Riverside Elementary Science and Engineering Fair 2012

PLEASE READ CAREFULLY…

New and Exciting Changes are HERE!

February 21st - 23rd

Riverside Elementary

PTA®

*every*child. *one*voice.®

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Plan for Riverside Elementary 2012 Science and Engineering Fair

Dear Parents and Students:

Our goal is to create an event that encourages students to participate in the pursuit of learning about science and engineering, to complete a science project, and, most of all, to have fun. This year we have made some changes that make participating in the Science Fair more achievable for all students at Riverside Elementary. Please read the handbook carefully to further note the details of these changes.

1. Format Options Science is studied in different ways. We have given the option of four different formats of study to allow for the participants to choose the one that suits them best: model or simple demonstration, answer a scientific question with research, answer a scientific question using the scientific method, create an engineering design project that solves a problem or fulfills a need. *There will be no restriction of format by grade level unless noted by your teacher.*
2. Type of Participant Options We have added the "Student Group" type of participant in addition to the "Individual Student" participant. This is a great option if you have one or more children in different grades and want to produce one project instead of multiple individual student projects. This is also a great option if you want a group to share the work of a more complicated project that requires the individual student to have extra assistance. If you choose to do a student group project, please list all of the group members so that they can be recognized in award presentation. Only current Riverside Elementary students are allowed to be a part of the group. *Teachers may require written or oral reports if they are giving grades for participation in the science fair.*
3. Category Options To encourage more participation we have included more science and engineering categories.

We would like the greatest focus of the event to be on the scientific experience not the awards. However, we will present participation awards to all participants because of all the hard work that goes into creating a science fair project. For the individual student projects, we will also present awards through fifth place to projects broken down by format and topic area. **Judges will use rubrics to judge the projects. Judges decisions are final. Scores are never given out to parents, teachers, or administrators. Only the judges and chairpersons see scores.** For the student group projects, these group projects will be judged as their own category and the awards will be: Faculty Choice, Administration Choice, and Student Choice. Please reference the specific format instructions and specific format rubrics when you prepare and self-evaluate your projects.

Thank you for taking the time to participate in this year's Science and Engineering Fair. We hope that you have a great experience and learn a lot. We are thrilled to be a part of such a wonderful event at Riverside Elementary School!

Sincerely,

Science Fair Co-Chairs: Liz Anderson and Christine Woodring

Important Dates and Procedures

- Registration Form Deadline for Entry is Monday, February 6th
  - Please turn in to teacher by 8:30am on Monday, February 6th, earlier is acceptable.
  - **Please "completely" fill out the Registration form.** Projects submitted without a completed form will not be eligible for judging and will be for teacher grading (optional) and display only.
- Project Drop Off is Tuesday, February 21st 7:30-8:30am.
  - Please adhere to the size guidelines of the projects. We are limited in the amount of space available to display the projects and have planned according to expectations that participants will have projects that adhere to the guidelines.
  - **Projects dropped off February 21 after 8:30 am, will not be judged for awards and will be for teacher grading (optional) and display only.**
- Project Judging is Tuesday and Wednesday, February 21st-22nd.
- Science Night which will include: presentations, project display, and awards is Thursday, February 23rd
- Project Pick Up – on Science Night on Thursday, February 23rd.
  - **ALL PROJECTS SHOULD BE TAKEN HOME WITH STUDENTS ON THURSDAY NIGHT. BECAUSE WE CANNOT STORE PROJECTS PAST THURSDAY NIGHT, PROJECTS WILL BE DISPOSED OF IF LEFT AT SCHOOL.**

How do I come up with an idea for my science project or engineering design project?

Read through the handbook first to note changes to this year's science fair. Briefly go over the category and format options. Consider whether you want to do the project with other Riverside students or by yourself. If you are doing it with other students, you will need to plan a brainstorming session to come up with your project idea. You should look for a project idea that you can do over a fairly short time span. Choose a topic that interests you. You might find something that you can do pertaining to the sport or hobby that you enjoy. Do you have collections of toys, dinosaurs, legoes, baseball cards, etc.? Maybe these collections can trigger an interesting scientific question. Check out some of the websites listed in this handbook for ideas. There may be something that you are studying in science or health class that you can investigate further. If you make your science project relatable to your life or interests, you will probably be more interested in doing the project and will have more information to work with. You will create a project that truly answers questions you have, and you can teach your audience about something that interests you (and probably them, too!). Next, choose a format for your project. You can make a model or scientific demonstration, answer a scientific question with research, answer a scientific question using the scientific method, or create an engineering design project that can solve a problem or fulfill a need. Figure out which category that your project fits into, fill out the entry form, and get started!

Project Types

Student Group Project

This is a great option if you have one or more children and want to produce one student group project instead of multiple individual student projects. This is also a great option if you want to have a group share the work of a more complicated project that requires the individual student to have extra assistance. If you choose to do a student group project, please list all of the members on the entry form so that they can be recognized in award presentation and communicated with by the Science Fair committee. All student members should be current Riverside Elementary students. Please include the name, grade, teacher, and contact information for all students involved.

These projects will be judged together as their own category. There will be three awards: Faculty Choice, Administration Choice, and Student Choice. These three award winning projects will have the exciting opportunity to display and present their projects at Science Night. The student groups who win will be notified with a day to prepare IF they would like to present their projects during Science Night.

Individual Student

This type will enter you in competition against other individual students in your grade, format, and category. This project type is for the individual student who will be doing a majority of the work involved to complete the science project.

- Kindergarten
- First Grade
- Second Grade
- Third Grade
- Fourth Grade
- Fifth Grade

Project Topic Areas

Please choose a topic from the following areas:

Students are strongly encouraged not to experiment with molds or bacteria of any kind, as these can be particularly hazardous to student health.

1. Life Sciences: Biology, Plant Science, Human Biology and Health, Behavioral Studies, Biotechnology, Zoology, Physiology, Ecology, Agriculture, Economics, Agronomy, Development, Genetics, Photosynthesis, Plant Physiology, Plant Systems, Biological Physics, Botany, and Biochemistry.
2. Earth and Space Science: Environmental Sciences, Energy, Earth, Planetary Science, Astronomy, Geology, Seismology, Climatology, Weather, Geochemistry, Mineralogy, Paleontology, Geophysics, Planetary Science, Tectonics, Air Pollution, Air Quality, Soil Contamination, Soil Quality, Water Pollution, Water Quality, Ecosystems, Recycling, Waste Management, Forestry, Land Resources, Alternative Fuels, Fossil Fuel Energy, Renewable Energies.
3. Physical Sciences: Physics, Atoms, Molecules, Solids, Electromagnetics, Magnetics, Optics, Lasers, Analytical Chemistry, General Chemistry, Inorganic Chemistry, Organic Chemistry, Physical Chemistry, Metallurgy.
4. Engineering and Transportation: Civil Engineering, Energy and Power, Mechanical Engineering, Environmental Engineering, Bio Engineering, Chemical Engineering, Construction Engineering, Industrial Engineering, Processing, Material Science, Aerodynamics and Hydrodynamics, Vehicle Development.
5. Formal Sciences: Mathematical Sciences, Computer Science, Video and Computer Games, Pure Mathematics, Algorithms, Databases, Networking and Communications, Computer Graphics, Software Engineering, Probability and Statistics, Geometry, Algebra, Analysis, Artificial Intelligence.

Project Formats

Model or Scientific Demonstration

These projects are primarily educational displays or simple scientific demonstrations. You should find a specific subject that you would like to learn more about then come up with a way to teach the audience what you have learned. The goal of these projects are to educate the viewer in an entertaining and easy to understand way. The model or demonstration will be the teaching tool that you display on your presentation/display board.

The presentation should follow these guidelines:

- ✓ Presented on a tri-fold board 48" W x 36" H or foam core presentation board with stand not to exceed 24" in width or 36" in height. The tri-fold board has 24" middle panel and two 12" side panels that fold into the middle.
- ✓ NAME-TEACHER-GRADE LEVEL AND "INDIVIDUAL" OR "STUDENT GROUP" TYPE PARTICIPANT LEGIBLY POSTED ON THE **BACK BOTTOM CENTER** OF PROJECT DISPLAY BOARD: If individual student participant type: Student Name/Teacher/Grade Level. If student group participant type: list each Student Name/Teacher/Grade Level included in the project.
- ✓ The display board must include the following sections:
  a) Title
  b) Leave a blank area 4" from the top on the top right corner of the display board. We will place a science fair identification number in this area at project drop off.
  c) Introduction [This section introduces the "what it is" and you will use your gained knowledge to briefly educate the audience on what this project is about.]
  d) Materials and Methods [how did you make your model and what materials did you make it with]
  e) Discussion [This section explains the model or demonstration from your perspective, not just book knowledge. You should answer the question, "what knowledge did you gain from constructing and working with this model or performing this demonstration?"]
  f) References [List all references used to gain knowledge. This includes Mom, Dad, Grandma, websites, books, etc…]
- ✓ Models – Place the model directly in front of your display board. Secure your model and its parts. Label all applicable parts. Make sure that your name is on the bottom of the model in case it gets separated from its display board.

Project Formats

Answer a Scientifically Themed Question with Research

If you choose this format, you will come up with a scientifically themed question, answer the question by using research from books, magazines, or internet research, and then present your findings in an easy to understand way on the presentation/display board. The goal is to interpret and communicate the information in your own words to educate the audience about your project.

The presentation should follow these guidelines:

- ✓ Presented on a tri-fold board 48" W x 36" H or foam core presentation board with stand not to exceed 24" in width or 36" in height. The tri-fold board has 24" middle panel and two 12" side panels that fold into the middle.
- ✓ NAME-TEACHER-GRADE LEVEL AND "INDIVIDUAL" OR "STUDENT GROUP" TYPE PARTICIPANT LEGIBLY POSTED ON THE **BACK BOTTOM CENTER** OF PROJECT DISPLAY BOARD: If individual student participant type: Student Name/Teacher/Grade Level. If student group participant type: list each Student Name/Teacher/Grade Level included in the project.
- ✓ The display board must include the following sections:
  a) Title
  b) Leave a blank area 4" from the top on the top right corner of the display board. We will place a science fair identification number in this area at project drop off.
  c) Scientific Question [You will state the scientific question that you will research and answer.]
  d) Introduction [You will state your purpose along with any background information that led you to make this study.]
  e) Data [You will use graphics, charts, or pictures to make a visual summation of the findings. The graphics will let the audience understand the answer to the scientific question in a visual snapshot.]
  f) Conclusion [You will restate the question and explain the answer based on gained knowledge. This should be from your point of view not strictly from the literature, while maintaining scientific integrity.]
  g) Resources Cited [List all references used to gain knowledge. This includes Mom, Dad, Grandma, websites, books, etc…]
- ✓ Models – If you have a model, place the model directly in front of your display board. Secure your model and its parts. Label all applicable parts. Make sure that your name is on the bottom of the model in case it gets separated from its display board.

Project Formats

Use Scientific Method to Answer a Scientific Question and

Prove a Hypothesis True or False

The scientific method is a way to ask and answer scientific questions by making observations and doing experiments. The steps to the scientific method are: ask a question, perform background research, construct a hypothesis, test your hypothesis by doing an experiment, analyze your data, draw a conclusion, and communicate your results. Use helpful websites (www.sciencebuddies.com) to give you more detailed information and ideas for experiments. Once you find a topic that interests you, come up with a question that you want to answer. Design a test that answers your question where you change only one variable and keep the others fixed. If you can't, change your question. Research your question. After research, you should now have an educated guess about the answer to the question. This educated guess is called your hypothesis. Hypothesis is written as an if- then statement. If I do this, then this will happen. Now that you have come up with a hypothesis, you need to develop an experimental procedure for testing whether it is true or false. Perform the experiment, record data, draw conclusions, and communicate data.

Brief example of possible project:

- Topic of interest: Legos
- Scientific Question: Can I use a structure made of only Legos to keep my drinks cold?
- Hypothesis: If I build a structure using only Legos, then it will keep my drinks cold.
- Experiment: build the structure and test the temperature of drinks before and after for certain duration.
- Data: results of experiment.
- Conclusion: was my hypothesis proved true or false plus additional critique of experiment information.

The presentation should follow these guidelines:

- ✓ Presented on a tri-fold board 48" W x 36" H. The tri-fold board has 24" middle panel and two 12" side panels that fold into the middle.
- ✓ NAME-TEACHER-GRADE LEVEL AND "INDIVIDUAL" OR "STUDENT GROUP" TYPE PARTICIPANT LEGIBLY POSTED ON THE **BACK BOTTOM CENTER** OF PROJECT DISPLAY BOARD: If individual student participant type: Student Name/Teacher/Grade Level. If student group participant type: list each Student Name/Teacher/Grade Level included in the project.
- ✓ The display board must include the following sections:
    a) Title

b) Leave a blank area 4” from the top on the top right corner of the display board. We will place a science fair identification number in this area at project drop off.
c) Scientific Question Tested [You should briefly state what scientific question will be tested by performing this experiment. This should lead to the formation of the hypothesis.]
d) Hypothesis [You will state the educated guess as the answer to your question. Use the “If – then” statement.]
e) Materials and Methods [List all materials used and tells the audience step by step how to perform an identical experiment. From this section another scientist should be able to recreate the entire experiment.]
f) Data [You will use graphics, charts, or pictures to show the results of the experiment. The graphics will let the audience understand the results in a visual snapshot.]
g) Conclusion [You will restate the question and hypothesis, analyze the data and draw a conclusion explaining whether the hypothesis was proven true or false. If proven false, then you can critique your methods to add detail to the conclusion.]
h) Resources Cited [List all references used to gain knowledge. This includes Mom, Dad, Grandma, websites, books, etc…]

- ✓ Models – If your experiment has a model, place the model directly in front of your display board. Secure your model and its parts. Label all applicable parts. Make sure that your name is on the bottom of the model in case it gets separated from its display board.

Project Formats

Create an Engineering Design Project That Solves a Problem or Fills a Need

Engineers create new things such as products, websites, environments, and experiences. The engineering design process goes from identifying a problem or a need to creating a solution that solves the problem or fulfills the need. The steps to the engineering design process are: define problem, perform background research, specify requirements, create alternative solutions, choose the best solution, build a prototype, fine tune and develop the final solution, test and redesign. You might find yourself jumping back and forth between steps to move towards the final solution. Use helpful websites such as www.sciencebuddies.com to give you more detailed information and ideas for the engineering design project.

Steps more thoroughly defined:

Define a Problem: What is the problem or need? Who has the problem or need? Why is it important to solve? Make a problem statement encompassing the answers.

Perform Background Research: Learn from the experience of others. For an engineering design project, do background research in two major areas: users and existing solutions.

Specify Requirements: Design requirements state the important characteristics that your solution must meet to succeed. One of the best ways to identify the design requirements for your solution is to analyze the concrete example of a similar, existing product, noting each of its key features.

Create alternative solutions: There are always many good possibilities for solving design problems. If you focus on just one before looking at the alternatives, it is almost certain that you are overlooking a better solution. Good designers try to generate as many possible solutions as they can.

Choose the best solution: Look at whether each possible solution meets your design requirements. Some solutions probably meet more requirements than others. Reject solutions that do not meet the “requirements” that you specified previously.

Build a prototype: A prototype is an operating version of a solution. Often it is made with different materials than the final version, and generally it a “rough draft” of the final solution. Prototypes are a key step in the development of a final solution, allowing the designer to test how the solution will work. Development involves the refinement and improvement of a solution, and it continues throughout the design process, often even after a product ships to customers.

Test and redesign: The design process involves multiple loops and circles around your final solution. You will likely test your solution -- find problems and make changes -- test

your new solution -- find new problems and make changes -- and so on, before settling on a final design.

Communicate your results: To complete your project, communicate your results to others on the display board. Focus on thoroughly documenting your solution and include sections listed above to clearly communicate your process.

The presentation should follow these guidelines:

- ✓ Presented on a tri-fold board 48" W x 36" H. The tri-fold board has 24" middle panel and two 12" side panels that fold into the middle.
- ✓ NAME-TEACHER-GRADE LEVEL AND "INDIVIDUAL" OR "STUDENT GROUP" TYPE PARTICIPANT LEGIBLY POSTED ON THE **BACK BOTTOM CENTER** OF PROJECT DISPLAY BOARD: If individual student participant type: Student Name/Teacher/Grade Level. If student group participant type: list each Student Name/Teacher/Grade Level included in the project.
- ✓ The display board must include the following sections:
    a) Title
    b) Leave a blank area 4" from the top on the top right corner of the display board. We will place a science fair identification number in this area at project drop off.
    c) Problem [that design will solve] or Need [that design will fulfill]
    d) Introduction [explain how you came up with the "problem" or "need"]
    e) Description of Design [Explain what your design does. Explain how to use it and what it does to fill the need or solve the problem.]
    f) Materials Used [to build final version of design project]
    g) Discussion [Write about what you did when you designed the project. Did you make a list of alternate solutions? What was on this list? Did you make a few prototypes before you had a finished product? Did you try different materials? How did you test it, why did you redesign? What did you learn from each test of the prototypes?]
    h) Conclusion [Explain how your creation solved the problem or filled the need. Would it be something that anyone could use? Is it easy to build and affordable? Has it lead you to other ideas? Could you further improve on what you built?]
    i) References [List all references used to gain knowledge. This includes Mom, Dad, Grandma, websites, books, etc…]
- ✓ **Final Engineering Design Solution** – Place the creation directly in front of your display board. If the **design is too large to be exhibited** (fit in limited area in front of project), **please take pictures to display in front of your presentation board.** Secure your model and its parts. Label all applicable parts. Make sure that your name is on the bottom of the model in case it gets separated from its display board.

Format Rubrics

Format Rubrics are used by judges to evaluate each project. Use the rubric for the format that you chose so that you can decide if your project is ready for judging.

Model or Scientific Demonstration

Judges go over projects, use rubrics to "grade" projects, and total up rubric points to come up with winners broken down by different formats and topic area.

Overall, did the model or scientific demonstration educate you in an entertaining and easy to understand way?

- Superb work = 4
- Well done with a couple of errors = 3
- Average work = 2
- Good try = 1
- Messy and hard to understand = 0

Was the project presented on a tri-fold board or presentation board with the following sections: Title, Introduction, Materials and Methods, Discussion, and References

- Yes, very clearly = 4
- Yes, after some study = 2
- No = 0

Was the project presented as neat as possible for the type of participant?

- Superb work = 4
- Well done with a couple of errors = 3
- Average work = 2
- Good try = 1
- Messy and hard to understand = 0

Was the project free from grammar and spelling errors? Participants, please have someone check your work when you are creating your project display board.

- Superb work = 4
- Well done with a couple of errors = 3
- Average work = 2
- Good try = 1
- Messy and hard to understand = 0

Could you understand what the project was trying to teach you?

- Completely clear and precise = 4
- Easy to understand after a little reading = 3
- Somewhat confusing = 2
- Completely Confusing = 0

Answer a Scientifically Themed Question by Using Research

Judges go over projects, use rubrics to "grade" projects, and total up rubric points to come up with winners broken down by different formats and topic area.

Overall, did the project have a scientifically themed question that was answered in the participant's own words in an entertaining and easy to understand way?

- ☐ Superb work = 4
- ☐ Well done with a couple of errors = 3
- ☐ Average work = 2
- ☐ Messy and hard to understand = 0

Was the project on a tri-fold or presentation board with these sections: Title, Scientific Question, Introduction, Data with Visual Aids, Conclusion, and Resources Cited?

- ☐ Yes, very clearly = 4
- ☐ Yes, after some study = 2
- ☐ No = 0

Was the project presented as neat as possible for the type of participant?

- ☐ Superb work = 4
- ☐ Well done with a couple of errors = 3
- ☐ Average work = 2
- ☐ Good try = 1

Was the project free from grammar and spelling errors? Participants, please have someone check your work when you are creating your project display board.

- ☐ Superb work = 4
- ☐ Well done with a couple of errors = 3
- ☐ Average work = 2
- ☐ Good try = 1

Did the conclusion restate the question and answer the scientific question?

- ☐ Completely, clearly, and precisely = 4
- ☐ Yes, the conclusion did restate the question AND answered the question but not so clearly = 3
- ☐ The conclusion kind of answered the question = 2
- ☐ The conclusion gave information without answering the question = 1
- ☐ The conclusion was extremely poor and confusing or non-existent = 0

Could you understand what the project was trying to teach you?

- ☐ Completely clear and precise = 4
- ☐ Easy to understand after a little reading = 3
- ☐ Somewhat confusing = 2
- ☐ Completely Confusing = 0

Use Scientific Method to Answer a Scientific Question and Prove a Hypothesis True or False

Judges go over projects, use rubrics to "grade" projects, and total up rubric points to come up with winners broken down by different formats and topic area.

Overall, did the project have a scientifically themed question that was answered using the scientific method with a hypothesis and an experiment that was presented in an entertaining and easy to understand way?

- Superb work = 4
- Well done with a couple of errors = 3
- Average work = 2
- Good try = 1
- Messy and hard to understand = 0

Was the project presented on a tri-fold board with the following sections: Title, Scientific Question, Hypothesis, Materials and Methods, Data with visual aids, Conclusion, and Resources Cited?

- Yes, very clearly = 4
- Yes, after some study = 2
- No = 0

Was the project presented as neat as possible for the type of participant?

- Superb work = 4
- Well done with a couple of errors = 3
- Average work = 2
- Good try = 1
- Messy and hard to understand = 0

Was the project free from grammar and spelling errors? Participants, please have someone check your work when you are creating your project display board.

- Superb work = 4
- Well done with a couple of errors = 3
- Average work = 2
- Good try = 1
- Messy and hard to understand = 0

Did the Hypothesis use an "if …, then…" statement?

- Yes, completely clear and precise = 4
- Yes, after a little reading = 3
- No, somewhat confusing = 2
- No, completely Confusing or Non-existent = 0

Could you understand the “Materials and Methods” section which tells the audience about the experimental procedure performed and could you reproduce an identical experiment?

- Completely clear and precise = 4
- Easy to understand after a little reading = 3
- Somewhat confusing = 2
- Completely Confusing or Non-existent = 0

Did the conclusion restate the question and hypothesis and state whether the hypothesis was proved true or false?

- Completely, clearly, and precisely = 4
- Yes, the conclusion did restate the question, hypothesis, and whether the hypothesis was proved true or false but not so clearly = 3
- There was a conclusion. However, it gave information without restating the question, hypothesis, and whether the hypothesis was proved true or false = 1
- The conclusion was extremely poor and confusing or non-existent = 0

Could you understand what the project was trying to communicate to the audience?

- Completely clear and precise = 4
- Easy to understand after a little reading = 3
- Somewhat confusing = 2
- Completely Confusing = 0

Create an Engineering Design Project that Solves a Problem or Fills a Need

Judges go over projects, use rubrics to "grade" projects, and total up rubric points to come up with winners broken down by different formats and topic area.

Overall, did the project result in creating a design that solved a problem or fulfilled a need and was this effectively communicated in the presentation display board in an entertaining and easy to understand way?

- Superb work = 4
- Well done with a couple of errors = 3
- Average work = 2
- Good try = 1
- Messy and hard to understand = 0

Was the project presented on a tri-fold board with the following sections: Title, Problem or Need, Introduction, Description of the Design, Materials Used to Build the Design, Discussion, Conclusion, and References or Resources Cited?

- Yes, very clearly = 4
- Yes, after some study = 2
- No = 0

Was there a final engineering design prototype or pictures of the final engineering design prototype presented in front of the display board?

- Yes, very clearly = 4
- Yes, after some study = 2
- No = 0

Was the project presented as neat as possible for the type of participant?

- Superb work = 4
- Well done with a couple of errors = 3
- Average work = 2
- Good try = 1
- Messy and hard to understand = 0

Was the project free from grammar and spelling errors? Participants, please have someone check your work when you are creating your project display board.

- Superb work = 4
- Well done with a couple of errors = 3
- Average work = 2
- Good try = 1
- Messy and hard to understand = 0

Did the Introduction explain how the participant came up with the problem or need?

- Yes, completely clear and precise = 4
- Yes, after a little reading = 3
- No, somewhat confusing = 2
- No, completely Confusing or Non-existent = 0

Could you understand the Description of the Design, what it could do, and how it filled the need or solved the problem?

- Completely clear and precise = 4
- Easy to understand after a little reading = 3
- Somewhat confusing = 2
- Completely Confusing or Non-existent = 0

Did the Discussion contain information on whether the participant made a list of alternate solutions, made more than one prototype, tested and redesigned the prototype?

- Yes, completely clear and precise = 4
- Yes, after a little reading = 3
- No, somewhat confusing = 2
- No, completely Confusing or Non-existent = 0

Could you understand what the project was trying to communicate to the audience?

- Completely clear and precise = 4
- Easy to understand after a little reading = 3
- Somewhat confusing = 2
- Completely Confusing = 0

Helpful Websites

www.sciencebuddies.com

http://pbskids.org/dragonflytv/scifair/index.html

http://gwinnettsciencefair.com

www.science-ideas.com/elementary-projects.htm

www.youngscientistchallenge.com See this website for 5th graders to enter engineering design projects into after our science fair if they fit into the contest constraints and parents approve. *The Discovery Education 3M "Young Scientist Challenge 2012" ("Contest") is open to all legal U.S. residents who are students enrolled in 5th through 8th grade at a public, private, parochial, or home school located in one of the fifty United States or the District of Columbia.*

Entrants should identify an everyday problem related to the way we move, the way we keep ourselves healthy, or the way we make a difference. The problem should directly impact them, their family, their community, or the global population. The idea must be a new innovation or solution, and cannot simply be a behavioral change or a new use for an existing product.

The challenge is to create a one- to two- minute video that...

- explains the problem and how it impacts them, their family, their community or the global population;
- describes a **new** innovation or solution that could solve or impact the problem;
- explains the science, technology, engineering and/or mathematics behind their innovation; and
- illustrates how their innovation could both address the everyday problem they've identified and have a broader impact locally or globally.

www.sciencenewsforkids.org

http://www.sciencenewsforkids.org/help-your-child-with-science-fair-projects/

http://www.georgiacenter.uga.edu/ppd/courses/academic-special-programs/georgia-science-and-engineering-fair/

http://school.discoveryeducation.com/sciencefaircentral/

2012 Riverside Elementary Science and Engineering Fair Registration Form

REQUIRED REGISTRATION FORM DUE: Monday, February 6th

PROJECTS ARE DUE / DROP OFF: Tuesday, February 21st by 8:30 am

PROJECTS SUBMITTED WITHOUT A COMPLETED REGISTRATION FORM WILL NOT BE ELIGIBLE FOR JUDGING.

PLEASE PRINT NEATLY extremely important that we can read this information

Name: _____

Grade and Teacher:_____

Email address and phone number for contact and confirmation of entry:

_____

Format: (please choose one, reference "Project Formats" pgs. 6-11 in the handbook)

- ☐ **Model or Scientific Demonstration**
- ☐ **Answer a Scientifically Themed Question with Research**
- ☐ **Use Scientific Method to Answer a Scientific Question & Test a Hypothesis**
- ☐ **Create an Engineering Design Project to Solve a Problem or Fill a Need**

Type: (please choose one, reference "Project Types" p. 12 in the handbook)

- ☐ **Student Group Project** – Turn in only ONE ENTRY FORM for the group. **Please list (ON BACK OF THIS FORM) each student's name, grade, teacher, and contact information. Students must be current Riverside Elementary students.**

- ☐ **Individual Student** (please circle the grade)
  Kindergarten First Second Third Fourth Fifth

Project Topic Area: (please choose one, reference p.13 in handbook for definitions)

- ☐ **Life Sciences**
- ☐ **Earth Science**
- ☐ **Physical Science**
- ☐ **Engineering and Transportation**
- ☐ **Formal Sciences**

Students are strongly encouraged not to experiment with molds or bacteria of any kind, as these can be particularly hazardous to student health.

Riverside Elementary
PTA
everychild. onevoice.