

# BOUNCY BALLS

KINDERGARTEN

## Testable Question:

Will the store bought kit or home-made bouncy balls produce balls that bounce higher? Will the size and/or shape of the ball affect how high they bounce?

## Prediction:

I think the larger ball will bounce higher.

I think the round ball will bounce the highest.

# Procedure:

1. Create the Color Zone Power Ball mix
2. Add the mix into the form
3. Place them in the water for 5 minutes
4. Leave in the form for 10 minutes to dry
5. Remove from form
6. Bounce!
7. Measure height of bounce
8. Create home made balls
9. Set up area and put on safety equipment
10. Mix  $\frac{1}{2}$  cup warm water, 1 tablespoon borax, 1 tablespoon cornstarch, 1 tablespoon glue, and 1 teaspoon glue glitter
11. Form in to ball
12. Dry for 10 minutes
13. Bounce!
14. Place measuring tape from table to ground
15. For consistent experimentation, drop all balls from same height tabletop on to same surface, wood floor.
16. Drop balls
17. Measure height of bounce

# Background:

I chose this project because...

Bouncy balls are fun and I'm curious what may affect height of bounce.

In my research I found out that...

There are different ways to make bouncy balls at home! You can make bouncy balls into different shapes and sizes.

This project is important because...

I'd like to be able to successfully make bouncy balls that bounce high.

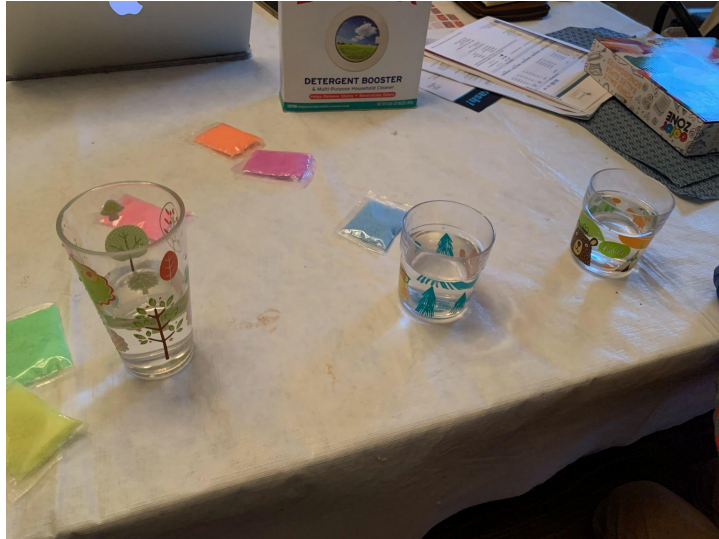
# Constant Conditions:

Independent Variable: The ONE thing you change  
The construction of the ball

Dependent Variable: What you are measuring or observing  
The height of the bounce

Constant Conditions: What you are keeping the same every time  
The height of the drop of the ball: 29 inches

# Data and Trials:

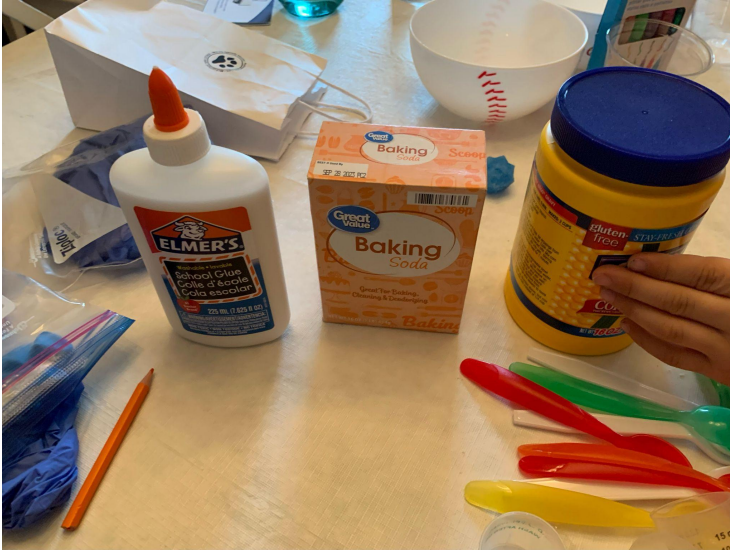


Set up for ColorZone set



measuring 29 inches from table for drop

## Data and Trials cont.



Set up for home made balls



completed balls

## Data and trials cont.



ColorZone 8 inches



Small Ball 6 inches



Large Ball 1 inch



# LOG BOOK

The photograph shows a safety form from the University of California, San Diego. The form is titled 'SAFETY FORM & UPLOAD' and 'BACTERIA/VIRUS FREE/HAZARDOUS MATERIALS/POWER TOOLS'. It contains several sections with instructions and checkboxes. The 'IMPORTANT FOR STUDENTS' section includes instructions on how to handle materials and the importance of wearing safety gear. The 'IMPORTANT FOR TEACHERS' section includes instructions on how to handle materials and the importance of wearing safety gear. The 'HUMANES' section includes instructions on how to handle materials and the importance of wearing safety gear. The 'RISK PROTECTION' section includes instructions on how to handle materials and the importance of wearing safety gear. The 'PARENT/GUARDIAN SIGNATURE' section includes a line for the parent/guardian to sign. The form is filled out with handwritten text, including the name 'TAMARA LANGE' and the date '03/07/2022'. The form is signed by 'TAMARA LANGE' and 'BRIAN LANGE'.

To stay safe I used gloves and goggles and had adult supervision and assistance handling chemicals.

Date - 03/07/2022

Today I made the ColorZone Power ball bouncy ball

I found out that these can bounce high!

I was surprised at how easy it is to make bouncy balls

I wonder how this ball will compare with the others in the experiment

Now that I know how high this ball bounces I bet it will do well

In my research I discovered different recipes for making bouncy balls

# LOG BOOK

Date 03/08/2022

Today I made the home made ball recipes

I found out that the smaller ball was easier to construct

I was surprised to learn that the smaller ball bounced higher

I wonder what other recipes may do

Now that I know smaller balls bounce higher I may stick to that size

In my research I learned there are many different bouncy ball recipes and shapes.

Ball Type	Distance dropped	Height bounced
ColorZone	29 inches from table	8 inches
Small homemade	29 inches from table	6 inches
Large homemade	29 inches from table	1 inch

# Conclusion and Reflection:

I found out that...

The ColorZone power ball kit bounced highest

The smallest ball from homemade batch bounced second highest

The largest ball from homemade batch bounced third highest

I was surprised that...

The largest ball did not bounce the highest

If I did this project again...

I would try other recipes to optimal ball bounce.

