



Findley Elementary
SCIENCE FAIR

GUIDELINES FOR DISPLAY

You must follow these guidelines to display the results of your experiment or design project at the Science Fair.

Displays will:

- Be backed by a display board.
- Fit within a 1.5' x 2.5' table area.
- Include a short title at the top center.
- State the question or design goal below the title.
- Include the student's name, grade, and teacher below the title.
- For Science Experiments, clearly label the
 - ✓ Background,
 - ✓ Hypothesis,
 - ✓ Materials,
 - ✓ Procedure or Build Plan,
 - ✓ Data (4th/5th graders should include a graph),
 - ✓ Analysis, and
 - ✓ Conclusion.
- For Engineering Design Projects, clearly label the
 - ✓ Background,
 - ✓ Requirements,
 - ✓ Materials,
 - ✓ Build Plan,
 - ✓ Test Procedure,
 - ✓ Results,
 - ✓ Conclusion and Improvement Plan.

**See Example Display
Boards for both
Science Experiments
and Engineering
Design Projects on
the following pages.**

Displays will not include any of the following:

- Balloons.
- **Live or dead organisms** used in the experiment, their parts or fluids.
- Human or animal **foods**.
- Hazardous or flammable chemicals. All other chemicals and liquids, including water, must be in permanently sealed, unbreakable containers.
- **Glass**.
- Sharp items.
- Matches, flame, or any apparatus producing excessive heat.
- Unshielded belts, pulleys, chains, wires, cables, or other moving parts under tension or with pinch points.
- Electricity passing through uninsulated wire.
- Anything that would have to be plugged into an outlet.
- Batteries that supply power for long periods of time. Experiments requiring a battery should connect the battery in circuit using a "momentary switch" that opens when you let go.

It's a lot of fun to bring materials and equipment from your experiment to display on the table in front of your board. But is it all safe for a toddler to handle? Will you be upset if it is broken? When in doubt, use photographs or drawings to illustrate your experiment. The Science Fair Committee reserves the right to remove any part of a display deemed unsafe.

SAMPLE EXPERIMENT DISPLAY BOARD

Explain why you chose this experiment and summarize information you learned from reference materials.

Choose a short title.

State the question.

Make the data easy to understand. 4th/5th graders should include a graph.

Background

At school, our teacher asked, "Do you think that the water in the big, medium, or little container will freeze first?" The big one did not freeze. The little container froze completely. The medium container froze on top but not on the bottom. I was wondering if it was the amount of water or the type of container.

Materials

Plastic, glass, and paper cups, all the same size.

Procedure

1. Put ½ cup of water in each cup.
2. Put the cups in the freezer.
3. Check the water every 15 minutes until ice forms.

Tell how to perform the experiment.

Frozen in Time

How does the type of container affect the time it takes water to freeze?

By: Joe Findley
Grade: 2
Teacher: Ms. Smith

Hypothesis

I think the water in the glass cup will freeze first.

Conclusion

My hypothesis was incorrect. Water in the glass cup froze last. I think that the glass cup must stay warm longer than the paper cup or plastic cup. Next time I would try other kinds of cups, like foam, and different kinds of glass cups.

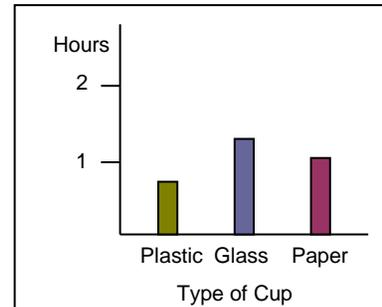
Was your hypothesis correct?
Why?

What would you do next time?

What happened?
Anything unexpected?

Data

Time to Freeze



Analysis

Water froze fastest in the plastic cup and slowest in the glass cup. I was surprised that the water in the paper cup was not the first to freeze.

SPECIAL NOTES FOR PARTNER PROJECTS:

*Please include name, grade and teacher of both partners under the **question statement**.

*In some cases, partners may have different **hypotheses**. Include both.

*Some information in the **background** may be student-specific, such as why they chose to study the question.

*All other sections of the display, such as **materials, procedure, data, analysis & conclusion** should be agreed upon by the partners and presented as a single project.

☀ You may include photos or materials from the experiment in your display (must meet safety guidelines) ☀

SAMPLE ENGINEERING DESIGN DISPLAY BOARD

Explain why you chose this project and summarize important information from reference materials.

Background

My brother and I like to play catch with marshmallows, and I thought it would be fun to create a machine to launch it for me. I looked online and found lots of ideas for launchers, but the marshmallow catapult looked like the most interesting option. My version is from itsalwaysautumn.com

Materials

Big marshmallows, wooden skewers, plastic spoon, tape, rubber band.

Build Plan

1. Make a triangle using 3 skewers and 3 big marshmallows.
2. (continue to list your steps)...
5. ...insert spoon into one of the base marshmallows.

Tell how to implement the design.

Choose a short title.

Marshmallow Catapult

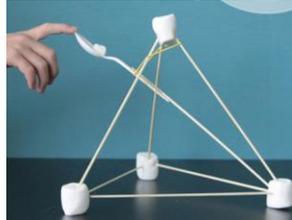
I want to build a simple machine that will launch mini marshmallows.

By: Joe Findley
Grade: 2
Teacher: Ms. Smith

Requirements

I would like to launch marshmallows into my brother's mouth across the dining room table. The machine can't damage the table.

Use this area for diagrams, graphs



and photos from your project.

List the requirements your design must meet. If you have constraints on your design, you can list them here.

State the problem you're trying to solve.

Make sure your test procedure can measure your 'success'. Did you meet all of your requirements?

Test Procedure

I had my brother sit at one end of the table with his mouth open. I placed the catapult at the other and aimed marshmallows at him.

Results

After many attempts, I was finally able to launch a mini marshmallow into his mouth!

Conclusion and Improvement Plan

It worked, but it was hard to aim and the skewers kept coming out of the marshmallows. Next time I will try to replace the big marshmallows with modeling clay. I think the machine will be more stable and I can keep it longer!

What are your ideas for improving the design or the test procedure?

SPECIAL NOTES FOR PARTNER PROJECTS:

-Please include name, grade and teacher of both partners under the **problem statement**.

-Some information in the **background** may be student-specific, such as why they chose to solve the problem.

-All other sections of the display should be agreed upon by the partners and presented as a single project.

☀ You may include photos or materials from the experiment in your display (must meet safety guidelines) ☀