

Pineview Elementary School; Tallahassee, FL



Mrs. Grayson's Class

Will beans jump when saturated in vinegar?

Purpose: The purpose of our experiment is to see if water-based black beans or dried pinto beans will experience a chemical reaction when placed in vinegar?

Hypothesis:

14 students predict the pinto beans will float to the top when placed in vinegar. 5 students predict the water-based black beans will not float to the top when placed in vinegar.

Materials:

1. Clear cups
2. Pinto beans
3. Goya beans
4. Vinegar

Procedures:

1. First, drain the water from the water-based black beans.
2. Next, pour the vinegar into a clear container. Then, watch and observe to see if the black beans float to the top of the container.
3. Now, place the dried pinto beans in a separate container filled with vinegar. Then, watch and observe to see if the dried pinto beans float to the top of the container.

Results: After our experiment we observed neither water-based black beans nor dried pinto beans floated to the top once the vinegar was applied.

Conclusion: Our results show that neither beans floated to the top of the container once vinegar was applied.

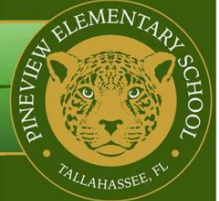
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Acknowledgements: We would like to thank you all for viewing our project!

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Ms. Guerrero's Class- 2nd



Purpose:

Who can build the tallest tower with given materials.

Hypothesis:

Half the class will make a square base and the other half will make a triangle base determining which base is sturdier.

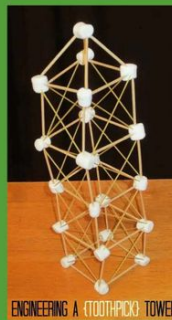
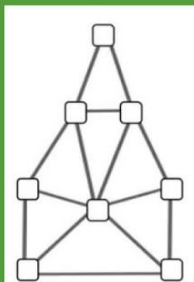
Materials:

1. Toothpicks
2. Marshmallows
3. Tape
4. String
5. Rulers

Procedures:

1. Insert a toothpick into one marshmallow. Add another marshmallow to the toothpick's other end.
2. Continue connecting toothpicks and marshmallows. Practice creating triangles and squares before adding height to the tower.
3. Once you have created a strong, sturdy base of the tower, work on making the tower taller. Make sure your tower is able to stand on its own without any help.
4. Measure the height of your tower! Try making another tower that's taller, but use a different design! See which design works the best.

Data:



Results:

Students will discover that just like a real tower, their structure will need a sturdy and wide base. Students may also learn that making the structure narrower as it goes up, will help the stability of the tower.

Conclusion:

Students probably also experimented with the shapes that are best for the base of the structure. They most likely used either squares or triangles. Students will discover that because squares are subject to bending and deforming, triangles will create a stronger base.

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Ms. Davis' Class

Purpose:

The purpose of this experiment is to investigate and determine which substances can slow down the oxidation process in apples.

Hypothesis:

Half of the class thinks the apple will brown regardless of what liquid it is in. The other half thinks the apple with the lemon juice will not brown.

Materials:

One apple (cut into slices)
Knife
5 Cups
Tablespoon
Salt
Water
Vinegar
Lemon Juice
Milk



Procedures:

- Gather all materials: one apple, a knife (used by Ms. Davis), four small cups, and liquid: lemon juice, vinegar milk, and salt water.
- Have Ms. Davis cut the apple into four equal slices.
- Place one slice in each cup.
- Pour enough lemon juice over the first slice to cover it.
- Pour vinegar over the second slice.
- Pour milk over the third slice.
- Pour salt water over the fourth slice.
- Leave the cups uncovered at room temperature.
- Observe the apples every 10–15 minutes for one hour.
- Record what each apple slice looks like and note which ones turn brown the fastest or stay the freshest.



Results:

After observing the apple slices for one hour, the slice treated with lemon juice showed the least browning, while the slices in vinegar, milk, and salt water browned more quickly. The results show that lemon juice slows down oxidation and helps apples stay fresh longer.

Conclusion:

The results of this experiment show that the lemon juice was the most effective liquid in keeping the apple slices from turning brown. The apple with the lemon juice stayed the freshest, while the slices in vinegar and milk turned brown more quickly. The apple in salt water also showed browning over time. These results support the idea that the acid in lemon juice helps slow down the oxidation process.

Acknowledgements:

We would like to thank all the wonderful chemists and other scientist who spent time discovering the world around us! ☺

Pineview Elementary

Mrs. J. Johnson's class

How What We Drink Affects Our Teeth — Tooth Stain

Purpose: Observe how common drinks stain teeth-like material (boiled eggshells) over one day.

Hypothesis: 8 students believe coffee will cause the most staining. 6 students believe Kool-aid will cause purple staining 2 students think orange juice will cause yellow staining. 2 students think Coca Cola will cause the egg to be “destroyed.”

Materials

5 clear cups or jars labeled:
Cola, Coffee, Orange Juice,
Kool-Aid, Water, (control)
Permanent marker or labels
Timer/clock
Camera or phone for photos
Data sheet and pencil

Procedures

1. Label 5 cups and add ~200 mL of each drink.
2. Submerge one hard-boiled egg per cup; start timer and photo at 0 h.
3. Every 2 hours (0–8 h) note color/texture and photograph.
4. After 8–10 h, rinse, dry, and record final notes.

RESULTS



0 Hour



4 Hour



12 Hour

Conclusion

Coffee and Coca-Cola produced the heaviest stains on the eggshells.

- Water caused no staining.
- Kool-Aid produced a lavender/grayish-purple stain on the eggshell.
- Orange juice caused many bubbles on the eggshell surface; students are curious what this means.

Possible explanation for the bubbles: the acid in orange juice reacts with the calcium in the eggshell, releasing gas and causing bubbling or fizzing; this can also weaken or roughen the shell surface, which may affect staining.

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Ms. Johnson's Class



Purpose: What happens when you add dish soap to milk food coloring?

Hypothesis: The class thinks that dish soap to the milk, then the colors will start to move around because the soap will break the milk's surface.

Materials:

1. Plate
2. Whole milk
3. Food coloring
4. Dish soap
5. Cotton swab

Procedures:

- 1: Pour milk into the dish so it just covers the bottom.
2. Add 2 drops of food coloring around the plate.
3. Dip one end of the cotton swab into the dish soap.
4. Gently touch the middle of the milk with soapy end of the swab.
5. Watch what happens to the color!

Data:



Results:

When the dish soap to the milk, the colors started to move and swirl around.

Conclusion:

In conclusion, the soap made the colors move because it breaks the surface of the milk. That movement makes the coloring swirl and mix.

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