

Hamagrael Science Fair 2012

Monday, March 19
6:30-8:00 pm in the Auditorium

What's involved?

Students in grades 1-5 prepare science fair projects for display on the night of the Science Fair. Students may work on projects individually, in pairs, or in small groups (maximum 4 kids).

Projects may fall into one of the following general categories:

- An experiment
- A collection
- A model
- A demonstration

(See following pages for more detailed guidelines—also ideas and examples.)

On the night of the fair, family and friends come to see student projects. Real scientists will visit each project and talk to student scientists about what they did and what they discovered.

All participants get a ribbon from the scientist and a certificate from principal Dave Ksanznak. Project summaries and photos from the science fair are compiled into a binder that will be kept in the Hamagrael library.

Any questions about ideas, projects, displays, or other issues regarding the Science Fair, please call Jill Adams (475-7633).

*To participate, please do BOTH of the following by **Monday, March 12:***

1. Fill out the form below and return in envelope labeled Science Fair; *and*
2. Confirm entry with Jill Adams (475-7633 or juadams@verizon.net).

Name(s): _____

Grade(s)/Teacher(s): _____

Parent signature: _____ Phone number: _____

Project Title: _____

Science Fair Tips

Ideas for Science Fair projects are everywhere. Just look around--use your senses and your imagination. What do you wonder about? If you really can't think of anything, there are books in the library with Science Fair project ideas. The Internet is also a great place to find an idea for your project.

Have Fun!!

Some people work best in a group. Others work best alone. Choose whatever makes you most comfortable. If you work in a group, each member needs to do his or her fair share of the work.

Have Fun!!

Your brothers and sisters and your Mom and Dad can help, but...

...this is Your Project and You are the Boss!!

Have Fun!!

No exploding volcanoes or open flames. Safety First!!
No experiments on animals.

Have Fun!!

Sharing your results with others at the Science Fair is as much fun as doing your experiment. Make sure your presentation is easy to read and clearly explains what you did and what results you got. Be prepared to answer questions.

Have Fun!!

You don't need to spend a lot of money to conduct your project or present your results.

Have Fun!!

Doing Experiments

Use these steps to plan your science fair project. Some examples are given below.

1. **Make an Observation**

Plants need water to grow.
Some popcorn kernels don't pop.

2. **Ask a Question**

How often should you water a plant?
Do different kinds of popcorn pop better?

3. **Make a Hypothesis (Guess the answer to the question)**

Watering every other day makes plants grow best.
Orville Redenbacher's Popcorn leaves the fewest unpopped kernels.

4. **Perform an Experiment to Test your Hypothesis**

Try different watering schedules to see which makes plants grow best.
Test different brands of popcorn and count unpopped kernels.

5. **Record your Results (What happened?)**

Plants grew best with once a week watering.
Redenbacher's Popcorn left the fewest unpopped kernels.

6. **Make a Conclusion (Was your hypothesis correct?)**

The hypothesis was incorrect.
The hypothesis was correct.

7. **What's Next?**

If you did it again, what would you change about your experiment?
Did you observe something that gave you a new question you might test?

Showing a Collection

Collections can be organized in a number of different ways. Look carefully at the items you've collected and think about how they are the same and how they are different. By collecting objects and figuring out how to sort them, you will be observing, comparing, and classifying them—you will be thinking as a scientist thinks.

To get started:

1. Collect items that interest you—at least 10 items (grades 1-2); 15-20 items (grades 3-5); more is fine.
2. Organize your collection in some logical way.
3. For grades 1-2: Practice organizing your collection in two or three different ways. For grades 3-5: Do some research on your items using books or the internet. Consider including maps, scientific drawings, or pictures that relate to the collection.

For display at the Science Fair:

4. Think about how best to set up your collection so others can see it. Small items might be taped or glued to index cards; medium items might be sorted into egg cartons; trays or shoeboxes might be used for large items.
5. Write your name, the name of your collection, and how you organized it for display. For grades 1-2: Write at least two other ways that your collection could be organized. For grades 3-5: Write how the organizational strategy teaches you something about the collection. Include appropriate research materials on tri-fold display board.

Here are some examples of collectable items and ways they might be organized.

- Shells – size, shape, color, texture, species
- Coins or stamps – size, shape, color, country, denomination, year
- Toy dinosaurs – period, size, meat or plant eaters, stand on two or four feet

Here are examples of collections with research ideas for older students.

- Rocks and Minerals – organize by type. Label each item. Write about where your specimens were found and show this on a map. Write about the difference between the three types of rocks or write about how rocks are formed.
- Seeds – organize and label by a common attribute, such as fruit/vegetable, or edible/nonedible. You might collect varieties of one particular seed family, like apples. Write about the history of those varieties or write about how they are used (for eating, cooking, or preserving).

Doing a Model

Models should be based on something from the natural world. See examples below.

1. Think of something that interests you.

The solar system
Polar bears

2. Decide how to model it.

Use different sized balls placed in the proper order
Make a diorama

3. Do enough research that the model will be educational.

Learn the relative sizes of the planets and their distance from the sun
Learn about polar bears' habits--where they sleep, what they eat, how far they wander. Learn about their habitat—geography, other plants and animals, etc.

4. Build your model.

Paint different size Styrofoam balls and suspend them from a base with wires
Make clay polar bears. Place them in an arctic scene made with cut paper and crayon coloring in a cardboard box.

5. Write your name, the title of your model, and a description of what it shows using facts from your research on your display board.

Doing a Demonstration

This type of project should demonstrate some kind of natural phenomenon.

1. Think of something that interests you.

How cars can be powered to move
How flowers can be dyed different colors

2. Decide how to demonstrate it.

Build a car with a balloon attached
Make a blue carnation

3. Do enough research so that you can explain how your demonstration works.

Learn about why air escaping a balloon will make a small car go
Learn about plant stems and how they transfer water from the roots to the flowers.

4. Set up your demonstration.

Build a simple car or use a toy car. Attach balloon with straw attachment.
Put white carnations (cut flowers) into water dyed with blue food coloring

5. Write your name, the title of your project, and a description of what it demonstrates using facts from your research on your display board.

Remember no explosions or open flames. Safety First!

Displaying Your Science Fair Project

A display board is a great way to present your project at the Science Fair. An ideal size is 24 inches high and 48 inches wide, with two vertical creases that will allow it to stand. Prefolded display boards are available at office supply and craft stores, or you can make your own.

All displays need a **TITLE** and your **Name**. Put these at the top—*it's important!*

The board is **BIG**. It's your job to make it easy to read (**Big Letters**) and easy to understand. Use several short sections of writing to describe your project.

For example, an experiment should have the following sections:

1. Observation
2. Hypothesis
3. Methods
4. Results
5. Conclusions
6. What's next

A collection should have these sections:

1. What you collected
2. How you organized it
3. Other ways you could have organized it (grades 1-2); -or-
How your organization teaches something about the collection (grades 3-5)
4. What facts you learned about your collection through research (grades 3-5)

A model or demonstration should have these sections:

1. Your idea
2. What you built or set up.
3. What your model or demonstration shows
4. What other things you learned that relate to your project (use facts from your research)

Remember, your presentation should clearly describe your project. It should be attractive and easy to read. Use colors and pictures as well as words.

Telling others about your project can be a much fun as doing your experiment.

And Remember...

... Have Fun!