



Project Exploration creates transformative learning opportunities for youth underrepresented in the sciences –particularly students of color and girls – by equipping them with the skills, practices, and mindset needed for a lifelong pursuit of learning. STEM@Home makes activities around science, technology, engineering, and math accessible and fun to do at home. This STEMbook activity, resources, and more are available at www.projectexploration.org/stemathome.

In this activity, you will:

Learn how to make artificial snow using a few kitchen materials. You'll explore the science of a snowflake because snow itself has a special shape.



Supplies Required:

- 1 large bowl
- Measuring cup
- Wooden spoon or jumbo craft stick
- Baking soda
- Foamy shaving cream
- Crystal shape cookie cutter (not required)

Video

Follow along as you listen to the passage being read aloud: <https://tinyurl.com/yclzea7b>
Learn how to make "snow": <https://tinyurl.com/ydyj4tp2>

Overview

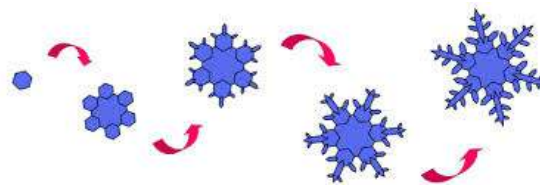
Snow crystals form when ice particles cling together combined with **water vapor**/steam. In the read aloud, you learn from Kenneth the Scientist who talks about his "treasure hunt" with snowflakes. He captures an **image** of the snowflake to learn more about their shape. Every snowflake grows into a **hexagon**, a six sided shape. What's special is that according to science, no two snowflakes are the same! The experts are not sure why. Fun fact: the more wind is in the air, the smaller the snowflakes will be. The science behind your "snow" is that when baking soda is mixed with the shaving cream it creates a mixture that is cool to the touch. It also has a texture that will remind you of snow because the baking soda gives it a crunchy effect! Let it snow!

Anatomy of a Snowflake

Science, Art and a little magic



Snowflake photographs and illustrations by Martin Owen, Koebel, Rodin



Instructions

1. Cover the area-all materials are safe but it can get messy!
2. Watch the video.
3. Start by pouring 1 small box of baking soda into the big bowl.
4. If you have a larger box or bag of baking soda, pour 1-2 cups in a measuring cup the transfer to the bowl.
5. Next, slowly add some shaving cream, enough to coat the top of the baking soda, as shown in the video.
6. Start mixing with spoon or craft stick or your hands.
7. Add a bit more shaving cream if necessary; paying attention to texture or how it feels!
8. The more shaving cream you add the heavier it will get. If it's too heavy for you, sprinkle a little more baking soda.
9. It will be naturally cool to the touch.
10. Continue to mix and play around with it, make snowballs, etc.
11. If you have a crystal-shaped or hexagon-shaped cookie cutter, use it to shape your snow.

Additional Resources

Think About It! Were you able to make a snowball? What are some observations you can make about the mixture you created? What else would be a good substitute for real snow?

1. Learn more about why no two snowflakes are alike: <https://tinyurl.com/n3yfsew>
2. Here is more information about the science of a snowflake: <https://tinyurl.com/hf87nxy>
3. How snowflakes are formed? <https://tinyurl.com/yavqt3wq>
4. The mixture of baking soda and shaving cream created what is called an endothermic reaction. Find out more: <https://tinyurl.com/yajmjhvp>

Share It Out

Take photos of your activity and make a video talking about the process and the mixture of chemicals to form your version of snow. Were you able to make a snowball? Share what you know with friends, family on social media!

Use the hashtags:

#PESnowReadAlong
#ProjectExploration
#StemAtHome

Share via PE's website: Students who complete STEM@home activities and share what they learned with the PE team via our website will earn points which can be traded in for cash prizes at the Explore Store. Your project number is 115. Learn more at www.projectexploration.org/explore-store

Join PE's character contest!

Design a STEM character who will lead kids through activities and be featured on our website and in our STEMbooks. Cash prizes will be awarded to the top 3 finalists. Learn more at: www.projectexploration.org/character-contest.



Call or text us for help: 312-772-6634

www.projectexploration.org