



COMPARING SNOW: AN OBSERVATION OF THE PROPERTIES OF REAL SNOW VS. VARIETIES OF FAKE SNOW

Grade level 3

Does fake/
artificial
snow have
the same
properties as
real snow?

My prediction was that some properties of fake snow are the same as real snow and some are different

Same: color, appearance (looks the same), the overall feel

Different: temperature, packing ability (make snowball and snowman), how they sprinkle (crumble)

Procedure- Recipes



Reviewed recipes for fake snow. Chose 3 recipes: 1. baking soda and shaving cream, 2. baking soda and conditioner and, 3. corn starch and lotion

- **Recipe 1 - Baking soda and shaving cream.** Mix together 1 pound of baking soda, and slowly add shaving cream until you reach the perfect snowy consistency. Let kids knead the fake snow with their hands until it's all combined.
- **Recipe 2 - Baking soda and conditioner.** For this recipe, be sure to use white conditioner so your fake snow looks just like the real stuff. Start with 1/2 cup of conditioner, and use a fork to stir in about 3 cups of baking soda. This snow packs very well and is great for making snowmen.
- **Recipe 3 - Cornstarch and lotion.** Mix together equal parts cornstarch and lotion for this crumbly snow recipe. If you're looking for a more powdery snow, add slightly less lotion than cornstarch.

Procedure

1. Purchased supplies for fake snow: Gillette Foamy Shaving Cream 11 oz.; Arm & Hammer baking soda 3.5 lb.; Tres Semme Silky and Smooth Conditioner 39oz.; Argo Corn Starch 16 oz.; and Jergens Ultra Healing Lotion 32oz.
2. Gathered real snow after snow fall in February 2022 and stored in Rubbermaid 1.1 gallon Tupperware and put in freezer for future observation and comparison
3. Made real snow into snowballs which we photographed and videotaped throwing them. This exercise was repeated three times
4. Took real snow and crumbled a small amount of snow to video sprinkling it
5. Made small snowman out of real snow and took pictures of it
6. Combined baking soda with shaving cream (Recipe 1) and mixed the 2 together per the recipe
7. Cleaned up after mixing the baking soda and shaving cream

Procedure (continued)

8. Photographed materials used to make Recipe 1 fake snow and Recipe 1 fake snow and real snow to compare them
9. Sprinkled Recipe 1 fake snow with fingers
10. Made snowballs with Recipe 1 fake snow and throwed them - photographed snowballs and videotaped throwing them
11. Made snowman with Recipe 1 fake snow - 3 attempts before finally got one with 3 separate parts - photographed final result
12. Photographed materials being used to make baking soda and conditioner (Recipe 2) fake snow
13. Combined baking soda with conditioner (Recipe 2) and mixed the two together per the recipe
14. Cleaned up after mixing the baking soda and conditioner
15. Photographed Recipe 2 fake snow and then photographed Recipe 2 fake snow and real snow to compare them

Procedure (continued)

16. Sprinkled Recipe 2 fake snow with fingers and videotaped it
17. Made snowballs with Recipe 2 fake snow and threw them - photographed snowballs and videotaped throwing them
18. Made snowman with 3 separate parts with Recipe 2 fake snow – photographed final result
19. Photographed materials being used to make corn starch and lotion (Recipe 3) fake snow
20. Combined corn starch with lotion (Recipe 3) and mixed the two together per the recipe
21. Cleaned up after mixing corn starch and lotion
22. Photographed Recipe 3 fake snow and then photographed Recipe 3 fake snow and real snow to compare them
23. Made snowballs with Recipe 3 fake snow and threw them – photographed snowballs and videotaped throwing them
24. Made snowman with Recipe 3 fake snow after 3 tries – could only make 2 separate parts of the snowman due to difficulty staying together – photographed final result
25. Cleaned up after completing mixing 3 recipes of fake snow

Background

I chose this project because it was currently snowing very hard - and I love snow - and I was trying to brainstorm ideas for my science project, so I looked outside and thought it would be fun to do something with snow. So I started brainstorming more ideas to do with snow and I thought it would be interesting to compare real snow and fake snow.

In my research I found that artificial snow and real snow have both different and similar properties. They are similar in that they both have the same color, appearance (mostly), and packing ability to make a snowballs. They are different temperature, the overall feel, packing ability for making a snowman (Recipes 1 & 3), and how they sprinkle (crumble).

This project is important because people who live in warm places don't get to play with snow, and playing with snow is fun to me, so this project allows people in warm places to get to enjoy snow by making fake snow.

Constant Conditions

Independent Variable: materials tested and observed (real snow vs. artificial snow – recipes 1, 2 & 3)

Dependent Variable: color, appearance, overall feel, temperature, packing ability, how it sprinkles/crumbles

Constant Conditions: testing variables (comparing color, appearance, making and throwing 3 snowballs, making 3 snowmen, sprinkling/crumbling material)

Data and Trials: Materials

Recipe 1



Recipe 2



Recipe 3





Data and Trials: Snowballs - Real Snow a, b, c



Data and Trials: Snowballs – Recipe 1a, 1b, 1c



Data and Trials: Snowballs – Recipe 2a, 2b, 2c



Data and Trials: Snowballs – Recipe 3a, 3b, 3c

Data and
Trials:
Snowman
Real snow



Data and Trials: Snowman Recipe 1

Success and Collapse



Data and Trials: Snowman Recipe 2



Data and Trials: Snowman Recipe 3





Data and Trials: Visual Observations -
Real snow and Recipe 1



Data and Trials: Visual Observations –
Recipe 2 and Recipe 3

Data and Trials: Visual Observations – Comparisons Real snow vs. Recipe 1



Data and Trials:
Visual
Observations –
Comparisons
Recipe 2 vs. Real
snow



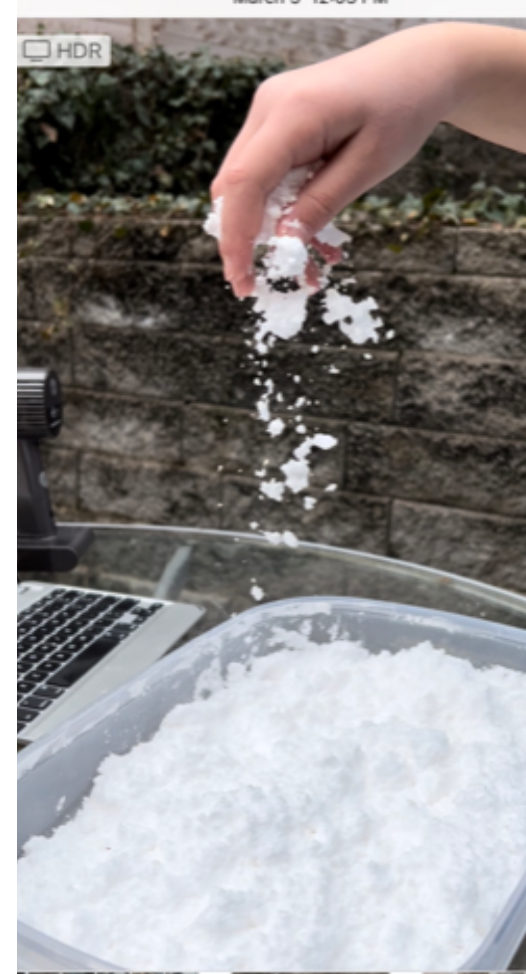
Data and Trials:
Visual
Observations –
Comparisons
Recipe 3 vs. Real
snow



Data and Trials: Sprinkling Real Snow



Data and Trials: Sprinkling Recipe 1



Data and Trials: Sprinkling Recipe 2



Data and Trials: Sprinkling Recipe 3



Conclusion and Reflection

I found out that artificial snow has differences and similarities to real snow, but they are similar enough that you could have fun playing with either.

My favorite things about real snow are that you can easily make snowmen and have a snowball fight. It's fun to play in.

My favorite things about artificial snow are it's not as cold so my hands stay warm and they don't freeze and you can still make snowballs for snowball fights. It also hurts less if you get hit by a snowball.

What I don't like about real snow is it's very cold and has ice chunks in it so you can get hurt.

What I don't like about Recipe 1 artificial snow is that it stung my hands when I held it. It's also more difficult to make snowmen with fake snow.

Conclusion and Reflection (continued)

I was surprised that Recipe 2 packed like real snow and looked like real snow. All of them except Recipe 3 were white and looked like snow. I thought that the fake snow would feel the same as real snow except the coldness, but they actually feel different.

If I did this project again, I would do it the same I think its sciencey and fun.