Des Moines Elementary Science Fair

What is a Science Fair?

A science fair is an exciting event where students can showcase the science projects they have completed and students, families and teachers can admire and learn from them.

What is a Science Project?

A science project asks & answers a **question** about science. The topic should be interesting to you and be something you can ***evaluate*** and ***measure***. It can be an **investigation** or an **invention** covering any area of science, such as:

- ***Physical Sciences:*** magnetism, sound, light, matter (chemistry), structure (engineering)
- ***Life Sciences:*** animals, plants, human body, behavior
- ***Earth & Space Sciences:*** weather, geology, stars, planets

A project can also be a model or demonstration, such as a volcano or solar system, or a collection of elements (like rocks).

Fair Checklist:

January-February

- ✓ Begin researching project ideas and possible experiments

Feb 13th

- ✓ Submit the project registration form

Feb -March

- ✓ Start conducting experiments

March

- ✓ Finalize results & prepare presentation

March 26, 2015 @ 4pm:

- ✓ Display project at Science Fair!

Who Can Participate?

The science fair is open to ALL STUDENTS, however projects must be completed at home outside of the school day.

Can Parents Help?

We ***encourage*** parents and guardians to participate in these projects, but the level of involvement depends on the age of the student: younger grades may need more help choosing, designing and presenting a project, whereas older students should be able to handle more themselves. Tips for helping your student with a science fair project:

- Help them choose an age- or grade-appropriate project, keep the "question" ***simple*** & fun.
- Focus on the scientific ***process*** rather than a complex experiment.
- After the project has begun, help them ***stick to the original question***
- Assist with ***time & schedule management*** to properly complete experiments and prepare reports.
- For the younger grades, help your student with experiments and preparing the presentation

Resources for Students or Parents:

- **Science Buddies** has an interactive project selector tool to help find an age- and interest-appropriate project
- http://www.sciencebuddies.org/science-fair-projects/project_ideas.shtml#helpmefindaproject
- **Education.com** has many project ideas for all ages. http://www.education.com/science-fair/all/
- **Steve Spangler Science:** Project ideas and kits for purchase http://www.stevespanglerscience.com/
- **Discovery Education**: Lots of tips on project presentations and project ideas. http://school.discoveryeducation.com/sciencefaircentral/index.html
- **Cool Science:** Under the "Kid Zone" Link there are Experiments. http://www.coolscience.org
- **Bill Nye the Science Guy:** has "home demos" that can be formatted into projects for presentation http://billnye.com

Note: Tri-fold display boards are available **from your teacher** for any student signed up to do a project.

More information about science fair rules, the scientific method and presentation tips will be available to students that return a project registration form.

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Project Ideas

Here is a sample of the kinds of projects you might consider for the science fair

Kindergarten

- **Exploring Static Electricity with Sticky Balloons:** Can static electricity make a balloon "sticky"?
- **The Speed of Sound on a String:** demonstrate sound's ability to travel through air vs. through a piece of string.

1st Grade

- **Density: A Simple Exploration:** To explore the density of various liquids and objects and how they interact with each other.
- **How Well Does Sound Travel Through a Gas? A Liquid? A Solid?:** Experience sounds travelling through things in different states: a bag of air, a bag of water, a wooden block

2nd Grade

- **What Makes Honey Crystallize:** Have you ever noticed that honey crystallizes in a jar when you leave it in the cupboard for a long time? What is crystallization? What might make it happen faster?
- **Will Some Colors Keep You Cooler than Others?** Which keeps you cooler on a hot day, a black shirt or a white shirt? What about other colors? How can you find out?

3rd Grade

- **In Search of the Longest Lasting Soap Bubble:** Explore substances that cause a bubble to last longer.
- **Will a Ball Bounce Higher If It Is Dropped from a Greater Height?** What factors affect how high a ball bounces? Do some balls bounce higher than others? If you drop a ball from a high place, will it bounce higher than if you drop it from lower down? How can you find out?

4th Grade

- **How to Stop Soda From Exploding:** Students will discover whether tapping the top or the side of the can will stop a vigorously-shaken can of soda from exploding into a sticky mess and the logic behind it.
- **How Does Distance Affect the Strength of a Magnet?** Magnets pull iron and steel objects toward them. Does it matter how far away from the object the magnet is? How can we measure the effect of distance on a magnet's strength?

5th Grade

- **Which Metal Conducts Heat Best?** What is heat? How can you tell when something is hot? If you leave a metal spoon in a hot drink, how does it feel? Does heat travel through metals? Do some metals conduct heat better than others do?
- **How Does Distance Affect the Spreading of Light?** If an object is close to a light, how does it look? How does it look if it is farther away? What happens to light as it travels across a distance? How can you find out?

6th Grade

- **Make Your Own Lava Lamp**: explore the relationship between oil and water in terms of density as well as hydrophilic/hydrophobic compounds.
- **The Amazing Self-Inflating Balloon:** Start a chemical reaction that will make a balloon inflate itself!

Science Project Examples: Extracted from http://www.education.com/science-fair

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2015 Science Fair: Project Registration Form

Student Name:	**Teacher:**	**Grade:**

Project Title:

Proposed Question/Invention– *What do you want to find out or design? Do some **research** and think about* How, What, When, Who, Which, Why, or Where?

Hypothesis/Prediction: *What do you think will happen and why?* "If *[I do this]*, then *[this]* will happen because [*why?*]"

Experiment: *How will you test your hypothesis? Briefly describe the overall steps you will take in your experiment & what data will you collect.*

Timeline: *How much time will it take to complete your project? (allow time for selecting a project, doing preliminary research, conducting experiments, creating the presentation about 2 weeks of pre-work and 4 weeks to experiment & report)*

What materials will be used?

Special Materials Needed, if any *(please specify):*

For Experiments *(at home)*	☐Chemicals : ☐ Electricity: ☐ Heat Source: ☐ Animals/Critters:	***On Day of Fair*** *(for presentation)*	☐Chemicals : ☐ Electricity: ☐ Heat Source:

Reporting the Results: *Science Fair participants are expected to:*

- ✶Create a tri-fold display board detailing the project and process followed
- ✶ Set Up display at the fair & be present to discuss project at the fair on **Thursday, March 26, 2015**
- ✶ Remove display and/or visual aids at the end of the fair

Student Signature		**Parent Approval**		**Date**:
	Parent Email			

Note: Tri-fold display boards are available **from your teacher** for any student signed up to do a project.

!! Please return signed form to your teacher by February 13, 2015 !!

Teachers: Please put completed forms in PTSA President's Box