



Calling all Scientists!



**The 2019 Eagle Elementary
Science Fair
is Thursday, February 7th at
6:00pm**

**Students interested in
participating, please fill out the
below project form and send in
by**

**Thursday, January 31st
For ideas and more information
see the attached packet.**

Contact Deb Stevens at

deb2437@msn.com

Student Name or (names if working in a group)

Grade _____

Parent Contact(s) _____

Project Title _____

Description – Please provide a brief description of your project.

Space Needs – Please follow these guidelines. Extra space is NOT available.

Floor Space _____ maximum 2'X3'

Wall Space _____ maximum 2'X3'

Table Space _____ maximum 2'X3'

Do you need an electrical outlet? _____ yes _____ no

Is your project wet/messy _____ or dry/clean _____?

Eagle Elementary Science Fair Thursday February 7, 2019

The science fair is an event where students of all ages may work alone, or with a small group of other students to explore and demonstrate their scientific learning in a fun environment. Students can solve problems, make discoveries, research a topic in depth, report on a scientist's life, or do an experiment.

Please fill out the project form and return by January 31, 2019

TYPES OF PROJECTS

1. **A Descriptive or Demonstration Project** – Describe what something is like, how it lives, or how it works. *Students might keep a diary of the growth of a seedling; describe and show pictures of a day in the life of a wombat; tell how a bike is constructed, or demonstrate how gears work.*

2. **Comparisons** – These projects will follow the same basic steps as the descriptive or demonstration project, but will take it one step further to compare two or more things. *Examples: how the growth of a snap pea is different than a tree or how wombats and kangaroos are different as well as similar.*

3. **Experiments** – These projects try to answer questions about 'what happens when' by testing students' guesses about how and why things work. The goal is to generate a testable hypothesis – a guess that one can then test to see if it is true or false. *For example, students might make guesses about how well different laundry detergents work to remove chocolate stains (for example, Tide works better than All) – then test to see if these guesses seem correct. It's okay if your hypothesis is wrong; we still learn a lot! Finally, students try to explain what they found out.*

4. **Study of a Famous Scientist** – Students can tell us about a scientist or inventor and what they discovered or created; what they were like growing up; how their discoveries or inventions came about; how the discovery or invention changed the way people thought or acted; and timelines that show major events in the scientist's life. See a list of famous scientists at the end of the packet to get you started.

Doing the Project

1. You should begin by setting up a timeline to plan out your work.
2. The next step is to turn your idea into a **research question**. For example, if you are interested in studying laundry detergents, your question might be “*What laundry detergent does the best job getting grass stains out of your pants?*”
3. Make a guess or **hypothesis** about what you think will happen. Your guess should be simple enough to test... “*I think Tide is the best detergent to remove grass stains*”.
4. Begin your work! How do scientists investigate a question? Sometimes scientists make discoveries by accident. Other times, they carefully **develop a plan to test a guess or hypothesis** about how something works.
6. To test the guesses and ideas, scientists often **conduct experiments** and use the results to begin answering their questions. If you are doing a descriptive study or demonstration, use the information that you find in your research to answer your questions.
7. Next, write down everything you do or learn in your research. Other scientists should be able to repeat your experiments by reading your procedures. As you perform the steps, you should **keep track of your observations – what you see or what you learn**. You may want to organize your data into a chart or table. You may want to create or collect pictures, or make a diagram or a model.
9. After you have made observations and collected data, you will want to make a conclusion about what you have learned. Think about: *What did you learn? Do you still have any questions? What are they?* If you are doing a descriptive project, you can see if the information you read agrees with your guess. Do you find any of the information surprising?

Display

- Make your display interesting and creative. Use visuals such as pictures, charts and diagrams to enhance your presentation
- Use your very best handwriting or type your text so it is easy to read.
- Clearly label your project with the title and your name

RESOURCES

You can find helpful materials at bookstores, libraries, museums, hospitals and websites. On the following pages you will find resources and websites that may be useful.

Children's Museum of Science + Technology 250 Jordan Road, Troy, NY 12180, 518-235-2120

Museum of Innovation and Science (miSci) 15 Nott Terrace Heights, Schenectady, NY 12308, 518-382-7890

New York State Museum 260 Madison Ave., Albany, NY 12230, 518-474-5877

The Parent Teacher Store 515 Troy-Schenectady Road, Latham, NY 12110, 518-785-6272

Book Sources

Backyard Science Experiments, Q. L. Pearce 507 Pea

The Ben Franklin book of Easy and Incredible Experiments P 507.8 Fra

Great science Fair projects, P. Kratz and J. Frekko 507.8 Kat

Kitchen Science Experiments, Q. L. Pearce 507 Pea

Robert Gardner's Favorite Science Experiments, R. Gardner 507.8 Gar

Science Fair Success Secrets: How to win Prizes, have fun and Think like a Scientist, B. Haduch 507 Had

Science in Seconds for Kids: Over 100 experiments you can do in 10 minutes or less, J. Potter P 507.8

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Science Magic, 101 Experiments you can do, O. McGill P 507 McG

Science Projects about Electricity and magnets, R. Gardner 537 Gar

Science Secrets, R. Supraner 507 Sup

Scienceworks: 65 Experiments that introduce the fun and wonder of Science, Ontario Science Center 507 Sci

The Thomas Edison Book of easy and Incredible Experiments, Thomas Alva Edison Foundation 507 Tho

Internet Resources

Cool-Science-Projects

<http://www.cool-science-projects.com/Science-Fair-Project-Ideas.html>

Find your motivation. Learn how to get good topic ideas by thinking about what you enjoy, what you're really curious about, asking questions, and turning a hobby into a project.

Cyber Fair: Idea Generation

http://www.isd77.org/se3bin/clientgenie.cgi?schoolname=school305&statusFlag=goGenie&geniesite=45&myButton=g5plugin&db=g45_b337

Offers sample topics, as well as tips and hints for thinking up your own ideas. Also shows how to find topics that are interesting to you. Let your imagination run wild.

Science Buddies Science Fair Project Ideas

http://www.sciencebuddies.org/science-fair-projects/project_ideas.shtml#helpmefindaproject

The Topic Selection Wizard will help ask you enough questions to decide what kind of science you'll most enjoy doing. An excellent aid!

POSSIBLE IDEAS TO GET YOU STARTED

Demonstrations and Things You Can Make Models of:

Magnet, Bat or bird house, Volcano, Animal Habitats, Sundial, Compass, Salt crystals, Sugar crystals, The solar system, Parts of a Flower, Human Eye, Human Ear, Miniature greenhouse, Simple circuit

Things You Can Research, Describe and Display:

Your favorite animal or insect	How are video games created?
Your favorite tree, flower or plant	How are earthquakes measured?
Weather and/or atmospheric science	How does a doorbell work?
The water cycle	How do canals and locks work?
Outer space and cosmic phenomena	What causes erosion?
The human body – digestion, tooth decay, or anatomy	Why are earthworms so important?
Ecosystems – Forests, oceans, deserts	Why does a submarine float?
Computer Technology	What causes air pollution?
	How does a traffic signal work?

Comparison Projects – Things You Can Compare:

Different types of fruits and vegetables	Deciduous trees vs evergreens
Do all brands of paper towels pick up the same amount of liquid?	Keep track of the temperature outside – when is it the coldest, when is it the hottest?
Do plants grow the same amount in different types of soil? With different types of water?	Calculate and record length of days and nights over two weeks. Why does the day length change?
Different types of rocks and minerals	What is the best design for a paper airplane?

Experiments You Can Do:

Do plants grow toward light?	What causes milk to spoil?
Which popcorn brand pops the fastest or the most?	What is the effect of salt or sugar water on plant growth?
Which freezes faster – plain water, distilled water, salt water or sugar water?	Compare different dish detergents or bubble bath – which one makes more bubbles?
Do detergents work best in cold or hot water?	How does light make a prism?

Interested in Doing a Biography of a Famous Scientist? See the list below for some ideas:

Inventors – Alexander Graham Bell, Thomas Edison, George Washington Carver

Chemists – Marie Curie, Robert Boyle, Alfred Nobel, Dmitri Mendeleev, John Dalton

Physicists – Niels Bohr, Albert Einstein, Stephen Hawking, Isaac Newton, Nikola Tesla

Computer scientists – Charles Babbage, Alan Turing, Blaise Pascal, Ada Lovelace

Medicine and biology – Louis Pasteur, Jonas Salk, Jacques Costeau, Jane Goodall

Astronomers – Galileo, Nicolaus Copernicus, Edwin Hubble, Edmund Halley, Carl Sagan

And finally, please follow these rules:

Our goal is for everyone to have fun and be safe. Please remember:

Space

- On the Science Fair Project Form you are asked to identify your space needs.
- Do you need table, floor or wall space? If you need all three, we will do our **best** to accommodate you.
- Do you need an electrical outlet?

- You will be allotted a 2' X 3' table space. NO EXCEPTIONS!

These items are NOT allowed at our science fair:

- Dangerous chemicals
- Breakable objects
- Body parts from animals
- Materials that explode or catch fire
- Live animals – including fish
- Sharp objects
- Food or candy