

SAMPLE ENGINEERING DESIGN DISPLAY BOARD

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

Choose a short title.

State the problem you're trying to solve.

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

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.

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.



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!

Tell how to implement the design.

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

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

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.

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

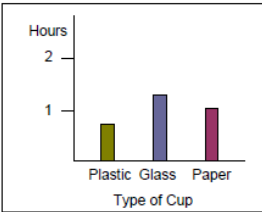
I think the water in the glass cup will freeze first.

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.

Data

Time to Freeze



Type of Cup	Time to Freeze (Hours)
Plastic	0.5
Glass	1.5
Paper	1.0

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.

Tell how to perform the experiment.

Was your hypothesis correct? Why? What would you do next time?

What happened? Anything unexpected?