12. Which liquid has the highest viscosity?	32. In my class, who has the smallest hands - - boys or girls?
13. Will more air inside a basketball make it bounce higher?	33. Which kind of cleaner removes stains best?
14. Does the color of light affect plant growth?	34. Does a plant grow bigger if watered by milk or water?
15. Does baking soda lower the temperature of water?	35. Which brand of soap makes the most suds?
16. Which brand of popcorn pops the most kernels?	36. Does a baseball go farther when hit by a wood or metal bat?
17. Which brand of popcorn pops the fastest?	37. Do living plants give off moisture?
18. How much can a caterpillar eat in one day?	38. Using a lever, can one student lift another student who is bigger?
19. In my class, who has the biggest feet -- boys or girls?	39. What gets warmer - - sand or dirt?
20. Do plants grow bigger in soil or water?	40. Which kind of glue holds boards together better?

SCIENCE FAIR PROJECT IDEAS - LEVEL 3

1. What type of line carries sound waves best?	11. Do children's heart rates increase, as they get older?	21. Which way does the wind blow most frequently?	31. What common liquids are acid, base or neutral?
2. Can the sun's energy be used to clean water?	12. Can you use a strand of human hair to measure air moisture?	22. Does the size of a light bulb affect its energy use?	32. Do taller people run faster than shorter people?
3. Does a green plant add oxygen to its environment?	13. What materials provide the best insulation?	23. For how long a distance can speech be transmitted through a tube?	33. Does the length of a vibrating object affect sound?
4. Which metal conducts heat best?	14. Is using two eyes to judge distance more accurate than using one eye?	24. Which grows mold faster - moist bread or dry bread?	34. Does a plant need some darkness to grow?
5. What percentage of corn seeds in a package will germinate?	15. Do different kinds of caterpillars eat different amounts of food?	25. What type of soil filters water best?	35. Who can balance better on the balls of their feet - boys or girls?
6. Does an earthworm react to light and darkness?	16. What plant foods contain starch?	26. Does the color of a material affect its absorption rate?	36. Does exercise affect heart rate?
7. Does the human tongue have definite areas for certain taste?	17. What keeps things colder - plastic wrap or aluminum foil?	27. Does sound travel best through solids, liquids, or gases?	37. Which dish soap makes the longest lasting suds?
8. Can same type of balloons withstand the same amount of pressure?	18. Does heart rate increase with increasing sound volume?	28. Do sugar crystals grow faster in tap water or distilled water?	38. What are the effects of chlorine on plant growth?
9. Does the viscosity of a liquid affect its boiling point?	19. Do boys or girls have a higher resting heart?	29. Can you see better if you limit the light that gets to your eye?	39. Which type of oil has the greatest density?
10. Does surrounding color affect an insect's eating habits?	20. Do liquids cool as they evaporate?	30. How much of an apple is water?	40. How accurately do people judge temperature?

WHAT IS a LOGBOOK?

The log should be in the student's own words. Handwritten or word-processed logs are permitted. For a science project, it is a record of your daily ideas, data, troubles, successes, materials, resources, and efforts. It is a diary or journal of your project as it is taking place. It is not a final report. It can include graphs and charts, photographs (can't identify the student in the picture but should show the materials or experiments), or drawings of the student's work. The experiment or materials can be placed on the table.



RAMSEY MAGNET SCHOOL OF SCIENCE

3rd, 4th, and 5th Grade Project Rubric

Project # _____

Judges: Please indicate with a "check" all items that are present.

<p>1. Question: _____ points</p> <p>_____ Clearly states what the project is designed to show.</p> <p>_____ Identifies what will change in order to observe different outcomes.</p> <p>_____ Specific, rather than general.</p> <p>If all criteria are met = 5 points</p>	<p>If 1 item is missing, vague, or too general = 3 pts.</p>	<p>If 2 items are missing, vague, or too general = 1 pt.</p>
<p>2. Hypothesis: _____ points</p> <p>_____ Clearly stated</p> <p>_____ Reason given.</p> <p>_____ Reveals student's experience or thought?</p> <p>If all criteria are met = 5 points</p>	<p>If 1 item is missing, vague, or too general = 3 pts.</p>	<p>If 2 items are missing, vague, or too general = 1 pt.</p>
<p>3. Procedure: _____ points (Can be in log or on poster board)</p> <p>_____ Tests the question asked.</p> <p>_____ Shows materials and procedure used.</p> <p>_____ States variables, if it applies.</p> <p>_____ Controls are obviously noted.</p> <p>_____ Defines outcomes in measurable terms.</p> <p>_____ Has 3 or more trials or 10 or more subjects to prove validity (*if applicable)</p> <p>If all criteria are met = 10 points</p>	<p>If 2 items are missing, vague, or too general = 6 pts.</p>	<p>If 3 items are missing, vague, or too general = 2 pts.</p>
<p>4. Results: _____ points</p> <p>_____ Data is clear and concise</p> <p>_____ Expressed effectively (charts, graphs, illustrations, and/or models)</p> <p>_____ Understandable and well organized</p> <p>If all criteria are met = 5 points</p>	<p>If 1 item is missing, vague, or too general = 3 pts.</p>	<p>If 2 items are missing, vague, or too general = 1 pt.</p>
<p>5. Conclusion: _____ points</p> <p>_____ Supports or refutes the hypothesis</p> <p>_____ Draws relationship between the experiment and the real world (is generalized)</p> <p>_____ Suggests improvements or related ideas for further investigation.</p> <p>If all criteria are met = 5 points</p>	<p>If 1 item is missing, vague, or too general = 3 pts.</p>	<p>If 2 items are missing, vague, or too general = 1 pt.</p>
<p>6. Log Book: _____ points (Can be in log or on poster board)</p> <p>_____ Dated _____ Shows ongoing progress on project.</p> <p>_____ Observations and data noted. _____ Complete & reveals what the student did.</p> <p>_____ Thoughts noted. _____ Project can be repeated from the log book.</p> <p>If all criteria are met = 10 points</p>	<p>If 2 items are missing, vague, or too general = 6 pts.</p>	<p>If 3 items are missing, vague, or too general = 2 pts.</p>
<p>7. Presentation: _____ points (Can be in log or on poster board)</p> <p>_____ Neat lettering. _____ Catchy and/or informative title.</p> <p>_____ Eye appeal and creativity. _____ Correct spelling on poster board.</p> <p>_____ Includes graphs, tables, pictures and/or models.</p> <p>_____ Clearly shows what was done and learned.</p> <p>_____ No identifying names or pictures present.</p> <p>If all criteria are met = 10 points</p>	<p>If 2 items are missing, vague, or too general = 6 pts.</p>	<p>If 3 items are missing, vague, or too general = 2 pts.</p>

RAMSEY MAGNET SCHOOL OF SCIENCE

Kindergarten, 1st, and 2nd Grade Project Rubric

Project # _____

Judges: Please indicate with a "check" all items that are present.

<p>1. Question: _____ points <input type="checkbox"/></p> <p><input type="checkbox"/> Clearly states what the project is designed to show.</p> <p><input type="checkbox"/> If all criteria are met = 5 points</p>	<p>If 1 item is missing, vague, or too general = 3 pts.</p>	<p>If 2 items are missing, vague, or too general = 1 pt.</p>
<p>2. Hypothesis: _____ points</p> <p><input type="checkbox"/> Clearly stated</p> <p><input type="checkbox"/> Reason given.</p> <p><input type="checkbox"/> If all criteria are met = 5 points</p>	<p>If 1 item is missing, vague, or too general = 3 pts.</p>	<p>If 2 items are missing, vague, or too general = 1 pt.</p>
<p>3. Procedure: _____ points (Can be in log or on poster board)</p> <p><input type="checkbox"/> Tests the question asked.</p> <p><input type="checkbox"/> Shows materials and procedure used.</p> <p><input type="checkbox"/> States variables, if it applies.</p> <p><input type="checkbox"/> Defines outcomes in measurable terms.</p> <p><input type="checkbox"/> Has 3 or more subjects to prove validity (*if applicable)</p> <p><input type="checkbox"/> If all criteria are met = 10 points</p>	<p>If 2 items are missing, vague, or too general = 6 pts.</p>	<p>If 3 items are missing, vague, or too general = 2 pts.</p>
<p>4. Results: _____ points <input type="checkbox"/></p> <p><input type="checkbox"/> Data is clear and concise</p> <p><input type="checkbox"/> Expressed effectively (charts, graphs, illustrations, and/or models)</p> <p><input type="checkbox"/> Understandable and well organized</p> <p><input type="checkbox"/> If all criteria are met = 5 points</p>	<p>If 1 item is missing, vague, or too general = 3 pts.</p>	<p>If 2 items are missing, vague, or too general = 1 pt.</p>
<p>5. Conclusion: _____ points</p> <p><input type="checkbox"/> Supports or refutes the hypothesis</p> <p><input type="checkbox"/> Draws relationship between the experiment and the real world (is generalized)</p> <p><input type="checkbox"/> If all criteria are met = 5 points</p>	<p>If 1 item is missing, vague, or too general = 3 pts.</p>	<p>If 2 items are missing, vague, or too general = 1 pt.</p>
<p>6. Log Book: _____ points (Can be in log or on poster board)</p> <p><input type="checkbox"/> Dated <input type="checkbox"/> Observations and data noted.</p> <p><input type="checkbox"/> Thoughts noted. <input type="checkbox"/> Shows ongoing progress on project.</p> <p><input type="checkbox"/> Complete log reveals what the student did.</p> <p><input type="checkbox"/> Project can be repeated from the log book.</p> <p><input type="checkbox"/> If all criteria are met = 10 points</p>	<p>If 2 items are missing, vague, or too general = 6 pts.</p>	<p>If 3 items are missing, vague, or too general = 2 pts.</p>
<p>7. Presentation: _____ points (Can be in log or on poster board)</p> <p><input type="checkbox"/> Catchy and/or informative title.</p> <p><input type="checkbox"/> Neat lettering.</p> <p><input type="checkbox"/> Correct spelling on poster board. INVENTED SPELLING IS OKAY.</p> <p><input type="checkbox"/> Includes graphs, tables, pictures and/or models.</p> <p><input type="checkbox"/> Eye appeal and creativity.</p> <p><input type="checkbox"/> Clearly shows what was done and learned.</p> <p><input type="checkbox"/> No identifying names or pictures present.</p> <p><input type="checkbox"/> If all criteria are met = 10 points</p>	<p>If 2 items are missing, vague, or too general = 6 pts.</p>	<p>If 3 items are missing, vague, or too general = 2 pts.</p>

